Studer Modbus Addresses

Object Model Version : 10.0

Generation time : 2022-04-14 17:49:53.019494

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Studer Object-Property organization

For the new Next series, all information and parameters are stored in Properties. Properties are stored in Objects, allowing to group them by subject. This system is called the ObjectModel.

Property size and type

A Property designates a specific data of the ObjectModel. This data can be of different types, and the size of the data contained in the Property can vary depending on the type. The list of property types is given in the table below:

Type name	Type description	Modbus size
bool	Boolean	1 register
int	Integer	2 registers
uint	Unsigned Integer	2 registers
float	Floating-point number	2 registers
enum	Enumeration	2 registers
bitfield	Bitfield	2 registers
int64	64 bits Integer	4 registers
uint64	64 bits Unsigned Integer	4 registers
float64	64 bits Floating-point number	4 registers
char[size]	String Property	2 registers or more
uint8_t[size]	ByteArray Property	2 registers or more
signal	Signal Property	1 register

The String and Byte Array Properties are used respectively to transfer strings (name of a device, serial number, etc...) and byte arrays (for example the encoding of the topology descriptor of the installation). Both types require a maximum size, given in [square brackets]).

Properties of type "Signal" allow to trigger a remote action on a device. Data byte is not significant, it can have any value.

A Property is either in "Read only" mode (R) or in "Read/write" mode (R/W).

External ID

The next system provides a system of external identifiers, used to present Objects and Properties to the user (via Modbus, as a reference on the GUI, in manuals, etc.). This external ID system can be used to uniquely identify each Property of each Object running on each control board of the next system. External IDs can be represented with the following format.

Each external identifier is mapped to one or several modbus register depending of the size of property.

- FIRST number: **The Group** (element of a system). The different objects each belong to one of the following groups:
  - 0: System settings
  - 1: Battery settings
  - 2: AC ports as Source
  - 3: AC ports as Dumpload
  - 4 to 9: unused yet, future elements
  - 10 Next3
  - 11 Next1
  - 12 to 19: unused yet, future devices
  - 20 nx-interface
- SECOND number: **The Instance** (element of a group). If several objects of the same type are present in the installation, such as two Batteries for example, the second is addressed with x.2.y.z
- THIRD number: **The Object ID** for each element. It is given in the following pages, for example for the battery group:
  - BatteryCommon: *ID = 0*
  - Battery: *ID = 1*
  - BatteryCycle: *ID = 2*
  - *...*
- FOURTH number: **The Property ID** in the object. If we take the Solar object (ID64 for solar1) as an example, the different properties are each defined by an ID: *Voltage (ID0), Average Voltage (ID1), Max Voltage (ID2), Current (ID3) etc...*

Examples:

- The undervoltage level in charge of the second battery of a system with 1 Next3 is referenced with ID 1.2.2.2 (Group: 1 Battery settings, Instance: 2nd Battery, Object ID: ObjIdBattery = 2, Property Undervoltage: 2)
- The daily energy production of the 2nd PV input on the third next3 of the system is referenced with ID 10.3.62.10 (Group: 10 Next3, Instance: 3rd Next, Object ID: ObjIdSolarCommon2 = 62, Property Day energy: 10)

Addressing Studer devices

The following tables shows the address range and the corresponding Object Group instances

Address offset	Devices	Object Group external ID
1	System	0.1.x.x
2 to 6	Battery	1.x.x.x
7 to 8	AcSource	2.x.x.x
9 to 13	AcFlexLoad	3.x.x.x
14 to 28	Next3	10.x.x.x
29 to 58	Next1	11.x.x.x
59 to 60	NextGateway	20.x.x.x

Correspondance between External ID and modbus addresses

Hereafter is the explanation of the correspondance between the External ID above-mentioned and the modbus addresses available in the next pages:

The "Addressing Studer devices" table is used to determine the group ID and the instance:

- **Group ID :** Using one of the device address defined under "Addressing Studer devices" allows to reach the corresponding group ID.

- **Instance :** Several device addresses are available for each group ID. Using different device addresses for a given group allows to reach the correct element of this group. For example if two batteries are available, the first one will have the first modbus device address defined for the battery group and the second one will have the second address. Note that the instance is represented by a 'x' because the number of elements by groups is unknown in advance.

The "Modbus addresses" defined in the next pages is used to determine the object ID and the property ID:

- **Object ID :** For each object, a table provides the corresponding Modbus addresses according to the required object or object ID.
- **Property ID :** In the next pages, the column ID of the property list corresponds to the property ID for the given object.

Notes:

- Some objects have properties of type "Enum", meaning that they can take different values from a given list. In this documentation, if the object has properties of type "Enum", a list of possible enum values is given after the list of properties

Please visit the whole documentation at www.studer-innotec.com.

Earthing Scheme

Group : System
Modbus device address : 1
*External ID : 0.1.3.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1200	2	Basic	0	Earthing mode selection	OffgridSelfManaged		-	Selection of the earthing mode.	enum	R/W	0
1202	1	Expert	1	Disable check	false		-	Disable the continuity and discontinuity check during on-grid and off-grid transition.	bool	R/W	-
1203	1	Expert	2	Is earthing manager master	false		-	True if this device is the earthing manager master.	bool	R	-
1204	1	Expert	3	Relay is closed	false		-	True if the actual state of the earthing relay is closed.	bool	R	-
1205	2	Expert	4	Earthing errors	NoErrors		-	Enum indicating the error.	enum	R	1

List of items of Enum 0 (EarthingModeSelection)

Value	Label	Description
0	Off-grid self managed	Earthing relay will automatically close during off-grid operation.
1	Solid neutral	This mode should be selected in systems where the neutral wire is not switched. In this case, a bridge needs to be wired between AC-Source N and AC-Load-N. The earthing relay remains open but the neutral to earth bonding is still checked each off-grid and on-grid transition.
2	Disabled	Earthing manager is disabled. The earthing relay remains open and the neutral to earth bonding is not checked.

List of items of Enum 1 (Error)

Value	Label	Description
0	No errors	No earthing error.
1	Continuity failed	There is no grounding path. Possible root cause: the AC-Source does not have a neutral to earth bonding, the earth is not connected to device or the internal earthing relay can be stuck open.
2	Discontinuity failed	Neutral port connected to earth. Root cause can be due to a second neutral grounding connection or the earthing relay stuck close.
3	Earth supply error	Error with internal earthing detection power supply.
4	Grid connection timeout	Grid connection timeout.
5	Grid lost	Grid lost during processing.
6	Off-grid request on-grid	Off-grid request with device still connected to the source.
7	Request change during process	Request changed during the testing process.
8	Solar disconnection timeout	Solar disconnection timeout.

Energy Policy

Group : System
Modbus device address : 1
*External ID : 0.1.5.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1800	2	Basic	0	AC source priority	PriorityToGrid		-	When several AC sources exists, the one that will be used is determined according to this setting.	enum	R/W	0
1802	2	ViewOnly	1	Currently active AC source	0	.	-	Currently active AC source index.	int	R	-

List of items of Enum 0 (SourcePriority)

Value	Label	Description
0	Priority to grid	The AC source fulfilling all connexions conditions (voltage and frequency requirements) is used. If both grid and genset fulfill connexion conditions, the grid is used.
1	Priority to genset	The AC source fulfilling all connexions conditions (voltage and frequency requirements) is used. If both grid and genset fulfill connexion conditions, the genset is used.

Installation configuration

Group : System
Modbus device address : 1
*External ID : 0.1.6.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2103	18	Expert	2	Installation GUID	""		-	The GUID of this installation.	char[36]	R/W	-
2121	1	Expert	3	Date/time internet update	false		-	Automatic date/time internet update. When available, internet date/time will be used to set installation date/time.	bool	R/W	-
2122	2	Expert	4	Country	0		-	Country of this installation.	int	R/W	-
2124	25	Expert	5	Time zone	"UTC"		-	Time zone of this installation (IANA ID).	char[50]	R/W	-

All devices

Group : System
Modbus device address : 1
*External ID : 0.1.7.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2403	1	Basic	2	Buzzers enabled	true		-	Indicates all buzzers state. If disabled, buzzers don't beep when the led panel central red light is blinking.	bool	R/W	-
2404	1	Basic	3	Front panel buttons enabled	true		-	Indicates all front panel buttons state. If disabled, pressing on the front panel buttons has no effect.	bool	R/W	-
2405	2	ViewOnly	4	Total nbr of cmd entries	-1		-	Total number of command entries in the system.	int	R	-
2407	2	ViewOnly	5	Nbr of relevant devices	0		-	Number of relevant devices.	uint	R	-
2409	2	ViewOnly	6	Nbr of Next3	0		-	Number of Next3.	uint	R	-
2411	2	ViewOnly	7	Next3 status	NoWarningsOrErrors		-	Bitfield containing the Next3 status.	bitfield	R	0
2413	2	ViewOnly	8	Nbr of Next1	0		-	Number of Next1.	uint	R	-
2415	2	ViewOnly	9	Next1 status	NoWarningsOrErrors		-	Bitfield containing the Next1 status.	bitfield	R	0

List of items of Enum 0 (Status)

Value	Label	Description
1	No warning(s) or error(s)	No warning(s) or error(s).
2	At least one device in warning	At least one device is in warning.
4	At least one device in error restarting	At least one device is temporarily maintained in error and will restart automatically once the error(s) leaved.
8	At least one device in error halted	At least one device is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

Tri-phased Inverters

Group : System
Modbus device address : 1
*External ID : 0.1.8.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2703	1	Basic	2	Turn on all phases	-		-	Turn on all phases.	signal	W	-
2704	1	Basic	3	Turn off all phases	-		-	Turn off all phases.	signal	W	-
2705	1	ViewOnly	4	On/off state all phases	false		-	Indicates all phases on/off state.	bool	R	-
2706	1	Basic	5	Turn on L1	-		-	Turn on phase L1. Note that "Allow individual phase operation" (id 56) must be true to enable L1 individually.	signal	W	-
2707	1	Basic	6	Turn off L1	-		-	Turn off phase L1.	signal	W	-
2708	1	Basic	7	On/off state L1	false		-	Indicates phase L1 on/off state.	bool	R	-
2709	1	Basic	8	Turn on L2	-		-	Turn on phase L2. Note that "Allow individual phase operation" (id 56) must be true to enable L2 individually.	signal	W	-
2710	1	Basic	9	Turn off L2	-		-	Turn off phase L2.	signal	W	-
2711	1	Basic	10	On/off state L2	false		-	Indicates phase L2 on/off state.	bool	R	-
2712	1	Basic	11	Turn on L3	-		-	Turn on phase L3. Note that "Allow individual phase operation" (id 56) must be true to enable L3 individually.	signal	W	-
2713	1	Basic	12	Turn off L3	-		-	Turn off phase L3.	signal	W	-
2714	1	Basic	13	On/off state L3	false		-	Indicates phase L3 on/off state.	bool	R	-
2717	2	Basic	15	Three-phase system configuration	Symetric		-	Three-phase system configuration.	enum	R/W	0
2719	2	Basic	16	Nominal line voltage	398.371686	V	[10,478]	Nominal line voltage.	float	R/W	-
2721	2	Basic	17	L1 nominal phase voltage	230	V	[0,275]	L1 nominal phase voltage (also used for AcSource nominal voltage).	float	R/W	-
2723	2	Basic	18	L2 nominal phase voltage	230	V	[0,275]	L2 nominal phase voltage (also used for AcSource nominal voltage).	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2725	2	Basic	19	L3 nominal phase voltage	230	V	[0,275]	L3 nominal phase voltage (also used for AcSource nominal voltage).	float	R/W	-
2727	2	Basic	20	Relative angle for L2	-120	°	[-180,180]	L2 voltage phase angle relative to L1.	float	R/W	-
2729	2	Basic	21	Relative angle for L3	120	°	[-180,180]	L3 voltage phase angle relative to L1.	float	R/W	-
2731	2	Basic	22	Nominal frequency	50	Hz	[45,65]	Nominal frequency.	float	R/W	-
2733	2	Expert	23	maximum RoCoF	10	Hz/s	[0.5,50]	Maximal rate of change of frequency	float	R/W	-
2784	2	Basic	49	Alternate frequency	50	Hz	[35,65]	Alternate frequency.	float	R/W	-
2786	2	Expert	50	Cmd entry idx for alternate frequency	0		[0,10]	Index of the command entry interface used to switch to the alternate frequency ("Alternate frequency" (id 49). (0 value disable remote operation).	int	R/W	-
2788	1	Expert	51	Allow power sinking from AcLoad ports	false		-	Allow power sinking from AcLoad ports (e.g. when solar inverter is connected on AcLoad). If false, a backfeed power dectection causes an error.	bool	R/W	-
2789	2	Expert	52	Frequency increase to limit AcLoad sinked power	5	Hz	[0,15]	(NOT YET AVAILABLE) When power is sinked on AcLoad port (e.g. when solar inverter is connected on AcLoad) and this power could not be absorbed by the system, the frequency could be increased to limit this power.	float	R/W	-
2791	2	Expert	53	Frequency decrease to limit AcLoad sourced power	5	Hz	[0,15]	(NOT YET AVAILABLE) In overload situation on AcLoad, the frequency could be decreased to try to limit this power.	float	R/W	-
2793	2	Basic	54	Standby sensitivity	None		-	Standby sensitivity.	enum	R/W	2
2795	2	Expert	55	Standby detection	1	%	[-1,10]	Standby detection expressed in % of nominal power. A negative value disable the standby.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2797	1	Basic	56	Allow individual phase operation	true		-	Allow individual phase operation even if another phase is halted or in error state.	bool	R/W	-
2798	2	Expert	57	Overload threshold stage1	50	%	[20,90]	Voltage threshold stage 1 for overload detection.	float	R/W	-
2800	2	Expert	58	Overload operate time stage1	0.5	s	[0.05,3]	Overload operate time stage 1.	float	R/W	-
2802	2	Expert	59	Overload threshold stage2	80	%	[40,95]	Voltage threshold stage 2 for overload detection.	float	R/W	-
2804	2	Expert	60	Overload operate time stage2	3	s	[0.5,5]	Overload operate time stage 2.	float	R/W	-
2806	2	Expert	61	Overload restart delay	1	s	[1,10]	Delay before automatic restarting after an overload occurs.	float	R/W	-
2808	2	Expert	62	Max overload nb during obs period	3		[0,30]	Maximum number of overloads allowed during the defined observation period before stopping.	int	R/W	-
2810	2	Expert	63	Observation period for overloads detection	30	s	[5,600]	Observation period for overloads detection.	int	R/W	-
2812	2	Expert	64	Error restart delay	3	s	[1,10]	Delay before automatic restarting after an error.	float	R/W	-
2814	2	Expert	65	Max errors nb during obs period	5		[0,30]	Maximum number of errors allowed during the defined observation period before stopping.	int	R/W	-
2816	2	Expert	66	Observation period for errors detection	60	s	[5,600]	Observation period for errors detection.	int	R/W	-
2832	2	Expert	74	Inertial smoothing strength	2		[0.1,20]	Strength of inertial smoothing feature (smoothing of transient current of genset, used to improve stability of genset during transients).	float	R/W	-
2834	2	ViewOnly	75	Status	AtLeastOnePhaseDisabled		-	Bitfield containing the status.	bitfield	R	3

List of items of Enum 0 (ThreePhaseConfig)

Value	Label	Description
0	User defined	User defined with "L1 nominal phase voltage" (id 17), "L2 nominal phase voltage" (id 18), "L3 nominal phase voltage" (id 19), "Relative angle for L2" (id 20) and "Relative angle for L3" (id 21).
1	Symetric	Standard symetric three phase system with line voltage defined by "Nominal line voltage" (id 16).
2	High-leg delta	High-leg delta configuration with a line voltage u defined by "Nominal line voltage" (id 16), L1-N voltage is u/2, L2-N voltage is u*√3/2 ∠ -90°, L3-N voltage is u/2 ∠ 180°.

List of items of Enum 2 (StandbySensitivity)

Value	Label	Description
0	User defined	User defined standby threshold level (defined with "Standby detection" (id 55)).
1	None	None (The standby is disabled).
2	Very fine	Very fine (detection threshold is 0.1% of nominal power).
3	Fine	Fine (detection threshold is 0.3% of nominal power).
4	Coarse	Coarse (detection threshold is 1% of nominal power).
5	Very coarse	Very coarse (detection threshold is 3% of nominal power).

List of items of Enum 3 (Status)

Value	Label	Description
1	At least one phase disabled	At least one phase is disabled.
2	At least one phase enabled	At least one phase is enabled.
4	At least one phase has warning(s)	At least one phase has warning(s).
8	At least one phase in error restarting	At least one phase is temporarily maintained in error and will restart automatically once the error(s) leaved.
16	At least one phase in error halted	At least one phase is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

Inverter L1

Group : System
Modbus device address : 1
*External ID : 0.1.9.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3000	2	ViewOnly	0	Status	Disabled		-	Enum containing the status.	enum	R	0
3002	2	ViewOnly	1	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	1
3004	2	ViewOnly	2	Cause of error	NoErrors		-	Indicates the cause of error.	bitfield	R	2

List of items of Enum 0 (Status)

Value	Label	Description
0	Enabled	The phase is enabled.
1	Disabled	The phase is disabled.
2	Error restarting	The phase is temporarily maintained in error and will restart automatically once the error(s) leaved.
3	Error halted	The phase is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

List of items of Enum 1 (Warnings)

Value	Label	Description
0	No warnings	The phase has no warnings.
1	Overload	Overload situation. Will halt soon if the overload persists.
2	Overtemperature	Overtemperature. The power/voltage could be reduced to protect the power converter unit.

List of items of Enum 2 (Errors)

Value	Label	Description
0	No errors	The phase has no errors.
1	Overload	Halted due to an overload.
2	device fault	The device was stopped to protect himself against abnormal situation.
4	Communication error	Too many communication errors on studer system bus. Inverter halted for self-protection.
8	Earthing error	Earthing error detected.
16	Backfeed power error	Produced active power was detected on AcLoadPort but not allowed by "Allow power sinking from AcLoad ports" (id 51).
2147483648	Other error	Inverters are stopped due ot another error. See on the GUI for more information.

Inverter L2

Group : System
Modbus device address : 1
*External ID : 0.1.10.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3300	2	ViewOnly	0	Status	Disabled		-	Enum containing the status.	enum	R	0
3302	2	ViewOnly	1	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	1
3304	2	ViewOnly	2	Cause of error	NoErrors		-	Indicates the cause of error.	bitfield	R	2

List of items of Enum 0 (Status)

Value	Label	Description
0	Enabled	The phase is enabled.
1	Disabled	The phase is disabled.
2	Error restarting	The phase is temporarily maintained in error and will restart automatically once the error(s) leaved.
3	Error halted	The phase is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

List of items of Enum 1 (Warnings)

Value	Label	Description
0	No warnings	The phase has no warnings.
1	Overload	Overload situation. Will halt soon if the overload persists.
2	Overtemperature	Overtemperature. The power/voltage could be reduced to protect the power converter unit.

List of items of Enum 2 (Errors)

Value	Label	Description
0	No errors	The phase has no errors.
1	Overload	Halted due to an overload.
2	device fault	The device was stopped to protect himself against abnormal situation.
4	Communication error	Too many communication errors on studer system bus. Inverter halted for self-protection.
8	Earthing error	Earthing error detected.
16	Backfeed power error	Produced active power was detected on AcLoadPort but not allowed by "Allow power sinking from AcLoad ports" (id 51).
2147483648	Other error	Inverters are stopped due ot another error. See on the GUI for more information.

Inverter L3

Group : System
Modbus device address : 1
*External ID : 0.1.11.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3600	2	ViewOnly	0	Status	Disabled		-	Enum containing the status.	enum	R	0
3602	2	ViewOnly	1	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	1
3604	2	ViewOnly	2	Cause of error	NoErrors		-	Indicates the cause of error.	bitfield	R	2

List of items of Enum 0 (Status)

Value	Label	Description
0	Enabled	The phase is enabled.
1	Disabled	The phase is disabled.
2	Error restarting	The phase is temporarily maintained in error and will restart automatically once the error(s) leaved.
3	Error halted	The phase is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

List of items of Enum 1 (Warnings)

Value	Label	Description
0	No warnings	The phase has no warnings.
1	Overload	Overload situation. Will halt soon if the overload persists.
2	Overtemperature	Overtemperature. The power/voltage could be reduced to protect the power converter unit.

List of items of Enum 2 (Errors)

Value	Label	Description
0	No errors	The phase has no errors.
1	Overload	Halted due to an overload.
2	device fault	The device was stopped to protect himself against abnormal situation.
4	Communication error	Too many communication errors on studer system bus. Inverter halted for self-protection.
8	Earthing error	Earthing error detected.
16	Backfeed power error	Produced active power was detected on AcLoadPort but not allowed by "Allow power sinking from AcLoad ports" (id 51).
2147483648	Other error	Inverters are stopped due ot another error. See on the GUI for more information.

Tri-phased AC-Load

Group : System
Modbus device address : 1
*External ID : 0.1.12.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3900	2	ViewOnly	0	Frequency	0	Hz	-	Frequency measured.	float	R	-
3902	2	ViewOnly	4	Line voltage L1-L2	0	V	-	Line voltage L1-L2 measured.	float	R	-
3904	2	ViewOnly	8	Line voltage L2-L3	0	V	-	Line voltage L2-L3 measured.	float	R	-
3906	2	ViewOnly	12	Line voltage L3-L1	0	V	-	Line voltage L3-L1 measured.	float	R	-
3908	2	ViewOnly	16	Total active power	0	W	-	Total active power measured.	float	R	-
3910	2	ViewOnly	20	Total apparent power	0	VA	-	Total apparent power measured.	float	R	-
3912	2	ViewOnly	24	Angle L2 relative to L1	0	degree	-	Angle L2 relative to L1 measured.	float	R	-
3914	2	ViewOnly	25	Angle L3 relative to L1	0	degree	-	Angle L3 relative to L1 measured.	float	R	-
3916	2	ViewOnly	26	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
3918	2	ViewOnly	27	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
3920	4	ViewOnly	28	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
3924	4	ViewOnly	29	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
3928	2	ViewOnly	30	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
3930	2	ViewOnly	31	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
3932	4	ViewOnly	32	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
3936	4	ViewOnly	33	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-
3940	2	ViewOnly	34	Day runtime	0	h	-	Day runtime measured.	float	R	-
3942	2	ViewOnly	35	Total runtime	0	h	-	Total runtime measured.	float	R	-
3944	2	ViewOnly	36	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
3946	2	ViewOnly	37	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
3948	2	ViewOnly	38	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
3950	2	ViewOnly	39	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3952	2	ViewOnly	40	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
3954	2	ViewOnly	41	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-

AC-Load L1

Group : System
Modbus device address : 1
*External ID : 0.1.13.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4200	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
4202	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
4204	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
4206	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
4208	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
4210	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
4212	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
4214	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
4216	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
4218	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
4220	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
4222	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
4228	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
4230	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
4232	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
4236	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
4240	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
4242	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
4244	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
4248	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

AC-Load L2

Group : System
Modbus device address : 1
*External ID : 0.1.14.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4500	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
4502	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
4504	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
4506	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
4508	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
4510	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
4512	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
4514	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
4516	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
4518	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
4520	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
4522	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
4528	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
4530	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
4532	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
4536	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
4540	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
4542	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
4544	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
4548	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

AC-Load L3

Group : System
Modbus device address : 1
*External ID : 0.1.15.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4800	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
4802	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
4804	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
4806	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
4808	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
4810	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
4812	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
4814	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
4816	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
4818	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
4820	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
4822	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
4828	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
4830	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
4832	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
4836	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
4840	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
4842	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
4844	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
4848	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

Tri-phased Inverters

Group : System
Modbus device address : 1
*External ID : 0.1.16.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5100	2	ViewOnly	0	Frequency	0	Hz	-	Frequency measured.	float	R	-
5102	2	ViewOnly	4	Line voltage L1-L2	0	V	-	Line voltage L1-L2 measured.	float	R	-
5104	2	ViewOnly	8	Line voltage L2-L3	0	V	-	Line voltage L2-L3 measured.	float	R	-
5106	2	ViewOnly	12	Line voltage L3-L1	0	V	-	Line voltage L3-L1 measured.	float	R	-
5108	2	ViewOnly	16	Total active power	0	W	-	Total active power measured.	float	R	-
5110	2	ViewOnly	20	Total apparent power	0	VA	-	Total apparent power measured.	float	R	-
5112	2	ViewOnly	24	Angle L2 relative to L1	0	degree	-	Angle L2 relative to L1 measured.	float	R	-
5114	2	ViewOnly	25	Angle L3 relative to L1	0	degree	-	Angle L3 relative to L1 measured.	float	R	-
5116	2	ViewOnly	26	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
5118	2	ViewOnly	27	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
5120	4	ViewOnly	28	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
5124	4	ViewOnly	29	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
5128	2	ViewOnly	30	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
5130	2	ViewOnly	31	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
5132	4	ViewOnly	32	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
5136	4	ViewOnly	33	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-
5140	2	ViewOnly	34	Day runtime	0	h	-	Day runtime measured.	float	R	-
5142	2	ViewOnly	35	Total runtime	0	h	-	Total runtime measured.	float	R	-
5144	2	ViewOnly	36	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
5146	2	ViewOnly	37	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
5148	2	ViewOnly	38	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
5150	2	ViewOnly	39	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5152	2	ViewOnly	40	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
5154	2	ViewOnly	41	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-

Inverter L1

Group : System
Modbus device address : 1
*External ID : 0.1.17.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5400	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
5402	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
5404	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
5406	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
5408	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
5410	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
5412	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
5414	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
5416	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
5418	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
5420	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
5422	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
5428	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
5430	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
5432	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
5436	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
5440	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
5442	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
5444	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
5448	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

Inverter L2

Group : System
Modbus device address : 1
*External ID : 0.1.18.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5700	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
5702	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
5704	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
5706	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
5708	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
5710	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
5712	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
5714	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
5716	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
5718	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
5720	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
5722	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
5728	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
5730	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
5732	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
5736	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
5740	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
5742	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
5744	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
5748	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

Inverter L3

Group : System
Modbus device address : 1
*External ID : 0.1.19.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6000	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
6002	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
6004	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
6006	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
6008	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
6010	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
6012	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
6014	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
6016	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
6018	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
6020	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
6022	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
6028	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
6030	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
6032	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
6036	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
6040	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
6042	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
6044	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
6048	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

All tri-phased FlexLoads measure

Group : System
Modbus device address : 1
*External ID : 0.1.20.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6300	2	ViewOnly	0	Frequency	0	Hz	-	Frequency measured.	float	R	-
6302	2	ViewOnly	4	Line voltage L1-L2	0	V	-	Line voltage L1-L2 measured.	float	R	-
6304	2	ViewOnly	8	Line voltage L2-L3	0	V	-	Line voltage L2-L3 measured.	float	R	-
6306	2	ViewOnly	12	Line voltage L3-L1	0	V	-	Line voltage L3-L1 measured.	float	R	-
6308	2	ViewOnly	16	Total active power	0	W	-	Total active power measured.	float	R	-
6310	2	ViewOnly	20	Total apparent power	0	VA	-	Total apparent power measured.	float	R	-
6312	2	ViewOnly	24	Angle L2 relative to L1	0	degree	-	Angle L2 relative to L1 measured.	float	R	-
6314	2	ViewOnly	25	Angle L3 relative to L1	0	degree	-	Angle L3 relative to L1 measured.	float	R	-
6316	2	ViewOnly	26	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
6318	2	ViewOnly	27	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
6320	4	ViewOnly	28	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
6324	4	ViewOnly	29	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
6328	2	ViewOnly	30	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
6330	2	ViewOnly	31	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
6332	4	ViewOnly	32	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
6336	4	ViewOnly	33	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-
6340	2	ViewOnly	34	Day runtime	0	h	-	Day runtime measured.	float	R	-
6342	2	ViewOnly	35	Total runtime	0	h	-	Total runtime measured.	float	R	-
6344	2	ViewOnly	36	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
6346	2	ViewOnly	37	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
6348	2	ViewOnly	38	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
6350	2	ViewOnly	39	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6352	2	ViewOnly	40	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
6354	2	ViewOnly	41	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-

All FlexLoads measure L1

Group : System
Modbus device address : 1
*External ID : 0.1.21.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6600	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
6602	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
6604	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
6606	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
6608	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
6610	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
6612	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
6614	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
6616	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
6618	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
6620	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
6622	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
6628	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
6630	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
6632	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
6636	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
6640	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
6642	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
6644	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
6648	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

All FlexLoads measure L2

Group : System
Modbus device address : 1
*External ID : 0.1.22.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6900	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
6902	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
6904	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
6906	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
6908	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
6910	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
6912	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
6914	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
6916	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
6918	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
6920	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
6922	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
6928	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
6930	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
6932	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
6936	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
6940	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
6942	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
6944	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
6948	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

All FlexLoads measure L3

Group : System
Modbus device address : 1
*External ID : 0.1.23.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
7200	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
7202	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
7204	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
7206	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
7208	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
7210	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
7212	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
7214	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
7216	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
7218	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
7220	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
7222	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
7228	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
7230	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
7232	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
7236	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
7240	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
7242	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
7244	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
7248	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

All solar common

Group : System
Modbus device address : 1
*External ID : 0.1.24.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
7500	1	Basic	0	Turn on	-		-	Turns on solar(s).	signal	W	-
7501	1	Basic	1	Turn off	-		-	Turns off solar(s).	signal	W	-
7502	1	ViewOnly	2	On off state	false		-	Indicates solar(s) on/off state.	bool	R	-
7503	1	Expert	3	Enable depolarization	-		-	Enables depolarization.	signal	W	-
7504	1	Expert	4	Disable depolarization	-		-	Disables depolarization.	signal	W	-
7505	2	ViewOnly	5	Power	0	W	-	Power produced.	float	R	-
7507	2	ViewOnly	8	Previous day energy	0	Wh	-	Energy produced for the previous day.	float	R	-
7509	2	ViewOnly	9	Power limit	0	W	-	Solar(s) power limit.	uint	R	-
7511	2	ViewOnly	10	Day energy	0	Wh	-	Energy produced for the current day.	float	R	-
7515	4	ViewOnly	12	Resetable energy	0	Wh	-	Energy produced (can be reset).	float64	R/W	-
7519	4	ViewOnly	13	Total energy	0	Wh	-	Total energy produced (whole life).	float64	R	-

All solar group

Group : System
Modbus device address : 1
*External ID : 0.1.25.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
7800	2	ViewOnly	0	Nbr	0		-	Number of converters.	uint	R	-
7802	2	ViewOnly	1	Status	AtLeastOneSolarDisabled		-	Bitfield containing the status.	bitfield	R	0

List of items of Enum 0 (Status)

Value	Label	Description
1	At least one solar disabled	At least one solar is disabled.
2	At least one solar has warning(s)	At least one solar has warning(s).
4	At least one solar in error restarting	At least one solar is temporarily maintained in error and will restart automatically once the error(s) leaved.
8	At least one solar in error halted	At least one solar is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).
16	At least one solar in night	At least one solar is in night.
32	At least one solar in dawn/dusk	At least one solar is in dawn/dusk.
64	At least one solar in production	At least one solar is in production.
128	At least one solar in production limited	At least one solar is in production limited.

System total

Group : System
Modbus device address : 1
*External ID : 0.1.26.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8100	1	Basic	0	Clear errors	-		-	Clear all converters error(s).	signal	W	-
8101	1	Basic	1	Turn on	-		-	Turns on all converters.	signal	W	-
8102	1	Basic	2	Turn off	-		-	Turns off all converters.	signal	W	-
8103	1	ViewOnly	3	On off state	false		-	Indicates all converters on/off state.	bool	R	-
8104	2	ViewOnly	4	Source power	0	W	-	Power of the currently used AC source (AcSource or AcFlex used as FlexSource).	float	R	-
8106	2	ViewOnly	6	Consummers power	0	W	-	Consummers power (total of AcLoad and all AcFlex used as FlexLoad).	float	R	-
8108	2	ViewOnly	8	Consummer apparent power	0	VA	-	Consummer apparent power (total of AcLoad and all AcFlex used as FlexLoad).	float	R	-
8110	2	ViewOnly	10	Warning(s)	None		-	Bitfield containing the warning(s).	bitfield	R	0
8112	2	ViewOnly	11	Error(s) restarting	None		-	Bitfield containing the error(s) restarting.	bitfield	R	0
8114	2	ViewOnly	12	Source day consumed energy	0	Wh	-	Day consumed energy of all AC sources (AcSource and AcFlex used as FlexSource).	float	R	-
8116	2	ViewOnly	13	Source day produced energy	0	Wh	-	Day produced energy of all AC sources (AcSource and AcFlex used as FlexSource).	float	R	-
8118	2	ViewOnly	14	Error(s) halted	None		-	Bitfield containing the error(s) halted.	bitfield	R	0
8120	2	ViewOnly	15	Error(s) restarting or halted	None		-	Bitfield containing the error(s) (restarting or halted).	bitfield	R	0
8126	2	ViewOnly	18	Consummers day consumed energy	0	Wh	-	Consummers day consumed energy (total of AcLoad and all AcFlex used as FlexLoad).	float	R	-

List of items of Enum 0 (WarningsErrors)

Value	Label	Description
0	None	None.
1	At least one device	At least one device.
2	At least one battery	At least one battery.
4	At least one solar	At least one solar.
8	At least one phase	At least one phase.
16	At least one source phase	At least one source phase.
32	At least one flex source phase	At least one flex source phase.

All battery common

Group : System
Modbus device address : 1
*External ID : 0.1.27.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8400	2	ViewOnly	0	Charging power	0	W	-	Charging power measured.	float	R	-
8402	2	ViewOnly	4	Day charging energy	0	Wh	-	Day charging energy measured.	float	R	-
8404	2	ViewOnly	5	Previous day charging energy	0	Wh	-	Previous day charging energy measured.	float	R	-
8406	4	ViewOnly	6	Resetable charging energy	0	Wh	-	Resetable charging energy measured.	float64	R/W	-
8410	4	ViewOnly	7	Total charging energy	0	Wh	-	Total charging energy measured.	float64	R	-
8414	2	ViewOnly	8	Day discharging energy	0	Wh	-	Day discharging energy measured.	float	R	-
8416	2	ViewOnly	9	Previous day discharging energy	0	Wh	-	Previous day discharging energy measured.	float	R	-
8418	4	ViewOnly	10	Resetable discharging energy	0	Wh	-	Resetable discharging energy measured.	float64	R/W	-
8422	4	ViewOnly	11	Total discharging energy	0	Wh	-	Total discharging energy measured.	float64	R	-
8426	2	ViewOnly	12	State of Charge	0	%	-	State of charge measured.	float	R	-

All battery group

Group : System
Modbus device address : 1
*External ID : 0.1.28.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8700	2	ViewOnly	0	Nbr	0		-	Number of batteries.	uint	R	-
8702	2	ViewOnly	1	Status	NoWarningsOrErrors		-	Bitfield containing the status.	bitfield	R	0

List of items of Enum 0 (Status)

Value	Label	Description
1	No warning(s) or error(s)	No warning(s) or error(s).
2	At least one battery in warning	At least one battery is in warning.
4	At least one battery in error restarting	At least one battery is temporarily maintained in error and will restart automatically once the error(s) leaved.
8	At least one battery in error halted	At least one battery is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

Battery common

Group : Battery
Modbus device address : 2 to 6
*External ID : 1.x.1.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
0	2	ViewOnly	0	Charging power	0	W	-	Charging power measured.	float	R	-
2	2	ViewOnly	4	Day charging energy	0	Wh	-	Day charging energy measured.	float	R	-
4	2	ViewOnly	5	Previous day charging energy	0	Wh	-	Previous day charging energy measured.	float	R	-
6	4	ViewOnly	6	Resetable charging energy	0	Wh	-	Resetable charging energy measured.	float64	R/W	-
10	4	ViewOnly	7	Total charging energy	0	Wh	-	Total charging energy measured.	float64	R	-
14	2	ViewOnly	8	Day discharging energy	0	Wh	-	Day discharging energy measured.	float	R	-
16	2	ViewOnly	9	Previous day discharging energy	0	Wh	-	Previous day discharging energy measured.	float	R	-
18	4	ViewOnly	10	Resetable discharging energy	0	Wh	-	Resetable discharging energy measured.	float64	R/W	-
22	4	ViewOnly	11	Total discharging energy	0	Wh	-	Total discharging energy measured.	float64	R	-
26	2	ViewOnly	12	State of Charge	0	%	-	State of charge measured.	float	R	-

Battery

Group : Battery
Modbus device address : 2 to 6
*External ID : 1.x.2.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
300	2	ViewOnly	0	Status	NoWarningsOrErrors		-	Enum containing the status.	enum	R	0
302	2	ViewOnly	1	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	1
304	2	ViewOnly	2	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	2
306	2	Expert	3	Target charging current low limit	0	A	-	Target charging current low limit sent to the power flow dispatcher.	float	R	-
308	2	Expert	4	Target charging current high limit	0	A	-	Target charging current high limit sent to the power flow dispatcher.	float	R	-
310	2	Expert	5	Charging current low limit	0	A	-	Charging current low limit sent to the power flow dispatcher.	float	R	-
312	2	Expert	6	Charging current high limit	0	A	-	Charging current high limit sent to the power flow dispatcher.	float	R	-
314	2	Expert	7	Target voltage max	0	V	-	Target voltage used to clamp "Charging current high limit" (id 6) dynamically in function of the voltage error to avoid overshoot.	float	R	-
316	2	Expert	8	Target voltage min	0	V	-	Target voltage used to clamp "Charging current low limit" (id 5) dynamically in function of the voltage error to avoid undershoot.	float	R	-
318	2	ViewOnly	9	Voltage	0	V	-	Voltage measured.	float	R	-
320	2	ViewOnly	13	Charging current	0	A	-	Charging current measured.	float	R	-
322	4	ViewOnly	17	Cycles nbr	0		-	Number of cycles since the battery was configured. Note that one cycle corresponds to 'Nominal capacity' electric charges injected into the battery.	float64	R	-
326	2	ViewOnly	18	State of health	100	%	-	State of health measured.	float	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
328	1	ViewOnly	19	Temp available	false		-	True if at least one battery contributor has a temperature sensor connected with non communicating battery. Not used with communicating battery.	bool	R	-
329	2	ViewOnly	20	Temp	0	°C	-	Temperature measured.	float	R	-
331	1	Expert	24	communicating battery current limits	false		-	If enabled, "Discharging current limit" (id 25) and "Charging current limit" (id 26) can be manually set. If disabled, the limits used are those received by the bms. Note that the limits set by the user are ignored if the limits received by the bms are lower.	bool	R/W	-
332	2	Expert	25	Discharging current limit	0	A	[0, 1e9]	Sets the discharging current limit.	float	R/W	-
334	2	Expert	26	Charging current limit	0	A	[0, 1e9]	Sets the charging current limit.	float	R/W	-
336	2	Expert	27	Ratio current limit overcurrent	0.8		[0.1, 0.95]	This ratio is used to keep marging between the operating range ('Discharging current limit' and 'Charging current limit') and the 'Overcurrent' threshold.	float	R/W	-
338	2	Expert	28	Conditions for energy management	AllConditions		-	Used to select conditions used for energy management.	bitfield	R/W	8
340	2	Expert	29	SOC slope for limits	0	A/%	-	Value used to change linearly the "Target charging current low limit" (id 3) around "SOC for backup" (id 32) and the "Target charging current high limit" (id 4) around "SOC for grid feeding" (id 31) from chargingCurrentLimit to -dischargingCurrentLimit. Also used to change linearly the "Charging current high limit" (id 6) around "SOC for end of charge" (id 30) from 100% to 0%.	float	R/W	-
342	2	Expert	30	SOC for end of charge	100	%	-	SOC over which the "Charging current high limit" (id 6) is set to 0 if "SOC for end of charge" (value 1) is activated. This prevents the SOC to increase further even if solar power is available. Note that it's recommended to keep a value of 100% for non communicating battery.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
344	2	Expert	31	SOC for grid feeding	100	%	-	SOC over which energy is taken from battery to be sourced into grid if "SOC for grid feeding" (value 2) is activated. Note that it's recommended to keep a value of 100% for non communicating battery.	float	R/W	-
346	2	Expert	32	SOC for backup	0	%	-	SOC under which energy is taken from an AC source to charge batteries if "SOC for backup" (value 4) is activated.	float	R/W	-
348	1	Expert	33	Adaptive SOC for backup	false		-	Used to increase each day "Adaptive SOC for backup" (id 38) by the quantity set via "Adaptive SOC for backup slope" (id 34) if the SOC is less than "SOC to increase adaptive SOC for backup" (id 37). "Adaptive SOC for backup" (id 38) is also increased by 15% if an undervoltage has been detected. "Adaptive SOC for backup" (id 38) is reset to "SOC for backup" (id 32) if the SOC is greather than or equal to "SOC to reset adaptive SOC for backup" (id 36) for at least "Time before reseting adaptive SOC for backup" (id 35) seconds.	bool	R/W	-
349	2	Expert	34	Adaptive SOC for backup slope	0	%/day	[0, 100]	"Adaptive SOC for backup" (id 38) is increased each day by this amount if the SOC is less than "SOC to increase adaptive SOC for backup" (id 37) and if "Adaptive SOC for backup" (id 33) is enabled.	uint	R/W	-
351	2	Expert	35	Time before reseting adaptive SOC for backup	0	s	[0, 86400]	"Adaptive SOC for backup" (id 38) is reset to "SOC for backup" (id 32) if the SOC is greather than or equal to "SOC to reset adaptive SOC for backup" (id 36) for at least this amount of time.	uint	R/W	-
353	2	Expert	36	SOC to reset adaptive SOC for backup	0	%	-	"Adaptive SOC for backup" (id 38) is reset to "SOC for backup" (id 32) if the SOC is greather than or equal to this value during "Time before reseting adaptive SOC for backup" (id 35).	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
355	2	Expert	37	SOC to increase adaptive SOC for backup	0	%	-	"Adaptive SOC for backup" (id 38) is increased each day by the value of "Adaptive SOC for backup slope" (id 34) if the SOC is less than this value and if "Adaptive SOC for backup" (id 33) is enabled.	float	R/W	-
357	2	Expert	38	Adaptive SOC for backup	0	%	-	Indicate the current value of the SOC for backup. If "Adaptive SOC for backup" (id 33) is disabled, the value is the same as "SOC for backup" (id 32).	float	R	-
359	2	Expert	39	Voltage for grid feeding	0	V	-	Voltage over which energy is taken from battery to be sourced into grid if "Voltage for grid feeding" (value 8) is activated. Note that the battery may never reach a fully charged state if this feature is activated.	float	R/W	-
361	2	Expert	40	Voltage for backup	0	V	-	Voltage under which energy is taken from an AC source to charge batteries if "Voltage for backup" (value 16) is activated.	float	R/W	-
363	2	Expert	41	Nominal temp	25	°C	[-20, 45]	Battery nominal temperature.	float	R/W	-
365	2	Expert	42	Temp coefficient	0	V/°C	-	Sets the temperature coefficient used to correct the charging voltage level.	float	R/W	-
367	1	Expert	43	Forced mode	false		-	Use given values instead of automatic ones for target min/max voltages and charging current.	bool	R/W	-
368	2	Expert	44	Forced target voltage max	0	V	-	Forced value for "Target voltage max" (id 7) when "Forced mode" (id 43).	float	R/W	-
370	2	Expert	45	Forced target voltage min	0	V	-	Forced value for "Target voltage min" (id 8) when "Forced mode" (id 43).	float	R/W	-
372	2	Expert	46	Forced target current	0	A	-	Forced value for "Target charging current low limit" (id 3) and "Target charging current high limit" (id 4) when "Forced mode" (id 43). Please enter a positive value to set a target charging current and a negative value to set a target discharging current.	float	R/W	-
374	2	Expert	47	Limits level	0	Level	-	Limits level sent to the power flow dispatcher.	uint	R/W	-
376	2	Expert	48	Setpoints level	0	Level	-	Setpoints level sent to the power flow dispatcher.	uint	R/W	-

List of items of Enum 0 (Status)

Value	Label	Description
0	No warning(s) or error(s)	No warning(s) or error(s).
1	In warning	The battery is in warning.
2	In error restarting	The battery is temporarily maintained in error and will restart automatically once the error(s) leaved.
3	In error halted	The battery is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

List of items of Enum 1 (Errors)

Value	Label	Description
0	No errors	The battery has no errors.
1	Overvoltage	An error overvoltage has been detected.
2	Undervoltage	An error undervoltage has been detected.
4	Charging overcurrent	An error charging overcurrent has been detected.
8	Discharging overcurrent	An error discharging overcurrent has been detected.
16	Charging overtemperature	An error charging overtemperature has been detected.
32	Discharging overtemperature	An error discharging overtemperature has been detected.
64	Charging undertemperature	An error charging undertemperature has been detected.
128	Discharging undertemperature	An error discharging undertemperature has been detected.
256	Contactor	The battery internal contactor is damaged. Please contact the battery manufacturer for more details.
512	Short circuit	The BMS has detected a short circuit error.
1024	BMS internal	The BMS has an internal error. Please contact the battery manufacturer for more details.
2048	Cell imbalance	A voltage imbalance error between cells has been detected.
4096	SMA general	An SMA general error has been received. Please contact the battery manufacturer for more details.
8192	Battery damaged	The BMS has detected that the battery is damaged. Please contact the battery manufacturer for more details.
16384	Communication lost	The communication with the BMS has been lost. Please check that the communication cable is correctly connected.
32768	Emergency stop	An emergency stop has been received by the BMS.
65536	Charging not allowed	Charging not allowed has been sent by the communicating battery.
131072	Discharging not allowed	Discharging not allowed has been sent by the communicating battery.

List of items of Enum 2 (Warnings)

Value	Label	Description
0	No warnings	The battery has no warnings.
1	Overvoltage	A warning overvoltage has been detected.
2	Undervoltage	A warning undervoltage has been detected.
4	Charging overcurrent	A warning charging overcurrent has been detected.
8	Discharging overcurrent	A warning discharging overcurrent has been detected.
16	Charging overtemperature	A warning charging overtemperature has been detected.
32	Discharging overtemperature	A warning discharging overtemperature has been detected.
64	Charging undertemperature	A warning charging undertemperature has been detected.
128	Discharging undertemperature	A warning discharging undertemperature has been detected.
256	Contactor	The battery internal contactor might be damaged. Please contact the battery manufacturer for more details.

Value	Label	Description
512	Short circuit	The BMS has detected a short circuit warning.
1024	BMS internal	The BMS has an internal warning. Please contact the battery manufacturer for more details.
2048	Cell imbalance	A voltage imbalance warning between cells has been detected.
4096	SMA general	An SMA general warning has been received. Please contact the battery manufacturer for more details.
8192	Charging recommended	Charging the battery is recommended.
16384	Discharging recommended	Discharging the battery is recommended.
32768	Full charging recommended	Charging the battery fully is recommended.

List of items of Enum 8 (ManagementOfEnergy)

Value	Label	Description
0	All conditions	All conditions are activated.
1	SOC for end of charge	SOC for end of charge condition is activated. Note that "SOC for grid feeding" (value 2) must be activated to activate this condition.
2	SOC for grid feeding	SOC for grid feeding condition is activated.
4	SOC for backup	SOC for backup condition is activated.
8	Voltage for grid feeding	Voltage for grid feeding condition is activated.
16	Voltage for backup	Voltage for backup condition is activated.

Battery Cycle

Group : Battery
Modbus device address : 2 to 6
*External ID : 1.x.3.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
600	1	Expert	0	Request floating	-		-	Forces the battery cycle to go in "Floating phase" (value 2).	signal	W	-
601	1	Expert	1	Request reduced floating	-		-	Forces the battery cycle to go in "Reduced floating phase" (value 1). This signal has no effect if "Reduced Floating" (id 5) is not enabled.	signal	W	-
602	1	Expert	2	Request absorption	-		-	Forces the battery cycle to go in "Absorption phase" (value 4). This signal has no effect if "Absorption" (id 12) is not enabled.	signal	W	-
603	1	Expert	3	Request equalization	-		-	Forces the battery cycle to go in "Equalization phase" (value 5). This signal has no effect if "Equalization" (id 22) is not enabled.	signal	W	-
604	2	Expert	4	Floating voltage	0	V	-	Battery target voltage in "Floating phase" (value 2).	float	R/W	-
606	1	Expert	5	Reduced Floating	false		-	Enables "Reduced floating phase" (value 1).	bool	R/W	-
607	2	Expert	6	Reduced floating voltage	0	V	-	Battery target voltage in "Reduced floating phase" (value 1).	float	R/W	-
609	2	Expert	7	Time in floating before going in reduced floating	0	s	-	Time spent in "Floating phase" (value 2) before going in "Reduced floating phase" (value 1). "Reduced Floating" (id 5) must be enabled for the transition to happen.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
611	1	Expert	8	Periodical absorption	false		-	Enables "Periodical absorption phase" (value 3). This property has no effect if "Reduced Floating" (id 5) is not enabled.	bool	R/W	-
612	2	Expert	9	Periodical absorption voltage	0	V	-	Battery target voltage in "Periodical absorption phase" (value 3).	float	R/W	-
614	2	Expert	10	Periodical absorption max duration	0	s	-	Sets "Periodical absorption phase" (value 3) max duration. Note that the duration can be lower than this value if "Absorption terminated by current" (id 19) is enabled or the duration can be higher than this value if the voltage is not maintained at "Periodical absorption voltage" (id 9).	uint	R/W	-
616	2	Expert	11	Time in reduced floating before going in periodical absorption	0	s	-	Time spent in "Reduced floating phase" (value 1) before going in "Periodical absorption phase" (value 3). "Periodical absorption" (id 8) must be enabled for the transition to happen.	uint	R/W	-
618	1	Expert	12	Absorption	false		-	Enables "Absorption phase" (value 4).	bool	R/W	-
619	2	Expert	13	Absorption conditions	AbsorptionTriggeredByAllConditions		-	Selects condition(s) to go in "Absorption phase" (value 4). These conditions have no effect if "Absorption" (id 12) is not enabled.	bitfield	R/W	3
621	2	Expert	14	Absorption voltage	0	V	-	Battery target voltage in "Absorption phase" (value 4).	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
623	2	Expert	15	Ahs discharged for asking absorption	0	Ah	-	"Absorption phase" (value 4) is started if the amp hours discharged since last absorption or periodical absorption is above this value, "Absorption triggered by Ahs" (value 1) in "Absorption conditions" (id 13) is set and "Absorption" (id 12) is enabled.	float	R/W	-
625	2	Expert	16	Voltage for asking absorption	0	V	-	"Absorption phase" (value 4) is started if the voltage is lower than this value for a duration greater than "Voltage duration before asking absorption" (id 17), "Absorption triggered by voltage" (value 4) in "Absorption conditions" (id 13) is set and "Absorption" (id 12) is enabled.	float	R/W	-
627	2	Expert	17	Voltage duration before asking absorption	0	s	-	"Absorption phase" (value 4) is started if the voltage is lower than "Voltage for asking absorption" (id 16) for a duration greater than this value, "Absorption triggered by voltage" (value 4) in "Absorption conditions" (id 13) is set and "Absorption" (id 12) is enabled.	uint	R/W	-
629	2	Expert	18	Absorption max duration	0	s	-	Sets "Absorption phase" (value 4) max duration. Note that the duration can be lower than this value if "Absorption terminated by current" (id 19) is enabled or the duration can be higher than this value if the voltage is not maintained at "Absorption voltage" (id 14).	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
631	1	Expert	19	Absorption terminated by current	false		-	Enables the function allowing to stop "Absorption phase" (value 4) or "Periodical absorption phase" (value 3) based on the battery charging current.	bool	R/W	-
632	2	Expert	20	Current to terminate absorption	0	A	-	"Absorption phase" (value 4) or "Periodical absorption phase" (value 3) are stopped if the "Absorption terminated by current" (id 19) is enabled and if the battery charging current is lower than this value at a battery voltage equal to "Absorption voltage" (id 14) in "Absorption phase" (value 4) or "Periodical absorption voltage" (id 9) in "Periodical absorption phase" (value 3).	float	R/W	-
634	2	Expert	21	Minimum time between absorptions	0	s	-	"Absorption phase" (value 4) can't be automatically started if the time since the end of the previous absorption or periodical absorption is smaller than this value. Note that this minimum waiting time is ignored if a signal is sent via "Request absorption" (id 2).	uint	R/W	-
636	1	Expert	22	Equalization	false		-	Enables "Equalization phase" (value 5).	bool	R/W	-
637	2	Expert	23	Equalization conditions	EqualizationTriggeredByAllConditions		-	Selects condition(s) to go in "Equalization phase" (value 5). These conditions have no effect if "Equalization" (id 22) is not enabled.	bitfield	R/W	4
639	2	Expert	24	Equalization voltage	0	V	-	Battery target voltage in "Equalization phase" (value 5).	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
641	2	Expert	25	Time for asking equalization	0	s	-	"Equalization phase" (value 5) is started if the time since the last equalization is above this value, "Equalization triggered by period" (value 1) in "Equalization conditions" (id 23) is set and "Equalization" (id 22) is enabled.	uint	R/W	-
643	2	Expert	26	Ahs discharged for asking equalization	0	Ah	-	"Equalization phase" (value 5) is started if the amp hours discharged since the last equalization is above this value, "Equalization triggered by Ahs" (value 2) in "Equalization conditions" (id 23) is set and "Equalization" (id 22) is enabled.	float	R/W	-
645	2	Expert	27	Equalization duration	0	s	-	Sets "Equalization phase" (value 5) duration. Note that the duration can be higher than this value if the voltage is not maintained at "Equalization voltage" (id 24).	uint	R/W	-
647	1	Expert	28	Equalization after absorption	false		-	Sets if "Equalization phase" (value 5) must be done after "Absorption phase" (value 4).	bool	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
648	2	Expert	29	Equalization current if equalization after absorption	0	A	-	Transition from "Absorption phase" (value 4) to "Equalization phase" (value 5) if the battery charging current is lower than this value at a battery voltage equal to "Equalization voltage" (id 24), "Equalization after absorption" (id 28) is set to true, at least one condition in "Equalization conditions" (id 23) is true and "Equalization" (id 22) is enabled.	float	R/W	-
650	2	ViewOnly	30	Phase	Floating		-	Actual phase.	enum	R	0
652	2	Expert	31	Time spent in actual phase	0	s	-	Time spent in the actual phase. Note that the time is slow down if the battery voltage is lower than the target voltage in "Absorption phase" (value 4), "Periodical absorption phase" (value 3) or "Equalization phase" (value 5).	uint	R	-
654	2	Expert	32	Transition	NoTransition		-	Used to indicate from which phase to which phase the battery cycle has jumped.	enum	R	1
656	2	Expert	33	Transition reasons	NoTransitionReasons		-	Used to indicate the reason(s) of the transition.	bitfield	R	2

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
658	2	Expert	34	Remaining time before next absorption allowed	0	s	-	Stores the remaining time before "Absorption phase" (value 4) can be triggered by the condition(s) in "Absorption conditions" (id 13). The value is infinite if "Absorption" (id 12) is disabled. Note that "Absorption phase" (value 4) can be manually requested via "Request absorption" (id 2) even if this time is not 0.	uint	R	-
660	2	Expert	35	Remaining Ahs discharged before absorption triggered	0	Ah	-	Stores the remaining amp hours discharged before "Absorption phase" (value 4) is triggered. The value is infinite if "Absorption" (id 12) is disabled or "Absorption triggered by Ahs" (value 1) is not set.	float	R	-
662	2	Expert	36	Remaining time before absorption triggered by low SOC	0	s	-	Stores the remaining time before "Absorption phase" (value 4) is triggered by low SOC. The value is infinite if "Absorption" (id 12) is disabled, "Absorption triggered by SOC" (value 2) is not set or the SOC is greather than 80%.	uint	R	-
664	2	Expert	37	Remaining time before absorption triggered by voltage	0	s	-	Stores the remaining time before "Absorption phase" (value 4) is triggered by voltage. The value is infinite if "Absorption" (id 12) is disabled or "Absorption triggered by voltage" (value 4) is not set.	uint	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
666	2	Expert	38	Remaining time before equalization triggered by time period	0	s	-	Stores the remaining time before "Equalization phase" (value 5) is triggered by time period. The value is infinite if "Equalization" (id 22) is disabled or "Equalization triggered by period" (value 1) is not set.	uint	R	-
668	2	Expert	39	Remaining Ahs discharged before equalization triggered	0	Ah	-	Stores the remaining amp hours discharged before "Equalization phase" (value 5) is triggered. The value is infinite if "Equalization" (id 22) is disabled or "Equalization triggered by Ahs" (value 2) is not set.	float	R	-
670	2	Expert	40	Remaining time before equalization triggered by low SOC	0	s	-	Stores the remaining time before "Equalization phase" (value 5) is triggered by low SOC. The value is infinite if "Equalization" (id 22) is disabled, "Equalization triggered by SOC" (value 4) is not set or the SOC is greather than 80%.	uint	R	-

List of items of Enum 0 (Phase)

Value	Label	Description
0	Bulk phase	Bulk phase.
1	Reduced floating phase	Reduced floating phase.
2	Floating phase	Floating phase.
3	Periodical absorption phase	Periodical absorption phase.
4	Absorption phase	Absorption phase.
5	Equalization phase	Equalization phase.

List of items of Enum 1 (Transition)

Value	Label	Description
0	No transition	For now, no transition has been detected.
1	Bulk to reduced floating	Transition from bulk to reduced floating.
2	Bulk to floating	Transition from bulk to floating.

Value	Label	Description
4	Bulk to absorption	Transition from bulk to absorption.
5	Bulk to equalization	Transition from bulk to equalization.
8	Reduced floating to bulk	Transition from reduced floating to bulk.
10	Reduced floating to floating	Transition from reduced floating to floating.
11	Reduced floating to periodical absorption	Transition from reduced floating to periodical absorption.
16	Floating to bulk	Transition from floating to bulk.
17	Floating to reduced floating	Transition from floating to reduced floating.
24	Periodical absorption to bulk	Transition from periodical absorption to bulk.
25	Periodical absorption to reduced floating	Transition from periodical absorption to reduced floating.
26	Periodical absorption to floating	Transition from periodical absorption to floating.
33	Absorption to reduced floating	Transition from absorption to reduced floating.
34	Absorption to floating	Transition from absorption to floating.
37	Absorption to equalization	Transition from absorption to equalization.
41	Equalization to reduced floating	Transition from equalization to reduced floating.
42	Equalization to floating	Transition from equalization to floating.
44	Equalization to absorption	Transition from equalization to absorption.

List of items of Enum 2 (TransitionReasons)

Value	Label	Description
0	No transition reasons	No transition reasons.
1	Floating requested	The reason of the transition is : floating requested.
2	Reduced floating requested	The reason of the transition is : reduced floating requested.
4	Absorption requested	The reason of the transition is : absorption requested.
8	Equalization requested	The reason of the transition is : equalization requested.
16	Reduced floating disabled	The reason of the transition is : reduced floating disabled.
32	Periodical absorption disabled	The reason of the transition is : periodical absorption disabled.
64	Period for periodical absorption reached	The reason of the transition is : period for periodical absorption reached.
128	Waiting duration in floating reached	The reason of the transition is : waiting duration in floating reached.
256	First absorption after reset	The reason of the transition is : first absorption after reset.
512	Absorption Ahs discharged reached	The reason of the transition is : absorption Ahs discharged reached.
1024	Absorption low SOC reached	The reason of the transition is : absorption low SOC reached.
2048	Absorption disabled	The reason of the transition is : absorption disabled.
4096	Absorption max. duration reached	The reason of the transition is : absorption max. duration reached.
8192	Periodical absorption max. duration reached	The reason of the transition is : periodical absorption max. duration reached.
16384	Absorption terminated by current	The reason of the transition is : absorption terminated by current.
32768	Current lower than equalization current	The reason of the transition is : current lower than equalization current.
65536	Equalization time period reached	The reason of the transition is : equalization time period reached.
131072	Equalization Ahs discharged reached	The reason of the transition is : equalization Ahs discharged reached.
262144	Equalization low SOC reached	The reason of the transition is : equalization low SOC reached.
524288	Equalization disabled	The reason of the transition is : equalization disabled.
1048576	Equalization duration reached	The reason of the transition is : equalization duration reached.

Value	Label	Description
2097152	Absorption and Equalization not desired anymore	The reason of the transition is : absorption and Equalization not desired anymore.
4194304	Absorption low voltage duration reached	The reason of the transition is : absorption low voltage duration reached.

List of items of Enum 3 (AbsorptionConditions)

Value	Label	Description
0	Absorption triggered by all conditions	"Absorption phase" (value 4) is triggered by all the following conditions.
1	Absorption triggered by Ahs	"Absorption phase" (value 4) is triggered if the amp hours discharged since the last absorption or periodical absorption are greather than "Ahs discharged for asking absorption" (id 15). Note that the amp hours discharged are incremented only if the discharging current is greather than C/100.
2	Absorption triggered by SOC	"Absorption phase" (value 4) is triggered based on the SOC algorithm (look at the manual for more informations). The algorithm is reset at the end of "Absorption phase" (value 4) or "Periodical absorption phase" (value 3).
4	Absorption triggered by voltage	"Absorption phase" (value 4) is triggered if the voltage is lower than "Voltage for asking absorption" (id 16) for a duration greater than "Voltage duration before asking absorption" (id 17).

List of items of Enum 4 (EqualizationConditions)

Value	Label	Description
0	Equalization triggered by all conditions	"Equalization phase" (value 5) is triggered by all the following conditions.
1	Equalization triggered by period	"Equalization phase" (value 5) is triggered if the time since last equalization is greather than "Time for asking equalization" (id 25).
2	Equalization triggered by Ahs	"Equalization phase" (value 5) is triggered if the amp hours discharged since the last equalization are greather than "Ahs discharged for asking equalization" (id 26). Note that the amp hours discharged are incremented only if the discharging current is greather than C/100.
4	Equalization triggered by SOC	"Equalization phase" (value 5) is triggered based on the SOC algorithm (look at the manual for more informations). The algorithm is reset at the end of "Equalization phase" (value 5).

Battery Protection

Group : Battery
Modbus device address : 2 to 6
*External ID : 1.x.4.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
900	2	Expert	0	Undervoltage at rest	0	V	-	If the battery voltage is below this value when no current is flowing, warning : "Undervoltage" (value 2) is raised and if the warning is maintained for more than "Undervoltage delay before error" (id 2) seconds, error : "Undervoltage" (value 2) is raised.	float	R/W	-
902	2	Expert	1	Undervoltage at C/5	0	V	-	If the battery voltage is below this value when C/5 amp is flowing, warning : "Undervoltage" (value 2) is raised and if the warning is maintained for more than "Undervoltage delay before error" (id 2) seconds, error : "Undervoltage" (value 2) is raised.	float	R/W	-
904	2	Expert	2	Undervoltage delay before error	0	s	[0, 3600]	Error : "Undervoltage" (value 2) is raised once the duration with warning : "Undervoltage" (value 2) reaches this value.	uint	R/W	-
906	2	Expert	3	Time for clearing UV cnt	0	s	[0, 3000]	The "Undervoltage cnt" (id 20) is reset once the time since the first undervoltage occured is greather than this value and if automatic restart is not prohibited.	uint	R/W	-
908	2	Expert	4	UV nbr for perm. stop	1		[1, 20]	Automatic restart is prohibited if the "Undervoltage cnt" (id 20) reaches this value.	uint	R/W	-
910	2	Expert	5	Time for clearing critical UV cnt	0	s	[0, 3000]	The "Critical undervoltage cnt" (id 21) is reset once the time since the first critical undervoltage occured is greather than this value and if automatic restart is not prohibited.	uint	R/W	-
912	2	Expert	6	Critical UV nbr for perm. stop	1		[1, 20]	Automatic restart is prohibited if the "Critical undervoltage cnt" (id 21) reaches this value.	uint	R/W	-
914	2	Expert	7	Voltage for clearing undervoltage	0	V	-	If the battery voltage is above this value, warning : "Undervoltage" (value 2) is cleared and if an automatic restart is allowed, error : "Undervoltage" (value 2) is cleared. Automatic restart is allowed if "Undervoltage cnt" (id 20) is smaller than "UV nbr for perm. stop" (id 4) and "Critical undervoltage cnt" (id 21) is smaller than "Critical UV nbr for perm. stop" (id 6).	float	R/W	-
916	1	Expert	8	BLO	false		-	Enables the BLO (Battery Lifetime Optimizer) algorithm.	bool	R/W	-
917	2	Expert	9	BLO increment step	0	V	-	At each shut down by undervoltage, the undervoltage threshold is inreased by this value.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
919	2	Expert	10	BLO max voltage	0	V	-	The undervoltage threshold is increased at each shut down by undervoltage, but never higher than this value.	float	R/W	-
921	2	Expert	11	BLO reset voltage	0	V	-	The battery undervoltage threshold returns to its original value if the battery voltage reaches this value.	float	R/W	-
923	2	Expert	12	Overvoltage	0	V	-	If the battery voltage is above this value, warning : "Overvoltage" (value 1) is raised and if the warning is maintained for more than 2s, error : "Overvoltage" (value 1) is raised.	float	R/W	-
925	2	Expert	13	High temp for warning	0	°C	[-100, 100]	If the battery temperature is above this value, warnings : "Charging overtemperature" (value 16) and "Discharging overtemperature" (value 32) are raised and a current derating is applied.	float	R/W	-
927	2	Expert	14	High temp for error	0	°C	[-100, 100]	If the battery temperature is above this value, errors "Charging overtemperature" (value 16) and "Discharging overtemperature" (value 32) are raised and no current flow is allowed.	float	R/W	-
929	2	Expert	15	Low temp for warning	0	°C	[-100, 100]	If the battery temperature is below this value, warnings : "Charging undertemperature" (value 64) and "Discharging undertemperature" (value 128) are raised and a current derating is applied.	float	R/W	-
931	2	Expert	16	Low temp for error	0	°C	[-100, 100]	If the battery temperature is below this value, errors : "Charging undertemperature" (value 64) and "Discharging undertemperature" (value 128) are raised and no current flow is allowed.	float	R/W	-
933	2	Expert	17	Overcurrent	0	A	[0, 1e9]	If the battery charging/discharging current is above this value, warning : "Charging overcurrent" (value 4)/"Discharging overcurrent" (value 8) is raised and if the warning is maintained for more than 2s, error : "Charging overcurrent" (value 4)/"Discharging overcurrent" (value 8) is raised.	float	R/W	-
935	2	Expert	18	Undervoltage at rest with BLO	0	V	-	The undervoltage threshold when no current is flowing. Note that this value can be different from "Undervoltage at rest" (id 0) when the BLO is activated.	float	R	-
937	2	Expert	19	Undervoltage at C/5 with BLO	0	V	-	The undervoltage threshold when C/5 amp is flowing. Note that this value can be different from "Undervoltage at C/5" (id 1) when the BLO is activated.	float	R	-
939	2	Expert	20	Undervoltage cnt	0		-	Undervoltage counter value. The counter is reset if "UV nbr for perm. stop" (id 4) is not reached and if the time since the first undervoltage occured is greather than "Time for clearing UV cnt" (id 3).	uint	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
941	2	Expert	21	Critical undervoltage cnt	0		-	Critical undervoltage counter value. The counter is reset if "Critical UV nbr for perm. stop" (id 6) is not reached and if the time since the first critical undervoltage occured is greather than "Time for clearing critical UV cnt" (id 5).	uint	R	-

SoC Estimator

Group : Battery
Modbus device address : 2 to 6
*External ID : 1.x.5.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1226	2	Expert	13	Peukert's exponent	0		[1, 2]	Used to take into account the fact that the capacity goes down when the discharge current increases.	float	R/W	-
1228	2	Expert	14	Self-discharge rate	0	%Cnom/month	[0, 100]	A battery gets discharged over time even when no current is consumed. This property allows to take this phenomenon into account.	float	R/W	-
1230	1	Expert	15	End of charge synchronization	false		-	This property activates the function of synchronization at 100 % of SOC under certain conditions of end of charge. The synchronization occurs if the voltage is above "End of charge voltage level" (id 16) and if the current is below "End of charge current level" (id 17) and this during a period defined by "Minimum time before end of charge" (id 18).	bool	R/W	-
1231	2	Expert	16	End of charge voltage level	0	V	-	See explanation of "End of charge synchronization" (id 15).	float	R/W	-
1233	2	Expert	17	End of charge current level	0	A	-	See explanation of "End of charge synchronization" (id 15).	float	R/W	-
1235	2	Expert	18	Minimum time before end of charge	0	s	-	See explanation of "End of charge synchronization" (id 15).	uint	R/W	-
1237	1	Expert	19	Reset SOC	-		-	the SOC is reset to the value "Desired SOC value" (id 20) if this signal is sent.	signal	W	-
1238	2	Expert	20	Desired SOC value	100	%	[0, 100]	Value at which the SOC is reset if the signal "Reset SOC" (id 19) is sent.	float	R/W	-
1240	1	Expert	21	Configured as simple counter	false		-	If true, the algorithm works as a simple coulomb counter. Note that "Self-discharge rate" (id 14) and "End of charge synchronization" (id 15) can also be used in this mode.	bool	R/W	-

Tri-phased

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.1.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
0	2	ViewOnly	0	Frequency	0	Hz	-	Frequency measured.	float	R	-
2	2	ViewOnly	4	Line voltage L1-L2	0	V	-	Line voltage L1-L2 measured.	float	R	-
4	2	ViewOnly	8	Line voltage L2-L3	0	V	-	Line voltage L2-L3 measured.	float	R	-
6	2	ViewOnly	12	Line voltage L3-L1	0	V	-	Line voltage L3-L1 measured.	float	R	-
8	2	ViewOnly	16	Total active power	0	W	-	Total active power measured.	float	R	-
10	2	ViewOnly	20	Total apparent power	0	VA	-	Total apparent power measured.	float	R	-
12	2	ViewOnly	24	Angle L2 relative to L1	0	degree	-	Angle L2 relative to L1 measured.	float	R	-
14	2	ViewOnly	25	Angle L3 relative to L1	0	degree	-	Angle L3 relative to L1 measured.	float	R	-
16	2	ViewOnly	26	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
18	2	ViewOnly	27	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
20	4	ViewOnly	28	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
24	4	ViewOnly	29	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
28	2	ViewOnly	30	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
30	2	ViewOnly	31	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
32	4	ViewOnly	32	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
36	4	ViewOnly	33	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-
40	2	ViewOnly	34	Day runtime	0	h	-	Day runtime measured.	float	R	-
42	2	ViewOnly	35	Total runtime	0	h	-	Total runtime measured.	float	R	-
44	2	ViewOnly	36	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
46	2	ViewOnly	37	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
48	2	ViewOnly	38	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
50	2	ViewOnly	39	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
52	2	ViewOnly	40	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
54	2	ViewOnly	41	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-

Measure L1

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.2.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
300	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
302	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
304	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
306	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
308	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
310	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
312	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
314	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
316	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
318	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
320	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
322	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
328	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
330	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
332	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
336	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
340	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
342	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
344	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
348	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

Measure L2

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.3.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
600	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
602	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
604	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
606	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
608	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
610	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
612	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
614	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
616	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
618	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
620	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
622	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
628	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
630	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
632	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
636	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
640	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
642	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
644	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
648	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

Measure L3

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.4.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
900	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
902	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
904	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
906	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
908	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
910	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
912	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
914	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
916	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
918	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
920	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
922	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
928	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
930	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
932	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
936	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
940	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
942	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
944	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
948	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

Configuration

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.5.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1205	2	Expert	3	Grid code	GridCodeNone		-	Grid code	enum	R/W	1
1207	1	Basic	4	Connection allowed	true		-	Used to allowed or not the connection to the source.	bool	R/W	-
1208	1	Basic	5	Grid-feeding allowed	true		-	Used to allowed or not the grid-feeding.	bool	R/W	-
1209	2	Expert	6	Rated current	32	A	[6,80]	Rated current (minimum value of circuit breaker nominal current and grid/genset nominal current).	float	R/W	-
1211	2	Expert	7	Relative angle tolerance	15	°	[5,60]	Tolerance of the relative angle inbetween phases	float	R/W	-
1213	1	Basic	8	Allow individual phase connection	true		-	Allow individual phase connection. If false, connect only when all phases meets required conditions.	bool	R/W	-
1214	2	Expert	9	Min. discon. time before new connection	3	s	[0.5,5]	Minimum disconneted time before allowing a new connection.	float	R/W	-
1216	1	Expert	10	Activate inertial smoothing	false		-	Activate transient smoothing. When severe power consumption variations occur, this can cause severe voltage and frequency fluctuation of gensets. This feature help to reduce such fluctuations.	bool	R/W	-
1217	1	Expert	11	Compensate load DC current	false		-	compensation of the AcLoad d.c. current	bool	R/W	-
1220	1	Expert	13	Fast envelope detection	false		-	Enable fast loss detection based on a the comparisson of instantaneous voltage and a sinusoidal envelope.	bool	R/W	-
1221	2	Expert	14	Envelope tolerance	20	%	[5,60]	Size of the envelope for the fast loss detection.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1223	1	Expert	15	Anti-islanding	false		-	Enable anti-islanding functionality.	bool	R/W	-
1224	2	Expert	16	Anti-islanding detection level	0.5	%	[0.001,20]	Anti-islanding detection level.	float	R/W	-
1226	2	Expert	17	Anti-islanding frequency	13	Hz	[6,30]	Anti-islanding frequency.	float	R/W	-
1228	2	Expert	18	Anti-islanding perturbation amplitude	10	%	[0,20]	Anti-islanding perturbation amplitude.	float	R/W	-
1230	2	Expert	19	Anti-islanding min. amplitude	4	%	[0,10]	Anti-islanding minimal amplitude.	float	R/W	-
1235	2	Expert	22	Over-voltage curve U1	125	%	[105,135]	P1 voltage of OV curve. EN 50549-1 chapter 4.5.4. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1237	2	Expert	23	Over-voltage curve T1	0.1	s	[0.1,2]	P1 time of OV curve. EN 50549-1 chapter 4.5.4. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1239	2	Expert	24	Over-voltage curve U2	120	%	[105,135]	P2 voltage of OV curve. EN 50549-1 chapter 4.5.4. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1241	2	Expert	25	Over-voltage curve T2	5	s	[0.5,60]	P2 time of OV curve. EN 50549-1 chapter 4.5.4. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1243	2	Expert	26	Over-voltage curve U3	115	%	[105,135]	P3 voltage of OV curve. EN 50549-1 chapter 4.5.4. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1245	2	Expert	27	Over-voltage curve T3	60	s	[1,120]	P3 time of OV curve. EN 50549-1 chapter 4.5.4. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1247	2	Expert	28	Max. voltage fault onset	115	%	[105,120]	Maximum voltage for fault onset. EN 50549-1 chapter 4.5.4.	float	R/W	-
1249	2	Expert	29	Max. permanent voltage	110	%	[105,120]	Maximum permanent voltage. EN 50549-1 chapter 4.4.4.	float	R/W	-
1251	2	Expert	30	Min. permanent voltage	85	%	[30,95]	Mininum permanent voltage. EN 50549-1 chapter 4.4.4.	float	R/W	-
1253	2	Expert	31	Min. voltage fault onset	85	%	[10,95]	Minimum voltage for fault onset. EN 50549-1 chapter 4.5.3.2.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1255	2	Expert	32	Under-voltage curve T2	1.5	s	[0.5,5]	P2 time of UV curve. EN 50549-1 chapter 4.5.3.2. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1257	2	Expert	33	Under-voltage curve U1	15	%	[3,90]	P1 voltage of UV curve. EN 50549-1 chapter 4.5.3.2. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1259	2	Expert	34	Under-voltage curve T1	0.2	s	[0.1,2]	P1 time of UV curve. EN 50549-1 chapter 4.5.3.2. VDE-AR-N 4105 chapter 5.7.3.2.	float	R/W	-
1261	1	Expert	35	Zero current mode	false		-	Zero current mode. EN 50549-1 chapter 4.7.4.2.2. VDE-AR-N chapter 5.7.3.1.	bool	R/W	-
1262	2	Expert	36	OVRT or ZCM over-volt. threshold	120	%	[100,120]	Static voltage range overvoltage for zero current mode. EN 50549-1 chapter 4.7.4.2.2. Behaviour during fault (OVRT) acrrording to VDE AR N 4105 chapter 5.7.3.1.	float	R/W	-
1264	2	Expert	37	UVRT or ZCM under-volt. threshold	50	%	[20,100]	Static voltage range undervoltage for zero current mode. EN 50549-1 chapter 4.7.4.2.2. Behaviour during fault (UVRT) acrrording to VDE AR N 4105 chapter 5.7.3.1.	float	R/W	-
1266	2	Expert	38	Threshold frequency for OF	0.2	Hz	[0.2,10]	Threshold frequency (relative to "Nominal frequency" (id 22)) of frequency-dependant active power during over-frequency situation. Use a huge value to disable the feature. EN 50549-1 chapter 4.6.1. VDE-AR-N 4105 chapter 5.7.4.2.3 figure15.	float	R/W	-
1268	2	Expert	39	Statism for over-frequency	5	%	[2,12]	Static value of frequency-dependant active power during over-frequency situation. EN 50549-1 chapter 4.6.1. VDE-AR-N 4105 chapter 5.7.4.2.3 figure15.	float	R/W	-
1270	2	Expert	40	Intensional delay for over-freq.	0	s	[0,2]	Intentional delay before activation of the function of active power adjustmen at over-frequency. EN 50549-1 chapter 4.6.1.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1272	2	Expert	41	Disabling threshold freq. for OF	2	Hz	[0,10]	Disabling threshold frequency fstop (relative to "Nominal frequency" (id 22)) of frequency-dependant active power during over-frequency situation. Disabled if value is greather or equal than "Threshold frequency for OF" (id 38). EN 50549-1 chapter 4.6.1.	float	R/W	-
1274	2	Expert	42	Disabling delay for over-freq.	0	s	[0,600]	Disabling delay (tstop) of frequency-dependant active power during over-frequency situation. EN 50549-1 chapter 4.6.1.	float	R/W	-
1276	2	Expert	43	Pref for over-frequency	Pmax		-	Power reference of frequency-dependant active power during over-frequency situation. EN 50549-1 chapter 4.6.1	enum	R/W	4
1278	2	Expert	44	Threshold frequency for UF	-0.2	Hz	[-10,-0.2]	Threshold frequency (relative to "Nominal frequency" (id 22)) of frequency-dependant active power during under-frequency situation. Use a small value to disable the feature. EN 50549-1 chapter 4.6.2. VDE-AR-N 4105 chapter 5.7.4.2.3 figure15.	float	R/W	-
1280	2	Expert	45	Statism for under-freq.	2	%	[2,12]	Static value of frequency-dependant active power during under-frequency situation. EN 50549-1 chapter 4.6.2. VDE-AR-N 4105 chapter 5.7.4.2.3 figure15.	float	R/W	-
1282	2	Expert	46	Intensional delay for under-freq.	0	s	[0,2]	Intentional delay before activation of the function of active power adjustmen at under-frequency. EN 50549-1 chapter 4.6.2.	float	R/W	-
1284	2	Expert	47	Pref for under-freq.	Pmax		-	Power reference of frequency-dependant active power during under-frequency situation. EN 50549-1 chapter 4.6.2	enum	R/W	4

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1286	2	Expert	48	Over-excited cos(φ) capacity	0.6		[0,1]	Over-excited displacement factor minimal capacity. EN 50549-1 chapter 4.7.2.2. VDE-AR-N 4105 chapter 5.7.2.2.2 and 5.7.2.3.	float	R/W	-
1288	2	Expert	49	Under-excited cos(φ) capacity	0.6		[0,1]	Under-excited displacement factor minimal capacity. EN 50549-1 chapter 4.7.2.2. VDE-AR-N 4105 chapter 5.7.2.2.2.	float	R/W	-
1290	2	Expert	50	Reactive power method	ReactivePowerMethodNone		-	Reactive power method. EN 50549-1 chapter 4.7.2.3. VDE-AR-N 4105 chapter 5.7.2.4.	enum	R/W	2
1292	2	Expert	51	Reactive power setpoint	0	%	[-50,50]	Produced reactive power setpoint, percentage of rated active power. Negative value for a consummed reactive power. EN 50549-1 chapter 4.7.2.3.2. VDE-AR-N 4105 chapter 5.7.2.5	float	R/W	-
1294	2	Expert	52	cos(φ) setpoint	1		[0.7,1]	Displacement factor cos(φ) setpoint. EN-50549-1 chapter 4.7.2.3.2. VDE-AR-N 4105 chapter 5.7.2.4 Re:c)	float	R/W	-
1296	2	Expert	53	Reactive power direction	UnderExcited		-	Reactive power directtion (over-excited or under-excited) for displacement factor and reactive power setpoints. EN 50549-1 chapter 4.7.2.3.2. VDE-AR-N 4105 chapter 5.7.2.4 Re:c)	enum	R/W	3
1298	2	Expert	54	Reactive power curve Q1	100	%	[0,100]	Point 1 ordinate, produced normalised reactive power of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-
1300	2	Expert	55	Reactive power curve Q2	0	%	[0,100]	Point 2 ordinate, produced normalised reactive power of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1302	2	Expert	56	Reactive power curve Q3	0	%	[-100,0]	Point 3 ordinate, produced normalised reactive power of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-
1304	2	Expert	57	Reactive power curve Q4	-100	%	[-100,0]	Point 4 ordinate, produced normalised reactive power of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-
1306	2	Expert	58	Reactive power curve U1	93	%	[50,100]	Point 1 abscissa, normalised voltage of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-
1308	2	Expert	59	Reactive power curve U2	97	%	[50,100]	Point 2 abscissa, normalised voltage of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-
1310	2	Expert	60	Reactive power curve U3	103	%	[100,120]	Point 3 abscissa, normalised voltage of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-
1312	2	Expert	61	Reactive power curve U4	107	%	[100,120]	Point 4 abscissa, normalised voltage of Q(U) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re: a)	float	R/W	-
1314	2	Expert	62	React. pow. control time behaviour	10	s	[0.1,60]	Time behaviour of reactive power control (3 Tau of PT-1). EN 50549-1 chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.5 figure10.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1316	2	Expert	63	React. pow. control cos(φ) min.	0.9		[0,1]	Minimum displacement factor in Q(U) mode. EN50549-1 chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.5.	float	R/W	-
1318	2	Expert	64	React. pow. control lock-in P	20	%	[0,20]	Lock-in active power in Q(U) mode, percentage of rated active power. EN 50549-1 chapter 4.7.2.3.3. VDE-AR-N 4108 chapter 5.7.2.5.	float	R/W	-
1320	2	Expert	65	React. pow. control lock-out P	15	%	[0,20]	Lock-out active power in Q(U) mode, percentage of rated active power. EN 50549-1 chapter 4.7.2.3.3. VDE-AR-N 4108 chapter 5.7.2.5.	float	R/W	-
1322	2	Expert	66	React. pow. curve cos(φ) OE1	1		[0.7,1]	Point 1 ordinate, over-excited displacement factor of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-
1324	2	Expert	67	React. pow. curve cos(φ) OE2	1		[0.7,1]	Point 2 ordinate, over-excited displacement factor of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-
1326	2	Expert	68	React. pow. curve cos(φ) UE3	1		[0.7,1]	Point 3 ordinate, under-excited displacement factor of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-
1328	2	Expert	69	React. pow. curve cos(φ) UE4	0.9		[0.7,1]	Point 4 ordinate, under-excited displacement factor of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1330	2	Expert	70	Reactive poewr curve P1	0	%	[0,100]	Point 1 abscissa, normalised produced active power of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-
1332	2	Expert	71	Reactive poewr curve P2	0	%	[0,100]	Point 2 abscissa, normalised produced active power of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-
1334	2	Expert	72	Reactive poewr curve P3	20	%	[0,100]	Point 3 abscissa, normalised produced active power of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-
1336	2	Expert	73	Reactive poewr curve P4	50	%	[0,100]	Point 4 abscissa, normalised produced active power of cos(φ)=f(P) reactive power characteristic curve. EN 50549-1 figure 16, chapter 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re: b)	float	R/W	-
1338	2	Expert	74	Over-volt. threshold stage 2	120	%	[100,130]	Overvoltage threshold stage 2 [59 >>] of overvoltage protection. EN 50549-1 chapter 4.9.3.3.	float	R/W	-
1340	2	Expert	75	Over-volt. operate time stage 2	0.1	s	[0,180]	Overvoltage operate time stage 2 [59 >>] of overvoltage protection. EN 50549-1 chapter 4.9.3.3.	float	R/W	-
1342	2	Expert	76	Over-volt. threshold stage 1	115	%	[100,120]	Overvoltage threshold stage 1 [59 >] of overvoltage protection. EN 50549-1 chapter 4.9.3.3.	float	R/W	-
1344	2	Expert	77	Over-volt. operate time stage 1	0.5	s	[0,180]	Overvoltage operate time stage 1 [59 >] of overvoltage protection. EN 50549-1 chapter 4.9.3.3.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1346	2	Expert	78	Over-volt. threshold 10min mean	110	%	[100,120]	Overvoltage threshold 10 min mean protection. EN 50549-1 chapter 4.9.3.4.	float	R/W	-
1348	2	Expert	79	Under-volt. threshold stage 1	60	%	[10,100]	Undervoltage threshold stage 1 [27 <] of undervoltage protection. EN 50549-1 chapter 4.9.3.2.	float	R/W	-
1350	2	Expert	80	Under-volt. operate time stage 1	0.5	s	[0,180]	Undervoltage operate time stage 1 [27 <] of undervoltage protection. EN 50549-1 chapter 4.9.3.2.	float	R/W	-
1352	2	Expert	81	Under-volt. threshold stage 2	80	%	[10,100]	Undervoltage threshold stage 2 [27 <<] of undervoltage protection. EN 50549-1 chapter 4.9.3.2.	float	R/W	-
1354	2	Expert	82	Under-volt. operate time stage 2	0.1	s	[0,180]	Undervoltage operate time stage 12[27 <<] of undervoltage protection. EN 50549-1 chapter 4.9.3.2.	float	R/W	-
1358	2	Expert	84	Over-freq. threshold stage 1	1	Hz	[0,10]	Overfrequency threshold (relative to "Nominal frequency" (id 22)) stage 1 [81 >] of overfrequency protection. EN 50549-1 chapter 4.9.3.6.	float	R/W	-
1360	2	Expert	85	Over-freq. operate time stage 1	1	s	[0,100]	Overfrequency operate time stage 1 [81 >] of overfrequency protection. EN 50549-1 chapter 4.9.3.6.	float	R/W	-
1362	2	Expert	86	Over-freq. threshold stage 2	2	Hz	[0,10]	Overfrequency threshold (relative to "Nominal frequency" (id 22)) stage 2 [81 >>] of overfrequency protection. EN 50549-1 chapter 4.9.3.6.	float	R/W	-
1364	2	Expert	87	Over-freq. operate time stage 2	0.5	s	[0,5]	Overfrequency operate time stage 2 [81 >>] of overfrequency protection. EN 50549-1 chapter 4.9.3.6.	float	R/W	-
1366	2	Expert	88	Under-freq. threshold stage 2	-3	Hz	[-10,0]	Underfrequency threshold (relative to "Nominal frequency" (id 22)) stage 2 [81 <<] of underfrequency protection. EN 50549-1 chapter 4.9.3.5.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1368	2	Expert	89	Under-freq. operate time stage 2	0.5	s	[0,5]	Underfrequency operate time stage 2 [81 <<] of underfrequency protection. EN 50549-1 chapter 4.9.3.5.	float	R/W	-
1370	2	Expert	90	Under-freq. threshold stage 1	-2	Hz	[-10,0]	Underfrequency threshold (relative to "Nominal frequency" (id 22)) stage 1 [81 <] of underfrequency protection. EN 50549-1 chapter 4.9.3.5.	float	R/W	-
1372	2	Expert	91	Under-freq. operate time stage 1	1	s	[0,100]	Underfrequency operate time stage 1 [81 <] of underfrequency protection. EN 50549-1 chapter 4.9.3.5.	float	R/W	-
1376	2	Expert	93	CEI to switch to narrow freq. band	0		[0,10]	Index of the command entry interface used to switching to the narrow frequency band. (0 value disable remote operation). EN 50549-1 chapter 4.9.5	int	R/W	-
1378	2	Expert	94	Over-freq. threshold narrow band	0.5	Hz	[0,10]	Overfrequency threshold (relative to "Nominal frequency" (id 22)) for the narrow band of overfrequency protection. EN 50549-1 chapter 4.9.5.	float	R/W	-
1380	2	Expert	95	Over-freq. operate time narrow band	0.5	s	[0.1,100]	Overfrequency operate time for the narrow band of overfrequency protection. EN 50549-1 chapter 4.9.5.	float	R/W	-
1382	2	Expert	96	Under-freq. threshold narrow band	-1	Hz	[-10,0]	Underfrequency threshold (relative to "Nominal frequency" (id 22)) for the narrow band of underfrequency protection. EN 50549-1 chapter 4.9.5.	float	R/W	-
1384	2	Expert	97	Under-freq. operate time narrow band	0.5	s	[0.1,100]	Underfrequency operate time for the narrow band of underfrequency protection. EN 50549-1 chapter 4.9.5.	float	R/W	-
1386	2	Expert	98	Upper volt. for auto reconnection	110	%	[100,120]	Upper voltage for automatic reconnection after tripping. EN 50549-1 chapter 4.10.2.	float	R/W	-
1388	2	Expert	99	Lower volt. for auto reconnection	85	%	[50,100]	Lower voltage for automatic reconnection after tripping. EN 50549-1 chapter 4.10.2.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1390	2	Expert	100	Upper freq. for auto reconnection	0.2	Hz	[0,10]	Upper frequency (relative to "Nominal frequency" (id 22)) for automatic reconnection after tripping. EN 50549-1 chapter 4.10.2.	float	R/W	-
1392	2	Expert	101	Lower freq. for auto reconnection	-0.5	Hz	[-10,0]	Lower frequency (relative to "Nominal frequency" (id 22)) for automatic reconnection after tripping. EN 50549-1 chapter 4.10.2.	float	R/W	-
1394	2	Expert	102	Observation time for auto reconnection	60	s	[10,600]	Observation time for automatic reconnection after tripping. EN 50549-1 chapter 4.10.2.	float	R/W	-
1396	2	Expert	103	P increase gradient for auto reconnection	10	%/min	[6,3000]	Active power increase gradient when automatic reconnection after tripping. EN 50549-1 chapter 4.10.2.	float	R/W	-
1398	2	Expert	104	Upper volt. for start generation	110	%	[100,120]	Upper voltage for automatic reconnection after tripping. EN 50549-1 chapter 4.10.3.	float	R/W	-
1400	2	Expert	105	Lower volt. for start generation	85	%	[50,100]	Lower voltage for automatic reconnection after tripping. EN 50549-1 chapter 4.10.3.	float	R/W	-
1402	2	Expert	106	Upper freq. for start generation	0.1	Hz	[0,10]	Upper frequency (relative to "Nominal frequency" (id 22)) for automatic reconnection after tripping. EN 50549-1 chapter 4.10.3.	float	R/W	-
1404	2	Expert	107	Lower freq. for start generation	-0.5	Hz	[-10,0]	Lower frequency (relative to "Nominal frequency" (id 22)) for automatic reconnection after tripping. EN 50549-1 chapter 4.10.3.	float	R/W	-
1406	2	Expert	108	Observ. time for start generation	60	s	[10,600]	Observation time for connection. EN 50549-1 chapter 4.10.3.	float	R/W	-
1408	2	Expert	109	P increase gradient for start generation	3000	%/min	[6,3000]	Active power increase gradient after connection. EN 50549-1 chapter 4.10.3.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1410	2	Expert	110	CEI to allow transfer tripping	0		[0,10]	Index of the command entry interface used to allow transfer trip. (0 value disable remote operation). EN 50549-1 chapter 4.9.5	int	R/W	-
1412	2	Expert	111	CEI for ceasing active power	0		[0,10]	Index of the command entry interface used for ceasing active power (0 value disable remote operation). EN 50549-1 chapter 4.11.1.	int	R/W	-
1414	2	Expert	112	CEI for reduction of P on setpoint	0		[0,10]	Index of the command entry interface used for reduction of active power on setpoint (0 value disable remote operation). EN 50549-1 chapter 4.11.2.	int	R/W	-
1416	2	Expert	113	Reduction of P setpoint	0	%	[0,100]	Reduced active power in case of remote operation. EN 50549-1 chapter 4.11.2.	float	R/W	-
1418	2	Expert	114	Reduction of P setpoint slope	0.5	%/s	[0,500]	Slope for the reduction of active power in case of remote operation. Slope limitation is disable if this value is set to 0. EN 50549-1 chapter 4.11.2.	float	R/W	-
1420	2	Expert	115	Voltage to start P reduction	120	%	[100,130]	Voltage to start produced active power reduction in order to avoid disconnection due to overvoltage. EN 50549-1 chapter 4.7.3.	float	R/W	-
1422	2	Expert	116	Voltage for P reduced to zero	130	%	[102,130]	Voltage at which the produced active power is reduced at zero in order to avoid disconnection due to overvoltage. EN 50549-1 chapter 4.7.3.	float	R/W	-
1424	2	Expert	117	Time constant for P reduction at hihg voltage	5	s	[3,60]	Time constant for active power reduction at hihg voltage. TOR Erzeuger Typ A chapter 5.3.6. EN 50549-1 chapter 4.7.3.	float	R/W	-
1426	2	Expert	118	Pref for active power voltage control	Pmax		-	Power reference of voltage-dependant active power during over-voltage situation. TOR Erzeuger Typ A chapter 5.3.6.	enum	R/W	4

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1429	1	Expert	120	Use triphase target active power	true		-	Use of "Target active power per phase" (id 121) instead of "Target sourced active power" (id 13).	bool	R/W	-
1430	2	Expert	121	Target active power per phase	0	W	[-5000,5000]	Target active power per phase. Positive when the AC source is generating active power and negative when the AC source is consumming active power.	float	R/W	-
1432	2	Expert	122	Setpoints priority level	2	Level	-	setpoints priority level	int	R/W	-

List of items of Enum 1 (GridCode)

Value	Label	Description
0	None	None
1	Germany (VDE-AR-N 4105)	Germany (VDE-AR-N 4105)
2	Europe (EN-50549-1)	Europe (EN-50549-1)
4	Belgium (C10/11 Synergrid)	Belgium (C10/11 Synergrid)
8	Austria (TOR Erzeuger Typ A)	Austria (TOR Erzeuger Typ A)

List of items of Enum 2 (ReactivePowerMethod)

Value	Label	Description
0	Fixed reactive power	Fixed reactive power. EN 50549-1 chapter 4.7.2.3.2. VDE-AR-N 4105 chapter 5.7.2.5.
1	Q=f(U) curve	Reactive power versus voltage characteristic curve, Q=f(U). EN 50549-1 chapter 4.7.2.3.3. VDE-AR-N 4105 chapter 5.7.2.4 Re:a)
2	Fixed cos(φ)	Fixed displacement factor cos(φ). EN 50549-1 chapter 4.7.2.3.2. VDE-AR-N 4105 chapter 5.7.2.4 Re:c)
3	cos(φ)=f(P) curve	Displacement factor versus active power characteristic curve, cos(φ)=f(P). EN 50549-1 4.7.2.3.4. VDE-AR-N 4105 chapter 5.7.2.4 Re:b)
4	ReactivePowerMethodNone	Supply of reactive power disabled.

List of items of Enum 3 (DisplacementFactor)

Value	Label	Description
0	Under-excited	Under-excited
1	Over-excited	Over-excited

List of items of Enum 4 (PrefActivePowerResponseEnum)

Value	Label	Description
0	P maximum	Power reference of frequency/voltage-dependant active power during over/under-frequency or over-voltage situation is Pmax (nominal power of inverters). EN 50549-1 chapter 4.6.1. TOR Erzeuger Typ A chapter 5.3.6.

Value	Label	Description
1	P momentary	Power reference of frequency/voltage-dependant active power during over/under-frequency or over-voltage situation is Pm (active power produced when the frequqency cross the defined threshold). EN 50549-1 chapter 4.6.1. TOR Erzeuger Typ A chapter 5.3.6.

L1

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.6.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1800	2	ViewOnly	0	Status	Disconnected		-	Enum containing the status.	enum	R	4
1802	2	ViewOnly	1	Unconnected reasons	NoReasons		-	Bitfield containing the reasons why the source is not connected.	bitfield	R	0
1804	2	ViewOnly	2	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	1
1806	2	ViewOnly	3	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	2
1808	2	ViewOnly	4	Causes of disconnection	NoDisconnection		-	Bitfield containing the causes of disconnection. Note that the value is initialized to 0 (no items checked in the list) until the first connection to the source.	bitfield	R	3
1812	2	Basic	6	Voltage 10min mean	0	%	-	Compute a 10min period moving average of the voltage.	float	R	-
1814	1	Basic	7	Connection allowed	true		-	Used to allowed or not the connection to the source.	bool	R/W	-
1815	1	Basic	8	Grid-feeding allowed	true		-	Used to allowed or not the grid-feeding.	bool	R/W	-
1816	2	Expert	9	Max sourced active power	3000	W	-	Max sourced active power sent to the power flow dispatcher.	float	R/W	-
1818	2	Expert	10	Max sinked active power	3000	W	-	Max sinked active power sent to the power flow dispatcher.	float	R/W	-
1820	2	Expert	11	Max sourced reactive power	2000	VA	-	Max sourced reactive power sent to the power flow dispatcher.	float	R/W	-
1822	2	Expert	12	Max sinked reactive power	2000	VA	-	Max sinked reactive power sent to the power flow dispatcher.	float	R/W	-
1824	2	Expert	13	Target sourced active power	0	W	-	Target sourced active power sent to the power flow dispatcher.	float	R/W	-
1828	2	Expert	15	Limits level	5	Level	-	Limits level sent to the power flow dispatcher.	int	R/W	-
1830	2	Expert	16	Setpoints level	2	Level	-	Setpoints level sent to the power flow dispatcher.	int	R/W	-

List of items of Enum 0 (UnconnectedReasons)

Value	Label	Description

Value	Label	Description
0	No reasons (connected)	No reason(s) because the source is connected.
1	No voltage	No voltage detected on the source.
2	Waiting observation time	Waiting the required observation time before reconnection.
4	Individual phase not allowed	Individual phase connection is not allowed.
8	Unconnected due to the user	Unconnected due to the user.
16	Unconnected due to command entry	Unconnected due to the command entry.
32	Unconnected due to inverter	The inverter must be turned on and ready for connexion in order to connect the AC source.
64	Unconnected due to the energy policy	Another AC source is choosed accorging to the energy policy.
256	Unconnected due to another cause	Unconnected due to another cause.
2147483648	Unconnected due to an error	Unconnected due to an error.

List of items of Enum 1 (Warnings)

Value	Label	Description
0	No warnings	The source has no warning(s).
1	Active power response to overfrequency	The actual active power is limited in response to an overfrequency.
2	Active power response to underfrequency	The actual active power is limited in response to an underfrequency.
4	Reactive power response to voltage	The actual reactive power is adjusted in response to voltage fluctuation, according to the chosen method.
8	Undervoltage ride through	Undervoltage ride through. The voltage is below "Min. voltage fault onset" (id 31) but over the defined undervoltage curve.
16	Overvoltage ride through	Overvoltage ride through. The voltage is over "Max. voltage fault onset" (id 28) but under the defined overvoltage curve.
32	Power limited by increase gradient	Power is limited by the power increase gradient after a re-connection.
64	Ceasing active power	Ceasing active power. EN 50549-1 chapter 4.11.1.
128	Reduced active power on setpoint	Reduction of active power on setpoint. EN 50549-1 chapter 4.11.2.
256	Active power response to overvoltage	The actual active power is limited in response to an overvoltage. EN 50549-1 chapter 4.7.3.

List of items of Enum 2 (Errors)

Value	Label	Description
0	No errors	The source has no error(s).
512	Overfrequency	Frequency is over "Upper freq. for start generation" (id 106) or "Upper freq. for auto reconnection" (id 100).
1024	Underfrequency	Frequency is below "Lower freq. for start generation" (id 107) or "Lower freq. for auto reconnection" (id 101).
2048	Overvoltage	Voltage is over "Upper volt. for start generation" (id 104) or "Upper volt. for auto reconnection" (id 98).
4096	Undervoltage	Voltage is under "Lower volt. for start generation" (id 105) or "Lower volt. for auto reconnection" (id 99).
8192	Synchronization loss	A loss of synchronization between the inverter and the source has been detected.
16384	Outside of envelope	The voltage is outside of the permitted envelope defined by "Envelope tolerance" (id 14).
32768	Islanding detected	An islanded network has been detected.
65536	Phase error	The relative position inbetween phases is outside of "Relative angle tolerance" (id 7).
131072	Excessive dc voltage	DC voltage is over "Max. DC voltage" (id 12)
262144	Earthing error	An earthing error has been detected. Check the earthing scheme and configuration.
524288	Error relay failure 1	A relay failure (connexion broken) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

Value	Label	Description
1048576	Synchronization failed	The synchronization has failed and will retry automaticly soon
2097152	Error relay failure 2	A relay failure (relay on source side is stuck opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
4194304	Error relay failure 3	A relay failure (relay on load side is stuck opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
8388608	Error relay failure 4	A relay failure (both relays on source and load side are stucks opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
16777216	Error relay failure 5	A relay failure (one relay on source or load side is stuck closed) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
33554432	Error relay failure 6	A relay supervision circuit failure has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

List of items of Enum 3 (CauseOfDisconnection)

Value	Label	Description
0	No disconnection	No disconnection happened.
4	Another phase disconnects	Another phase disconnects and individual phase connection isn't allowed.
8	Disconnected by the user	Disconnected by the user.
16	Disconnected by command entry	Disconnected by the command entry.
32	Disconnected due to inverter	The inverter must be turned on to be able to connect the AC source.
64	Disconnected due to the energy policy	Another AC source was choosed accorging to the energy policy.
256	Disconnected due to another cause	Disconnected due to another cause.
512	Overfrequency	Frequency crossed the limit defined with "Over-freq. threshold stage 1" (id 84) and "Over-freq. threshold stage 2" (id 86).
1024	Underfrequency	Frequency crossed the limit defined with "Under-freq. threshold stage 1" (id 90) and "Under-freq. threshold stage 2" (id 88).
2048	Overvoltage	Voltage crossed the limit defined with "Over-volt. threshold stage 1" (id 76) and "Over-volt. threshold stage 2" (id 74) or the overvoltage fault ride-through curve.
4096	Undervoltage	Voltage crossed the limit defined with "Under-volt. threshold stage 1" (id 79) and "Under-volt. threshold stage 2" (id 81) or the undervoltage fault ride-through curve.
8192	Synchronization loss	A loss of synchronization between the inverter and the source has been detected.
16384	Outside of envelope	The voltage is outside of the permitted envelope.
32768	Islanding detected	An islanded network has been detected.
65536	Phase error	The relative position inbetween phases is outside of "Relative angle tolerance" (id 7).
131072	Excessive dc voltage	DC voltage is over "Max. DC voltage" (id 12)
262144	Earthing fault	An earthing fault has been detected. Check the earthing scheme and configuration.
524288	Error relay failure 1	A relay failure (connexion broken) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

List of items of Enum 4 (Status)

Value	Label	Description
0	Disconnected	The source is disconnected.
1	Connected	The source is connected.
2	Error restarting	The source is temporarily maintained in error and will restart automatically once the error(s) leaved.

Value	Label	Description
4	Error halted	The source is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

L2

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.7.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2100	2	ViewOnly	0	Status	Disconnected		-	Enum containing the status.	enum	R	4
2102	2	ViewOnly	1	Unconnected reasons	NoReasons		-	Bitfield containing the reasons why the source is not connected.	bitfield	R	0
2104	2	ViewOnly	2	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	1
2106	2	ViewOnly	3	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	2
2108	2	ViewOnly	4	Causes of disconnection	NoDisconnection		-	Bitfield containing the causes of disconnection. Note that the value is initialized to 0 (no items checked in the list) until the first connection to the source.	bitfield	R	3
2112	2	Basic	6	Voltage 10min mean	0	%	-	Compute a 10min period moving average of the voltage.	float	R	-
2114	1	Basic	7	Connection allowed	true		-	Used to allowed or not the connection to the source.	bool	R/W	-
2115	1	Basic	8	Grid-feeding allowed	true		-	Used to allowed or not the grid-feeding.	bool	R/W	-
2116	2	Expert	9	Max sourced active power	3000	W	-	Max sourced active power sent to the power flow dispatcher.	float	R/W	-
2118	2	Expert	10	Max sinked active power	3000	W	-	Max sinked active power sent to the power flow dispatcher.	float	R/W	-
2120	2	Expert	11	Max sourced reactive power	2000	VA	-	Max sourced reactive power sent to the power flow dispatcher.	float	R/W	-
2122	2	Expert	12	Max sinked reactive power	2000	VA	-	Max sinked reactive power sent to the power flow dispatcher.	float	R/W	-
2124	2	Expert	13	Target sourced active power	0	W	-	Target sourced active power sent to the power flow dispatcher.	float	R/W	-
2128	2	Expert	15	Limits level	5	Level	-	Limits level sent to the power flow dispatcher.	int	R/W	-
2130	2	Expert	16	Setpoints level	2	Level	-	Setpoints level sent to the power flow dispatcher.	int	R/W	-

List of items of Enum 0 (UnconnectedReasons)

Value	Label	Description

Value	Label	Description
0	No reasons (connected)	No reason(s) because the source is connected.
1	No voltage	No voltage detected on the source.
2	Waiting observation time	Waiting the required observation time before reconnection.
4	Individual phase not allowed	Individual phase connection is not allowed.
8	Unconnected due to the user	Unconnected due to the user.
16	Unconnected due to command entry	Unconnected due to the command entry.
32	Unconnected due to inverter	The inverter must be turned on and ready for connexion in order to connect the AC source.
64	Unconnected due to the energy policy	Another AC source is choosed accorging to the energy policy.
256	Unconnected due to another cause	Unconnected due to another cause.
2147483648	Unconnected due to an error	Unconnected due to an error.

List of items of Enum 1 (Warnings)

Value	Label	Description
0	No warnings	The source has no warning(s).
1	Active power response to overfrequency	The actual active power is limited in response to an overfrequency.
2	Active power response to underfrequency	The actual active power is limited in response to an underfrequency.
4	Reactive power response to voltage	The actual reactive power is adjusted in response to voltage fluctuation, according to the chosen method.
8	Undervoltage ride through	Undervoltage ride through. The voltage is below "Min. voltage fault onset" (id 31) but over the defined undervoltage curve.
16	Overvoltage ride through	Overvoltage ride through. The voltage is over "Max. voltage fault onset" (id 28) but under the defined overvoltage curve.
32	Power limited by increase gradient	Power is limited by the power increase gradient after a re-connection.
64	Ceasing active power	Ceasing active power. EN 50549-1 chapter 4.11.1.
128	Reduced active power on setpoint	Reduction of active power on setpoint. EN 50549-1 chapter 4.11.2.
256	Active power response to overvoltage	The actual active power is limited in response to an overvoltage. EN 50549-1 chapter 4.7.3.

List of items of Enum 2 (Errors)

Value	Label	Description
0	No errors	The source has no error(s).
512	Overfrequency	Frequency is over "Upper freq. for start generation" (id 106) or "Upper freq. for auto reconnection" (id 100).
1024	Underfrequency	Frequency is below "Lower freq. for start generation" (id 107) or "Lower freq. for auto reconnection" (id 101).
2048	Overvoltage	Voltage is over "Upper volt. for start generation" (id 104) or "Upper volt. for auto reconnection" (id 98).
4096	Undervoltage	Voltage is under "Lower volt. for start generation" (id 105) or "Lower volt. for auto reconnection" (id 99).
8192	Synchronization loss	A loss of synchronization between the inverter and the source has been detected.
16384	Outside of envelope	The voltage is outside of the permitted envelope defined by "Envelope tolerance" (id 14).
32768	Islanding detected	An islanded network has been detected.
65536	Phase error	The relative position inbetween phases is outside of "Relative angle tolerance" (id 7).
131072	Excessive dc voltage	DC voltage is over "Max. DC voltage" (id 12)
262144	Earthing error	An earthing error has been detected. Check the earthing scheme and configuration.
524288	Error relay failure 1	A relay failure (connexion broken) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

Value	Label	Description
1048576	Synchronization failed	The synchronization has failed and will retry automaticly soon
2097152	Error relay failure 2	A relay failure (relay on source side is stuck opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
4194304	Error relay failure 3	A relay failure (relay on load side is stuck opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
8388608	Error relay failure 4	A relay failure (both relays on source and load side are stucks opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
16777216	Error relay failure 5	A relay failure (one relay on source or load side is stuck closed) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
33554432	Error relay failure 6	A relay supervision circuit failure has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

List of items of Enum 3 (CauseOfDisconnection)

Value	Label	Description
0	No disconnection	No disconnection happened.
4	Another phase disconnects	Another phase disconnects and individual phase connection isn't allowed.
8	Disconnected by the user	Disconnected by the user.
16	Disconnected by command entry	Disconnected by the command entry.
32	Disconnected due to inverter	The inverter must be turned on to be able to connect the AC source.
64	Disconnected due to the energy policy	Another AC source was choosed accorging to the energy policy.
256	Disconnected due to another cause	Disconnected due to another cause.
512	Overfrequency	Frequency crossed the limit defined with "Over-freq. threshold stage 1" (id 84) and "Over-freq. threshold stage 2" (id 86).
1024	Underfrequency	Frequency crossed the limit defined with "Under-freq. threshold stage 1" (id 90) and "Under-freq. threshold stage 2" (id 88).
2048	Overvoltage	Voltage crossed the limit defined with "Over-volt. threshold stage 1" (id 76) and "Over-volt. threshold stage 2" (id 74) or the overvoltage fault ride-through curve.
4096	Undervoltage	Voltage crossed the limit defined with "Under-volt. threshold stage 1" (id 79) and "Under-volt. threshold stage 2" (id 81) or the undervoltage fault ride-through curve.
8192	Synchronization loss	A loss of synchronization between the inverter and the source has been detected.
16384	Outside of envelope	The voltage is outside of the permitted envelope.
32768	Islanding detected	An islanded network has been detected.
65536	Phase error	The relative position inbetween phases is outside of "Relative angle tolerance" (id 7).
131072	Excessive dc voltage	DC voltage is over "Max. DC voltage" (id 12)
262144	Earthing fault	An earthing fault has been detected. Check the earthing scheme and configuration.
524288	Error relay failure 1	A relay failure (connexion broken) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

List of items of Enum 4 (Status)

Value	Label	Description
0	Disconnected	The source is disconnected.
1	Connected	The source is connected.
2	Error restarting	The source is temporarily maintained in error and will restart automatically once the error(s) leaved.

Value	Label	Description
4	Error halted	The source is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

L3

Group : AcSource
Modbus device address : 7 to 8
*External ID : 2.x.8.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2400	2	ViewOnly	0	Status	Disconnected		-	Enum containing the status.	enum	R	4
2402	2	ViewOnly	1	Unconnected reasons	NoReasons		-	Bitfield containing the reasons why the source is not connected.	bitfield	R	0
2404	2	ViewOnly	2	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	1
2406	2	ViewOnly	3	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	2
2408	2	ViewOnly	4	Causes of disconnection	NoDisconnection		-	Bitfield containing the causes of disconnection. Note that the value is initialized to 0 (no items checked in the list) until the first connection to the source.	bitfield	R	3
2412	2	Basic	6	Voltage 10min mean	0	%	-	Compute a 10min period moving average of the voltage.	float	R	-
2414	1	Basic	7	Connection allowed	true		-	Used to allowed or not the connection to the source.	bool	R/W	-
2415	1	Basic	8	Grid-feeding allowed	true		-	Used to allowed or not the grid-feeding.	bool	R/W	-
2416	2	Expert	9	Max sourced active power	3000	W	-	Max sourced active power sent to the power flow dispatcher.	float	R/W	-
2418	2	Expert	10	Max sinked active power	3000	W	-	Max sinked active power sent to the power flow dispatcher.	float	R/W	-
2420	2	Expert	11	Max sourced reactive power	2000	VA	-	Max sourced reactive power sent to the power flow dispatcher.	float	R/W	-
2422	2	Expert	12	Max sinked reactive power	2000	VA	-	Max sinked reactive power sent to the power flow dispatcher.	float	R/W	-
2424	2	Expert	13	Target sourced active power	0	W	-	Target sourced active power sent to the power flow dispatcher.	float	R/W	-
2428	2	Expert	15	Limits level	5	Level	-	Limits level sent to the power flow dispatcher.	int	R/W	-
2430	2	Expert	16	Setpoints level	2	Level	-	Setpoints level sent to the power flow dispatcher.	int	R/W	-

List of items of Enum 0 (UnconnectedReasons)

Value	Label	Description

Value	Label	Description
0	No reasons (connected)	No reason(s) because the source is connected.
1	No voltage	No voltage detected on the source.
2	Waiting observation time	Waiting the required observation time before reconnection.
4	Individual phase not allowed	Individual phase connection is not allowed.
8	Unconnected due to the user	Unconnected due to the user.
16	Unconnected due to command entry	Unconnected due to the command entry.
32	Unconnected due to inverter	The inverter must be turned on and ready for connexion in order to connect the AC source.
64	Unconnected due to the energy policy	Another AC source is choosed accorging to the energy policy.
256	Unconnected due to another cause	Unconnected due to another cause.
2147483648	Unconnected due to an error	Unconnected due to an error.

List of items of Enum 1 (Warnings)

Value	Label	Description
0	No warnings	The source has no warning(s).
1	Active power response to overfrequency	The actual active power is limited in response to an overfrequency.
2	Active power response to underfrequency	The actual active power is limited in response to an underfrequency.
4	Reactive power response to voltage	The actual reactive power is adjusted in response to voltage fluctuation, according to the chosen method.
8	Undervoltage ride through	Undervoltage ride through. The voltage is below "Min. voltage fault onset" (id 31) but over the defined undervoltage curve.
16	Overvoltage ride through	Overvoltage ride through. The voltage is over "Max. voltage fault onset" (id 28) but under the defined overvoltage curve.
32	Power limited by increase gradient	Power is limited by the power increase gradient after a re-connection.
64	Ceasing active power	Ceasing active power. EN 50549-1 chapter 4.11.1.
128	Reduced active power on setpoint	Reduction of active power on setpoint. EN 50549-1 chapter 4.11.2.
256	Active power response to overvoltage	The actual active power is limited in response to an overvoltage. EN 50549-1 chapter 4.7.3.

List of items of Enum 2 (Errors)

Value	Label	Description
0	No errors	The source has no error(s).
512	Overfrequency	Frequency is over "Upper freq. for start generation" (id 106) or "Upper freq. for auto reconnection" (id 100).
1024	Underfrequency	Frequency is below "Lower freq. for start generation" (id 107) or "Lower freq. for auto reconnection" (id 101).
2048	Overvoltage	Voltage is over "Upper volt. for start generation" (id 104) or "Upper volt. for auto reconnection" (id 98).
4096	Undervoltage	Voltage is under "Lower volt. for start generation" (id 105) or "Lower volt. for auto reconnection" (id 99).
8192	Synchronization loss	A loss of synchronization between the inverter and the source has been detected.
16384	Outside of envelope	The voltage is outside of the permitted envelope defined by "Envelope tolerance" (id 14).
32768	Islanding detected	An islanded network has been detected.
65536	Phase error	The relative position inbetween phases is outside of "Relative angle tolerance" (id 7).
131072	Excessive dc voltage	DC voltage is over "Max. DC voltage" (id 12)
262144	Earthing error	An earthing error has been detected. Check the earthing scheme and configuration.
524288	Error relay failure 1	A relay failure (connexion broken) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

Value	Label	Description
1048576	Synchronization failed	The synchronization has failed and will retry automaticly soon
2097152	Error relay failure 2	A relay failure (relay on source side is stuck opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
4194304	Error relay failure 3	A relay failure (relay on load side is stuck opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
8388608	Error relay failure 4	A relay failure (both relays on source and load side are stucks opened) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
16777216	Error relay failure 5	A relay failure (one relay on source or load side is stuck closed) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).
33554432	Error relay failure 6	A relay supervision circuit failure has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

List of items of Enum 3 (CauseOfDisconnection)

Value	Label	Description
0	No disconnection	No disconnection happened.
4	Another phase disconnects	Another phase disconnects and individual phase connection isn't allowed.
8	Disconnected by the user	Disconnected by the user.
16	Disconnected by command entry	Disconnected by the command entry.
32	Disconnected due to inverter	The inverter must be turned on to be able to connect the AC source.
64	Disconnected due to the energy policy	Another AC source was choosed accorging to the energy policy.
256	Disconnected due to another cause	Disconnected due to another cause.
512	Overfrequency	Frequency crossed the limit defined with "Over-freq. threshold stage 1" (id 84) and "Over-freq. threshold stage 2" (id 86).
1024	Underfrequency	Frequency crossed the limit defined with "Under-freq. threshold stage 1" (id 90) and "Under-freq. threshold stage 2" (id 88).
2048	Overvoltage	Voltage crossed the limit defined with "Over-volt. threshold stage 1" (id 76) and "Over-volt. threshold stage 2" (id 74) or the overvoltage fault ride-through curve.
4096	Undervoltage	Voltage crossed the limit defined with "Under-volt. threshold stage 1" (id 79) and "Under-volt. threshold stage 2" (id 81) or the undervoltage fault ride-through curve.
8192	Synchronization loss	A loss of synchronization between the inverter and the source has been detected.
16384	Outside of envelope	The voltage is outside of the permitted envelope.
32768	Islanding detected	An islanded network has been detected.
65536	Phase error	The relative position inbetween phases is outside of "Relative angle tolerance" (id 7).
131072	Excessive dc voltage	DC voltage is over "Max. DC voltage" (id 12)
262144	Earthing fault	An earthing fault has been detected. Check the earthing scheme and configuration.
524288	Error relay failure 1	A relay failure (connexion broken) has been detected and forbidden connection to the AcSource. This error must be cleared with the front panel, the nx-interface or by sending a signal via the property "Clear errors" (id 0).

List of items of Enum 4 (Status)

Value	Label	Description
0	Disconnected	The source is disconnected.
1	Connected	The source is connected.
2	Error restarting	The source is temporarily maintained in error and will restart automatically once the error(s) leaved.

Value	Label	Description
4	Error halted	The source is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

Tri-phased

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.1.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
0	2	ViewOnly	0	Frequency	0	Hz	-	Frequency measured.	float	R	-
2	2	ViewOnly	4	Line voltage L1-L2	0	V	-	Line voltage L1-L2 measured.	float	R	-
4	2	ViewOnly	8	Line voltage L2-L3	0	V	-	Line voltage L2-L3 measured.	float	R	-
6	2	ViewOnly	12	Line voltage L3-L1	0	V	-	Line voltage L3-L1 measured.	float	R	-
8	2	ViewOnly	16	Total active power	0	W	-	Total active power measured.	float	R	-
10	2	ViewOnly	20	Total apparent power	0	VA	-	Total apparent power measured.	float	R	-
12	2	ViewOnly	24	Angle L2 relative to L1	0	degree	-	Angle L2 relative to L1 measured.	float	R	-
14	2	ViewOnly	25	Angle L3 relative to L1	0	degree	-	Angle L3 relative to L1 measured.	float	R	-
16	2	ViewOnly	26	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
18	2	ViewOnly	27	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
20	4	ViewOnly	28	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
24	4	ViewOnly	29	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
28	2	ViewOnly	30	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
30	2	ViewOnly	31	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
32	4	ViewOnly	32	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
36	4	ViewOnly	33	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-
40	2	ViewOnly	34	Day runtime	0	h	-	Day runtime measured.	float	R	-
42	2	ViewOnly	35	Total runtime	0	h	-	Total runtime measured.	float	R	-
44	2	ViewOnly	36	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
46	2	ViewOnly	37	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
48	2	ViewOnly	38	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
50	2	ViewOnly	39	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
52	2	ViewOnly	40	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
54	2	ViewOnly	41	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-

L1

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.2.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
300	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
302	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
304	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
306	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
308	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
310	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
312	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
314	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
316	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
318	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
320	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
322	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
328	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
330	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
332	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
336	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
340	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
342	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
344	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
348	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

L2

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.3.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
600	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
602	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
604	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
606	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
608	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
610	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
612	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
614	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
616	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
618	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
620	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
622	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
628	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
630	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
632	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
636	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
640	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
642	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
644	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
648	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

L3

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.4.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
900	2	ViewOnly	0	Phase voltage	0	V	-	Phase voltage RMS measured.	float	R	-
902	2	ViewOnly	4	Current	0	A	-	Current RMS measured.	float	R	-
904	2	ViewOnly	8	Active power	0	W	-	Active power measured.	float	R	-
906	2	ViewOnly	12	Reactive power	0	VAR	-	Reactive power measured.	float	R	-
908	2	ViewOnly	16	Apparent power	0	VA	-	Apparent power measured.	float	R	-
910	2	ViewOnly	20	Power factor	0		-	Power factor measured.	float	R	-
912	2	ViewOnly	24	Day peak power	0	VA	-	Peak power of the current day.	float	R	-
914	2	ViewOnly	25	Previous day peak power	0	VA	-	Peak power of the previous day.	float	R	-
916	2	ViewOnly	26	Day minimum active power	0	W	-	Minimum active power of the current day.	float	R	-
918	2	ViewOnly	27	Previous day minimum active power	0	W	-	Minimum active power of the previous day.	float	R	-
920	2	ViewOnly	28	Day maximum active power	0	W	-	Maximum active power of the current day.	float	R	-
922	2	ViewOnly	29	Previous day maximum active power	0	W	-	Maximum active power of the previous day.	float	R	-
928	2	ViewOnly	32	Day consumed energy	0	Wh	-	Consumed energy of the current day.	float	R	-
930	2	ViewOnly	33	Previous day consumed energy	0	Wh	-	Consumed energy of the previous day.	float	R	-
932	4	ViewOnly	34	Resetable consumed energy	0	Wh	-	Resetable consumed energy.	float64	R/W	-
936	4	ViewOnly	35	Total consumed energy	0	Wh	-	Total consumed energy.	float64	R	-
940	2	ViewOnly	36	Day produced energy	0	Wh	-	Produced energy of the current day.	float	R	-
942	2	ViewOnly	37	Previous day produced energy	0	Wh	-	Produced energy of the previous day.	float	R	-
944	4	ViewOnly	38	Resetable produced energy	0	Wh	-	Resetable produced energy.	float64	R/W	-
948	4	ViewOnly	39	Total produced energy	0	Wh	-	Total produced energy.	float64	R	-

L1 Controlled Relay

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.5.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1200	1	ViewOnly	0	Is connected	false		-	Shows the relay current state.	bool	R	-
1201	2	ViewOnly	1	Position	SafeStateOff		-	Current position.	enum	R	5
1203	2	ViewOnly	2	Errors	NoErrors		-	Relay aux list of errors.	enum	R	6
1207	2	Basic	4	Operating mode	ManualOff		-	Selection of controlled relay operating mode.	enum	R/W	0
1209	2	Basic	5	Auto mode selection	PresetBatVolt		-	Selection of the automatic configuration.	enum	R/W	1
1211	2	Basic	6	Safe state selection	SafeOff		-	Selection of the controlled relay safe state position in case of problem or undetermined condition.	enum	R/W	2
1213	2	Basic	7	Bat. volt. act. thresh. voltage	42	V	[32,70]	Pre-set battery voltage activation threshold voltage.	float	R/W	-
1215	2	Basic	8	Bat. volt. deact. thresh. volt.	52	V	[32,70]	Pre-set battery voltage deactivation threshold voltage.	float	R/W	-
1217	2	Basic	9	Bat. SOC act. thresh. SOC	10	%	[0,100]	Pre-set battery SOC activation threshold SOC.	uint	R/W	-
1219	2	Basic	10	Bat. SOC deact. thresh. SOC	90	%	[0,100]	Pre-set battery SOC deactivation threshold SOC.	uint	R/W	-
1221	2	Basic	11	Bat. temp. act. thresh. temp.	50	°C	[0,150]	Pre-set battery temperature activation threshold temperature.	uint	R/W	-
1223	2	Basic	12	Bat. temp. deact. thresh. temp.	30	°C	[0,150]	Pre-set battery temperature deactivation threshold temperature.	uint	R/W	-
1225	2	Basic	13	Bat. charg. state states select.	None		-	Pre-set battery charging state selection of the triggering states. Multiple choice possible.	bitfield	R/W	8
1227	2	Basic	14	Power ac power selection	AcSourceAll		-	Pre-set power ac selection of the source/load active power for comparison.	enum	R/W	3
1229	2	Basic	15	Power ac activ. thresh. power	1000	W	[-200000,200000]	Pre-set power ac activation threshold power.	float	R/W	-
1231	2	Basic	16	Power ac deact. thresh. power	0	W	[-200000,200000]	Pre-set power ac deactivation threshold power.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1233	2	Basic	17	Sol. exc. on-grid act. thresh. power	1000	W	-	Pre-set solar excess on-grid activation threshold power.	float	R/W	-
1235	2	Basic	18	Sol. exc. on-grid deact. thresh. power	500	W	-	Pre-set solar excess on-grid deactivation threshold power.	float	R/W	-
1237	2	Basic	19	Sol. exc. off-grid act. thresh. power	1000	W	-	Pre-set solar excess off-grid activation threshold power.	float	R/W	-
1239	2	Basic	20	Sol. exc. off-grid deact. thresh. power	500	W	-	Pre-set solar excess off-grid deactivation threshold power.	float	R/W	-
1241	2	Basic	21	Cmd entry select index	0		[0,10]	Index of the command entry interface used to control the relay.	uint	R/W	-
1243	2	Basic	22	Errors and warnings select signal	TrigOnErrorsHalted		-	Pre-set errors and warnings selection of the triggering signal.	bitfield	R/W	4

List of items of Enum 0 (OperatingMode)

Value	Label	Description
0	Manual Off	Relay is permanently deactivated (position NC).
1	Manual On	Relay is permanently activated (position NO).
2	Auto	Relay is activated according to a preset conditional mode.

List of items of Enum 1 (AutoMode)

Value	Label	Description
0	Battery voltage	Relay is activated when the battery voltage reaches the activation threshold voltage. Relay is deactivated when the battery voltage reaches deactivation threshold voltage.
1	Battery SOC	Relay is activated when the battery SOC (state of charge) reaches the activation threshold SOC. Relay is deactivated when the SOC voltage reaches deactivation threshold SOC.
2	Battery temperature	Relay is activated when the battery temperature reaches the activation threshold temperature. Relay is deactivated when the battery temperature reaches deactivation threshold temperature.
3	Battery charg. state	Relay is activated depending on battery charging state.
4	Power AC	Relay is activated when the active power AC reaches the activation threshold power. Relay is deactivated when the power AC reaches the deactivation threshold power. The power used for this comparison can be selected between AcSource, AcFlexSource or AcLoad.
5	On-grid	Relay is activated when the device is operating in on-grid mode (Source or FlexSource).
6	Solar excess on-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC Source, the transfer is connected to the AC source (on-grid). Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is off-grid.

Value	Label	Description
7	Solar excess off-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC load, the transfer is disconnected to the AC source (off-grid), the battery is in floating state of charge. Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is on-grid, the battery is no more in floating state.
8	Schedule time	Relay is activated during a daily time frame.
9	Cmd entry	Relay is activated depending on command entry state. It is possible to combine the 2 command entries using boolean logic.
10	Errors and warnings	Relay is activated using the device errors and/or the warnings.
11	Ext bypass	Relay is activated when all phases of the inverter are connected to AC-Load and working. The purpose of this function is for example to enable an external bypass.

List of items of Enum 2 (SafeState)

Value	Label	Description
0	Safe Off	Relay is deactivated in case of undetermined condition or problem.
1	Safe On	Relay is activated in case of undetermined condition or problem.
2	Last manual	Relay takes the state of the last manual operation in case of undetermined condition or problem.

List of items of Enum 3 (PresetPacSelection)

Value	Label	Description
0	Ac source all	Power detection on AcSource. Total active power on all phases.
1	Ac source L1	Power detection on AcSource L1.
2	Ac source L2	Power detection on AcSource L2.
3	Ac source L3	Power detection on AcSource L3.
4	Ac flex source all	Power detection on AcFlex configured as source. Total active power on all phases.
5	Ac flex source L1	Power detection on AcFlex configured as source on L1.
6	Ac flex source L2	Power detection on AcFlex configured as source on L2.
7	Ac flex source L3	Power detection on AcFlex configured as source on L3.
8	Ac flex load all	Power detection on AcFlex configured as Load. Total active power on all phases.
9	Ac flex load L1	Power detection on AcFlex configured as Load on L1.
10	Ac flex load L2	Power detection on AcFlex configured as Load on L2.
11	Ac flex load L3	Power detection on AcFlex configured as Load on L3.
12	Ac load all	Power detection on AcLoad. Total active power on all phases.
13	Ac load L1	Power detection on AcLoad on L1.
14	Ac load L2	Power detection on AcLoad on L2.
15	Ac load L3	Power detection on AcLoad on L3.

List of items of Enum 4 (PresetErrorsWarnings)

Value	Label	Description
0	Trig on all conditions	Activation triggered by all conditions.
1	Trig on warnings	Activation triggered by warnings.
2	Trig on errors restarting	Activation triggered by errors restarting.

Value	Label	Description
4	Trig on errors halted	Activation triggered by errors halted.

List of items of Enum 5 (RelayState)

Value	Label	Description
0	Safe state opened	Actual position of relay: safe state on.
1	Safe state closed	Actual position of relay: safe state off.
2	Rel. man. opened	Actual position of relay: Manually opened.
3	Rel. man. closed	Actual position of relay: Manually closed.
4	Rel. auto. opened	Actual position of relay: Automatically opened.
5	Rel. auto. closed	Actual position of relay: Automatically closed.

List of items of Enum 6 (Errors)

Value	Label	Description
0	No error	No error.
1	No hysteresis	Different trigger values are required in order to have an hysteresis.
2	Property access error	Failed to access to the required property.
3	Undefined error	Undefined error.

List of items of Enum 8 (BatChargeState)

Value	Label	Description
0	None	Battery charging state: no charging state selected.
1	Bulk	Battery charging state: bulk.
2	Reduced floating	Battery charging state: reduced floating.
4	Floating	Battery charging state: floating.
8	Periodical absorption	Battery charging state: periodical absorption.
16	Absorption	Battery charging state: absorption.
32	Equalization	Battery charging state: equalization.

L2 Controlled Relay

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.6.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1500	1	ViewOnly	0	Is connected	false		-	Shows the relay current state.	bool	R	-
1501	2	ViewOnly	1	Position	SafeStateOff		-	Current position.	enum	R	5
1503	2	ViewOnly	2	Errors	NoErrors		-	Relay aux list of errors.	enum	R	6
1507	2	Basic	4	Operating mode	ManualOff		-	Selection of controlled relay operating mode.	enum	R/W	0
1509	2	Basic	5	Auto mode selection	PresetBatVolt		-	Selection of the automatic configuration.	enum	R/W	1
1511	2	Basic	6	Safe state selection	SafeOff		-	Selection of the controlled relay safe state position in case of problem or undetermined condition.	enum	R/W	2
1513	2	Basic	7	Bat. volt. act. thresh. voltage	42	V	[32,70]	Pre-set battery voltage activation threshold voltage.	float	R/W	-
1515	2	Basic	8	Bat. volt. deact. thresh. volt.	52	V	[32,70]	Pre-set battery voltage deactivation threshold voltage.	float	R/W	-
1517	2	Basic	9	Bat. SOC act. thresh. SOC	10	%	[0,100]	Pre-set battery SOC activation threshold SOC.	uint	R/W	-
1519	2	Basic	10	Bat. SOC deact. thresh. SOC	90	%	[0,100]	Pre-set battery SOC deactivation threshold SOC.	uint	R/W	-
1521	2	Basic	11	Bat. temp. act. thresh. temp.	50	°C	[0,150]	Pre-set battery temperature activation threshold temperature.	uint	R/W	-
1523	2	Basic	12	Bat. temp. deact. thresh. temp.	30	°C	[0,150]	Pre-set battery temperature deactivation threshold temperature.	uint	R/W	-
1525	2	Basic	13	Bat. charg. state states select.	None		-	Pre-set battery charging state selection of the triggering states. Multiple choice possible.	bitfield	R/W	8
1527	2	Basic	14	Power ac power selection	AcSourceAll		-	Pre-set power ac selection of the source/load active power for comparison.	enum	R/W	3
1529	2	Basic	15	Power ac activ. thresh. power	1000	W	[-200000,200000]	Pre-set power ac activation threshold power.	float	R/W	-
1531	2	Basic	16	Power ac deact. thresh. power	0	W	[-200000,200000]	Pre-set power ac deactivation threshold power.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1533	2	Basic	17	Sol. exc. on-grid act. thresh. power	1000	W	-	Pre-set solar excess on-grid activation threshold power.	float	R/W	-
1535	2	Basic	18	Sol. exc. on-grid deact. thresh. power	500	W	-	Pre-set solar excess on-grid deactivation threshold power.	float	R/W	-
1537	2	Basic	19	Sol. exc. off-grid act. thresh. power	1000	W	-	Pre-set solar excess off-grid activation threshold power.	float	R/W	-
1539	2	Basic	20	Sol. exc. off-grid deact. thresh. power	500	W	-	Pre-set solar excess off-grid deactivation threshold power.	float	R/W	-
1541	2	Basic	21	Cmd entry select index	0		[0,10]	Index of the command entry interface used to control the relay.	uint	R/W	-
1543	2	Basic	22	Errors and warnings select signal	TrigOnErrorsHalted		-	Pre-set errors and warnings selection of the triggering signal.	bitfield	R/W	4

List of items of Enum 0 (OperatingMode)

Value	Label	Description
0	Manual Off	Relay is permanently deactivated (position NC).
1	Manual On	Relay is permanently activated (position NO).
2	Auto	Relay is activated according to a preset conditional mode.

List of items of Enum 1 (AutoMode)

Value	Label	Description
0	Battery voltage	Relay is activated when the battery voltage reaches the activation threshold voltage. Relay is deactivated when the battery voltage reaches deactivation threshold voltage.
1	Battery SOC	Relay is activated when the battery SOC (state of charge) reaches the activation threshold SOC. Relay is deactivated when the SOC voltage reaches deactivation threshold SOC.
2	Battery temperature	Relay is activated when the battery temperature reaches the activation threshold temperature. Relay is deactivated when the battery temperature reaches deactivation threshold temperature.
3	Battery charg. state	Relay is activated depending on battery charging state.
4	Power AC	Relay is activated when the active power AC reaches the activation threshold power. Relay is deactivated when the power AC reaches the deactivation threshold power. The power used for this comparison can be selected between AcSource, AcFlexSource or AcLoad.
5	On-grid	Relay is activated when the device is operating in on-grid mode (Source or FlexSource).
6	Solar excess on-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC Source, the transfer is connected to the AC source (on-grid). Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is off-grid.

Value	Label	Description
7	Solar excess off-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC load, the transfer is disconnected to the AC source (off-grid), the battery is in floating state of charge. Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is on-grid, the battery is no more in floating state.
8	Schedule time	Relay is activated during a daily time frame.
9	Cmd entry	Relay is activated depending on command entry state. It is possible to combine the 2 command entries using boolean logic.
10	Errors and warnings	Relay is activated using the device errors and/or the warnings.
11	Ext bypass	Relay is activated when all phases of the inverter are connected to AC-Load and working. The purpose of this function is for example to enable an external bypass.

List of items of Enum 2 (SafeState)

Value	Label	Description
0	Safe Off	Relay is deactivated in case of undetermined condition or problem.
1	Safe On	Relay is activated in case of undetermined condition or problem.
2	Last manual	Relay takes the state of the last manual operation in case of undetermined condition or problem.

List of items of Enum 3 (PresetPacSelection)

Value	Label	Description
0	Ac source all	Power detection on AcSource. Total active power on all phases.
1	Ac source L1	Power detection on AcSource L1.
2	Ac source L2	Power detection on AcSource L2.
3	Ac source L3	Power detection on AcSource L3.
4	Ac flex source all	Power detection on AcFlex configured as source. Total active power on all phases.
5	Ac flex source L1	Power detection on AcFlex configured as source on L1.
6	Ac flex source L2	Power detection on AcFlex configured as source on L2.
7	Ac flex source L3	Power detection on AcFlex configured as source on L3.
8	Ac flex load all	Power detection on AcFlex configured as Load. Total active power on all phases.
9	Ac flex load L1	Power detection on AcFlex configured as Load on L1.
10	Ac flex load L2	Power detection on AcFlex configured as Load on L2.
11	Ac flex load L3	Power detection on AcFlex configured as Load on L3.
12	Ac load all	Power detection on AcLoad. Total active power on all phases.
13	Ac load L1	Power detection on AcLoad on L1.
14	Ac load L2	Power detection on AcLoad on L2.
15	Ac load L3	Power detection on AcLoad on L3.

List of items of Enum 4 (PresetErrorsWarnings)

Value	Label	Description
0	Trig on all conditions	Activation triggered by all conditions.
1	Trig on warnings	Activation triggered by warnings.
2	Trig on errors restarting	Activation triggered by errors restarting.

Value	Label	Description
4	Trig on errors halted	Activation triggered by errors halted.

List of items of Enum 5 (RelayState)

Value	Label	Description
0	Safe state opened	Actual position of relay: safe state on.
1	Safe state closed	Actual position of relay: safe state off.
2	Rel. man. opened	Actual position of relay: Manually opened.
3	Rel. man. closed	Actual position of relay: Manually closed.
4	Rel. auto. opened	Actual position of relay: Automatically opened.
5	Rel. auto. closed	Actual position of relay: Automatically closed.

List of items of Enum 6 (Errors)

Value	Label	Description
0	No error	No error.
1	No hysteresis	Different trigger values are required in order to have an hysteresis.
2	Property access error	Failed to access to the required property.
3	Undefined error	Undefined error.

List of items of Enum 8 (BatChargeState)

Value	Label	Description
0	None	Battery charging state: no charging state selected.
1	Bulk	Battery charging state: bulk.
2	Reduced floating	Battery charging state: reduced floating.
4	Floating	Battery charging state: floating.
8	Periodical absorption	Battery charging state: periodical absorption.
16	Absorption	Battery charging state: absorption.
32	Equalization	Battery charging state: equalization.

L3 Controlled Relay

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.7.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1800	1	ViewOnly	0	Is connected	false		-	Shows the relay current state.	bool	R	-
1801	2	ViewOnly	1	Position	SafeStateOff		-	Current position.	enum	R	5
1803	2	ViewOnly	2	Errors	NoErrors		-	Relay aux list of errors.	enum	R	6
1807	2	Basic	4	Operating mode	ManualOff		-	Selection of controlled relay operating mode.	enum	R/W	0
1809	2	Basic	5	Auto mode selection	PresetBatVolt		-	Selection of the automatic configuration.	enum	R/W	1
1811	2	Basic	6	Safe state selection	SafeOff		-	Selection of the controlled relay safe state position in case of problem or undetermined condition.	enum	R/W	2
1813	2	Basic	7	Bat. volt. act. thresh. voltage	42	V	[32,70]	Pre-set battery voltage activation threshold voltage.	float	R/W	-
1815	2	Basic	8	Bat. volt. deact. thresh. volt.	52	V	[32,70]	Pre-set battery voltage deactivation threshold voltage.	float	R/W	-
1817	2	Basic	9	Bat. SOC act. thresh. SOC	10	%	[0,100]	Pre-set battery SOC activation threshold SOC.	uint	R/W	-
1819	2	Basic	10	Bat. SOC deact. thresh. SOC	90	%	[0,100]	Pre-set battery SOC deactivation threshold SOC.	uint	R/W	-
1821	2	Basic	11	Bat. temp. act. thresh. temp.	50	°C	[0,150]	Pre-set battery temperature activation threshold temperature.	uint	R/W	-
1823	2	Basic	12	Bat. temp. deact. thresh. temp.	30	°C	[0,150]	Pre-set battery temperature deactivation threshold temperature.	uint	R/W	-
1825	2	Basic	13	Bat. charg. state states select.	None		-	Pre-set battery charging state selection of the triggering states. Multiple choice possible.	bitfield	R/W	8
1827	2	Basic	14	Power ac power selection	AcSourceAll		-	Pre-set power ac selection of the source/load active power for comparison.	enum	R/W	3
1829	2	Basic	15	Power ac activ. thresh. power	1000	W	[-200000,200000]	Pre-set power ac activation threshold power.	float	R/W	-
1831	2	Basic	16	Power ac deact. thresh. power	0	W	[-200000,200000]	Pre-set power ac deactivation threshold power.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1833	2	Basic	17	Sol. exc. on-grid act. thresh. power	1000	W	-	Pre-set solar excess on-grid activation threshold power.	float	R/W	-
1835	2	Basic	18	Sol. exc. on-grid deact. thresh. power	500	W	-	Pre-set solar excess on-grid deactivation threshold power.	float	R/W	-
1837	2	Basic	19	Sol. exc. off-grid act. thresh. power	1000	W	-	Pre-set solar excess off-grid activation threshold power.	float	R/W	-
1839	2	Basic	20	Sol. exc. off-grid deact. thresh. power	500	W	-	Pre-set solar excess off-grid deactivation threshold power.	float	R/W	-
1841	2	Basic	21	Cmd entry select index	0		[0,10]	Index of the command entry interface used to control the relay.	uint	R/W	-
1843	2	Basic	22	Errors and warnings select signal	TrigOnErrorsHalted		-	Pre-set errors and warnings selection of the triggering signal.	bitfield	R/W	4

List of items of Enum 0 (OperatingMode)

Value	Label	Description
0	Manual Off	Relay is permanently deactivated (position NC).
1	Manual On	Relay is permanently activated (position NO).
2	Auto	Relay is activated according to a preset conditional mode.

List of items of Enum 1 (AutoMode)

Value	Label	Description
0	Battery voltage	Relay is activated when the battery voltage reaches the activation threshold voltage. Relay is deactivated when the battery voltage reaches deactivation threshold voltage.
1	Battery SOC	Relay is activated when the battery SOC (state of charge) reaches the activation threshold SOC. Relay is deactivated when the SOC voltage reaches deactivation threshold SOC.
2	Battery temperature	Relay is activated when the battery temperature reaches the activation threshold temperature. Relay is deactivated when the battery temperature reaches deactivation threshold temperature.
3	Battery charg. state	Relay is activated depending on battery charging state.
4	Power AC	Relay is activated when the active power AC reaches the activation threshold power. Relay is deactivated when the power AC reaches the deactivation threshold power. The power used for this comparison can be selected between AcSource, AcFlexSource or AcLoad.
5	On-grid	Relay is activated when the device is operating in on-grid mode (Source or FlexSource).
6	Solar excess on-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC Source, the transfer is connected to the AC source (on-grid). Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is off-grid.

Value	Label	Description
7	Solar excess off-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC load, the transfer is disconnected to the AC source (off-grid), the battery is in floating state of charge. Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is on-grid, the battery is no more in floating state.
8	Schedule time	Relay is activated during a daily time frame.
9	Cmd entry	Relay is activated depending on command entry state. It is possible to combine the 2 command entries using boolean logic.
10	Errors and warnings	Relay is activated using the device errors and/or the warnings.
11	Ext bypass	Relay is activated when all phases of the inverter are connected to AC-Load and working. The purpose of this function is for example to enable an external bypass.

List of items of Enum 2 (SafeState)

Value	Label	Description
0	Safe Off	Relay is deactivated in case of undetermined condition or problem.
1	Safe On	Relay is activated in case of undetermined condition or problem.
2	Last manual	Relay takes the state of the last manual operation in case of undetermined condition or problem.

List of items of Enum 3 (PresetPacSelection)

Value	Label	Description
0	Ac source all	Power detection on AcSource. Total active power on all phases.
1	Ac source L1	Power detection on AcSource L1.
2	Ac source L2	Power detection on AcSource L2.
3	Ac source L3	Power detection on AcSource L3.
4	Ac flex source all	Power detection on AcFlex configured as source. Total active power on all phases.
5	Ac flex source L1	Power detection on AcFlex configured as source on L1.
6	Ac flex source L2	Power detection on AcFlex configured as source on L2.
7	Ac flex source L3	Power detection on AcFlex configured as source on L3.
8	Ac flex load all	Power detection on AcFlex configured as Load. Total active power on all phases.
9	Ac flex load L1	Power detection on AcFlex configured as Load on L1.
10	Ac flex load L2	Power detection on AcFlex configured as Load on L2.
11	Ac flex load L3	Power detection on AcFlex configured as Load on L3.
12	Ac load all	Power detection on AcLoad. Total active power on all phases.
13	Ac load L1	Power detection on AcLoad on L1.
14	Ac load L2	Power detection on AcLoad on L2.
15	Ac load L3	Power detection on AcLoad on L3.

List of items of Enum 4 (PresetErrorsWarnings)

Value	Label	Description
0	Trig on all conditions	Activation triggered by all conditions.
1	Trig on warnings	Activation triggered by warnings.
2	Trig on errors restarting	Activation triggered by errors restarting.

Value	Label	Description
4	Trig on errors halted	Activation triggered by errors halted.

List of items of Enum 5 (RelayState)

Value	Label	Description
0	Safe state opened	Actual position of relay: safe state on.
1	Safe state closed	Actual position of relay: safe state off.
2	Rel. man. opened	Actual position of relay: Manually opened.
3	Rel. man. closed	Actual position of relay: Manually closed.
4	Rel. auto. opened	Actual position of relay: Automatically opened.
5	Rel. auto. closed	Actual position of relay: Automatically closed.

List of items of Enum 6 (Errors)

Value	Label	Description
0	No error	No error.
1	No hysteresis	Different trigger values are required in order to have an hysteresis.
2	Property access error	Failed to access to the required property.
3	Undefined error	Undefined error.

List of items of Enum 8 (BatChargeState)

Value	Label	Description
0	None	Battery charging state: no charging state selected.
1	Bulk	Battery charging state: bulk.
2	Reduced floating	Battery charging state: reduced floating.
4	Floating	Battery charging state: floating.
8	Periodical absorption	Battery charging state: periodical absorption.
16	Absorption	Battery charging state: absorption.
32	Equalization	Battery charging state: equalization.

L1 Time Control

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.8.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2100	2	Expert	0	Time controlled mode	Bypass		-	Time Controlled object working mode.	enum	R	0
2102	2	Basic	1	Temp restr. act. min delay	0	s	-	Temporal restriction minimum delay before activation. The signal must be high during all this period.	uint	R/W	-
2104	2	Basic	2	Temp restr. deact. min delay	0	s	-	Temporal restriction minimum delay before deactivation. The signal must be low during all this period.	uint	R/W	-
2106	2	Basic	3	Temp restr. act. min time	0	s	-	Temporal restriction output signal minimum activation time.	uint	R/W	-
2108	2	Basic	4	Temp restr. deact. min time	0	s	-	Temporal restriction output signal minimum deactivation time.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2110	2	Basic	5	Temp restr. act. max time	-1	s	-	Temporal restriction output signal maximum activation time.	int	R/W	-
2112	2	Basic	6	Temp restr. act. allowed hour1	43200	s	[0,86399]	Temporal restriction daily time range hour 1. Given in seconds from midnight.	uint	R/W	-
2114	2	Basic	7	Temp restr. act. allowed hour2	43200	s	[0,86399]	Temporal restriction daily time range hour 2. Given in seconds from midnight.	uint	R/W	-
2116	2	Basic	8	Temp restr. act. allowed week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Temporal restriction allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
2118	2	Basic	9	Sch. time starting date	18250	days	-	Schedule time starting date. Given in days since 01.01.1970.	uint	R/W	-
2120	2	Basic	10	Sch. time starting time	43200	s	[0,86399]	Schedule time activation starting hour. Given in seconds from midnight.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2122	2	Basic	11	Sch. time ending time	43200	s	[0,86399]	Schedule time activation ending hour. Given in seconds from midnight.	uint	R/W	-
2124	2	Basic	12	Sch. time selected week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Schedule time allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
2126	2	Basic	13	Sch. time recurrence weeks	1		-	Schedule time activation weeks recurrences.	uint	R/W	-
2128	2	Basic	14	Range of recurrence selection	NoEndDate		-	Schedule time selection of recurrence before deactivation.	enum	R/W	1
2130	2	Basic	15	Sch. time ending date	18251	days	-	Schedule time activations ending date. Given in days since 01.01.1970.	uint	R/W	-
2132	2	Basic	16	Sch. time nbr of occurrences	1		-	Schedule time number of occurrences.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2134	1	Basic	17	Reset time controlled	-		-	Reset all time controlled counters. For exampe the occurences counts.	signal	W	-

List of items of Enum 0 (TimeControlledMode)

Value	Label	Description
0	Bypass	The time controlled block is bypassed. No time restriction is applied to the input signal.
1	Temporal restriction	Temporal restriction is applied to the input signal.
2	Schedule time	The output is enabled and disabled according to scheduled conditions.

List of items of Enum 1 (RangeOfRecurrence)

Value	Label	Description
0	No end date	The scheduled activation-desactivation is indefinitely repeated.
1	End after occurrence	The scheduled activation-desactivation is repeated a given number of times "Sch. time nbr of occurrences" (id 16).
2	End date	The scheduled activation-desactivation is repeated until a given date "Sch. time ending date" (id 15).

List of items of Enum 2 (WeekDays)

Value	Label	Description
64	Monday	The day is Monday.
32	Tuesday	The day is Tuesday.
16	Wednesday	The day is Wednesday.
8	Thursday	The day is Thursday.
4	Friday	The day is Friday.
2	Saturday	The day is Saturday.
1	Sunday	The day is Sunday.

L2 Time Control

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.9.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2400	2	Expert	0	Time controlled mode	Bypass		-	Time Controlled object working mode.	enum	R	0
2402	2	Basic	1	Temp restr. act. min delay	0	s	-	Temporal restriction minimum delay before activation. The signal must be high during all this period.	uint	R/W	-
2404	2	Basic	2	Temp restr. deact. min delay	0	s	-	Temporal restriction minimum delay before deactivation. The signal must be low during all this period.	uint	R/W	-
2406	2	Basic	3	Temp restr. act. min time	0	s	-	Temporal restriction output signal minimum activation time.	uint	R/W	-
2408	2	Basic	4	Temp restr. deact. min time	0	s	-	Temporal restriction output signal minimum deactivation time.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2410	2	Basic	5	Temp restr. act. max time	-1	s	-	Temporal restriction output signal maximum activation time.	int	R/W	-
2412	2	Basic	6	Temp restr. act. allowed hour1	43200	s	[0,86399]	Temporal restriction daily time range hour 1. Given in seconds from midnight.	uint	R/W	-
2414	2	Basic	7	Temp restr. act. allowed hour2	43200	s	[0,86399]	Temporal restriction daily time range hour 2. Given in seconds from midnight.	uint	R/W	-
2416	2	Basic	8	Temp restr. act. allowed week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Temporal restriction allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
2418	2	Basic	9	Sch. time starting date	18250	days	-	Schedule time starting date. Given in days since 01.01.1970.	uint	R/W	-
2420	2	Basic	10	Sch. time starting time	43200	s	[0,86399]	Schedule time activation starting hour. Given in seconds from midnight.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2422	2	Basic	11	Sch. time ending time	43200	s	[0,86399]	Schedule time activation ending hour. Given in seconds from midnight.	uint	R/W	-
2424	2	Basic	12	Sch. time selected week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Schedule time allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
2426	2	Basic	13	Sch. time recurrence weeks	1		-	Schedule time activation weeks recurrences.	uint	R/W	-
2428	2	Basic	14	Range of recurrence selection	NoEndDate		-	Schedule time selection of recurrence before deactivation.	enum	R/W	1
2430	2	Basic	15	Sch. time ending date	18251	days	-	Schedule time activations ending date. Given in days since 01.01.1970.	uint	R/W	-
2432	2	Basic	16	Sch. time nbr of occurrences	1		-	Schedule time number of occurrences.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2434	1	Basic	17	Reset time controlled	-		-	Reset all time controlled counters. For exampe the occurences counts.	signal	W	-

List of items of Enum 0 (TimeControlledMode)

Value	Label	Description
0	Bypass	The time controlled block is bypassed. No time restriction is applied to the input signal.
1	Temporal restriction	Temporal restriction is applied to the input signal.
2	Schedule time	The output is enabled and disabled according to scheduled conditions.

List of items of Enum 1 (RangeOfRecurrence)

Value	Label	Description
0	No end date	The scheduled activation-desactivation is indefinitely repeated.
1	End after occurrence	The scheduled activation-desactivation is repeated a given number of times "Sch. time nbr of occurrences" (id 16).
2	End date	The scheduled activation-desactivation is repeated until a given date "Sch. time ending date" (id 15).

List of items of Enum 2 (WeekDays)

Value	Label	Description
64	Monday	The day is Monday.
32	Tuesday	The day is Tuesday.
16	Wednesday	The day is Wednesday.
8	Thursday	The day is Thursday.
4	Friday	The day is Friday.
2	Saturday	The day is Saturday.
1	Sunday	The day is Sunday.

L3 Time Control

Group : AcFlexLoad
Modbus device address : 9 to 13
*External ID : 3.x.10.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2700	2	Expert	0	Time controlled mode	Bypass		-	Time Controlled object working mode.	enum	R	0
2702	2	Basic	1	Temp restr. act. min delay	0	s	-	Temporal restriction minimum delay before activation. The signal must be high during all this period.	uint	R/W	-
2704	2	Basic	2	Temp restr. deact. min delay	0	s	-	Temporal restriction minimum delay before deactivation. The signal must be low during all this period.	uint	R/W	-
2706	2	Basic	3	Temp restr. act. min time	0	s	-	Temporal restriction output signal minimum activation time.	uint	R/W	-
2708	2	Basic	4	Temp restr. deact. min time	0	s	-	Temporal restriction output signal minimum deactivation time.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2710	2	Basic	5	Temp restr. act. max time	-1	s	-	Temporal restriction output signal maximum activation time.	int	R/W	-
2712	2	Basic	6	Temp restr. act. allowed hour1	43200	s	[0,86399]	Temporal restriction daily time range hour 1. Given in seconds from midnight.	uint	R/W	-
2714	2	Basic	7	Temp restr. act. allowed hour2	43200	s	[0,86399]	Temporal restriction daily time range hour 2. Given in seconds from midnight.	uint	R/W	-
2716	2	Basic	8	Temp restr. act. allowed week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Temporal restriction allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
2718	2	Basic	9	Sch. time starting date	18250	days	-	Schedule time starting date. Given in days since 01.01.1970.	uint	R/W	-
2720	2	Basic	10	Sch. time starting time	43200	s	[0,86399]	Schedule time activation starting hour. Given in seconds from midnight.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2722	2	Basic	11	Sch. time ending time	43200	s	[0,86399]	Schedule time activation ending hour. Given in seconds from midnight.	uint	R/W	-
2724	2	Basic	12	Sch. time selected week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Schedule time allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
2726	2	Basic	13	Sch. time recurrence weeks	1		-	Schedule time activation weeks recurrences.	uint	R/W	-
2728	2	Basic	14	Range of recurrence selection	NoEndDate		-	Schedule time selection of recurrence before deactivation.	enum	R/W	1
2730	2	Basic	15	Sch. time ending date	18251	days	-	Schedule time activations ending date. Given in days since 01.01.1970.	uint	R/W	-
2732	2	Basic	16	Sch. time nbr of occurrences	1		-	Schedule time number of occurrences.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2734	1	Basic	17	Reset time controlled	-		-	Reset all time controlled counters. For exampe the occurences counts.	signal	W	-

List of items of Enum 0 (TimeControlledMode)

Value	Label	Description
0	Bypass	The time controlled block is bypassed. No time restriction is applied to the input signal.
1	Temporal restriction	Temporal restriction is applied to the input signal.
2	Schedule time	The output is enabled and disabled according to scheduled conditions.

List of items of Enum 1 (RangeOfRecurrence)

Value	Label	Description
0	No end date	The scheduled activation-desactivation is indefinitely repeated.
1	End after occurrence	The scheduled activation-desactivation is repeated a given number of times "Sch. time nbr of occurrences" (id 16).
2	End date	The scheduled activation-desactivation is repeated until a given date "Sch. time ending date" (id 15).

List of items of Enum 2 (WeekDays)

Value	Label	Description
64	Monday	The day is Monday.
32	Tuesday	The day is Tuesday.
16	Wednesday	The day is Wednesday.
8	Thursday	The day is Thursday.
4	Friday	The day is Friday.
2	Saturday	The day is Saturday.
1	Sunday	The day is Sunday.

Converter ID card

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.1.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4	8	Expert	2	Serial Number	"Invalid"		-	Serial Number of this Studer Innotec device.	char[15]	R	-
14	2	Expert	4	Software package version	0		-	Software package version in this format : MAJOR.MIDDLE.MINOR.PATCH, encoded as follows from MSB to LSB : MAJOR (8 bits), MIDDLE (8bits), MINOR (12 bits), PATCH (4 bits).	uint	R	-
30	2	Expert	8	ObjectModel version	0		-	Version of the currently used ObjectModel in this format : MAJOR.MINOR, encoded as follows from MSB to LSB : MAJOR (16 bits), MINOR (16 bits).	uint	R	-

Transfer ID card

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.2.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
304	8	Expert	2	Serial Number	"Invalid"		-	Serial Number of this Studer Innotec device.	char[15]	R	-
314	2	Expert	4	Software package version	0		-	Software package version in this format : MAJOR.MIDDLE.MINOR.PATCH, encoded as follows from MSB to LSB : MAJOR (8 bits), MIDDLE (8bits), MINOR (12 bits), PATCH (4 bits).	uint	R	-
330	2	Expert	8	ObjectModel version	0		-	Version of the currently used ObjectModel in this format : MAJOR.MINOR, encoded as follows from MSB to LSB : MAJOR (16 bits), MINOR (16 bits).	uint	R	-

Converter CAN node

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.7.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1802	2	Expert	1	Status	ErrorActive		-	Stores the node status.	enum	R	0
1804	2	Expert	2	Tx error counter	0		-	Counter of the TX errors.	int	R	-
1806	2	Expert	3	Rx error counter	0		-	Counter of the RX errors.	int	R	-
1808	1	Expert	4	Bus termination status	false		-	Bus termination status for this node.	bool	R	-

List of items of Enum 0 (NodeStatus)

Value	Label	Description
0	Error active	The node is in error active state.
1	Error passive	The node is in error passive state.
2	Bus off	The node is in bus off state.

Transfer CAN node

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.8.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2102	2	Expert	1	Status	ErrorActive		-	Stores the node status.	enum	R	0
2104	2	Expert	2	Tx error counter	0		-	Counter of the TX errors.	int	R	-
2106	2	Expert	3	Rx error counter	0		-	Counter of the RX errors.	int	R	-
2108	1	Expert	4	Bus termination status	false		-	Bus termination status for this node.	bool	R	-

List of items of Enum 0 (NodeStatus)

Value	Label	Description
0	Error active	The node is in error active state.
1	Error passive	The node is in error passive state.
2	Bus off	The node is in bus off state.

Device

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.14.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4200	1	Basic	0	Blink	false		-	If set, the device LEDs will blink.	bool	R/W	-
4205	2	ViewOnly	3	Total functioning time	0	s	-	Total functioning time in this device's life.	uint	R	-

Next3 converter

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.17.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5100	2	ViewOnly	0	Status	NoWarningsOrErrors		-	Enum containing the status.	enum	R	1
5102	2	ViewOnly	1	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	0
5104	2	Basic	2	Fan 1 speed	0	RPM	-	Revolution speed of fan 1 measured.	float	R	-
5106	2	Basic	3	Fan 2 speed	0	RPM	-	Revolution speed of fan 2 measured.	float	R	-
5108	2	Basic	4	Fan 3 speed	0	RPM	-	Revolution speed of fan 3 measured.	float	R	-
5110	2	Basic	5	Fan 4 speed	0	RPM	-	Revolution speed of fan 4 measured.	float	R	-
5112	2	Basic	6	Fan 5 speed	0	RPM	-	Revolution speed of fan 5 measured.	float	R	-
5114	2	Basic	7	External power supply current	0	A	-	External power supply current measured.	float	R	-
5116	2	Expert	8	Power supply voltage	0	V	-	Power supply voltage measured.	float	R	-

List of items of Enum 0 (Errors)

Value	Label	Description
0	No errors	No errors.
1	Fans failure	Fans failure. The power should be limited to protect against overheating.
2	Internal temperature sensor failure	Internal temperature sensor failure. The device must be serviced. The power is limited to protect against overheating.
4	Abnormal voltage detected on acLoad port	A voltage has been detected on AcLoad port before starting inverter. Check that no power source is connectect on AcLoad port.
8	AcLoad port broken connexion	The AcLoad port of this device is disconnected.
16	Battery port broken connexion	The battery port of this device is disconnected.
32	Battery contactor failure	Battery contactor failure.
64	Inverter1 overcurrent	Over current of the inverter 1. The device was halted for self-protection.
128	Inverter2 overcurrent	Over current of the inverter 2. The device was halted for self-protection.
256	Inverter3 overcurrent	Over current of the inverter 3. The device was halted for self-protection.
512	Inverter1 failure	Abnormal operation of inverter 1. The device was halted for self-protection.
1024	Inverter2 failure	Abnormal operation of inverter 2. The device was halted for self-protection.
2048	Inverter3 failure	Abnormal operation of inverter 3. The device was halted for self-protection.

Value	Label	Description
4096	Inverters disconnected by residual current	A residual current has been detected and avoids the inverters to run.
8192	Solars disconnected by residual current	A residual current has been detected and avoids the solars to run.
16384	Residual current critical failure	A critical residual current failure has been detected. A clear errors is necessary to restart converters.
32768	Internal power supply failure	Failure of the internal power supply. The device was halted for self-protection.
65536	Internal power supply overvoltage	Over-voltage on the internal power supply. The device was halted for self-protection.
131072	Internal power supply undervoltage	Under-voltage on the internal power supply. The device was halted for self-protection.
262144	Battery capacitors preload failed	Unable to preload the battery capacitors. Check that the battery could supply at least two amps.
524288	Battery overvoltage	Over-voltage on the battery port. The device was halted for self-protection.
1048576	Battery undervoltage	Under-voltage on the battery port. The device was halted for self-protection.
2097152	Internal dclink overvoltage	Over voltage on the internal DcLink. The device was halted for self-protection.
4194304	Internal dclink undervoltage	Under voltage on the internal DcLink. The device was halted for self-protection.
8388608	Internal dclink voltage unbalanced	Unbalanced voltages on the internal DcLink. The device was halted for self-protection.
16777216	Internal dcdc converter failure	The internal DcDc converter failed.
33554432	Communication error	Too many communication errors on studer system bus. The device was halted for self-protection.
67108864	Battery temperature sensor in short circuit	The battery temperature sensor is defective.
134217728	Battery fault	A battery fault prevents normal operation. Please see warning(s)/error(s) of the corresponding battery for more informations.
268435456	Inverters disconnected by solar	A solar critical error has been detected and avoids the inverters to run. A clear errors is necessary to restart converters.

List of items of Enum 1 (Status)

Value	Label	Description
0	No warning(s) or error(s)	No warning(s) or error(s).
1	In warning	The device is in warning.
2	In error restarting	The device is temporarily maintained in error and will restart automatically once the error(s) leaved.
3	In error halted	The device is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

Device solar common

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.19.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5700	1	Basic	0	Turn on	-		-	Turns on solar(s).	signal	W	-
5701	1	Basic	1	Turn off	-		-	Turns off solar(s).	signal	W	-
5702	1	ViewOnly	2	On off state	false		-	Indicates solar(s) on/off state.	bool	R	-
5703	1	Expert	3	Enable depolarization	-		-	Enables depolarization.	signal	W	-
5704	1	Expert	4	Disable depolarization	-		-	Disables depolarization.	signal	W	-
5705	2	ViewOnly	5	Power	0	W	-	Power produced.	float	R	-
5707	2	ViewOnly	8	Previous day energy	0	Wh	-	Energy produced for the previous day.	float	R	-
5709	2	ViewOnly	9	Power limit	0	W	-	Solar(s) power limit.	uint	R	-
5711	2	ViewOnly	10	Day energy	0	Wh	-	Energy produced for the current day.	float	R	-
5715	4	ViewOnly	12	Resetable energy	0	Wh	-	Energy produced (can be reset).	float64	R/W	-
5719	4	ViewOnly	13	Total energy	0	Wh	-	Total energy produced (whole life).	float64	R	-

Solar common 1

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.20.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6000	1	Basic	0	Turn on	-		-	Turns on solar(s).	signal	W	-
6001	1	Basic	1	Turn off	-		-	Turns off solar(s).	signal	W	-
6002	1	ViewOnly	2	On off state	false		-	Indicates solar(s) on/off state.	bool	R	-
6003	1	Expert	3	Enable depolarization	-		-	Enables depolarization.	signal	W	-
6004	1	Expert	4	Disable depolarization	-		-	Disables depolarization.	signal	W	-
6005	2	ViewOnly	5	Power	0	W	-	Power produced.	float	R	-
6007	2	ViewOnly	8	Previous day energy	0	Wh	-	Energy produced for the previous day.	float	R	-
6009	2	ViewOnly	9	Power limit	0	W	-	Solar(s) power limit.	uint	R	-
6011	2	ViewOnly	10	Day energy	0	Wh	-	Energy produced for the current day.	float	R	-
6015	4	ViewOnly	12	Resetable energy	0	Wh	-	Energy produced (can be reset).	float64	R/W	-
6019	4	ViewOnly	13	Total energy	0	Wh	-	Total energy produced (whole life).	float64	R	-

Solar common 2

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.21.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6300	1	Basic	0	Turn on	-		-	Turns on solar(s).	signal	W	-
6301	1	Basic	1	Turn off	-		-	Turns off solar(s).	signal	W	-
6302	1	ViewOnly	2	On off state	false		-	Indicates solar(s) on/off state.	bool	R	-
6303	1	Expert	3	Enable depolarization	-		-	Enables depolarization.	signal	W	-
6304	1	Expert	4	Disable depolarization	-		-	Disables depolarization.	signal	W	-
6305	2	ViewOnly	5	Power	0	W	-	Power produced.	float	R	-
6307	2	ViewOnly	8	Previous day energy	0	Wh	-	Energy produced for the previous day.	float	R	-
6309	2	ViewOnly	9	Power limit	0	W	-	Solar(s) power limit.	uint	R	-
6311	2	ViewOnly	10	Day energy	0	Wh	-	Energy produced for the current day.	float	R	-
6315	4	ViewOnly	12	Resetable energy	0	Wh	-	Energy produced (can be reset).	float64	R/W	-
6319	4	ViewOnly	13	Total energy	0	Wh	-	Total energy produced (whole life).	float64	R	-

Device solar group

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.22.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6600	2	ViewOnly	0	Nbr	0		-	Number of converters.	uint	R	-
6602	2	ViewOnly	1	Status	AtLeastOneSolarDisabled		-	Bitfield containing the status.	bitfield	R	0

List of items of Enum 0 (Status)

Value	Label	Description
1	At least one solar disabled	At least one solar is disabled.
2	At least one solar has warning(s)	At least one solar has warning(s).
4	At least one solar in error restarting	At least one solar is temporarily maintained in error and will restart automatically once the error(s) leaved.
8	At least one solar in error halted	At least one solar is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).
16	At least one solar in night	At least one solar is in night.
32	At least one solar in dawn/dusk	At least one solar is in dawn/dusk.
64	At least one solar in production	At least one solar is in production.
128	At least one solar in production limited	At least one solar is in production limited.

Solar 1

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.23.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6900	2	ViewOnly	0	Voltage	0	V	-	Voltage measured.	float	R	-
6902	2	ViewOnly	3	Current	0	A	-	Current measured.	float	R	-
6904	2	ViewOnly	6	Day sunshine	0	s	-	Sun radiation for the current day.	uint	R	-
6906	2	ViewOnly	7	Previous day sunshine	0	s	-	Sun radiation for the previous day.	uint	R	-
6908	2	ViewOnly	8	Status	Disabled		-	Enum containing the status.	enum	R	0
6910	2	ViewOnly	9	Cause of error	NoErrors		-	Memorizes why the converter entered "Error halted" (value 6) or "Error restarting" (value 7) state. The bitfield is cleared once the converter leaved one of these states.	bitfield	R	1
6912	2	ViewOnly	10	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	1
6914	2	ViewOnly	11	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	2
6916	2	Expert	12	Depolarization	NotAvailable		-	Indicates the depolarization state.	enum	R	3
6918	2	ViewOnly	13	Limitation state	NotLimited		-	Indicates if there is a limitation and the reason of the limitation.	enum	R	4

List of items of Enum 0 (Status)

Value	Label	Description
0	Production	The solar converter is running.
1	Night	The solar converter is turned on and in night mode because very low voltage is detected.
2	Dawn/dusk	The solar converter is turned on and in dawn/dusk mode because voltage is detected but lower than the starting voltage.
3	Disabled	The solar converter is disabled.
4	Starting	The solar converter is starting.
5	Stopping	The solar converter is stopping.
6	Error halted	The solar converter is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).
7	Error restarting	The solar converter is temporarily maintained in error and will restart automatically once the error(s) leaved.

List of items of Enum 1 (Errors)

Value	Label	Description
0	No errors	The solar converter has no errors.
1	overvoltage	An error overvoltage has been detected. Please reduce the number of strings in serie.
2	overcurrent	An error overcurrent has been detected.

Value	Label	Description
4	polarity inversion	A polarity inversion has been detected. Please verify the wiring.
8	insulation default	An insulation default has been detected. Please verify the insulation between PV+ and earth and PV- and earth.
16	stop failed	The converter stop has failed.
32	start failed	The converter start has failed.
64	device fault	The device was stopped to protect himself against abnormal situation.
128	depolarization failed	The depolarization has failed. A new attempt will be made the next time the converter leaves the "Production" (value 0) state.
256	Negativ current	A negativ current has been measured. Please try to disconnect the solar panels from the device. If the error persists, the device must be serviced.

List of items of Enum 2 (Warnings)

Value	Label	Description
0	No warnings	The solar converter has no warnings.
1	overvoltage	A warning overvoltage has been detected. Please consider to reduce the number of strings in serie.
2	no production for 48h	No production for 48h has been detected.
4	overtemperature	Overtemperature. The power could be reduced to protect the power converter unit.

List of items of Enum 3 (DepolarizationState)

Value	Label	Description
0	Not available	Option is not available on this device.
1	Disabled	The depolarization is disabled.
2	Enabled	The depolarization is enabled but not currently depolarizing.
3	Depolarizing	The depolarization is currently running.

List of items of Enum 4 (LimitationState)

Value	Label	Description
0	Not limited	The solar converter is not limited and all the solar power is available.
1	Temperature limited	The solar converter is limited by the device temperature.
2	Max power reached	The solar converter maximum power has been reached.
3	Max current reached	The solar converter maximum current has been reached.
4	Solar excess	The solar converter is limited because the system can't absorb all the solar power. For example if the grid feeding is not allowed and the batteries are full, the solar power will be limited to the value of the loads.

Solar 2

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.24.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
7200	2	ViewOnly	0	Voltage	0	V	-	Voltage measured.	float	R	-
7202	2	ViewOnly	3	Current	0	A	-	Current measured.	float	R	-
7204	2	ViewOnly	6	Day sunshine	0	s	-	Sun radiation for the current day.	uint	R	-
7206	2	ViewOnly	7	Previous day sunshine	0	s	-	Sun radiation for the previous day.	uint	R	-
7208	2	ViewOnly	8	Status	Disabled		-	Enum containing the status.	enum	R	0
7210	2	ViewOnly	9	Cause of error	NoErrors		-	Memorizes why the converter entered "Error halted" (value 6) or "Error restarting" (value 7) state. The bitfield is cleared once the converter leaved one of these states.	bitfield	R	1
7212	2	ViewOnly	10	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	1
7214	2	ViewOnly	11	Warnings	NoWarnings		-	Bitfield containing the warnings.	bitfield	R	2
7216	2	Expert	12	Depolarization	NotAvailable		-	Indicates the depolarization state.	enum	R	3
7218	2	ViewOnly	13	Limitation state	NotLimited		-	Indicates if there is a limitation and the reason of the limitation.	enum	R	4

List of items of Enum 0 (Status)

Value	Label	Description
0	Production	The solar converter is running.
1	Night	The solar converter is turned on and in night mode because very low voltage is detected.
2	Dawn/dusk	The solar converter is turned on and in dawn/dusk mode because voltage is detected but lower than the starting voltage.
3	Disabled	The solar converter is disabled.
4	Starting	The solar converter is starting.
5	Stopping	The solar converter is stopping.
6	Error halted	The solar converter is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).
7	Error restarting	The solar converter is temporarily maintained in error and will restart automatically once the error(s) leaved.

List of items of Enum 1 (Errors)

Value	Label	Description
0	No errors	The solar converter has no errors.
1	overvoltage	An error overvoltage has been detected. Please reduce the number of strings in serie.
2	overcurrent	An error overcurrent has been detected.

Value	Label	Description
4	polarity inversion	A polarity inversion has been detected. Please verify the wiring.
8	insulation default	An insulation default has been detected. Please verify the insulation between PV+ and earth and PV- and earth.
16	stop failed	The converter stop has failed.
32	start failed	The converter start has failed.
64	device fault	The device was stopped to protect himself against abnormal situation.
128	depolarization failed	The depolarization has failed. A new attempt will be made the next time the converter leaves the "Production" (value 0) state.
256	Negativ current	A negativ current has been measured. Please try to disconnect the solar panels from the device. If the error persists, the device must be serviced.

List of items of Enum 2 (Warnings)

Value	Label	Description
0	No warnings	The solar converter has no warnings.
1	overvoltage	A warning overvoltage has been detected. Please consider to reduce the number of strings in serie.
2	no production for 48h	No production for 48h has been detected.
4	overtemperature	Overtemperature. The power could be reduced to protect the power converter unit.

List of items of Enum 3 (DepolarizationState)

Value	Label	Description
0	Not available	Option is not available on this device.
1	Disabled	The depolarization is disabled.
2	Enabled	The depolarization is enabled but not currently depolarizing.
3	Depolarizing	The depolarization is currently running.

List of items of Enum 4 (LimitationState)

Value	Label	Description
0	Not limited	The solar converter is not limited and all the solar power is available.
1	Temperature limited	The solar converter is limited by the device temperature.
2	Max power reached	The solar converter maximum power has been reached.
3	Max current reached	The solar converter maximum current has been reached.
4	Solar excess	The solar converter is limited because the system can't absorb all the solar power. For example if the grid feeding is not allowed and the batteries are full, the solar power will be limited to the value of the loads.

Algo MPPT 1

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.25.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
7500	2	Basic	0	Algorithm	LeastSquareFit		-	Used to select the MPPT algorithm.	enum	R/W	0
7502	2	Basic	1	Voltage setpoint	-1	V	[0, 1000]	Converter voltage setpoint applied when "Algorithm" (id 0) is set to "Fixed voltage" (value 1).	float	R/W	-
7504	1	Basic	2	Check for global MPP	true		-	Enables periodical check for global maximum power point to avoid power reduction due to partial shading. Note that this property is used only when "Algorithm" (id 0) is set to "Least square fit" (value 0).	bool	R/W	-
7505	2	Basic	3	Period for global MPP check	3600	s	[60 36000]	Sets the period for global maximum power point check. Note that this property is used only when "Algorithm" (id 0) is set to "Least square fit" (value 0).	uint	R/W	-
7507	2	Basic	4	Voltage ratio	0.8		[0 1.5]	Ratio voltage setpoint/open-circuit voltage. Note that this property is used only when "Algorithm" (id 0) is set to "Fixed open-circuit voltage ratio" (value 2).	float	R/W	-
7509	2	Basic	5	Period for measuring OCV	300	s	[60 36000]	Sets the period for measuring open-circuit voltage. Note that this property is used only when "Algorithm" (id 0) is set to "Fixed open-circuit voltage ratio" (value 2).	uint	R/W	-

List of items of Enum 0 (AlgoSelected)

Value	Label	Description
0	Least square fit	Improved version of the well-known perturb and observe algorithm.
1	Fixed voltage	Allows the user to set manually the converter voltage setpoint.
2	Fixed open-circuit voltage ratio	Allows the user to set manually a ratio between the converter voltage setpoint and the open-circuit voltage. The converter returns periodically at the open-circuit voltage for measuring the voltage. The setpoint is then set to the measured voltage times "Voltage ratio" (id 4).

Algo MPPT 2

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.26.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
7800	2	Basic	0	Algorithm	LeastSquareFit		-	Used to select the MPPT algorithm.	enum	R/W	0
7802	2	Basic	1	Voltage setpoint	-1	V	[0, 1000]	Converter voltage setpoint applied when "Algorithm" (id 0) is set to "Fixed voltage" (value 1).	float	R/W	-
7804	1	Basic	2	Check for global MPP	true		-	Enables periodical check for global maximum power point to avoid power reduction due to partial shading. Note that this property is used only when "Algorithm" (id 0) is set to "Least square fit" (value 0).	bool	R/W	-
7805	2	Basic	3	Period for global MPP check	3600	s	[60 36000]	Sets the period for global maximum power point check. Note that this property is used only when "Algorithm" (id 0) is set to "Least square fit" (value 0).	uint	R/W	-
7807	2	Basic	4	Voltage ratio	0.8		[0 1.5]	Ratio voltage setpoint/open-circuit voltage. Note that this property is used only when "Algorithm" (id 0) is set to "Fixed open-circuit voltage ratio" (value 2).	float	R/W	-
7809	2	Basic	5	Period for measuring OCV	300	s	[60 36000]	Sets the period for measuring open-circuit voltage. Note that this property is used only when "Algorithm" (id 0) is set to "Fixed open-circuit voltage ratio" (value 2).	uint	R/W	-

List of items of Enum 0 (AlgoSelected)

Value	Label	Description
0	Least square fit	Improved version of the well-known perturb and observe algorithm.
1	Fixed voltage	Allows the user to set manually the converter voltage setpoint.
2	Fixed open-circuit voltage ratio	Allows the user to set manually a ratio between the converter voltage setpoint and the open-circuit voltage. The converter returns periodically at the open-circuit voltage for measuring the voltage. The setpoint is then set to the measured voltage times "Voltage ratio" (id 4).

Relay Auxiliary 1

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.27.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8100	1	ViewOnly	0	Is connected	false		-	Shows the relay current state.	bool	R	-
8101	2	ViewOnly	1	Position	SafeStateOff		-	Current position.	enum	R	5
8103	2	ViewOnly	2	Errors	NoErrors		-	Relay aux list of errors.	enum	R	6
8107	2	Basic	4	Operating mode	ManualOff		-	Selection of controlled relay operating mode.	enum	R/W	0
8109	2	Basic	5	Auto mode selection	PresetBatVolt		-	Selection of the automatic configuration.	enum	R/W	1
8111	2	Basic	6	Safe state selection	SafeOff		-	Selection of the controlled relay safe state position in case of problem or undetermined condition.	enum	R/W	2
8113	2	Basic	7	Bat. volt. act. thresh. voltage	42	V	[32,70]	Pre-set battery voltage activation threshold voltage.	float	R/W	-
8115	2	Basic	8	Bat. volt. deact. thresh. volt.	52	V	[32,70]	Pre-set battery voltage deactivation threshold voltage.	float	R/W	-
8117	2	Basic	9	Bat. SOC act. thresh. SOC	10	%	[0,100]	Pre-set battery SOC activation threshold SOC.	uint	R/W	-
8119	2	Basic	10	Bat. SOC deact. thresh. SOC	90	%	[0,100]	Pre-set battery SOC deactivation threshold SOC.	uint	R/W	-
8121	2	Basic	11	Bat. temp. act. thresh. temp.	50	°C	[0,150]	Pre-set battery temperature activation threshold temperature.	uint	R/W	-
8123	2	Basic	12	Bat. temp. deact. thresh. temp.	30	°C	[0,150]	Pre-set battery temperature deactivation threshold temperature.	uint	R/W	-
8125	2	Basic	13	Bat. charg. state states select.	None		-	Pre-set battery charging state selection of the triggering states. Multiple choice possible.	bitfield	R/W	8
8127	2	Basic	14	Power ac power selection	AcSourceAll		-	Pre-set power ac selection of the source/load active power for comparison.	enum	R/W	3
8129	2	Basic	15	Power ac activ. thresh. power	1000	W	[-200000,200000]	Pre-set power ac activation threshold power.	float	R/W	-
8131	2	Basic	16	Power ac deact. thresh. power	0	W	[-200000,200000]	Pre-set power ac deactivation threshold power.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8133	2	Basic	17	Sol. exc. on-grid act. thresh. power	1000	W	-	Pre-set solar excess on-grid activation threshold power.	float	R/W	-
8135	2	Basic	18	Sol. exc. on-grid deact. thresh. power	500	W	-	Pre-set solar excess on-grid deactivation threshold power.	float	R/W	-
8137	2	Basic	19	Sol. exc. off-grid act. thresh. power	1000	W	-	Pre-set solar excess off-grid activation threshold power.	float	R/W	-
8139	2	Basic	20	Sol. exc. off-grid deact. thresh. power	500	W	-	Pre-set solar excess off-grid deactivation threshold power.	float	R/W	-
8141	2	Basic	21	Cmd entry select index	0		[0,10]	Index of the command entry interface used to control the relay.	uint	R/W	-
8143	2	Basic	22	Errors and warnings select signal	TrigOnErrorsHalted		-	Pre-set errors and warnings selection of the triggering signal.	bitfield	R/W	4

List of items of Enum 0 (OperatingMode)

Value	Label	Description
0	Manual Off	Relay is permanently deactivated (position NC).
1	Manual On	Relay is permanently activated (position NO).
2	Auto	Relay is activated according to a preset conditional mode.

List of items of Enum 1 (AutoMode)

Value	Label	Description
0	Battery voltage	Relay is activated when the battery voltage reaches the activation threshold voltage. Relay is deactivated when the battery voltage reaches deactivation threshold voltage.
1	Battery SOC	Relay is activated when the battery SOC (state of charge) reaches the activation threshold SOC. Relay is deactivated when the SOC voltage reaches deactivation threshold SOC.
2	Battery temperature	Relay is activated when the battery temperature reaches the activation threshold temperature. Relay is deactivated when the battery temperature reaches deactivation threshold temperature.
3	Battery charg. state	Relay is activated depending on battery charging state.
4	Power AC	Relay is activated when the active power AC reaches the activation threshold power. Relay is deactivated when the power AC reaches the deactivation threshold power. The power used for this comparison can be selected between AcSource, AcFlexSource or AcLoad.
5	On-grid	Relay is activated when the device is operating in on-grid mode (Source or FlexSource).
6	Solar excess on-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC Source, the transfer is connected to the AC source (on-grid). Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is off-grid.

Value	Label	Description
7	Solar excess off-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC load, the transfer is disconnected to the AC source (off-grid), the battery is in floating state of charge. Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is on-grid, the battery is no more in floating state.
8	Schedule time	Relay is activated during a daily time frame.
9	Cmd entry	Relay is activated depending on command entry state. It is possible to combine the 2 command entries using boolean logic.
10	Errors and warnings	Relay is activated using the device errors and/or the warnings.
11	Ext bypass	Relay is activated when all phases of the inverter are connected to AC-Load and working. The purpose of this function is for example to enable an external bypass.

List of items of Enum 2 (SafeState)

Value	Label	Description
0	Safe Off	Relay is deactivated in case of undetermined condition or problem.
1	Safe On	Relay is activated in case of undetermined condition or problem.
2	Last manual	Relay takes the state of the last manual operation in case of undetermined condition or problem.

List of items of Enum 3 (PresetPacSelection)

Value	Label	Description
0	Ac source all	Power detection on AcSource. Total active power on all phases.
1	Ac source L1	Power detection on AcSource L1.
2	Ac source L2	Power detection on AcSource L2.
3	Ac source L3	Power detection on AcSource L3.
4	Ac flex source all	Power detection on AcFlex configured as source. Total active power on all phases.
5	Ac flex source L1	Power detection on AcFlex configured as source on L1.
6	Ac flex source L2	Power detection on AcFlex configured as source on L2.
7	Ac flex source L3	Power detection on AcFlex configured as source on L3.
8	Ac flex load all	Power detection on AcFlex configured as Load. Total active power on all phases.
9	Ac flex load L1	Power detection on AcFlex configured as Load on L1.
10	Ac flex load L2	Power detection on AcFlex configured as Load on L2.
11	Ac flex load L3	Power detection on AcFlex configured as Load on L3.
12	Ac load all	Power detection on AcLoad. Total active power on all phases.
13	Ac load L1	Power detection on AcLoad on L1.
14	Ac load L2	Power detection on AcLoad on L2.
15	Ac load L3	Power detection on AcLoad on L3.

List of items of Enum 4 (PresetErrorsWarnings)

Value	Label	Description
0	Trig on all conditions	Activation triggered by all conditions.
1	Trig on warnings	Activation triggered by warnings.
2	Trig on errors restarting	Activation triggered by errors restarting.

Value	Label	Description
4	Trig on errors halted	Activation triggered by errors halted.

List of items of Enum 5 (RelayState)

Value	Label	Description
0	Safe state opened	Actual position of relay: safe state on.
1	Safe state closed	Actual position of relay: safe state off.
2	Rel. man. opened	Actual position of relay: Manually opened.
3	Rel. man. closed	Actual position of relay: Manually closed.
4	Rel. auto. opened	Actual position of relay: Automatically opened.
5	Rel. auto. closed	Actual position of relay: Automatically closed.

List of items of Enum 6 (Errors)

Value	Label	Description
0	No error	No error.
1	No hysteresis	Different trigger values are required in order to have an hysteresis.
2	Property access error	Failed to access to the required property.
3	Undefined error	Undefined error.

List of items of Enum 8 (BatChargeState)

Value	Label	Description
0	None	Battery charging state: no charging state selected.
1	Bulk	Battery charging state: bulk.
2	Reduced floating	Battery charging state: reduced floating.
4	Floating	Battery charging state: floating.
8	Periodical absorption	Battery charging state: periodical absorption.
16	Absorption	Battery charging state: absorption.
32	Equalization	Battery charging state: equalization.

Relay Auxiliary 2

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.28.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8400	1	ViewOnly	0	Is connected	false		-	Shows the relay current state.	bool	R	-
8401	2	ViewOnly	1	Position	SafeStateOff		-	Current position.	enum	R	5
8403	2	ViewOnly	2	Errors	NoErrors		-	Relay aux list of errors.	enum	R	6
8407	2	Basic	4	Operating mode	ManualOff		-	Selection of controlled relay operating mode.	enum	R/W	0
8409	2	Basic	5	Auto mode selection	PresetBatVolt		-	Selection of the automatic configuration.	enum	R/W	1
8411	2	Basic	6	Safe state selection	SafeOff		-	Selection of the controlled relay safe state position in case of problem or undetermined condition.	enum	R/W	2
8413	2	Basic	7	Bat. volt. act. thresh. voltage	42	V	[32,70]	Pre-set battery voltage activation threshold voltage.	float	R/W	-
8415	2	Basic	8	Bat. volt. deact. thresh. volt.	52	V	[32,70]	Pre-set battery voltage deactivation threshold voltage.	float	R/W	-
8417	2	Basic	9	Bat. SOC act. thresh. SOC	10	%	[0,100]	Pre-set battery SOC activation threshold SOC.	uint	R/W	-
8419	2	Basic	10	Bat. SOC deact. thresh. SOC	90	%	[0,100]	Pre-set battery SOC deactivation threshold SOC.	uint	R/W	-
8421	2	Basic	11	Bat. temp. act. thresh. temp.	50	°C	[0,150]	Pre-set battery temperature activation threshold temperature.	uint	R/W	-
8423	2	Basic	12	Bat. temp. deact. thresh. temp.	30	°C	[0,150]	Pre-set battery temperature deactivation threshold temperature.	uint	R/W	-
8425	2	Basic	13	Bat. charg. state states select.	None		-	Pre-set battery charging state selection of the triggering states. Multiple choice possible.	bitfield	R/W	8
8427	2	Basic	14	Power ac power selection	AcSourceAll		-	Pre-set power ac selection of the source/load active power for comparison.	enum	R/W	3
8429	2	Basic	15	Power ac activ. thresh. power	1000	W	[-200000,200000]	Pre-set power ac activation threshold power.	float	R/W	-
8431	2	Basic	16	Power ac deact. thresh. power	0	W	[-200000,200000]	Pre-set power ac deactivation threshold power.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8433	2	Basic	17	Sol. exc. on-grid act. thresh. power	1000	W	-	Pre-set solar excess on-grid activation threshold power.	float	R/W	-
8435	2	Basic	18	Sol. exc. on-grid deact. thresh. power	500	W	-	Pre-set solar excess on-grid deactivation threshold power.	float	R/W	-
8437	2	Basic	19	Sol. exc. off-grid act. thresh. power	1000	W	-	Pre-set solar excess off-grid activation threshold power.	float	R/W	-
8439	2	Basic	20	Sol. exc. off-grid deact. thresh. power	500	W	-	Pre-set solar excess off-grid deactivation threshold power.	float	R/W	-
8441	2	Basic	21	Cmd entry select index	0		[0,10]	Index of the command entry interface used to control the relay.	uint	R/W	-
8443	2	Basic	22	Errors and warnings select signal	TrigOnErrorsHalted		-	Pre-set errors and warnings selection of the triggering signal.	bitfield	R/W	4

List of items of Enum 0 (OperatingMode)

Value	Label	Description
0	Manual Off	Relay is permanently deactivated (position NC).
1	Manual On	Relay is permanently activated (position NO).
2	Auto	Relay is activated according to a preset conditional mode.

List of items of Enum 1 (AutoMode)

Value	Label	Description
0	Battery voltage	Relay is activated when the battery voltage reaches the activation threshold voltage. Relay is deactivated when the battery voltage reaches deactivation threshold voltage.
1	Battery SOC	Relay is activated when the battery SOC (state of charge) reaches the activation threshold SOC. Relay is deactivated when the SOC voltage reaches deactivation threshold SOC.
2	Battery temperature	Relay is activated when the battery temperature reaches the activation threshold temperature. Relay is deactivated when the battery temperature reaches deactivation threshold temperature.
3	Battery charg. state	Relay is activated depending on battery charging state.
4	Power AC	Relay is activated when the active power AC reaches the activation threshold power. Relay is deactivated when the power AC reaches the deactivation threshold power. The power used for this comparison can be selected between AcSource, AcFlexSource or AcLoad.
5	On-grid	Relay is activated when the device is operating in on-grid mode (Source or FlexSource).
6	Solar excess on-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC Source, the transfer is connected to the AC source (on-grid). Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is off-grid.

Value	Label	Description
7	Solar excess off-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC load, the transfer is disconnected to the AC source (off-grid), the battery is in floating state of charge. Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is on-grid, the battery is no more in floating state.
8	Schedule time	Relay is activated during a daily time frame.
9	Cmd entry	Relay is activated depending on command entry state. It is possible to combine the 2 command entries using boolean logic.
10	Errors and warnings	Relay is activated using the device errors and/or the warnings.
11	Ext bypass	Relay is activated when all phases of the inverter are connected to AC-Load and working. The purpose of this function is for example to enable an external bypass.

List of items of Enum 2 (SafeState)

Value	Label	Description
0	Safe Off	Relay is deactivated in case of undetermined condition or problem.
1	Safe On	Relay is activated in case of undetermined condition or problem.
2	Last manual	Relay takes the state of the last manual operation in case of undetermined condition or problem.

List of items of Enum 3 (PresetPacSelection)

Value	Label	Description
0	Ac source all	Power detection on AcSource. Total active power on all phases.
1	Ac source L1	Power detection on AcSource L1.
2	Ac source L2	Power detection on AcSource L2.
3	Ac source L3	Power detection on AcSource L3.
4	Ac flex source all	Power detection on AcFlex configured as source. Total active power on all phases.
5	Ac flex source L1	Power detection on AcFlex configured as source on L1.
6	Ac flex source L2	Power detection on AcFlex configured as source on L2.
7	Ac flex source L3	Power detection on AcFlex configured as source on L3.
8	Ac flex load all	Power detection on AcFlex configured as Load. Total active power on all phases.
9	Ac flex load L1	Power detection on AcFlex configured as Load on L1.
10	Ac flex load L2	Power detection on AcFlex configured as Load on L2.
11	Ac flex load L3	Power detection on AcFlex configured as Load on L3.
12	Ac load all	Power detection on AcLoad. Total active power on all phases.
13	Ac load L1	Power detection on AcLoad on L1.
14	Ac load L2	Power detection on AcLoad on L2.
15	Ac load L3	Power detection on AcLoad on L3.

List of items of Enum 4 (PresetErrorsWarnings)

Value	Label	Description
0	Trig on all conditions	Activation triggered by all conditions.
1	Trig on warnings	Activation triggered by warnings.
2	Trig on errors restarting	Activation triggered by errors restarting.

Value	Label	Description
4	Trig on errors halted	Activation triggered by errors halted.

List of items of Enum 5 (RelayState)

Value	Label	Description
0	Safe state opened	Actual position of relay: safe state on.
1	Safe state closed	Actual position of relay: safe state off.
2	Rel. man. opened	Actual position of relay: Manually opened.
3	Rel. man. closed	Actual position of relay: Manually closed.
4	Rel. auto. opened	Actual position of relay: Automatically opened.
5	Rel. auto. closed	Actual position of relay: Automatically closed.

List of items of Enum 6 (Errors)

Value	Label	Description
0	No error	No error.
1	No hysteresis	Different trigger values are required in order to have an hysteresis.
2	Property access error	Failed to access to the required property.
3	Undefined error	Undefined error.

List of items of Enum 8 (BatChargeState)

Value	Label	Description
0	None	Battery charging state: no charging state selected.
1	Bulk	Battery charging state: bulk.
2	Reduced floating	Battery charging state: reduced floating.
4	Floating	Battery charging state: floating.
8	Periodical absorption	Battery charging state: periodical absorption.
16	Absorption	Battery charging state: absorption.
32	Equalization	Battery charging state: equalization.

Relay Aux1 Time Control

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.29.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8700	2	Expert	0	Time controlled mode	Bypass		-	Time Controlled object working mode.	enum	R	0
8702	2	Basic	1	Temp restr. act. min delay	0	s	-	Temporal restriction minimum delay before activation. The signal must be high during all this period.	uint	R/W	-
8704	2	Basic	2	Temp restr. deact. min delay	0	s	-	Temporal restriction minimum delay before deactivation. The signal must be low during all this period.	uint	R/W	-
8706	2	Basic	3	Temp restr. act. min time	0	s	-	Temporal restriction output signal minimum activation time.	uint	R/W	-
8708	2	Basic	4	Temp restr. deact. min time	0	s	-	Temporal restriction output signal minimum deactivation time.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8710	2	Basic	5	Temp restr. act. max time	-1	s	-	Temporal restriction output signal maximum activation time.	int	R/W	-
8712	2	Basic	6	Temp restr. act. allowed hour1	43200	s	[0,86399]	Temporal restriction daily time range hour 1. Given in seconds from midnight.	uint	R/W	-
8714	2	Basic	7	Temp restr. act. allowed hour2	43200	s	[0,86399]	Temporal restriction daily time range hour 2. Given in seconds from midnight.	uint	R/W	-
8716	2	Basic	8	Temp restr. act. allowed week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Temporal restriction allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
8718	2	Basic	9	Sch. time starting date	18250	days	-	Schedule time starting date. Given in days since 01.01.1970.	uint	R/W	-
8720	2	Basic	10	Sch. time starting time	43200	s	[0,86399]	Schedule time activation starting hour. Given in seconds from midnight.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8722	2	Basic	11	Sch. time ending time	43200	s	[0,86399]	Schedule time activation ending hour. Given in seconds from midnight.	uint	R/W	-
8724	2	Basic	12	Sch. time selected week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Schedule time allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
8726	2	Basic	13	Sch. time recurrence weeks	1		-	Schedule time activation weeks recurrences.	uint	R/W	-
8728	2	Basic	14	Range of recurrence selection	NoEndDate		-	Schedule time selection of recurrence before deactivation.	enum	R/W	1
8730	2	Basic	15	Sch. time ending date	18251	days	-	Schedule time activations ending date. Given in days since 01.01.1970.	uint	R/W	-
8732	2	Basic	16	Sch. time nbr of occurrences	1		-	Schedule time number of occurrences.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8734	1	Basic	17	Reset time controlled	-		-	Reset all time controlled counters. For exampe the occurences counts.	signal	W	-

List of items of Enum 0 (TimeControlledMode)

Value	Label	Description
0	Bypass	The time controlled block is bypassed. No time restriction is applied to the input signal.
1	Temporal restriction	Temporal restriction is applied to the input signal.
2	Schedule time	The output is enabled and disabled according to scheduled conditions.

List of items of Enum 1 (RangeOfRecurrence)

Value	Label	Description
0	No end date	The scheduled activation-desactivation is indefinitely repeated.
1	End after occurrence	The scheduled activation-desactivation is repeated a given number of times "Sch. time nbr of occurrences" (id 16).
2	End date	The scheduled activation-desactivation is repeated until a given date "Sch. time ending date" (id 15).

List of items of Enum 2 (WeekDays)

Value	Label	Description
64	Monday	The day is Monday.
32	Tuesday	The day is Tuesday.
16	Wednesday	The day is Wednesday.
8	Thursday	The day is Thursday.
4	Friday	The day is Friday.
2	Saturday	The day is Saturday.
1	Sunday	The day is Sunday.

Relay Aux2 Time Control

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.30.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
9000	2	Expert	0	Time controlled mode	Bypass		-	Time Controlled object working mode.	enum	R	0
9002	2	Basic	1	Temp restr. act. min delay	0	s	-	Temporal restriction minimum delay before activation. The signal must be high during all this period.	uint	R/W	-
9004	2	Basic	2	Temp restr. deact. min delay	0	s	-	Temporal restriction minimum delay before deactivation. The signal must be low during all this period.	uint	R/W	-
9006	2	Basic	3	Temp restr. act. min time	0	s	-	Temporal restriction output signal minimum activation time.	uint	R/W	-
9008	2	Basic	4	Temp restr. deact. min time	0	s	-	Temporal restriction output signal minimum deactivation time.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
9010	2	Basic	5	Temp restr. act. max time	-1	s	-	Temporal restriction output signal maximum activation time.	int	R/W	-
9012	2	Basic	6	Temp restr. act. allowed hour1	43200	s	[0,86399]	Temporal restriction daily time range hour 1. Given in seconds from midnight.	uint	R/W	-
9014	2	Basic	7	Temp restr. act. allowed hour2	43200	s	[0,86399]	Temporal restriction daily time range hour 2. Given in seconds from midnight.	uint	R/W	-
9016	2	Basic	8	Temp restr. act. allowed week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Temporal restriction allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
9018	2	Basic	9	Sch. time starting date	18250	days	-	Schedule time starting date. Given in days since 01.01.1970.	uint	R/W	-
9020	2	Basic	10	Sch. time starting time	43200	s	[0,86399]	Schedule time activation starting hour. Given in seconds from midnight.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
9022	2	Basic	11	Sch. time ending time	43200	s	[0,86399]	Schedule time activation ending hour. Given in seconds from midnight.	uint	R/W	-
9024	2	Basic	12	Sch. time selected week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Schedule time allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
9026	2	Basic	13	Sch. time recurrence weeks	1		-	Schedule time activation weeks recurrences.	uint	R/W	-
9028	2	Basic	14	Range of recurrence selection	NoEndDate		-	Schedule time selection of recurrence before deactivation.	enum	R/W	1
9030	2	Basic	15	Sch. time ending date	18251	days	-	Schedule time activations ending date. Given in days since 01.01.1970.	uint	R/W	-
9032	2	Basic	16	Sch. time nbr of occurrences	1		-	Schedule time number of occurrences.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
9034	1	Basic	17	Reset time controlled	-		-	Reset all time controlled counters. For exampe the occurences counts.	signal	W	-

List of items of Enum 0 (TimeControlledMode)

Value	Label	Description
0	Bypass	The time controlled block is bypassed. No time restriction is applied to the input signal.
1	Temporal restriction	Temporal restriction is applied to the input signal.
2	Schedule time	The output is enabled and disabled according to scheduled conditions.

List of items of Enum 1 (RangeOfRecurrence)

Value	Label	Description
0	No end date	The scheduled activation-desactivation is indefinitely repeated.
1	End after occurrence	The scheduled activation-desactivation is repeated a given number of times "Sch. time nbr of occurrences" (id 16).
2	End date	The scheduled activation-desactivation is repeated until a given date "Sch. time ending date" (id 15).

List of items of Enum 2 (WeekDays)

Value	Label	Description
64	Monday	The day is Monday.
32	Tuesday	The day is Tuesday.
16	Wednesday	The day is Wednesday.
8	Thursday	The day is Thursday.
4	Friday	The day is Friday.
2	Saturday	The day is Saturday.
1	Sunday	The day is Sunday.

Cmd Entry 1

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.31.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
9300	1	Basic	0	Inverted entry	false		-	Command entry signal has inverted logic.	bool	R/W	-
9301	1	Basic	1	Enable +12V	true		-	Enables 12V power supply for command entry use.	bool	R/W	-
9302	1	ViewOnly	2	Current state	false		-	Current command entry state.	bool	R	-
9303	2	ViewOnly	3	Cmd entry system index	-1		-	Index in the system of this command entry.	int	R	-

Cmd Entry 2

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.32.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
9600	1	Basic	0	Inverted entry	false		-	Command entry signal has inverted logic.	bool	R/W	-
9601	1	Basic	1	Enable +12V	true		-	Enables 12V power supply for command entry use.	bool	R/W	-
9602	1	ViewOnly	2	Current state	false		-	Current command entry state.	bool	R	-
9603	2	ViewOnly	3	Cmd entry system index	-1		-	Index in the system of this command entry.	int	R	-

Battery contributor

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.33.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
9900	2	ViewOnly	0	Charging current	0	A	-	Charging current measured.	float	R	-
9902	2	ViewOnly	1	Temp sensor	Disconnected		-	Indicates the temperature sensor state.	enum	R	0
9904	2	ViewOnly	2	Temp	-30	°C	-	Temperature measured.	float	R	-
9910	2	ViewOnly	5	Voltage	0	V	-	Voltage measured.	float	R	-

List of items of Enum 0 (State)

Value	Label	Description
0	Disconnected	The temperature sensor is disconnected.
1	Connected	The temperature sensor is connected.
2	ShortCircuit	The temperature sensor has a problem. A short circuit has been detected.

RS-485 iso communication bus

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.34.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
10202	1	Expert	1	Bus termination status	false		-	Bus termination status for this communication bus.	bool	R	-
10203	2	Expert	2	Baudrate	Baudrate9600bps		-	Connection baudrate.	enum	R/W	1
10205	2	Expert	3	Parity	ParityEven		-	Parity type to be used.	enum	R/W	2
10207	2	Expert	4	Stop bits	StopBitsOne		-	Number of stop bits per transmitted character.	enum	R/W	3
10209	2	Expert	5	Data bits	DataBitsData8		-	Number of data bits per transmitted character.	enum	R/W	4

List of items of Enum 1 (BaudrateType)

Value	Label	Description
9600	9600bps	Baudrate set to 9600bps.
19200	19200bps	Baudrate set to 19200bps.
38400	38400bps	Baudrate set to 38400bps.
115200	115200bps	Baudrate set to 115200bps.

List of items of Enum 2 (ParityType)

Value	Label	Description
0	None	No parity.
2	Even	Parity even.
3	Odd	Parity odd.
4	Space	Parity space.
5	Mark	Parity mark.

List of items of Enum 3 (StopBitsType)

Value	Label	Description
1	One	One stop bit.
2	Two	Two stop bits.
3	One and a half	One and half stop bit.

List of items of Enum 4 (DataBitsType)

Value	Label	Description

Value	Label	Description
5	Five	Five data bits.
6	Six	Six data bits.
7	Seven	Seven data bits.
8	Eight	Eight data bits.

CAN iso communication bus

Group : Next3
Modbus device address : 14 to 28
*External ID : 10.x.35.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
10502	1	Expert	1	Bus termination status	false		-	Bus termination status for this communication bus.	bool	R	-
10503	2	Expert	2	Baudrate	Baudrate9600bps		-	Connection baudrate.	enum	R/W	1
10505	2	Expert	3	Parity	ParityEven		-	Parity type to be used.	enum	R/W	2
10507	2	Expert	4	Stop bits	StopBitsOne		-	Number of stop bits per transmitted character.	enum	R/W	3
10509	2	Expert	5	Data bits	DataBitsData8		-	Number of data bits per transmitted character.	enum	R/W	4

List of items of Enum 1 (BaudrateType)

Value	Label	Description
9600	9600bps	Baudrate set to 9600bps.
19200	19200bps	Baudrate set to 19200bps.
38400	38400bps	Baudrate set to 38400bps.
115200	115200bps	Baudrate set to 115200bps.

List of items of Enum 2 (ParityType)

Value	Label	Description
0	None	No parity.
2	Even	Parity even.
3	Odd	Parity odd.
4	Space	Parity space.
5	Mark	Parity mark.

List of items of Enum 3 (StopBitsType)

Value	Label	Description
1	One	One stop bit.
2	Two	Two stop bits.
3	One and a half	One and half stop bit.

List of items of Enum 4 (DataBitsType)

Value	Label	Description

Value	Label	Description
5	Five	Five data bits.
6	Six	Six data bits.
7	Seven	Seven data bits.
8	Eight	Eight data bits.

ID card

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.1.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4	8	Expert	2	Serial Number	"Invalid"		-	Serial Number of this Studer Innotec device.	char[15]	R	-
14	2	Expert	4	Software package version	0		-	Software package version in this format : MAJOR.MIDDLE.MINOR.PATCH, encoded as follows from MSB to LSB : MAJOR (8 bits), MIDDLE (8bits), MINOR (12 bits), PATCH (4 bits).	uint	R	-
30	2	Expert	8	ObjectModel version	0		-	Version of the currently used ObjectModel in this format : MAJOR.MINOR, encoded as follows from MSB to LSB : MAJOR (16 bits), MINOR (16 bits).	uint	R	-

CAN node

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.4.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
902	2	Expert	1	Status	ErrorActive		-	Stores the node status.	enum	R	0
904	2	Expert	2	Tx error counter	0		-	Counter of the TX errors.	int	R	-
906	2	Expert	3	Rx error counter	0		-	Counter of the RX errors.	int	R	-
908	1	Expert	4	Bus termination status	false		-	Bus termination status for this node.	bool	R	-

List of items of Enum 0 (NodeStatus)

Value	Label	Description
0	Error active	The node is in error active state.
1	Error passive	The node is in error passive state.
2	Bus off	The node is in bus off state.

Device

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.7.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1800	1	Basic	0	Blink	false		-	If set, the device LEDs will blink.	bool	R/W	-
1805	2	ViewOnly	3	Total functioning time	0	s	-	Total functioning time in this device's life.	uint	R	-

Next1

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.10.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2700	2	ViewOnly	0	Status	NoWarningsOrErrors		-	Enum containing the status.	enum	R	1
2702	2	ViewOnly	1	Errors	NoErrors		-	Bitfield containing the errors.	bitfield	R	0

List of items of Enum 0 (Errors)

Value	Label	Description
0	No errors	No errors.
1	Fans failure	Fans failure. The power should be limited to protect against overheating.
2	Internal temperature sensor failure	Internal temperature sensor failure. The device must be serviced. The power is limited to protect against overheating.
4	Abnormal voltage detected on acLoad port	A voltage has been detected on AcLoad port before starting inverter. Check that no power source is connectect on AcLoad port.
8	AcLoad port broken connexion	The AcLoad port of this device is disconnected.
16	Battery port broken connexion	The battery port of this device is disconnected.
32	Inverter overcurrent	Over current of the inverter. The device was halted for self-protection.
64	Inverter failure	Abnormal operation of inverter. The device was halted for self-protection.
128	Internal power supply failure	Failure of the internal power supply. The device was halted for self-protection.
256	Internal power supply overvoltage	Over-voltage on the internal power supply. The device was halted for self-protection.
512	Internal power supply undervoltage	Under-voltage on the internal power supply. The device was halted for self-protection.
1024	Battery overvoltage	Over-voltage on the battery port. The device was halted for self-protection.
2048	Battery undervoltage	Under-voltage on the battery port. The device was halted for self-protection.
4096	Communication error	Too many communication errors on studer system bus. The device was halted for self-protection.
8192	Battery temperature sensor in short circuit	The battery temperature sensor is defective.
16384	battery fault	A battery fault prevents normal operation. Please see warning(s)/error(s) of the corresponding battery for more informations.

List of items of Enum 1 (Status)

Value	Label	Description
0	No warning(s) or error(s)	No warning(s) or error(s).
1	In warning	The device is in warning.
2	In error restarting	The device is temporarily maintained in error and will restart automatically once the error(s) leaved.
3	In error halted	The device is maintained in error until either the clear error button on the remote control is pressed, the device front panel button is pressed shortly or a signal is sent via the property "Clear errors" (id 0).

Relay Auxiliary 1

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.11.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3000	1	ViewOnly	0	Is connected	false		-	Shows the relay current state.	bool	R	-
3001	2	ViewOnly	1	Position	SafeStateOff		-	Current position.	enum	R	5
3003	2	ViewOnly	2	Errors	NoErrors		-	Relay aux list of errors.	enum	R	6
3007	2	Basic	4	Operating mode	ManualOff		-	Selection of controlled relay operating mode.	enum	R/W	0
3009	2	Basic	5	Auto mode selection	PresetBatVolt		-	Selection of the automatic configuration.	enum	R/W	1
3011	2	Basic	6	Safe state selection	SafeOff		-	Selection of the controlled relay safe state position in case of problem or undetermined condition.	enum	R/W	2
3013	2	Basic	7	Bat. volt. act. thresh. voltage	42	V	[32,70]	Pre-set battery voltage activation threshold voltage.	float	R/W	-
3015	2	Basic	8	Bat. volt. deact. thresh. volt.	52	V	[32,70]	Pre-set battery voltage deactivation threshold voltage.	float	R/W	-
3017	2	Basic	9	Bat. SOC act. thresh. SOC	10	%	[0,100]	Pre-set battery SOC activation threshold SOC.	uint	R/W	-
3019	2	Basic	10	Bat. SOC deact. thresh. SOC	90	%	[0,100]	Pre-set battery SOC deactivation threshold SOC.	uint	R/W	-
3021	2	Basic	11	Bat. temp. act. thresh. temp.	50	°C	[0,150]	Pre-set battery temperature activation threshold temperature.	uint	R/W	-
3023	2	Basic	12	Bat. temp. deact. thresh. temp.	30	°C	[0,150]	Pre-set battery temperature deactivation threshold temperature.	uint	R/W	-
3025	2	Basic	13	Bat. charg. state states select.	None		-	Pre-set battery charging state selection of the triggering states. Multiple choice possible.	bitfield	R/W	8
3027	2	Basic	14	Power ac power selection	AcSourceAll		-	Pre-set power ac selection of the source/load active power for comparison.	enum	R/W	3
3029	2	Basic	15	Power ac activ. thresh. power	1000	W	[-200000,200000]	Pre-set power ac activation threshold power.	float	R/W	-
3031	2	Basic	16	Power ac deact. thresh. power	0	W	[-200000,200000]	Pre-set power ac deactivation threshold power.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3033	2	Basic	17	Sol. exc. on-grid act. thresh. power	1000	W	-	Pre-set solar excess on-grid activation threshold power.	float	R/W	-
3035	2	Basic	18	Sol. exc. on-grid deact. thresh. power	500	W	-	Pre-set solar excess on-grid deactivation threshold power.	float	R/W	-
3037	2	Basic	19	Sol. exc. off-grid act. thresh. power	1000	W	-	Pre-set solar excess off-grid activation threshold power.	float	R/W	-
3039	2	Basic	20	Sol. exc. off-grid deact. thresh. power	500	W	-	Pre-set solar excess off-grid deactivation threshold power.	float	R/W	-
3041	2	Basic	21	Cmd entry select index	0		[0,10]	Index of the command entry interface used to control the relay.	uint	R/W	-
3043	2	Basic	22	Errors and warnings select signal	TrigOnErrorsHalted		-	Pre-set errors and warnings selection of the triggering signal.	bitfield	R/W	4

List of items of Enum 0 (OperatingMode)

Value	Label	Description
0	Manual Off	Relay is permanently deactivated (position NC).
1	Manual On	Relay is permanently activated (position NO).
2	Auto	Relay is activated according to a preset conditional mode.

List of items of Enum 1 (AutoMode)

Value	Label	Description
0	Battery voltage	Relay is activated when the battery voltage reaches the activation threshold voltage. Relay is deactivated when the battery voltage reaches deactivation threshold voltage.
1	Battery SOC	Relay is activated when the battery SOC (state of charge) reaches the activation threshold SOC. Relay is deactivated when the SOC voltage reaches deactivation threshold SOC.
2	Battery temperature	Relay is activated when the battery temperature reaches the activation threshold temperature. Relay is deactivated when the battery temperature reaches deactivation threshold temperature.
3	Battery charg. state	Relay is activated depending on battery charging state.
4	Power AC	Relay is activated when the active power AC reaches the activation threshold power. Relay is deactivated when the power AC reaches the deactivation threshold power. The power used for this comparison can be selected between AcSource, AcFlexSource or AcLoad.
5	On-grid	Relay is activated when the device is operating in on-grid mode (Source or FlexSource).
6	Solar excess on-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC Source, the transfer is connected to the AC source (on-grid). Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is off-grid.

Value	Label	Description
7	Solar excess off-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC load, the transfer is disconnected to the AC source (off-grid), the battery is in floating state of charge. Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is on-grid, the battery is no more in floating state.
8	Schedule time	Relay is activated during a daily time frame.
9	Cmd entry	Relay is activated depending on command entry state. It is possible to combine the 2 command entries using boolean logic.
10	Errors and warnings	Relay is activated using the device errors and/or the warnings.
11	Ext bypass	Relay is activated when all phases of the inverter are connected to AC-Load and working. The purpose of this function is for example to enable an external bypass.

List of items of Enum 2 (SafeState)

Value	Label	Description
0	Safe Off	Relay is deactivated in case of undetermined condition or problem.
1	Safe On	Relay is activated in case of undetermined condition or problem.
2	Last manual	Relay takes the state of the last manual operation in case of undetermined condition or problem.

List of items of Enum 3 (PresetPacSelection)

Value	Label	Description
0	Ac source all	Power detection on AcSource. Total active power on all phases.
1	Ac source L1	Power detection on AcSource L1.
2	Ac source L2	Power detection on AcSource L2.
3	Ac source L3	Power detection on AcSource L3.
4	Ac flex source all	Power detection on AcFlex configured as source. Total active power on all phases.
5	Ac flex source L1	Power detection on AcFlex configured as source on L1.
6	Ac flex source L2	Power detection on AcFlex configured as source on L2.
7	Ac flex source L3	Power detection on AcFlex configured as source on L3.
8	Ac flex load all	Power detection on AcFlex configured as Load. Total active power on all phases.
9	Ac flex load L1	Power detection on AcFlex configured as Load on L1.
10	Ac flex load L2	Power detection on AcFlex configured as Load on L2.
11	Ac flex load L3	Power detection on AcFlex configured as Load on L3.
12	Ac load all	Power detection on AcLoad. Total active power on all phases.
13	Ac load L1	Power detection on AcLoad on L1.
14	Ac load L2	Power detection on AcLoad on L2.
15	Ac load L3	Power detection on AcLoad on L3.

List of items of Enum 4 (PresetErrorsWarnings)

Value	Label	Description
0	Trig on all conditions	Activation triggered by all conditions.
1	Trig on warnings	Activation triggered by warnings.
2	Trig on errors restarting	Activation triggered by errors restarting.

Value	Label	Description
4	Trig on errors halted	Activation triggered by errors halted.

List of items of Enum 5 (RelayState)

Value	Label	Description
0	Safe state opened	Actual position of relay: safe state on.
1	Safe state closed	Actual position of relay: safe state off.
2	Rel. man. opened	Actual position of relay: Manually opened.
3	Rel. man. closed	Actual position of relay: Manually closed.
4	Rel. auto. opened	Actual position of relay: Automatically opened.
5	Rel. auto. closed	Actual position of relay: Automatically closed.

List of items of Enum 6 (Errors)

Value	Label	Description
0	No error	No error.
1	No hysteresis	Different trigger values are required in order to have an hysteresis.
2	Property access error	Failed to access to the required property.
3	Undefined error	Undefined error.

List of items of Enum 8 (BatChargeState)

Value	Label	Description
0	None	Battery charging state: no charging state selected.
1	Bulk	Battery charging state: bulk.
2	Reduced floating	Battery charging state: reduced floating.
4	Floating	Battery charging state: floating.
8	Periodical absorption	Battery charging state: periodical absorption.
16	Absorption	Battery charging state: absorption.
32	Equalization	Battery charging state: equalization.

Relay Auxiliary 2

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.12.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3300	1	ViewOnly	0	Is connected	false		-	Shows the relay current state.	bool	R	-
3301	2	ViewOnly	1	Position	SafeStateOff		-	Current position.	enum	R	5
3303	2	ViewOnly	2	Errors	NoErrors		-	Relay aux list of errors.	enum	R	6
3307	2	Basic	4	Operating mode	ManualOff		-	Selection of controlled relay operating mode.	enum	R/W	0
3309	2	Basic	5	Auto mode selection	PresetBatVolt		-	Selection of the automatic configuration.	enum	R/W	1
3311	2	Basic	6	Safe state selection	SafeOff		-	Selection of the controlled relay safe state position in case of problem or undetermined condition.	enum	R/W	2
3313	2	Basic	7	Bat. volt. act. thresh. voltage	42	V	[32,70]	Pre-set battery voltage activation threshold voltage.	float	R/W	-
3315	2	Basic	8	Bat. volt. deact. thresh. volt.	52	V	[32,70]	Pre-set battery voltage deactivation threshold voltage.	float	R/W	-
3317	2	Basic	9	Bat. SOC act. thresh. SOC	10	%	[0,100]	Pre-set battery SOC activation threshold SOC.	uint	R/W	-
3319	2	Basic	10	Bat. SOC deact. thresh. SOC	90	%	[0,100]	Pre-set battery SOC deactivation threshold SOC.	uint	R/W	-
3321	2	Basic	11	Bat. temp. act. thresh. temp.	50	°C	[0,150]	Pre-set battery temperature activation threshold temperature.	uint	R/W	-
3323	2	Basic	12	Bat. temp. deact. thresh. temp.	30	°C	[0,150]	Pre-set battery temperature deactivation threshold temperature.	uint	R/W	-
3325	2	Basic	13	Bat. charg. state states select.	None		-	Pre-set battery charging state selection of the triggering states. Multiple choice possible.	bitfield	R/W	8
3327	2	Basic	14	Power ac power selection	AcSourceAll		-	Pre-set power ac selection of the source/load active power for comparison.	enum	R/W	3
3329	2	Basic	15	Power ac activ. thresh. power	1000	W	[-200000,200000]	Pre-set power ac activation threshold power.	float	R/W	-
3331	2	Basic	16	Power ac deact. thresh. power	0	W	[-200000,200000]	Pre-set power ac deactivation threshold power.	float	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3333	2	Basic	17	Sol. exc. on-grid act. thresh. power	1000	W	-	Pre-set solar excess on-grid activation threshold power.	float	R/W	-
3335	2	Basic	18	Sol. exc. on-grid deact. thresh. power	500	W	-	Pre-set solar excess on-grid deactivation threshold power.	float	R/W	-
3337	2	Basic	19	Sol. exc. off-grid act. thresh. power	1000	W	-	Pre-set solar excess off-grid activation threshold power.	float	R/W	-
3339	2	Basic	20	Sol. exc. off-grid deact. thresh. power	500	W	-	Pre-set solar excess off-grid deactivation threshold power.	float	R/W	-
3341	2	Basic	21	Cmd entry select index	0		[0,10]	Index of the command entry interface used to control the relay.	uint	R/W	-
3343	2	Basic	22	Errors and warnings select signal	TrigOnErrorsHalted		-	Pre-set errors and warnings selection of the triggering signal.	bitfield	R/W	4

List of items of Enum 0 (OperatingMode)

Value	Label	Description
0	Manual Off	Relay is permanently deactivated (position NC).
1	Manual On	Relay is permanently activated (position NO).
2	Auto	Relay is activated according to a preset conditional mode.

List of items of Enum 1 (AutoMode)

Value	Label	Description
0	Battery voltage	Relay is activated when the battery voltage reaches the activation threshold voltage. Relay is deactivated when the battery voltage reaches deactivation threshold voltage.
1	Battery SOC	Relay is activated when the battery SOC (state of charge) reaches the activation threshold SOC. Relay is deactivated when the SOC voltage reaches deactivation threshold SOC.
2	Battery temperature	Relay is activated when the battery temperature reaches the activation threshold temperature. Relay is deactivated when the battery temperature reaches deactivation threshold temperature.
3	Battery charg. state	Relay is activated depending on battery charging state.
4	Power AC	Relay is activated when the active power AC reaches the activation threshold power. Relay is deactivated when the power AC reaches the deactivation threshold power. The power used for this comparison can be selected between AcSource, AcFlexSource or AcLoad.
5	On-grid	Relay is activated when the device is operating in on-grid mode (Source or FlexSource).
6	Solar excess on-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC Source, the transfer is connected to the AC source (on-grid). Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is off-grid.

Value	Label	Description
7	Solar excess off-grid	Relay is activated with the following conditions: the activation threshold power is reached on AC load, the transfer is disconnected to the AC source (off-grid), the battery is in floating state of charge. Relay is disabled once one of the folowing condition is true: AC load power reaches the deactivation power threshold, the inverter is on-grid, the battery is no more in floating state.
8	Schedule time	Relay is activated during a daily time frame.
9	Cmd entry	Relay is activated depending on command entry state. It is possible to combine the 2 command entries using boolean logic.
10	Errors and warnings	Relay is activated using the device errors and/or the warnings.
11	Ext bypass	Relay is activated when all phases of the inverter are connected to AC-Load and working. The purpose of this function is for example to enable an external bypass.

List of items of Enum 2 (SafeState)

Value	Label	Description
0	Safe Off	Relay is deactivated in case of undetermined condition or problem.
1	Safe On	Relay is activated in case of undetermined condition or problem.
2	Last manual	Relay takes the state of the last manual operation in case of undetermined condition or problem.

List of items of Enum 3 (PresetPacSelection)

Value	Label	Description
0	Ac source all	Power detection on AcSource. Total active power on all phases.
1	Ac source L1	Power detection on AcSource L1.
2	Ac source L2	Power detection on AcSource L2.
3	Ac source L3	Power detection on AcSource L3.
4	Ac flex source all	Power detection on AcFlex configured as source. Total active power on all phases.
5	Ac flex source L1	Power detection on AcFlex configured as source on L1.
6	Ac flex source L2	Power detection on AcFlex configured as source on L2.
7	Ac flex source L3	Power detection on AcFlex configured as source on L3.
8	Ac flex load all	Power detection on AcFlex configured as Load. Total active power on all phases.
9	Ac flex load L1	Power detection on AcFlex configured as Load on L1.
10	Ac flex load L2	Power detection on AcFlex configured as Load on L2.
11	Ac flex load L3	Power detection on AcFlex configured as Load on L3.
12	Ac load all	Power detection on AcLoad. Total active power on all phases.
13	Ac load L1	Power detection on AcLoad on L1.
14	Ac load L2	Power detection on AcLoad on L2.
15	Ac load L3	Power detection on AcLoad on L3.

List of items of Enum 4 (PresetErrorsWarnings)

Value	Label	Description
0	Trig on all conditions	Activation triggered by all conditions.
1	Trig on warnings	Activation triggered by warnings.
2	Trig on errors restarting	Activation triggered by errors restarting.

Value	Label	Description
4	Trig on errors halted	Activation triggered by errors halted.

List of items of Enum 5 (RelayState)

Value	Label	Description
0	Safe state opened	Actual position of relay: safe state on.
1	Safe state closed	Actual position of relay: safe state off.
2	Rel. man. opened	Actual position of relay: Manually opened.
3	Rel. man. closed	Actual position of relay: Manually closed.
4	Rel. auto. opened	Actual position of relay: Automatically opened.
5	Rel. auto. closed	Actual position of relay: Automatically closed.

List of items of Enum 6 (Errors)

Value	Label	Description
0	No error	No error.
1	No hysteresis	Different trigger values are required in order to have an hysteresis.
2	Property access error	Failed to access to the required property.
3	Undefined error	Undefined error.

List of items of Enum 8 (BatChargeState)

Value	Label	Description
0	None	Battery charging state: no charging state selected.
1	Bulk	Battery charging state: bulk.
2	Reduced floating	Battery charging state: reduced floating.
4	Floating	Battery charging state: floating.
8	Periodical absorption	Battery charging state: periodical absorption.
16	Absorption	Battery charging state: absorption.
32	Equalization	Battery charging state: equalization.

Relay Aux1 Time Control

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.13.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3600	2	Expert	0	Time controlled mode	Bypass		-	Time Controlled object working mode.	enum	R	0
3602	2	Basic	1	Temp restr. act. min delay	0	s	-	Temporal restriction minimum delay before activation. The signal must be high during all this period.	uint	R/W	-
3604	2	Basic	2	Temp restr. deact. min delay	0	s	-	Temporal restriction minimum delay before deactivation. The signal must be low during all this period.	uint	R/W	-
3606	2	Basic	3	Temp restr. act. min time	0	s	-	Temporal restriction output signal minimum activation time.	uint	R/W	-
3608	2	Basic	4	Temp restr. deact. min time	0	s	-	Temporal restriction output signal minimum deactivation time.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3610	2	Basic	5	Temp restr. act. max time	-1	s	-	Temporal restriction output signal maximum activation time.	int	R/W	-
3612	2	Basic	6	Temp restr. act. allowed hour1	43200	s	[0,86399]	Temporal restriction daily time range hour 1. Given in seconds from midnight.	uint	R/W	-
3614	2	Basic	7	Temp restr. act. allowed hour2	43200	s	[0,86399]	Temporal restriction daily time range hour 2. Given in seconds from midnight.	uint	R/W	-
3616	2	Basic	8	Temp restr. act. allowed week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Temporal restriction allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
3618	2	Basic	9	Sch. time starting date	18250	days	-	Schedule time starting date. Given in days since 01.01.1970.	uint	R/W	-
3620	2	Basic	10	Sch. time starting time	43200	s	[0,86399]	Schedule time activation starting hour. Given in seconds from midnight.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3622	2	Basic	11	Sch. time ending time	43200	s	[0,86399]	Schedule time activation ending hour. Given in seconds from midnight.	uint	R/W	-
3624	2	Basic	12	Sch. time selected week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Schedule time allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
3626	2	Basic	13	Sch. time recurrence weeks	1		-	Schedule time activation weeks recurrences.	uint	R/W	-
3628	2	Basic	14	Range of recurrence selection	NoEndDate		-	Schedule time selection of recurrence before deactivation.	enum	R/W	1
3630	2	Basic	15	Sch. time ending date	18251	days	-	Schedule time activations ending date. Given in days since 01.01.1970.	uint	R/W	-
3632	2	Basic	16	Sch. time nbr of occurrences	1		-	Schedule time number of occurrences.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3634	1	Basic	17	Reset time controlled	-		-	Reset all time controlled counters. For exampe the occurences counts.	signal	W	-

List of items of Enum 0 (TimeControlledMode)

Value	Label	Description
0	Bypass	The time controlled block is bypassed. No time restriction is applied to the input signal.
1	Temporal restriction	Temporal restriction is applied to the input signal.
2	Schedule time	The output is enabled and disabled according to scheduled conditions.

List of items of Enum 1 (RangeOfRecurrence)

Value	Label	Description
0	No end date	The scheduled activation-desactivation is indefinitely repeated.
1	End after occurrence	The scheduled activation-desactivation is repeated a given number of times "Sch. time nbr of occurrences" (id 16).
2	End date	The scheduled activation-desactivation is repeated until a given date "Sch. time ending date" (id 15).

List of items of Enum 2 (WeekDays)

Value	Label	Description
64	Monday	The day is Monday.
32	Tuesday	The day is Tuesday.
16	Wednesday	The day is Wednesday.
8	Thursday	The day is Thursday.
4	Friday	The day is Friday.
2	Saturday	The day is Saturday.
1	Sunday	The day is Sunday.

Relay Aux2 Time Control

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.14.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3900	2	Expert	0	Time controlled mode	Bypass		-	Time Controlled object working mode.	enum	R	0
3902	2	Basic	1	Temp restr. act. min delay	0	s	-	Temporal restriction minimum delay before activation. The signal must be high during all this period.	uint	R/W	-
3904	2	Basic	2	Temp restr. deact. min delay	0	s	-	Temporal restriction minimum delay before deactivation. The signal must be low during all this period.	uint	R/W	-
3906	2	Basic	3	Temp restr. act. min time	0	s	-	Temporal restriction output signal minimum activation time.	uint	R/W	-
3908	2	Basic	4	Temp restr. deact. min time	0	s	-	Temporal restriction output signal minimum deactivation time.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3910	2	Basic	5	Temp restr. act. max time	-1	s	-	Temporal restriction output signal maximum activation time.	int	R/W	-
3912	2	Basic	6	Temp restr. act. allowed hour1	43200	s	[0,86399]	Temporal restriction daily time range hour 1. Given in seconds from midnight.	uint	R/W	-
3914	2	Basic	7	Temp restr. act. allowed hour2	43200	s	[0,86399]	Temporal restriction daily time range hour 2. Given in seconds from midnight.	uint	R/W	-
3916	2	Basic	8	Temp restr. act. allowed week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Temporal restriction allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
3918	2	Basic	9	Sch. time starting date	18250	days	-	Schedule time starting date. Given in days since 01.01.1970.	uint	R/W	-
3920	2	Basic	10	Sch. time starting time	43200	s	[0,86399]	Schedule time activation starting hour. Given in seconds from midnight.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3922	2	Basic	11	Sch. time ending time	43200	s	[0,86399]	Schedule time activation ending hour. Given in seconds from midnight.	uint	R/W	-
3924	2	Basic	12	Sch. time selected week day	Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday		-	Schedule time allowed week days. Given in a binary format such as each bits represents a day: (MSB) M T W T F S S (LSB).	bitfield	R/W	2
3926	2	Basic	13	Sch. time recurrence weeks	1		-	Schedule time activation weeks recurrences.	uint	R/W	-
3928	2	Basic	14	Range of recurrence selection	NoEndDate		-	Schedule time selection of recurrence before deactivation.	enum	R/W	1
3930	2	Basic	15	Sch. time ending date	18251	days	-	Schedule time activations ending date. Given in days since 01.01.1970.	uint	R/W	-
3932	2	Basic	16	Sch. time nbr of occurrences	1		-	Schedule time number of occurrences.	uint	R/W	-

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
3934	1	Basic	17	Reset time controlled	-		-	Reset all time controlled counters. For exampe the occurences counts.	signal	W	-

List of items of Enum 0 (TimeControlledMode)

Value	Label	Description
0	Bypass	The time controlled block is bypassed. No time restriction is applied to the input signal.
1	Temporal restriction	Temporal restriction is applied to the input signal.
2	Schedule time	The output is enabled and disabled according to scheduled conditions.

List of items of Enum 1 (RangeOfRecurrence)

Value	Label	Description
0	No end date	The scheduled activation-desactivation is indefinitely repeated.
1	End after occurrence	The scheduled activation-desactivation is repeated a given number of times "Sch. time nbr of occurrences" (id 16).
2	End date	The scheduled activation-desactivation is repeated until a given date "Sch. time ending date" (id 15).

List of items of Enum 2 (WeekDays)

Value	Label	Description
64	Monday	The day is Monday.
32	Tuesday	The day is Tuesday.
16	Wednesday	The day is Wednesday.
8	Thursday	The day is Thursday.
4	Friday	The day is Friday.
2	Saturday	The day is Saturday.
1	Sunday	The day is Sunday.

Cmd Entry 1

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.15.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4200	1	Basic	0	Inverted entry	false		-	Command entry signal has inverted logic.	bool	R/W	-
4201	1	Basic	1	Enable +12V	true		-	Enables 12V power supply for command entry use.	bool	R/W	-
4202	1	ViewOnly	2	Current state	false		-	Current command entry state.	bool	R	-
4203	2	ViewOnly	3	Cmd entry system index	-1		-	Index in the system of this command entry.	int	R	-

Cmd Entry 2

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.16.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4500	1	Basic	0	Inverted entry	false		-	Command entry signal has inverted logic.	bool	R/W	-
4501	1	Basic	1	Enable +12V	true		-	Enables 12V power supply for command entry use.	bool	R/W	-
4502	1	ViewOnly	2	Current state	false		-	Current command entry state.	bool	R	-
4503	2	ViewOnly	3	Cmd entry system index	-1		-	Index in the system of this command entry.	int	R	-

Battery contributor

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.17.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4800	2	ViewOnly	0	Charging current	0	A	-	Charging current measured.	float	R	-
4802	2	ViewOnly	1	Temp sensor	Disconnected		-	Indicates the temperature sensor state.	enum	R	0
4804	2	ViewOnly	2	Temp	-30	°C	-	Temperature measured.	float	R	-
4810	2	ViewOnly	5	Voltage	0	V	-	Voltage measured.	float	R	-

List of items of Enum 0 (State)

Value	Label	Description
0	Disconnected	The temperature sensor is disconnected.
1	Connected	The temperature sensor is connected.
2	ShortCircuit	The temperature sensor has a problem. A short circuit has been detected.

RS-485 iso communication bus

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.18.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5102	1	Expert	1	Bus termination status	false		-	Bus termination status for this communication bus.	bool	R	-
5103	2	Expert	2	Baudrate	Baudrate9600bps		-	Connection baudrate.	enum	R/W	1
5105	2	Expert	3	Parity	ParityEven		-	Parity type to be used.	enum	R/W	2
5107	2	Expert	4	Stop bits	StopBitsOne		-	Number of stop bits per transmitted character.	enum	R/W	3
5109	2	Expert	5	Data bits	DataBitsData8		-	Number of data bits per transmitted character.	enum	R/W	4

List of items of Enum 1 (BaudrateType)

Value	Label	Description
9600	9600bps	Baudrate set to 9600bps.
19200	19200bps	Baudrate set to 19200bps.
38400	38400bps	Baudrate set to 38400bps.
115200	115200bps	Baudrate set to 115200bps.

List of items of Enum 2 (ParityType)

Value	Label	Description
0	None	No parity.
2	Even	Parity even.
3	Odd	Parity odd.
4	Space	Parity space.
5	Mark	Parity mark.

List of items of Enum 3 (StopBitsType)

Value	Label	Description
1	One	One stop bit.
2	Two	Two stop bits.
3	One and a half	One and half stop bit.

List of items of Enum 4 (DataBitsType)

Value	Label	Description

Value	Label	Description
5	Five	Five data bits.
6	Six	Six data bits.
7	Seven	Seven data bits.
8	Eight	Eight data bits.

CAN iso communication bus

Group : Next1
Modbus device address : 29 to 58
*External ID : 11.x.19.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
5402	1	Expert	1	Bus termination status	false		-	Bus termination status for this communication bus.	bool	R	-
5403	2	Expert	2	Baudrate	Baudrate9600bps		-	Connection baudrate.	enum	R/W	1
5405	2	Expert	3	Parity	ParityEven		-	Parity type to be used.	enum	R/W	2
5407	2	Expert	4	Stop bits	StopBitsOne		-	Number of stop bits per transmitted character.	enum	R/W	3
5409	2	Expert	5	Data bits	DataBitsData8		-	Number of data bits per transmitted character.	enum	R/W	4

List of items of Enum 1 (BaudrateType)

Value	Label	Description
9600	9600bps	Baudrate set to 9600bps.
19200	19200bps	Baudrate set to 19200bps.
38400	38400bps	Baudrate set to 38400bps.
115200	115200bps	Baudrate set to 115200bps.

List of items of Enum 2 (ParityType)

Value	Label	Description
0	None	No parity.
2	Even	Parity even.
3	Odd	Parity odd.
4	Space	Parity space.
5	Mark	Parity mark.

List of items of Enum 3 (StopBitsType)

Value	Label	Description
1	One	One stop bit.
2	Two	Two stop bits.
3	One and a half	One and half stop bit.

List of items of Enum 4 (DataBitsType)

Value	Label	Description

Value	Label	Description
5	Five	Five data bits.
6	Six	Six data bits.
7	Seven	Seven data bits.
8	Eight	Eight data bits.

ID card

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.1.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4	8	Expert	2	Serial Number	"Invalid"		-	Serial Number of this Studer Innotec device.	char[15]	R	-
14	2	Expert	4	Software package version	0		-	Software package version in this format : MAJOR.MIDDLE.MINOR.PATCH, encoded as follows from MSB to LSB : MAJOR (8 bits), MIDDLE (8bits), MINOR (12 bits), PATCH (4 bits).	uint	R	-
30	2	Expert	8	ObjectModel version	0		-	Version of the currently used ObjectModel in this format : MAJOR.MINOR, encoded as follows from MSB to LSB : MAJOR (16 bits), MINOR (16 bits).	uint	R	-

CAN node

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.3.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
602	2	Expert	1	Status	ErrorActive		-	Stores the node status.	enum	R	0
604	2	Expert	2	Tx error counter	0		-	Counter of the TX errors.	int	R	-
606	2	Expert	3	Rx error counter	0		-	Counter of the RX errors.	int	R	-
608	1	Expert	4	Bus termination status	false		-	Bus termination status for this node.	bool	R	-

List of items of Enum 0 (NodeStatus)

Value	Label	Description
0	Error active	The node is in error active state.
1	Error passive	The node is in error passive state.
2	Bus off	The node is in bus off state.

Device

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.4.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
900	1	Basic	0	Blink	false		-	If set, the device LEDs will blink.	bool	R/W	-
905	2	ViewOnly	3	Total functioning time	0	s	-	Total functioning time in this device's life.	uint	R	-

HMI Display

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.6.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1500	2	ViewOnly	0	Display brightness	20	/20	[6,20]	Display brightness.	int	R/W	-
1502	2	Basic	1	Sleep delay	100	s.	[0,180]	Sleep delay in seconds.	int	R/W	-
1504	4	Expert	2	Unlock code	"0000"		d{4,6}	Unlock code to be entered when exiting sleep mode. Used only if "Use slider for unlocking after sleep" option is disabled.	char[7]	R/W	-
1508	2	Expert	3	Unlock mechanism	Slider		-	Unlock mechanism used when exiting sleep mode.	enum	R/W	0

List of items of Enum 0 (UnlockMechanism)

Value	Label	Description
0	Numeric code	A numeric code will be asked for unlocking.
1	Slider	A slider will need to be pulled for unlocking.

RS-485 communication bus

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.7.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
1802	1	Expert	1	Bus termination status	false		-	Bus termination status for this communication bus.	bool	R	-
1803	2	Expert	2	Baudrate	Baudrate9600bps		-	Connection baudrate.	enum	R/W	1
1805	2	Expert	3	Parity	ParityEven		-	Parity type to be used.	enum	R/W	2
1807	2	Expert	4	Stop bits	StopBitsOne		-	Number of stop bits per transmitted character.	enum	R/W	3
1809	2	Expert	5	Data bits	DataBitsData8		-	Number of data bits per transmitted character.	enum	R/W	4

List of items of Enum 1 (BaudrateType)

Value	Label	Description
9600	9600bps	Baudrate set to 9600bps.
19200	19200bps	Baudrate set to 19200bps.
38400	38400bps	Baudrate set to 38400bps.
115200	115200bps	Baudrate set to 115200bps.

List of items of Enum 2 (ParityType)

Value	Label	Description
0	None	No parity.
2	Even	Parity even.
3	Odd	Parity odd.
4	Space	Parity space.
5	Mark	Parity mark.

List of items of Enum 3 (StopBitsType)

Value	Label	Description
1	One	One stop bit.
2	Two	Two stop bits.
3	One and a half	One and half stop bit.

List of items of Enum 4 (DataBitsType)

Value	Label	Description

Value	Label	Description
5	Five	Five data bits.
6	Six	Six data bits.
7	Seven	Seven data bits.
8	Eight	Eight data bits.

CAN communication bus

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.8.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
2102	1	Expert	1	Bus termination status	false		-	Bus termination status for this communication bus.	bool	R	-
2103	2	Expert	2	Baudrate	Baudrate9600bps		-	Connection baudrate.	enum	R/W	1
2105	2	Expert	3	Parity	ParityEven		-	Parity type to be used.	enum	R/W	2
2107	2	Expert	4	Stop bits	StopBitsOne		-	Number of stop bits per transmitted character.	enum	R/W	3
2109	2	Expert	5	Data bits	DataBitsData8		-	Number of data bits per transmitted character.	enum	R/W	4

List of items of Enum 1 (BaudrateType)

Value	Label	Description
9600	9600bps	Baudrate set to 9600bps.
19200	19200bps	Baudrate set to 19200bps.
38400	38400bps	Baudrate set to 38400bps.
115200	115200bps	Baudrate set to 115200bps.

List of items of Enum 2 (ParityType)

Value	Label	Description
0	None	No parity.
2	Even	Parity even.
3	Odd	Parity odd.
4	Space	Parity space.
5	Mark	Parity mark.

List of items of Enum 3 (StopBitsType)

Value	Label	Description
1	One	One stop bit.
2	Two	Two stop bits.
3	One and a half	One and half stop bit.

List of items of Enum 4 (DataBitsType)

Value	Label	Description

Value	Label	Description
5	Five	Five data bits.
6	Six	Six data bits.
7	Seven	Seven data bits.
8	Eight	Eight data bits.

Modbus server

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.15.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4200	2	Expert	0	Base address	0		[0,135]	Base address for first object group instance.	uint	R/W	-
4202	2	Expert	1	Modbus TCP port	502		[0,65535]	The TCP port number.	uint	R	-
4214	2	Expert	3	Modbus TCP server status	ModbusUnknown		-	The current status of the connection to the Modbus TCP server	enum	R	0
4216	2	Expert	4	Modbus RTU server status	ModbusUnknown		-	The current status of the connection to the Modbus RTU server	enum	R	0
4218	2	Expert	5	Modbus mode	ModeOff		-	The current modbus server selected.	enum	R/W	1
4220	1	Expert	6	Write persistently by Modbus	false		-	Force writing persistently using Modbus.	bool	R/W	-

List of items of Enum 0 (ModbusStatus)

Value	Label	Description
0	Unknown	Unknown status.
1	Bad interface	Modbus server not connected due to a bad interface.
2	Connecting	Mobus server connection in progress.
3	Ready and listening	Modbus server ready and listening.
4	Closing	Modbus server is closing.
5	Client connected	Modbus TCP client connected to the server.

List of items of Enum 1 (Mode)

Value	Label	Description
0	Off	No modbus server.
1	RTU	Modbus server RTU selected.
2	TCP	Modbus server TCP selected.

Modbus user level

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.16.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
4500	2	ViewOnly	0	User level	UserLevelBasic		-	Current user level.	uint	R	-
4502	4	ViewOnly	1	User level code input	"0"		d{1,6}	If you need to change the current User level, please enter here your wished User level code.	char[7]	R/W	-

Gateway user level

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.21.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
6000	2	ViewOnly	0	User level	UserLevelBasic		-	Current user level.	uint	R	-
6002	4	ViewOnly	1	User level code input	"0"		d{1,6}	If you need to change the current User level, please enter here your wished User level code.	char[7]	R/W	-

HMI Settings

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.27.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
7800	2	Basic	0	Language	English		-	Language used for the user interface.	enum	R/W	0
7802	2	Basic	1	Default view	Synoptic		-	Default view that will be displayed at startup.	enum	R/W	1

List of items of Enum 0 (StuLanguage)

Value	Label	Description
31	English	English.
37	Français	Français.
42	Deutsch	Deutsch.
58	Italiano	Italiano.
111	Español	Español.

List of items of Enum 1 (DefaultView)

Value	Label	Description
0	Dashboard	Default view will be the Dashboard view.
1	Synoptic	Default view will be the Synoptic view.

System View

Group : NextGateway
Modbus device address : 59 to 60
*External ID : 20.x.28.**ID***

List of properties

Address	Size	User level	ID	Label	Default Value	Unit	Min-Max range	Description	Type	Read/Write	Enum ID
8100	2	ViewOnly	0	Installation status	MonitorRunning		-	Installation status.	enum	R	0
8102	2	Basic	1	Node Status	0		-	Status of the nodes provided by the installation monitor.	uint	R	-

List of items of Enum 0 (InstallStatus)

Value	Label	Description
0	Monitor running	InstallationMonitor is not started yet.
1	Reading topology	Topology import, user-triggered or automatic, when InstallationMonitor is not started.
2	Writing topology	Topology export, automatic (wizard) or user-triggered, when Installation is not started.
3	Writing configuration	Installation configuration export, automatic (wizard), when Installation is not started.
4	Started	Installation is started.
5	Reading configuration	Installation configuration import, user-triggered or automatic, when InstallationMonitor is started.
6	Configuration R/W error	Configuration Read/Write operation failed. Stuck in this error state until user resets.