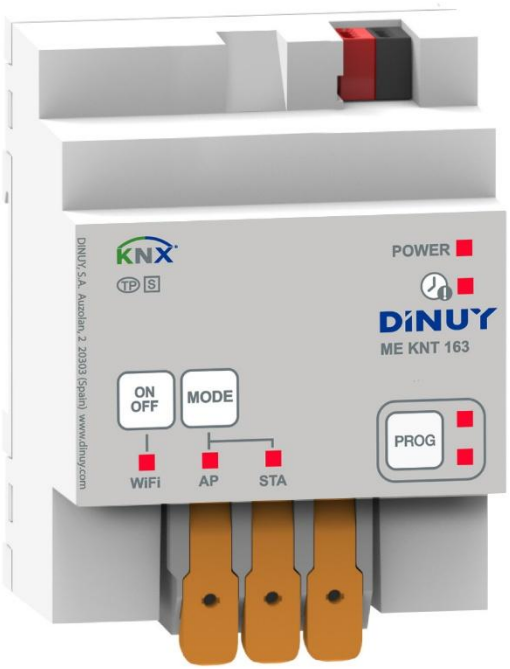
# 63A KNX Single-phase Energy Meter

# ME KNT 163




# ETS USER MANUAL

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# INTRODUCTION

## Description

The ME KNT 163 is a 1-channel KNX electrical energy meter that can measure systems up to 63A. Its main features include:

- KNX and WiFi connectivity (AP mode and STA mode).
- Front configuration buttons.
- Status indicator LEDs.
- Clamp-type terminals for simple, quick installation.
- DIN-rail format (4 modules).

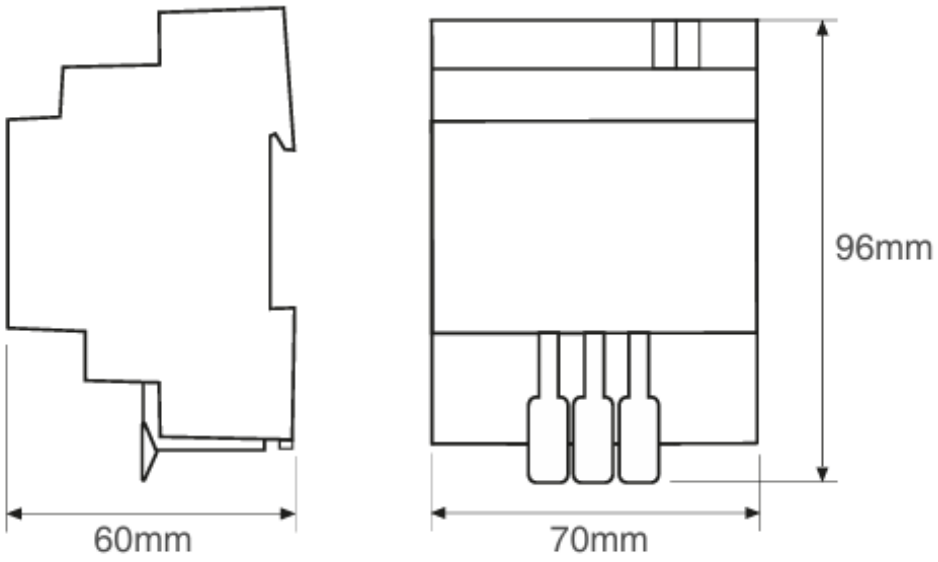
Some application examples include self-consumption installations, buildings with energy generation systems (PV panels, wind turbines, etc.) and, in general, any application requiring consumption monitoring.

## Technical Specifications

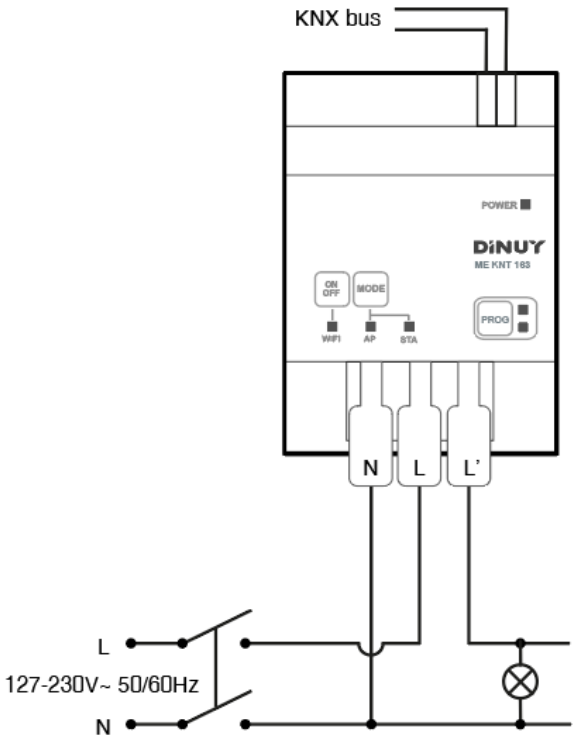
| | | |
|---|---|---|
| **KNX** | KNX Supply voltage | 21 - 32 Vdc |
| | KNX Consumption | <10 mA |
| | Bus connection | Via the KNX terminal |
| | Programming | ETS5 or later versions |
| | KNX medium | PT1 |
| | Commissioning | System Mode |
| **Energy meter** | Supply voltage | 127 - 230V~ |
| | Frequency | 50/60 Hz (+/- 5%) |
| | Self consumption | <2 W, (<10 VA) |
| | Minimum current | < 0,1 A |
| | Base current | 5 A |
| | Maximum current | 63 A |
| | Sample rate | 1 Hz |
| | Accuracy | <1% (I > 100 mA cos(φ) = 1) |
| | Installation | 4 modules width<br>(70 x 96 x 60 mm) |
| | Weight | 170 g |
| | Operating temperature | From -25° C to 40° C |
| | Storage temperature | From -25° C to 70° C |
| | Protection degree | IP20 |
| | Isolation class | Class II |
| | Rigid conductor<br>cross section | 0,75...16 mm² |
| | Flexible conductor<br>cross section | 0,75...25 mm² |
| | Terminals | 3 screwless terminals |
| | Wireless comunication | WiFi (AP mode, STA mode) |
| | Power reserve | 10 years |
| | Normatives | UNE EN 61010-1 |
| | Directives | Security 2014/35/UE<br>RoHS 2011/65/UE<br>Electromagnetic comp. 2014/30/UE |
| **Measure** | Measuring technology | Resistive shunt (internal) or<br>Current transformer (external) |
| | Shunt accuracy | <1% (I>100 mA cos(φ)=1) |
| | Admitted currenttransformers | XX/5A (*) |
| | Secondary measuringrange | 100 mA - 5 A |
| | Typical precision usingclass 1 CT | <5 % (**) |

| | | |
|---|---|---|
| | Minimum cross sectionof the secundary | ≥ 1 mm² |

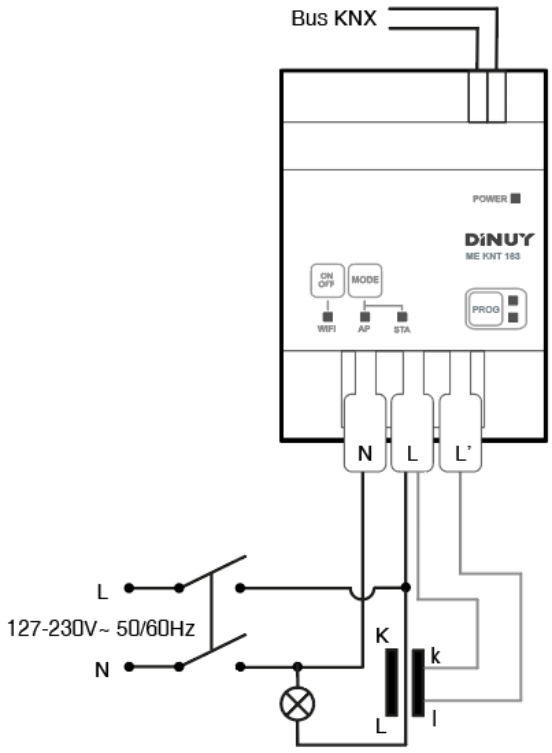
## Dimensions




## Installation diagram for direct measurement




## Installation diagram for current transformer metering



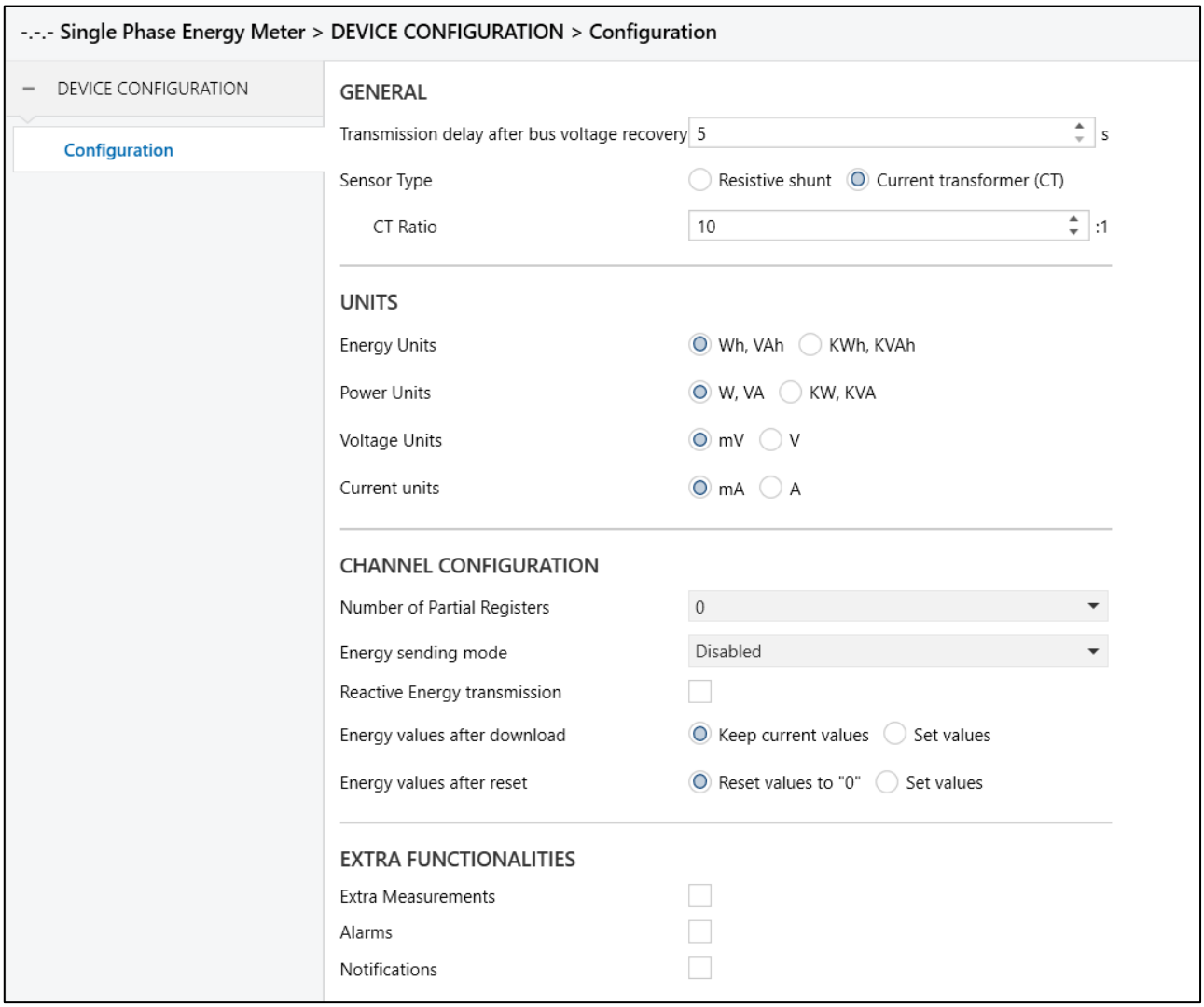
# ETS CONFIGURATION

## DEVICE CONFIGURATION

Once the device has been imported into the project created in ETS, the "DEVICE CONFIGURATION" tab can be accessed; all energy meter settings can be made from there. This tab contains the remaining submenus where additional settings can be configured: Configuration, Extra Measurements, Alarms and Notifications.

### Configuration

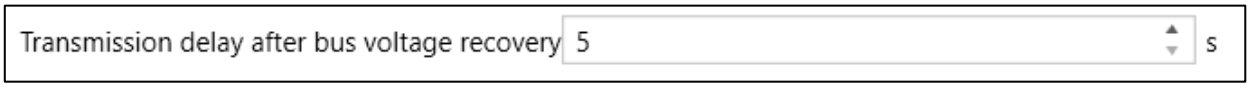
The first menu that opens under "DEVICE CONFIGURATION" is the "Configuration" menu.




Several parameters can be accessed:

- **GENERAL**
  - Transmission delay after bus voltage recovery:

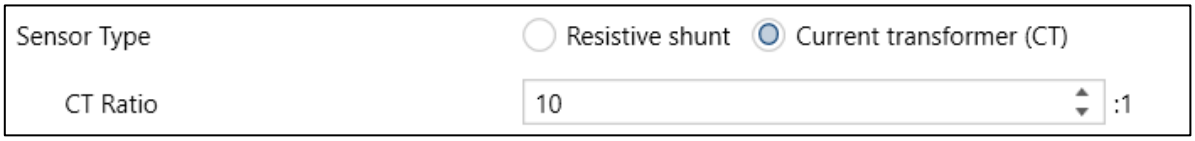
This parameter sets a delay time period, in seconds, for sending data over the bus immediately after the bus voltage has been restored. The permitted values range from 5 to 255 s.



- Sensor Type:

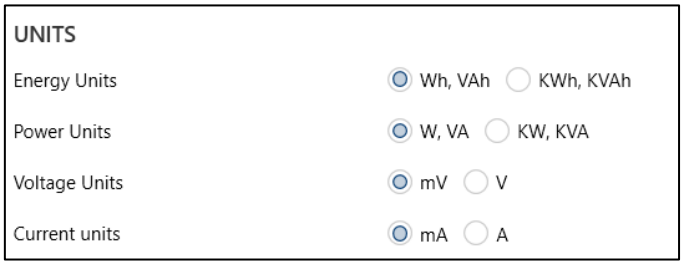
This device can be configured for direct measurement via connections upstream and downstream of the load, as shown in the corresponding installation diagram, or for measurement using a current transformer (CT) installed around the conductor feeding the system, as shown in its specific installation diagram.

If the installation uses a CT, the "Current Transformer (CT)" option must be selected. The transformation ratio is set under "CT Ratio," accepting values ranging from 5:1 to 100:1.




- **UNITS**

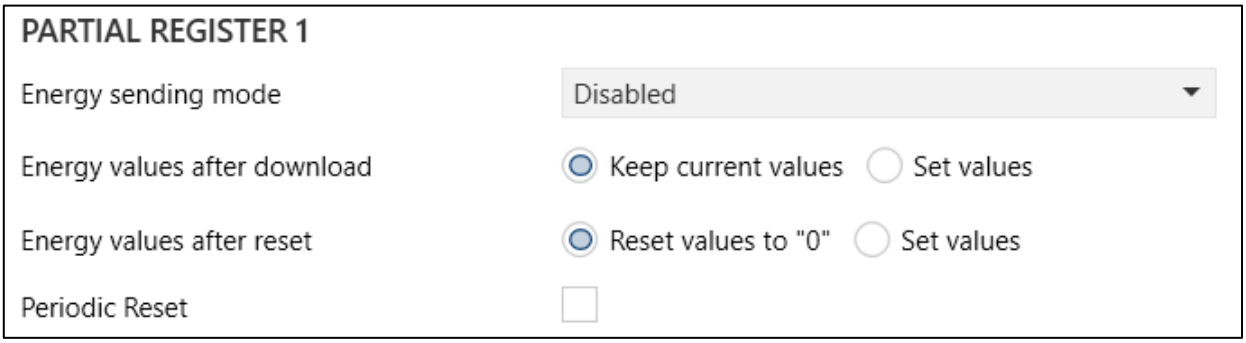
The system allows for the setting of measurement units to align the obtained measurements with the installation's actual order of magnitude. For example, it is possible to choose between mV and V. For applications where measurement accuracy is important, selecting mV instead of V is preferable for the sake of reading simplicity and ease of use, although this choice does not affect the product's functionality.




- **CHANNEL CONFIGURATION**
  - Number of Partial Registers:

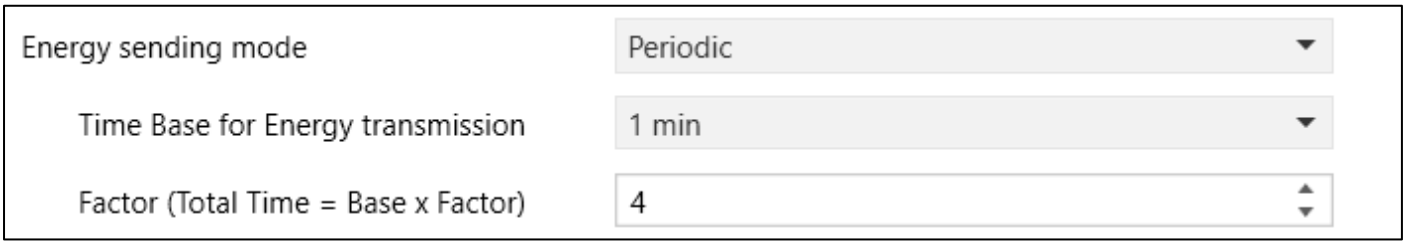
This parameter enables partial registers. By default it is set to 0, meaning that the device will measure the selected parameters throughout the entire period of use. However, partial registers can be enabled, allowing the specified functions to be measured during specific time ranges.


Up to two partial registers can be enabled. The same number of partial registers as selected will appear in the configuration menu.

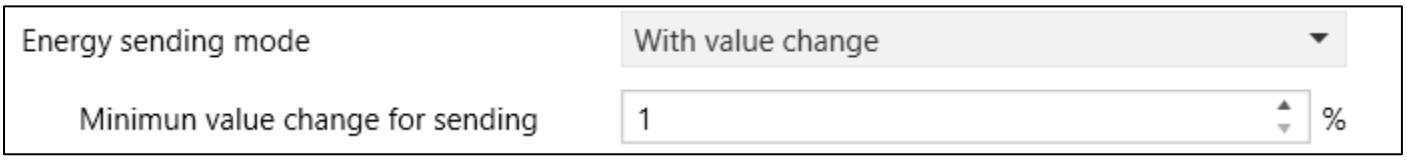


Within each partial register there is an "Energy Sending Mode" parameter that allows the measured energy value to be sent under different conditions. If "Disabled" is selected, the energy value will not be sent. If "Periodic" is selected, the measured value will be sent at a set time interval. If "With value change" were selected, the system would send a reading via the value-change event.

To select a period, you must set a base and a factor. The base is the unit of time the system uses for the transmission, and the factor is the number of repetitions of that unit. If you wish to set a 4-minute period, you must select a 1-minute base repeated 4 times, as shown in the following image:

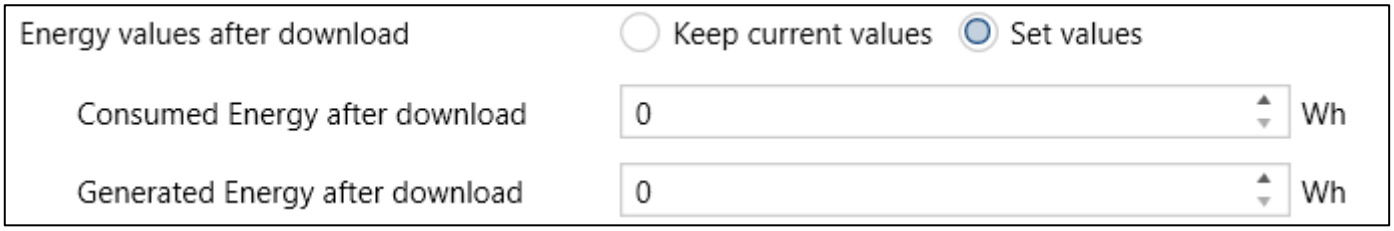



Another sending option for the partial register is based on a change in the measured value. This can be set by selecting "With value change" in the "Energy Sending Mode" option. This system is configured by selecting a percentage of the measured value. Whenever this value exceeds that threshold, the measurement will be sent. The selectable values range from 1 to 100%.

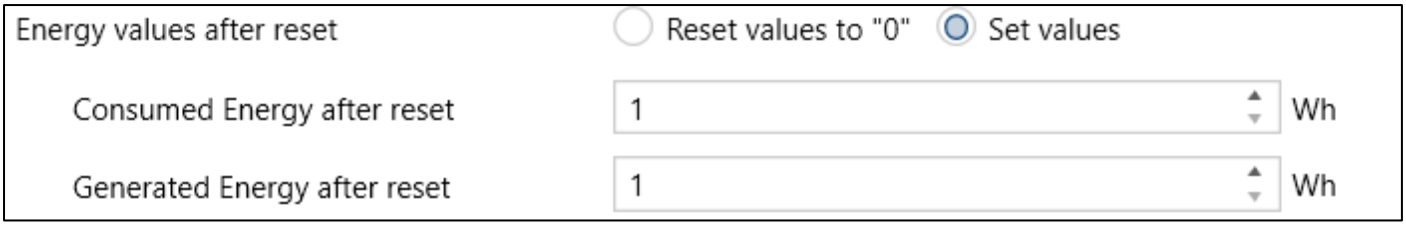



Sending reactive power: the function of this parameter is to enable the transmission of reactive power. It is disabled by default, as the active power reading is sufficient for most situations. If selected, both values would be transmitted.


After each transmission, the user can reset the measured data or set a desired value so that the next measurement starts from that point. This setting is configured using the "Energy values after download" option, where the user can choose between "Keep current values" and "Set values". If “Set values” is selected, the desired consumed and generated energy values can be entered using the "Consumed Energy after download" and "Generated Energy after download" options.

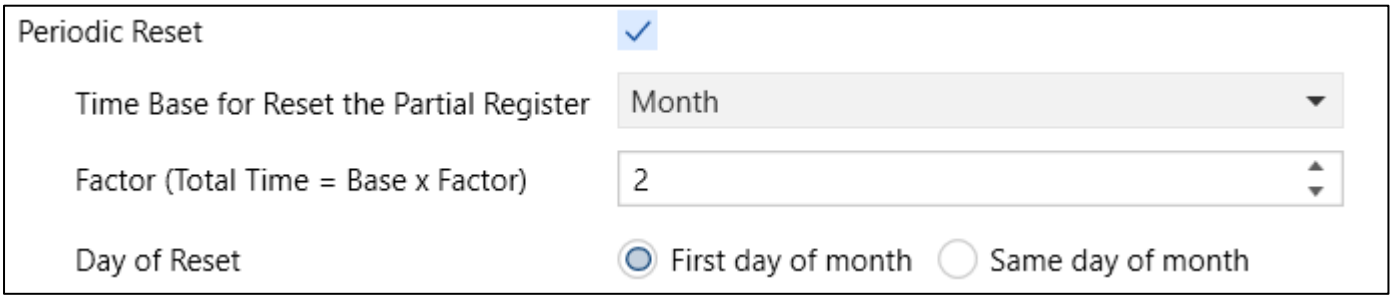



Every time an ETS download is performed, the user can reset the measured data or continue accumulating it. This setting is configured using the "Energy values after reset" option, where the user can choose between "Reset values to “0”" and "Set values". If the second option is selected, the system will ask the user for the desired consumed and generated energy values using the "Consumed Energy after reset" and "Generated Energy after reset" options.




The reset can be configured to occur periodically using the "Periodic Reset" function. After this function is enabled, the system will request a time base for performing the reset and a factor. The permitted values for "Time Base for Reset the Partial Register" are: Day, Week and Month. For example, if the user wanted to set a periodic reset every 2 months, Month should be selected as the base and 2 as the factor.

In addition, if the reset is weekly or monthly, it is possible to select whether the reset day is the first day of the week/month or the same day of the week/month as the day on which the configuration is performed.




- **EXTRA FUNCTIONALITIES**
  - Extra Measurements:

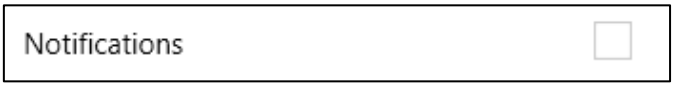
This parameter enables the "Extra Measurements" submenu within the "DEVICE CONFIGURATION" tab. See the CHANNEL CONFIGURATION section.


  - Alarms:

This parameter enables the "Alarms" submenu within the "DEVICE CONFIGURATION" tab. See the CHANNEL CONFIGURATION section.

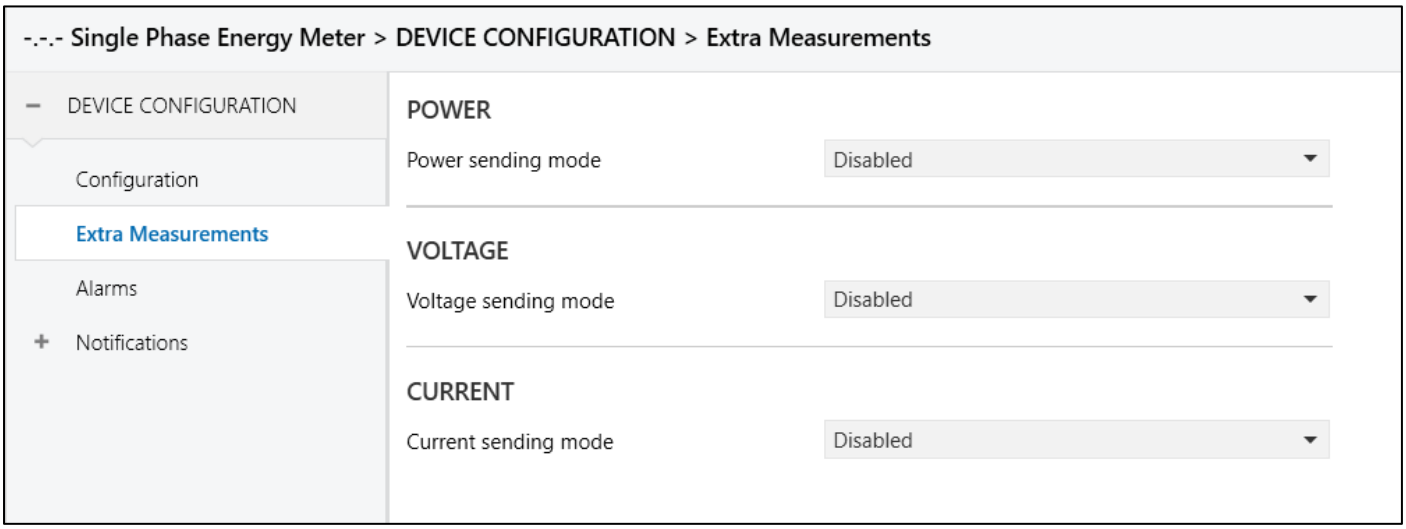

  - Notifications:

This parameter enables the "Notifications" submenu within the "DEVICE CONFIGURATION" tab. See the CHANNEL CONFIGURATION section.



### Extra Measurements

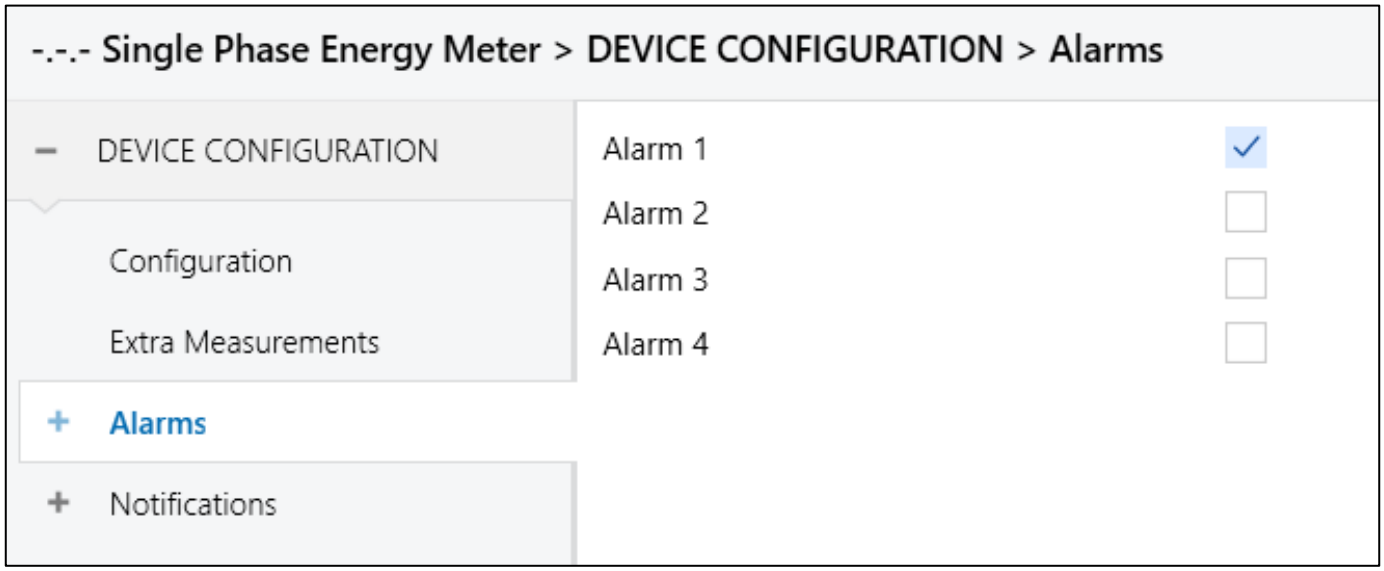
This menu allows the transmission of power, voltage and current values to be configured in the same way as energy in the "Configuration" tab.



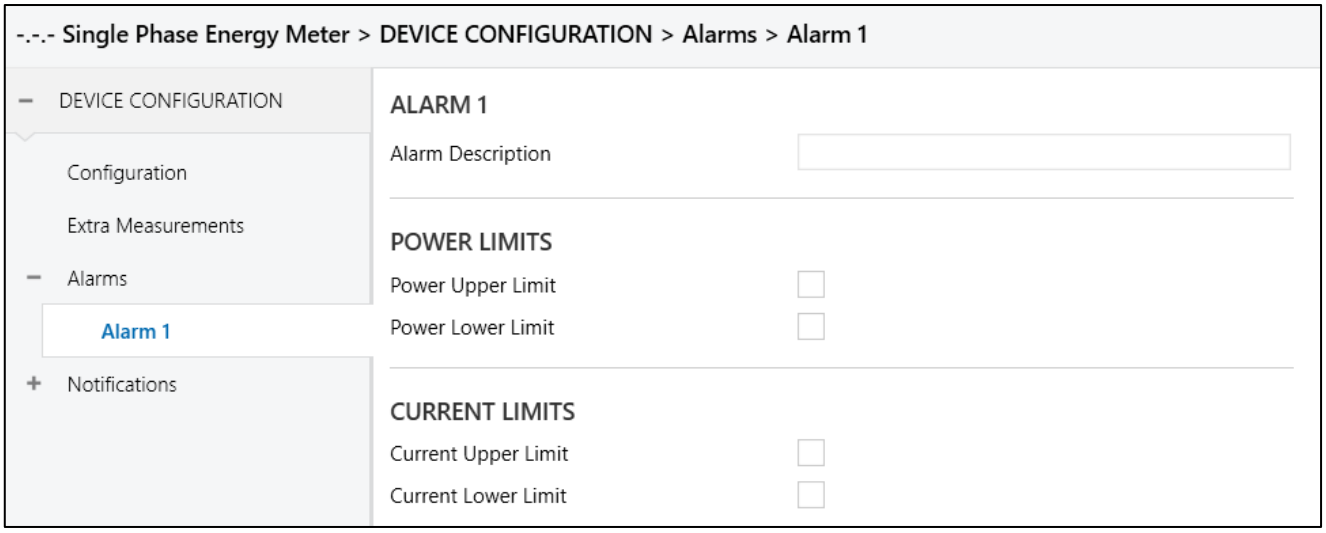

As with the "Energy Sending Mode" option, there are four available options for power, voltage and current values: Disabled, Periodic, On value change and Periodic and on value change. For a more detailed description, see the explanation under "Configuration".

### Alarms

From the "Alarms" tab, up to 4 alarms can be selected for the energy meter. When an alarm is selected, an option for the chosen alarm opens within the menu.




From each selected alarm option, the criteria that trigger the alarm can be established. These criteria are based on power or current limits.



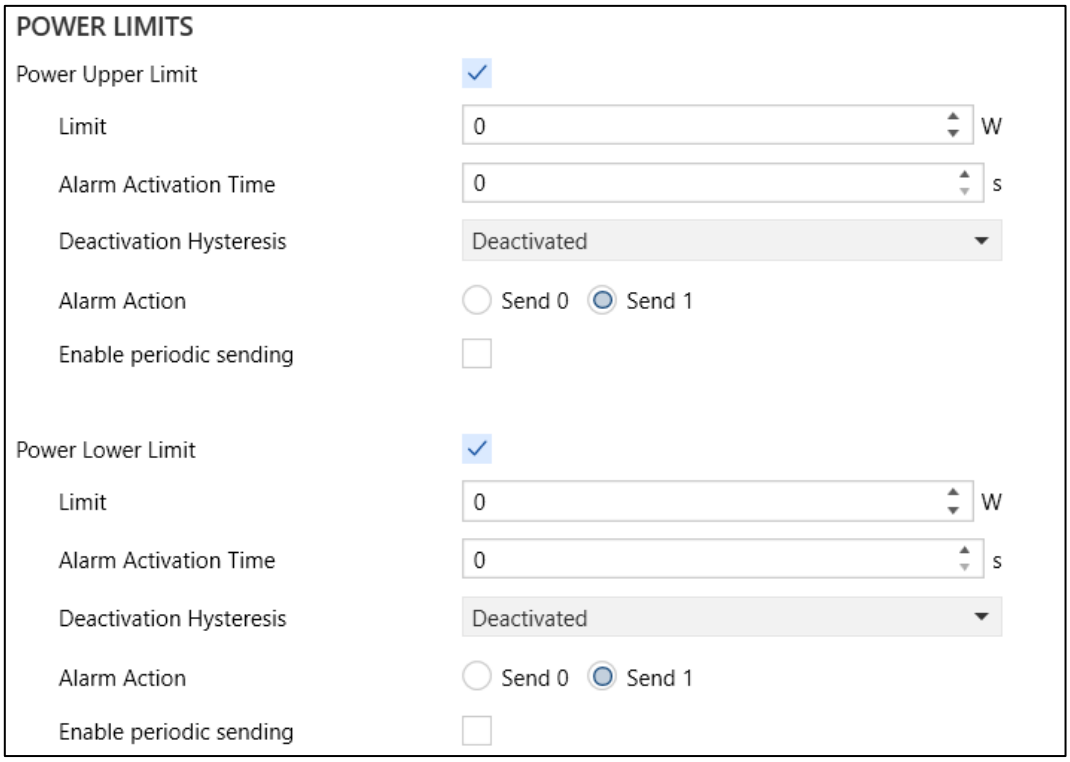

The configurable parameters are as follows:

- **ALARM X**
  - Alarm Description:

This function allows the alarm being configured to be named so that the reason for the alert can be easily identified. It allows a maximum of 15 characters.


- **POWER LIMITS**
  - Power Upper/Lower Limit:

This selection can be used to configure an alarm so that it is activated either when a power limit is exceeded or when the value drops below a set value. Once it has been selected whether the alarm should be triggered in either case or in both, a series of options is displayed to set the conditions under which this occurs.



- Limit:

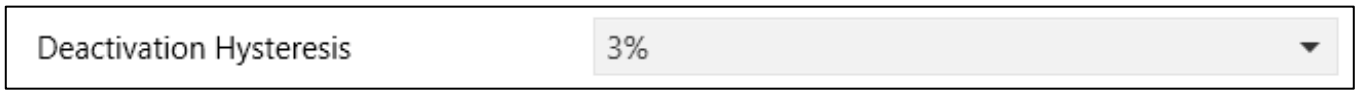
This is the upper limit (if under "Upper Power Limit") or lower limit (if under "Lower Power Limit") after which the alarm will be triggered. The maximum and minimum values for these limits range from -30000 to 30000 W.

- Alarm Activation Time:

This is the time after which the alarm will be activated, provided that the value has exceeded or fallen below the established limit. For example, if a time of 0 s is set, the alarm will be activated whenever the measured value exceeds or falls below the established limit. However, if a value of 8 s is selected, the alarm will only be triggered if the limit is exceeded for 8 consecutive seconds. The purpose of the "Alarm Activation Time" function is to prevent the alarm from being triggered by a momentary peak, rather than by a clear power overrun. The selectable values range from 0 to 255 s.

- Deactivation Hysteresis:

To prevent the alarm from triggering continuously, a margin can be set so that it will not trigger again unless it drops below a certain value. The selectable values range from 0 to 50%.




- Alarm Action:

This selection allows a 0 or a 1 to be sent as the alarm. Option 1 is selected by default. The alarm can be triggered via object 121 and subsequent objects, depending on the cause of the alarm activation, as detailed in the Communication Objects table at the end of this document.

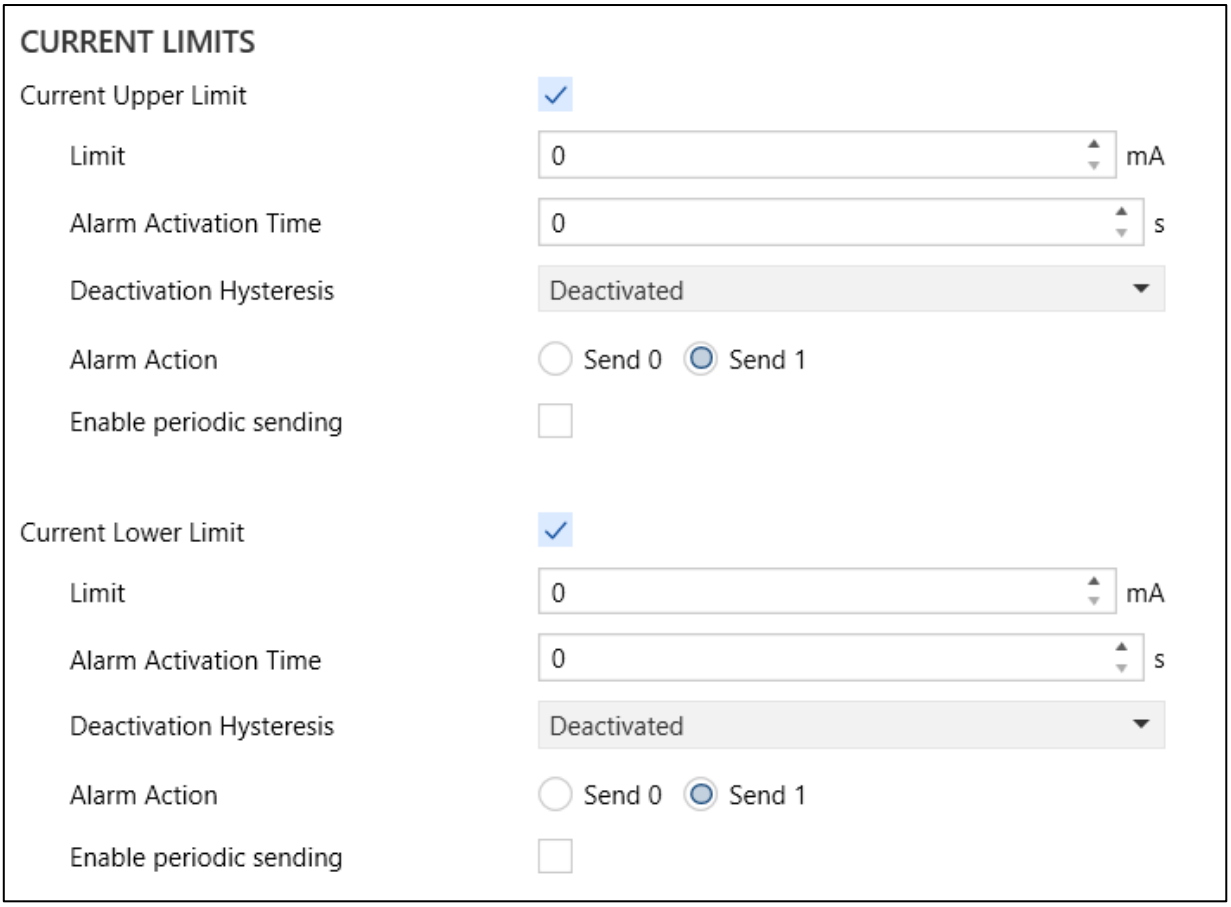
- Enable Periodic sending:

This option allows the alarm to be sent repeatedly while the limit is exceeded. Once this option is selected, a new drop-down opens with the transmission parameters "Periodic transmission time base" and "Factor (Total Time = Base x Factor)".


The base is the unit of time the system uses for the transmission, and the factor is the number of repetitions based on that unit.

- **CURRENT LIMITS**
  - Upper/Lower Intensity Limit:

This selection allows you to configure an alarm to trigger if the intensity exceeds a limit or falls below a specific set value. Once you have selected whether the alarm should activate in either or both of these cases, a series of options will appear for setting the conditions under which this occurs.




- Limit:

This is the upper limit (if under "Current Upper Limit") or lower limit (if under "Current Lower Limit") in A after which the alarm will be triggered.

- Alarm Activation Time:

This is the time after which the alarm will be activated, provided that the value has exceeded or fallen below the established limit. For example, if a time of 0 s is set, the alarm will be activated whenever the measured value exceeds or falls below the established limit. However, if a value of 8 s is selected, the alarm will only be triggered if the limit is exceeded for 8 consecutive seconds. The purpose of the "Alarm Activation Time" function is to prevent the alarm from being triggered by a momentary peak, rather than by a clear power overrun. The selectable values range from 0 to 255 s.

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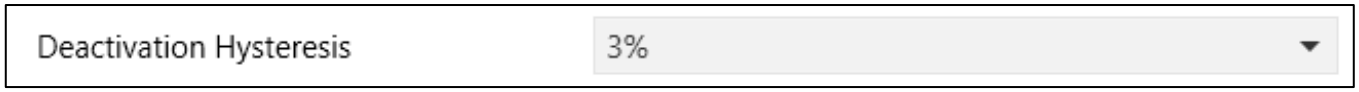


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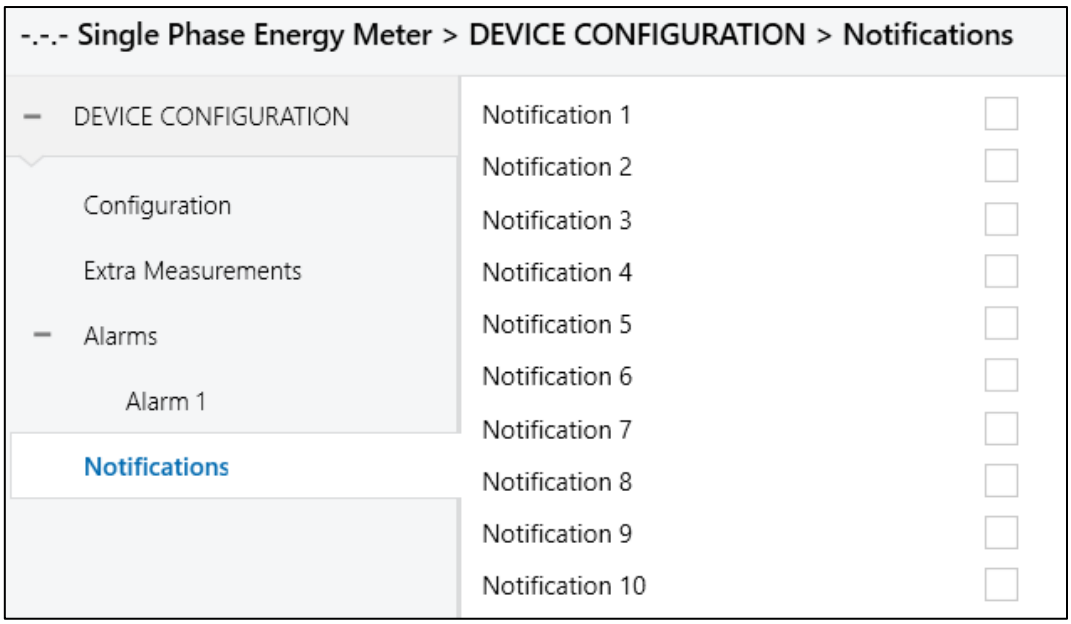
- Enable Periodic sending:

This option allows the alarm to be sent repeatedly while the limit is exceeded. Once this option is selected, a new drop-down opens with the transmission parameters "Periodic transmission time base" and "Factor (Total Time = Base x Factor)".


The base is the unit of time the system uses for the transmission, and the factor is the number of repetitions based on that unit.

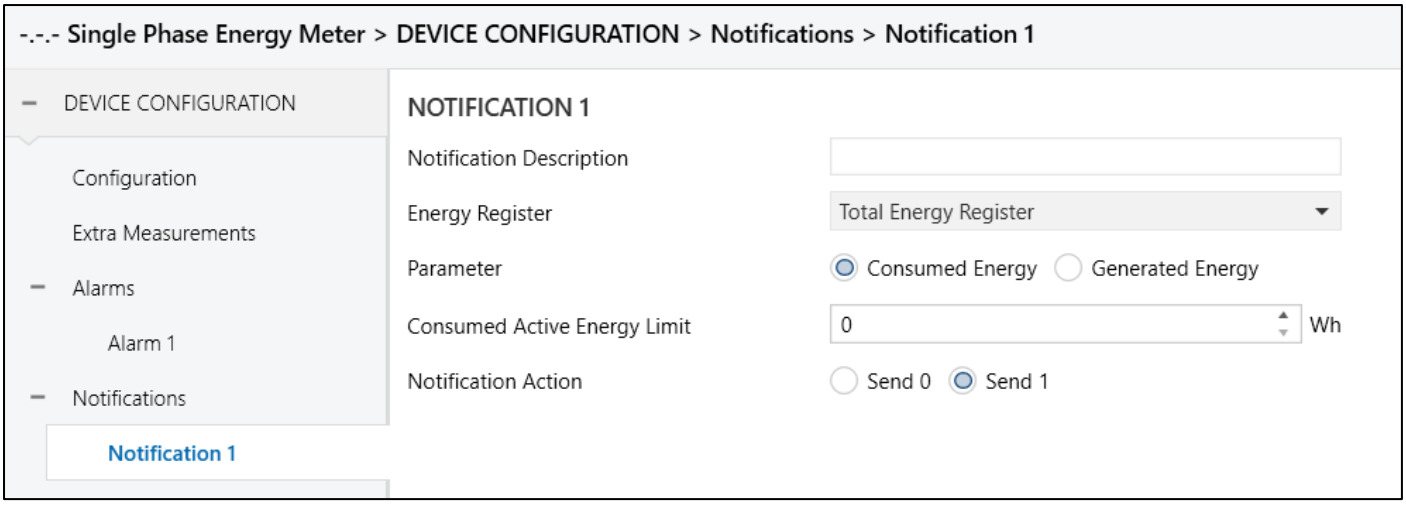
### Notifications

In addition to alarms, notifications can also be configured. Up to 10 notifications can be enabled. Once a notification has been selected, a drop-down appears in the configuration menu with the settings for the enabled notification.




- **Notification X:**

Within each notification tab, the parameters that will trigger the notification can be configured.




- Notification Description:

Notifications are similar to alarms, but the difference lies in the fact that, for a notification, the object activates once a specified requirement is met, whereas for an alarm, there is a distinct object for each event. Notification objects range from 153 to 162 and return 1 bit (0 = Do Not Notify, 1 = Notify).


- Energy Register:

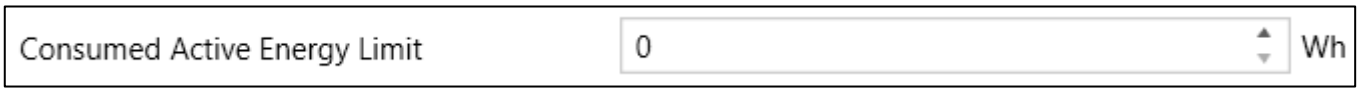
This option can be used to select the registers configured from the "Configuration" menu. If partial registers have been selected, they will be selectable from this drop-down.


- Parameter:

Two different parameters can be notified: "Consumed Energy" will notify the consumed energy and "Generated Energy" will notify the generated energy.


- Consumed/Generated Active Energy Limit:

Depending on the previous selection, this sets a limit for consumed/generated active energy. Beyond that established limit, the consumed energy will no longer be notified.




- Notification Action:

The notification can send a 1 or a 0 depending on the requirements of the application in use. By default, the selected option sends 1.


Notification Action
Send 0
Send 1

## Communication Objects

The energy meter communication objects are summarised below:

| No. | Name | Function | Length | Flags | DPT |
|---|---|---|---|---|---|
| 30 | [GBL] Time of day | Set Time of the fay | 3 bytes | C-WTU | 10.001 Time of day |
| 31 | [GBL] Date | Set date | 3 bytes | C-WTU | 11.001 Date |
| 32 | [CH] Frequency | Hz | 4 bytes | CR-T- | 14.033 Frequency (Hz) |
| 33 | [CH] Channel Reset | 0 = No Action, 1 = Channel Reset | 1 bit | C-W-- | 1.015 Reset |
| 35 | [CH] Power Factor | 0% - 100% | 4 bytes | CR-T- | 14.057 Power factor ($\cos\varphi$) |
| 44 | [CH] Active Energy Consumed | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 45 | [CH] Active Energy Consumed | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 46 | [CH] Active Energy Generated | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 47 | [CH] Active Energy Generated | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 48 | [CH] Active Power | W | 4 bytes | CR-T- | 14.056 Power (W) |
| 49 | [CH] Active Power | KW | 2 bytes | CR-T- | 9.024 Power (KW) |
| 50 | [CH] Inductive Reactive Power | VAr | 4 bytes | CR-T- | 14.056 Power (W) |
| 51 | [CH] Inductive Reactive Power | KVAr | 2 bytes | CR-T- | 9.024 Power (KW) |
| 52 | [CH] Active Power Consumed | W | 4 bytes | CR-T- | 14.056 Power (W) |
| 53 | [CH] Active Power Consumed | KW | 2 bytes | CR-T- | 9.024 Power (KW) |
| 54 | [CH] Active Power Generated | W | 4 bytes | CR-T- | 14.056 Power (W) |
| 55 | [CH] Active Power Generated | KW | 2 bytes | CR-T- | 9.024 Power (KW) |
| 56 | [CH] Apparent Power | VA | 4 bytes | CR-T- | 14.080 Apparent power (VA) |
| 57 | [CH] Voltage | mV | 2 bytes | CR-T- | 9.020 Voltage (mV) |
| 58 | [CH] Voltage | V | 4 bytes | CR-T- | 14.027 Electric potential (V) |
| 59 | [CH] Current | mA | 2 bytes | CR-T- | 9.021 Current (mA) |
| 60 | [CH] Current | A | 4 bytes | CR-T- | 14.019 Electric current (A) |
| 61 | [CH] Active Energy Consumed after reset | W·h | 4 bytes | C-WT- | 13.010 Active energy (Wh) |
| 62 | [CH] Active Energy Generated after reset | W·h | 4 bytes | C-WT- | 13.010 Active energy (Wh) |
| 65 | [CH] Active Energy Consumed after reset | KW·h | 4 bytes | C-WT- | 13.013 Active energy (KWh) |
| 66 | [CH] Active Energy Generated after reset | KW·h | 4 bytes | C-WT- | 13.013 Active energy (KWh) |
| 69 | [PR1] Reset Partial Register 1 | 0 = No Action, 1 = Reset Partial Register 1 | 1 bit | C-W-- | 1.015 Reset |
| 70 | [PR1] Inductive Reactive Energy | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 72 | [PR1] Capacitive Reactive Energy | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 74 | [PR1] Active Energy Consumed | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 75 | [PR1] Active Energy Consumed | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 76 | [PR1] Active Energy Generated | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 77 | [PR1] Active Energy Generated | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 78 | [PR1] Inductive Reactive Energy previous period | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 80 | [PR1] Capacitive Reactive Energy previous period | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 82 | [PR1] Active Energy Consumed previous period | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 83 | [PR1] Active Energy Consumed previous period | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 84 | [PR1] Active Energy Generated previous period | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 85 | [PR1] Active Energy Generated previous period | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |

| | | | | | |
|---|---|---|---|---|---|
| 86 | [PR1] Partial Register 1 Start Date | Start date | 3 bytes | CR-T- | 11.001 Date |
| 87 | [PR1] Active Energy Consumed after reset | W·h | 4 bytes | C-WT- | 13.010 Active energy (Wh) |
| 88 | [PR1] Active Energy Generated after reset | W·h | 4 bytes | C-WT- | 13.010 Active energy (Wh) |
| 91 | [PR1] Active Energy Consumed after reset | KW·h | 4 bytes | C-WT- | 13.013 Active energy (KWh) |
| 92 | [PR1] Active Energy Generated after reset | KW·h | 4 bytes | C-WT- | 13.013 Active energy (KWh) |
| 95 | [PR2] Reset Partial Register 2 | 0 = No Action, 1 = Reset Partial Register 2 | 1 bit | C-W-- | 1.015 Reset |
| 96 | [PR2] Inductive Reactive Energy | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 98 | [PR2] Capacitive Reactive Energy | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 100 | [PR2] Active Energy Consumed | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 101 | [PR2] Active Energy Consumed | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 102 | [PR2] Active Energy Generated | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 103 | [PR2] Active Energy Generated | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 104 | [PR2] Inductive Reactive Energy previous period | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 106 | [PR2] Capacitive Reactive Energy previous period | VAr·h | 4 bytes | CR-T- | 13.012 Reactive energy (VARh) |
| 108 | [PR2] Active Energy Consumed previous period | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 109 | [PR2] Active Energy Consumed previous period | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 110 | [PR2] Active Energy Generated previous period | W·h | 4 bytes | CR-T- | 13.010 Active energy (Wh) |
| 111 | [PR2] Active Energy Generated previous period | KW·h | 4 bytes | CR-T- | 13.013 Active energy (KWh) |
| 112 | [PR2] Partial Register 2 Start Date | Start date | 3 bytes | CR-T- | 11.001 Date |
| 113 | [PR2] Active Energy Consumed after reset | W·h | 4 bytes | C-WT- | 13.010 Active energy (Wh) |
| 114 | [PR2] Active Energy Generated after reset | W·h | 4 bytes | C-WT- | 13.010 Active energy (Wh) |
| 117 | [PR2] Active Energy Consumed after reset | KW·h | 4 bytes | C-WT- | 13.013 Active energy (KWh) |
| 118 | [PR2] Active Energy Generated after reset | KW·h | 4 bytes | C-WT- | 13.013 Active energy (KWh) |
| 121 | [ALARMA1] High Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 122 | [ALARMA1] Low Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 123 | [ALARMA1] High Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 124 | [ALARMA1] Low Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 125 | [ALARMA1] Set Upper Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 126 | [ALARMA1] Set Lower Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 127 | [ALARMA1] Set Upper Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 128 | [ALARMA1] Set Lower Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 129 | [ALARMA2] High Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 130 | [ALARMA2] Low Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 131 | [ALARMA2] High Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 132 | [ALARMA2] Low Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 133 | [ALARMA2] Set Upper Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 134 | [ALARMA2] Set Lower Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 135 | [ALARMA2] Set Upper Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 136 | [ALARMA2] Set Lower Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 137 | [ALARMA3] High Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 138 | [ALARMA3] Low Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 139 | [ALARMA3] High Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 140 | [ALARMA3] Low Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |

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|---|---|---|---|---|---|
| 141 | [ALARMA3] Set Upper Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 142 | [ALARMA3] Set Lower Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 143 | [ALARMA3] Set Upper Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 144 | [ALARMA3] Set Lower Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 145 | [ALARMA4] High Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 146 | [ALARMA4] Low Power Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 147 | [ALARMA4] High Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 148 | [ALARMA4] Low Current Alarm | 0 = No Alarm, 1 = Alarm | 1 bit | CR-T- | 1.005 Alarm |
| 149 | [ALARMA4] Set Upper Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 150 | [ALARMA4] Set Lower Power Limit | Limit (W) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 151 | [ALARMA4] Set Upper Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 152 | [ALARMA4] Set Lower Current Limit | Limit (mA) | 2 bytes | C-W-- | 8.001 Pulses difference |
| 153 | [NTF1] Notification 1 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 154 | [NTF2] Notification 2 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 155 | [NTF3] Notification 3 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 156 | [NTF4] Notification 4 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 157 | [NTF5] Notification 5 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 158 | [NTF6] Notification 6 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 159 | [NTF7] Notification 7 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 160 | [NTF8] Notification 8 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 161 | [NTF9] Notification 9 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 162 | [NTF10] Notification 10 | 0 = Do Not Notify, 1 = Notify | 1 bit | CR-T- | 1.001 Switch |
| 295 | [CH] Active Capacitive Power | KVAr | 2 bytes | CR-T- | 9.024 Power (KW) |