

# Energy Management Energy Meter Type EM21 72D



- Multi-use housing: for both DIN-rail and panel mounting applications

- Class B (kWh) according to EN50470-3
- Class 1 (kWh) according to EN62053-21
- Class 2 (kvarh) according to EN62053-23
- Accuracy  $\pm 0.5$  RDG (current/voltage)
- Energy meter
- Instantaneous variables readout: 3 DGT
- Energies readout: 6+1 DGT
- System variables: W, var, PF, Hz, Phase-sequence.
- Single phase variables:  $V_{LL}$ ,  $V_{LN}$ , A, PF
- Energy measurements: total kWh and kvarh
- TRMS measurements of distorted sine waves (voltages/currents)
- Self power supply
- Dimensions: 4-DIN modules and 72x72mm
- Protection degree (front): IP50
- Application adaptable display and programming procedure (Easyprog function)
- Easy connections management
- Detachable display

## Product Description

Three-phase energy meter with removable front LCD display unit. The same unit can be used either as a DIN-rail mounting or a panel mounting energy meter. This general purpose three-phase energy meter is suitable for both active and reactive energy metering for cost allocation but also for main electrical parameter measurement and retransmission (transducer function). Housing for DIN-rail mounting with IP50

(front) protection degree. Current measurements carried out by means of external current transformers and voltage measurements carried out either by means of direct connection or by means of potential transformers. EM21-72D is provided, as standard, with a pulsating output for active energy retransmission. In addition a 2-wire RS485 communication port is available as an option.

## How to order EM21 72D AV5 3 X O X X



## Type Selection

| Range codes   | System  | Power supply  | Output 1  |
|---|---|---|---|
| <b>AV5 (*)</b> : 400V <sub>LL</sub> AC, 5(6)A or 1(6)A (***)<br>(CT connection)                                   | <b>3 (*)</b> : balanced and unbalanced load:<br>3-phase, 4-wire;<br>3-phase, 3-wire;<br>2-phase, 3-wire;<br>1-phase, 2-wire | <b>X (*)</b> : Self power supply from 18V to 260VAC<br>VLN, 45 to 65 Hz<br>(connection VL1-N) | <b>O (*)</b> : Single static output (opto-mosfet) |
| <b>AV6 (**)</b> : 120V <sub>LN</sub> /230V <sub>LL</sub> AC<br>5(6)A or 1(6)A (***)<br>(VT/PT and CT connections) |   |   |   |

### Output 2

- X (\*): None
- S (\*\*): RS485 port

### Options

- X (\*): None

(\*) as standard.  
(\*\*) on request.  
(\*\*\*) the range 1(6)A is available but not in compliance with the EN50470-3 standard.

## Input specifications

|  |  |                                |  |
|--|--|--------------------------------|--|
| <b>Rated inputs</b>  | System type: 3<br>Not isolated (shunt inputs).<br>Note: the external current transformers can be connected to earth individually.  | Energies                       | Imported Total: 6+1DGT or 7DGT   |
| Current type   |  | Overload status                | EEE indication when the value being measured is exceeding the "Continuous inputs overload" (maximum measurement capacity)  |
| Current range (by CT)  | AV5 and AV6: 5(6)A. The "1(6)A" range is available but not in compliance with the EN50470-3 standard.  | Max. and Min. indication       | Max. instantaneous variables: 999; energies: 999 999.9 or 9 999 999.<br>Min. instantaneous variables: 0; energies 0.0.   |
| Voltage (direct or by VT/PT)   | AV5: 400VLL;<br>AV6: 120/230VLL  |                                |  |
| <b>Accuracy</b> (Display + RS485) (@25°C ±5°C, R.H. ≤60%, 48 to 62 Hz) | In: see below, Un: see below   | <b>LEDs</b>                    | Red LED (Energy consumption)<br>0.001 kWh by pulse if CT ratio x VT ratio is <7;<br>0.01 kWh by pulse if CT ratio x VT ratio is ≥ 7.0 < 70.0;<br>0.1 kWh by pulse if CT ratio x VT ratio is ≥ 70.0 < 700.0;<br>1 kWh by pulse if CT ratio x VT ratio is ≥ 700.0;<br>16Hz, according to EN50470-3<br>Green LED (on the terminal blocks side) for power on (steady) and communication status: RX-TX (in case of RS485 option only) blinking. |
| AV5 model  | In: 5A, I <sub>max</sub> : 6A; Un: 160 to 260VLN (277 to 450VLL).  | Max frequency                  |  |
| AV6 model  | In: 5A, I <sub>max</sub> : 6A; Un: 40 to 144VLN (70 to 250VLL).  |                                |  |
| Current AV5, AV6 models  | From 0.002I <sub>n</sub> to 0.2I <sub>n</sub> : ±(0.5% RDG +3DGT).<br>From 0.2I <sub>n</sub> to I <sub>max</sub> : ±(0.5% RDG +1DGT).                                      |                                |  |
| Phase-neutral voltage  | In the range Un: ±(0,5% RDG +1DGT).  |                                |  |
| Phase-phase voltage  | In the range Un: ±(1% RDG +1DGT).  |                                |  |
| Frequency  | Range: 45 to 65Hz;<br>resolution: ±1Hz   |                                |  |
| Active power   | ±(1%RDG +2DGT).  |                                |  |
| Power Factor   | ±[0.001+1%(1.000 - "PF RDG")].   |                                |  |
| Reactive power   | ±(2%RDG +2DGT).  |                                |  |
| Active energy  | class B according to EN50470-1-3;<br>class 1 according to EN62053-21.  | <b>Measurements</b>            | See "List of the variables that can be connected to:" TRMS measurements of distorted wave forms.<br>By means of external CT's.   |
| Reactive energy  | class 2 according to EN62053-23.<br>In: 5A, I <sub>max</sub> : 6A; 0.1 In: 0.5A.<br>Start up current: 10mA.  | Method                         |  |
| <b>Energy additional errors</b>  | According to EN62053-21, EN50470-1-3, EN62053-23   | Coupling type                  |  |
| Influence quantities   |  | <b>Crest factor</b>            | In 5A: ≤3 (15A max. peak).   |
| <b>Temperature drift</b>   | ≤200ppm/°C.  | <b>Current Overloads</b>       |  |
| <b>Sampling rate</b>   | 1600 samples/s @ 50Hz,<br>1900 samples/s @ 60Hz  | Continuous                     | 6A, @ 50Hz.  |
| <b>Display refresh time</b>  | 1 second   | For 500ms                      | 120A, @ 50Hz.  |
| <b>Display</b>   | 2 lines<br>1 <sup>st</sup> line: 7-DGT,<br>2 <sup>nd</sup> line: 3-DGT or<br>1 <sup>st</sup> line: 3-DGT + 3-DGT,<br>2 <sup>nd</sup> line: 3-DGT.<br>LCD, h 7mm.<br>3-DGT. | <b>Voltage Overloads</b>       |  |
| Type   |  | Continuous                     | 1.2 Un   |
| Instantaneous variables read-out                                       |  | For 500ms                      | 2 Un   |
|  |  | <b>Current input impedance</b> |  |
|  |  | 5(6)A                          | < 0.3VA  |
|  |  | <b>Voltage input impedance</b> |  |
|  |  | Self-power supply              | Power consumption: <2VA.   |
|  |  | <b>Frequency</b>               |  |
|  |  |                                | 45 to 65 Hz.   |
|  |  | <b>Key-pad</b>                 |  |
|  |  |                                | Two push buttons for variable selection and programming of the instrument working parameters.  |

## Output specifications

|                     |   |                              |  |
|---------------------|---|------------------------------|--|
| <b>Pulse output</b> |   |                              |  |
| Number of outputs   | 1   | Protocol                     | MODBUS/JBUS (RTU)  |
| Type                | Programmable from 0.01 to 9.99 kWh per pulses. Output connectable to the energy meters (kWh)    | Data (bidirectional)         | System and phase variables: see table "List of variables..."   |
| Pulse duration      | ≥100ms < 120ms (ON), ≥120ms (OFF), according to EN62052-31.                                     | Dynamic (reading only)       | All the configuration parameters.                              |
| Output Load         | Static: opto-mosfet.<br>V <sub>ON</sub> 2.5 VAC/DC max. 70 mA, V <sub>OFF</sub> 260 VAC/DC max. | Static (reading and writing) | 1 start bit, 8 data bit, no parity, 1 stop bit.                |
| Insulation          | By means of optocouplers, 4000 VRMS output to measuring inputs.                                 | Data format                  | 9600 bits/s.   |
|                     |   | Baud-rate                    | 1/5 unit load. Maximum 160 transceiver on the same bus.        |
|                     |   | Driver input capability      | By means of optocouplers, 4000 VRMS output to measuring input. |
|                     |   | Insulation                   |  |
| <b>RS485</b>        |   |                              |  |
| Type                | Multidrop, bidirectional (static and dynamic variables)   |                              |  |
| Connections         | 2-wire. Max. distance 1000m, termination directly on the instrument.                            |                              |  |
| Addresses           | 247, selectable by means of the front keypad  |                              |  |

## Software functions

|                               |   |                                 |   |
|-------------------------------|---|---------------------------------|---|
| <b>Password</b>               |   | <b>Transformer ratio</b>        |   |
|                               | Numeric code of max. 3 digits;  | VT (PT)                         | 1.0 to 99.9 / 100 to 999 / 1.00k to 6.00k   |
| 1st level                     | 2 protection levels of the programming data: Password "0", no protection;   | CT                              | 1.0 to 99.9 / 100 to 999 / 1.00k to 9.99k / 10.0k to 60.0k.   |
| 2nd level                     | Password from 1 to 999, all data are protected  |                                 | The maximum power being measured cannot exceed 210 MW calculated as maximum input voltage and current, (see the "Accuracy" paragraph).  |
| Programming lock              | By means of potentiometer (back-side of the display module) it is possible to lock the access to all the configuration parameters.  |                                 | The maximum VT by CT ratio is 48.600. For MID complaint applications the maximum power being measured is 25 MW.   |
| <b>System selection</b>       |   | <b>Displaying</b>               | Up to 3 variables per page. See « Display pages », 3 different set of variables available (see « Display pages ») according to the metering function being selected.                            |
| System 3-Ph.n unbalanced load | 3-phase (4-wire)<br>3-phase (3-wire)  | <b>Reset</b>                    | By means of the front keypad: total energies (kWh, kvarh).  |
| System 3-Ph.1 balanced load   | • 3-phase (3-wire) one current and 3-phase to phase voltage measurements.<br>Note: the phase to phase voltage is calculated multiplying by 1.73 the virtual phase to neutral voltage.<br>• 3-phase (4-wire) one current and 3-phase to neutral voltage measurements.<br>Note: the phase to phase voltage is calculated multiplying by 1.73 the virtual phase to neutral voltage.<br>• 3-phase (2-wire) one current and 1-phase (L1) to neutral voltage measurement. | <b>Easy connection function</b> | Wrong phase detection and displaying. For all the display selections, both energy and power measurements are independent from the current direction. The displayed energy is always "imported". |
| System 2-Ph                   | 2-phase (3-wire)  |                                 |   |
| System 1-Ph                   | 1-phase (2-wire)  |                                 |   |

## General specifications

|                                    |  |                                    |   |
|------------------------------------|--|------------------------------------|---|
| <b>Operating temperature</b>       | -25°C to +55°C (-13°F to 131°F) (R.H. from 0 to 90% non-condensing @ 40°C) according to EN62053-21 and EN62053-23. | <b>Surge</b>                       | On current and voltage measuring inputs circuit: 6kV;<br>According to CISPR 22    |
| <b>Storage temperature</b>         | -30°C to +70°C (-22°F to 158°F) (R.H. < 90% non-condensing @ 40°C) according to EN62053-21 and EN62053-23.         | <b>Radio frequency suppression</b> | According to CISPR 22   |
| <b>Installation category</b>       | Cat. III (IEC60664, EN60664).  | <b>Standard compliance</b>         |   |
| <b>Insulation (for 1 minute)</b>   | 4000 VRMS between measuring inputs and digital output.   | <b>Safety</b>                      | IEC60664, IEC61010-1<br>EN60664, EN61010-1<br>EN62052-11                          |
| <b>Dielectric strength</b>         | 4000 VRMS for 1 minute.  | <b>Metrology</b>                   | EN62053-21, EN62053-23,<br>EN50470-3  |
| <b>Noise rejection CMRR</b>        | 100 dB, 48 to 62 Hz.   | <b>Pulse output Approvals</b>      | DIN43864, IEC62053-31<br>CE   |
| <b>EMC</b>                         | According to EN62052-11  | <b>Connections</b>                 | Screw-type<br>2.4 x 3.5 mm<br>Min./Max. screws tightening torque: 0.4 Nm / 0.8 Nm |
| Electrostatic discharges           | 15kV air discharge;  | <b>Housing</b>                     |   |
| Immunity to irradiated             | Test with current: 10V/m from 80 to 2000MHz;   | Dimensions (WxHxD)                 | 72 x 72 x 65 mm   |
| Electromagnetic fields             | Test without any current: 30V/m from 80 to 2000MHz;  | Material                           | Noryl PA66,<br>self-extinguishing: UL 94 V-0<br>Panel and DIN-rail                |
| Burst                              | On current and voltage measuring inputs circuit: 4kV   | Mounting                           |   |
| Immunity to conducted disturbances | 10V/m from 150KHz to 80MHz   | <b>Protection degree</b>           |   |
|                                    |  | Front                              | IP50  |
|                                    |  | Screw terminals                    | IP20  |
|                                    |  | <b>Weight</b>                      | Approx. 400 g (packing included)  |

## Power supply specifications

|                          |   |                          |         |
|--------------------------|---|--------------------------|---------|
| <b>Self power supply</b> | 18 to 260VAC (48-62Hz).<br>Across input "VL1" and "N" | <b>Power consumption</b> | ≤2VA/1W |
|--------------------------|---|--------------------------|---------|

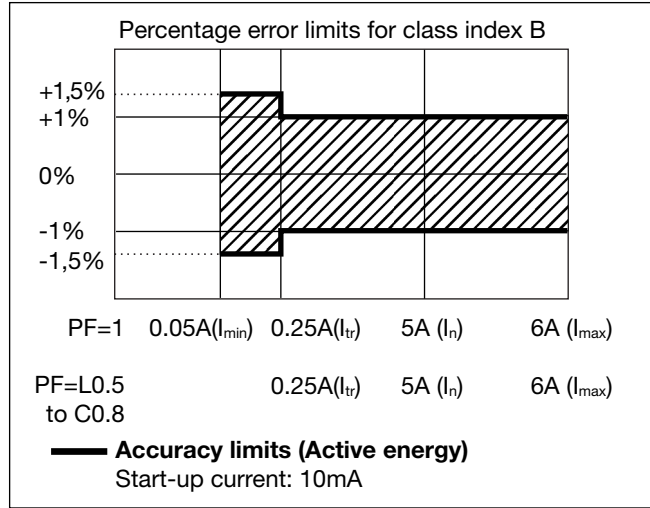
## Insulation between inputs and outputs

|                    | Measuring Inputs | Opto-Mosfet output | Communication port | Self power supply |
|--------------------|------------------|--------------------|--------------------|-------------------|
| Measuring Inputs   | -                | 4kV                | 4kV                | 0kV               |
| Opto-Mosfet output | 4kV              | -                  | -                  | 4kV               |
| Communication port | 4kV              | -                  | -                  | 4kV               |
| Self power supply  | 0kV              | 4kV                | 4kV                | -                 |

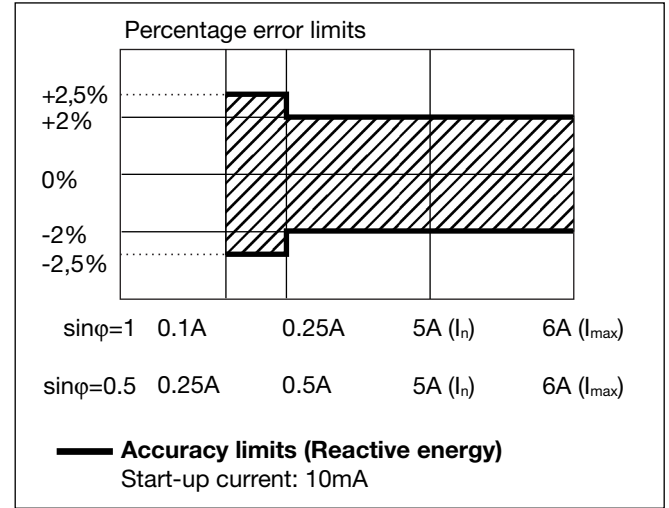
**NOTE:** all the models have, mandatorily, to be connected to external current transformers.

## Accuracy (According to EN50470-3 and EN62053-23)

kWh, accuracy (RDG) depending on the current



kvarh, accuracy (RDG) depending on the current



## EN50470-3 compliance

### Accuracy

0.9 U<sub>n</sub> ≤ U ≤ 1.1 U<sub>n</sub>;  
0.98 f<sub>n</sub> ≤ f ≤ 1.02 f<sub>n</sub>;  
f<sub>n</sub>: 50 or 60Hz;  
cosφ: 0.5 inductive to 0.8 capacitive.  
Class B  
I<sub>st</sub>: 0.01A;  
I<sub>min</sub>: 0.05A;  
I<sub>tr</sub>: 0.25A;

### Operating temperature

I<sub>n</sub>: 5A  
I<sub>max</sub>: 6A.  
-25°C to +55°C (-13°F to 131°F) (R.H. from 0 to 90% non-condensing @ 40°C)

### EMC compliance

E2

## Used calculation formulas

### Phase variables

Instantaneous effective voltage

$$V_{IN} = \sqrt{\frac{1}{n} \cdot \sum_1^n (V_{IN})_i^2}$$

Instantaneous active power

$$W_1 = \frac{1}{n} \cdot \sum_1^n (V_{IN})_i \cdot (A_1)_i$$

Instantaneous power factor

$$\cos\phi_1 = \frac{W_1}{VA_1}$$

Instantaneous effective current

$$A_1 = \sqrt{\frac{1}{n} \cdot \sum_1^n (A_1)_i^2}$$

Instantaneous apparent power

$$VA_1 = V_{IN} \cdot A_1$$

Instantaneous reactive power

$$\text{var}_1 = \sqrt{(VA_1)^2 - (W_1)^2}$$

### System variables

Equivalent three-phase voltage

$$V_{\Sigma} = \frac{V_1 + V_2 + V_3}{3} \cdot \sqrt{3}$$

Voltage asymmetry

Three-phase active power

$$W_{\Sigma} = W_1 + W_2 + W_3$$

Three-phase apparent power

$$VA_{\Sigma} = \sqrt{W_{\Sigma}^2 + \text{var}_{\Sigma}^2}$$

Three-phase power factor

$$\cos\phi_{\Sigma} = \frac{W_{\Sigma}}{VA_{\Sigma}} \quad (\text{TPF})$$

### Energy metering

$$k \text{ var hi} = \int_{t_1}^{t_2} Qi(t) dt \cong \Delta t \sum_{n1}^{n2} Qnj$$

$$kWhi = \int_{t_1}^{t_2} Pi(t) dt \cong \Delta t \sum_{n1}^{n2} Pnj$$

Where:

i= considered phase (L1, L2 or L3)  
P= active power; Q= reactive power;  
t<sub>1</sub>, t<sub>2</sub>=starting and ending time points of consumption recording; n= time unit; Δt= time interval between two successive power consumptions;  
n<sub>1</sub>, n<sub>2</sub>= starting and ending discrete time points of consumption recording



## List of the variables that can be connected to:

- RS485 communication port
- Pulse outputs (only "energies")

| No | Variable       | 1-ph. sys. | 2-ph. sys. | 3-ph. 4-wire balanced system | 3-ph. 3-wir balanced system | 3-ph. 4-wire unbalanced system | 3-ph. 3-wir unbalanced system | Notes                   |
|----|----------------|------------|------------|------------------------------|-----------------------------|--------------------------------|-------------------------------|-------------------------|
| 1  | kWh            | x          | x          | x                            | x                           | x                              | x                             | Total                   |
| 2  | kvarh          | x          | x          | x                            | x                           | x                              | x                             | Total                   |
| 3  | V L-N sys (1)  | o          | x          | x                            | x                           | x                              | x                             | sys=system ( $\Sigma$ ) |
| 4  | V L1           | x          | x          | x                            | x                           | x                              | x                             |                         |
| 5  | V L2           | o          | x          | x                            | x                           | x                              | x                             |                         |
| 6  | V L3           | o          | o          | x                            | x                           | x                              | x                             |                         |
| 7  | V L-L sys (1)  | o          | x          | x                            | x                           | x                              | x                             | sys=system ( $\Sigma$ ) |
| 8  | V L1-2         | o          | x          | x                            | x                           | x                              | x                             |                         |
| 9  | V L2-3         | o          | o          | x                            | x                           | x                              | x                             |                         |
| 10 | V L3-1         | o          | o          | x                            | x                           | x                              | x                             |                         |
| 11 | A L1           | x          | x          | x                            | x                           | x                              | x                             |                         |
| 12 | A L2           | o          | x          | x                            | x                           | x                              | x                             |                         |
| 13 | A L3           | o          | o          | x                            | x                           | x                              | x                             |                         |
| 14 | VA sys (1)     | x          | x          | x                            | x                           | x                              | x                             | sys=system ( $\Sigma$ ) |
| 15 | VA L1 (1)      | x          | x          | x                            | x                           | x                              | x                             |                         |
| 16 | VA L2 (1)      | o          | x          | x                            | x                           | x                              | x                             |                         |
| 17 | VA L3 (1)      | o          | o          | x                            | x                           | x                              | x                             |                         |
| 18 | var sys        | x          | x          | x                            | x                           | x                              | x                             | sys=system ( $\Sigma$ ) |
| 19 | var L1 (1)     | x          | x          | x                            | x                           | x                              | x                             |                         |
| 20 | var L2 (1)     | o          | x          | x                            | x                           | x                              | x                             |                         |
| 21 | var L3 (1)     | o          | o          | x                            | x                           | x                              | x                             |                         |
| 22 | W sys          | x          | x          | x                            | x                           | x                              | x                             | sys=system ( $\Sigma$ ) |
| 23 | W L1 (1)       | x          | x          | x                            | x                           | x                              | x                             |                         |
| 24 | W L2 (1)       | o          | x          | x                            | x                           | x                              | x                             |                         |
| 25 | W L3 (1)       | o          | o          | x                            | x                           | x                              | x                             |                         |
| 26 | PF sys         | x          | x          | x                            | x                           | x                              | x                             | sys=system ( $\Sigma$ ) |
| 27 | PF L1          | x          | x          | x                            | x                           | x                              | x                             |                         |
| 28 | PF L2          | o          | x          | x                            | x                           | x                              | x                             |                         |
| 29 | PF L3          | o          | o          | x                            | x                           | x                              | x                             |                         |
| 30 | Hz             | x          | x          | x                            | x                           | x                              | x                             |                         |
| 31 | Phase sequence | o          | o          | x                            | x                           | x                              | x                             |                         |

(x) = available

(o) = not available (zero indication on the display)

(1) = Variable available only through the serial communication port RS485

## Display pages

| No | 1st variable (1 <sup>st</sup> half-line) | 2nd variable (2 <sup>nd</sup> half-line) | 3rd variable (2 <sup>nd</sup> line) | Note  | Applications |   |   |
|----|--|--|-------------------------------------|---|--------------|---|---|
|    |  |  |                                     |   | A            | B | C |
|    | Phase sequence                           |  |                                     | The phase sequence tringle appears in any page only if there is a phase reverse | x            | x | x |
| 1  | Total kWh                                |  | W sys                               |   | x            | x | x |
| 2  | Total kvarh                              |  | kvar sys                            |   |              | x | x |
| 3  |  | PF sys                                   | Hz                                  | Indication of C, -C, L, -L depending on the quadrant                            | x            | x | x |
| 4  | PF L1                                    | PF L2                                    | PF L3                               | Indication of C, -C, L, -L depending on the quadrant                            |              |   | x |
| 5  | A L1                                     | A L2                                     | A L3                                |   |              |   | x |
| 6  | V L1-2                                   | V L2-3                                   | V L3-1                              |   |              |   | x |
| 7  | V L1                                     | V L2                                     | V L3                                |   |              |   | x |

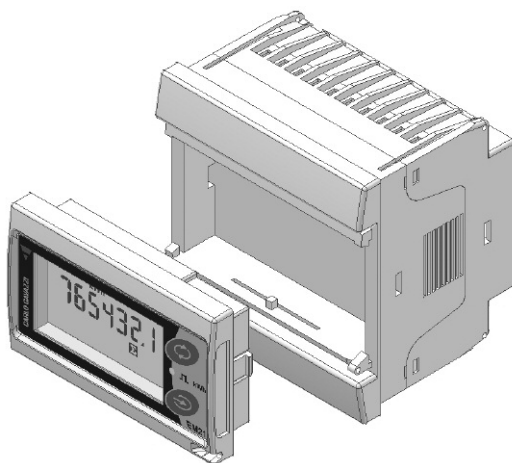
## Additional available information on the display

| Type                | 1st line    | 2nd line  | note                                    |
|---------------------|-------------|-----------|---|
| Meter information 1 | Y. 2007     | r.A0      | Year of production and firmware release |
| Meter information 2 | value       | LEd (kWh) | KWh per pulse of the LED                |
| Meter information 3 | SYS [3P.n]  | value     | System type and connection type         |
| Meter information 4 | Ct rAt.     | value     | Current transformer ratio               |
| Meter information 5 | Ut rAt.     | value     | Voltage transformer ratio               |
| Meter information 6 | PuLSE (kWh) | value     | Pulse output: kWh per pulse             |
| Meter information 7 | Add         | value     | Serial communication address            |

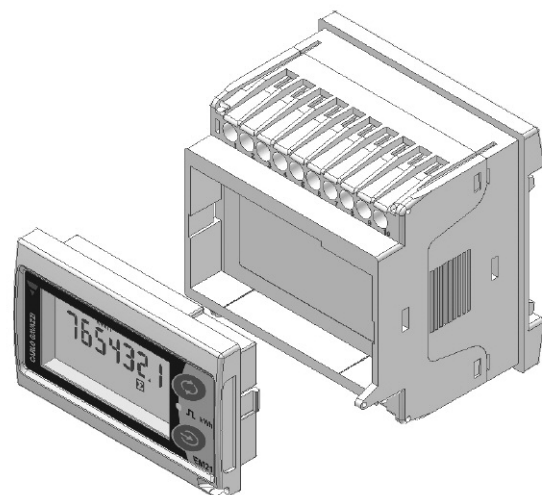
## List of selectable applications

|          | Description                      | Notes   |
|----------|----------------------------------|---|
| <b>A</b> | Active energy meter              | Active energy measurement with some minor parameters              |
| <b>B</b> | Active and reactive energy meter | Active and reactive energy measurement with some minor parameters |
| <b>C</b> | Full set of variables            | Full set of available variables can be displayed                  |

## One instrument with double mounting capability



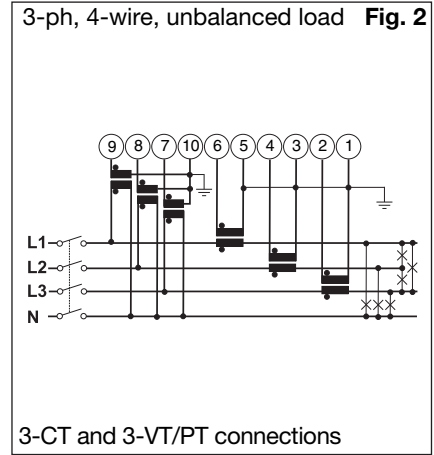
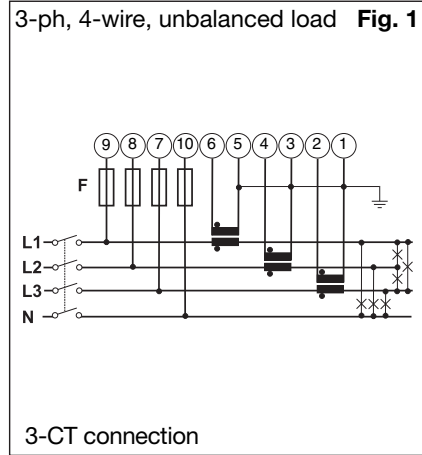
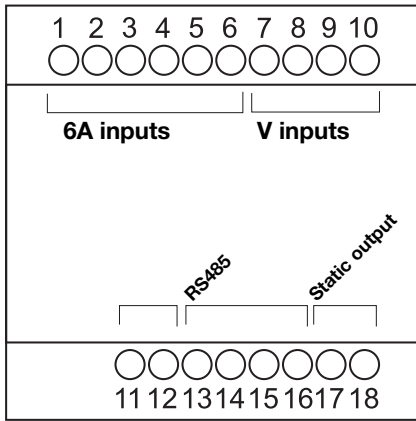
By means of the patented detachable display it is possible to configure the same instrument either as a panel mounting meter or...



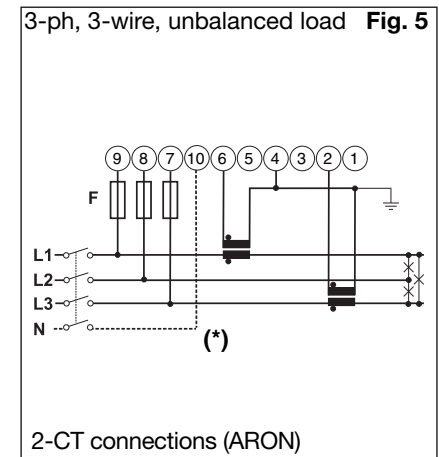
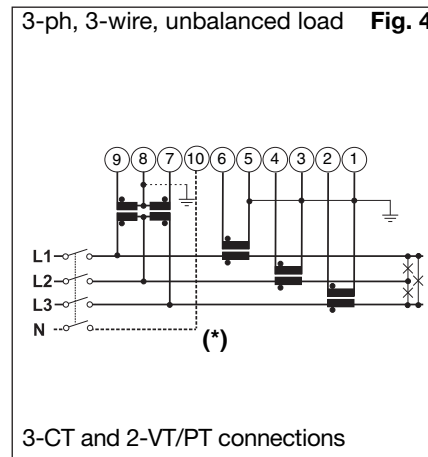
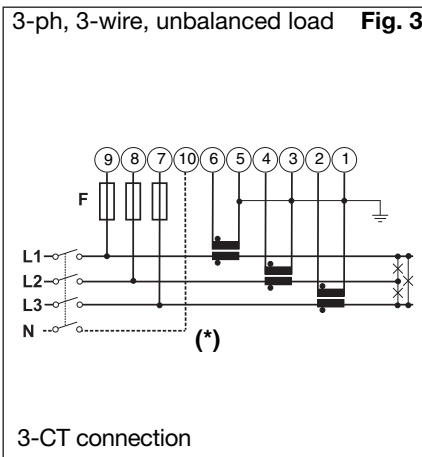
... as DIN-rail mounting meter.

# Wiring diagrams

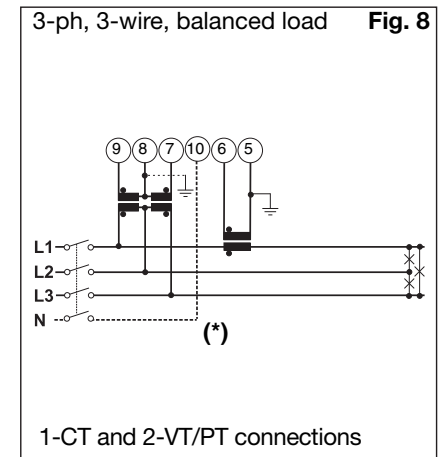
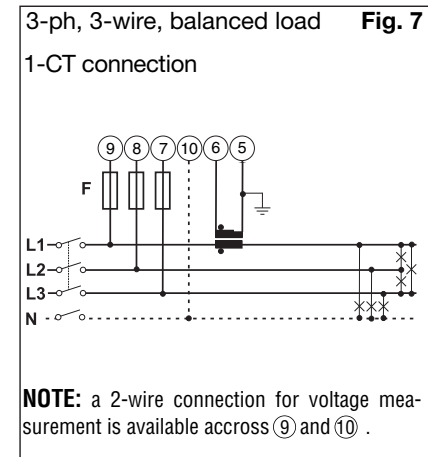
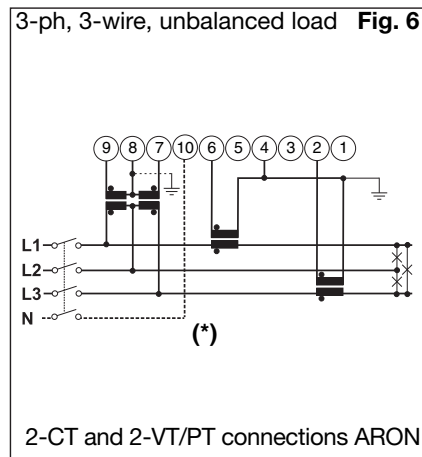
## (6A) Self power supply, system type selection: 3P.n



## (6A) System type selection: 3P.n



## (6A) Self power supply, system type selection: 3P.1

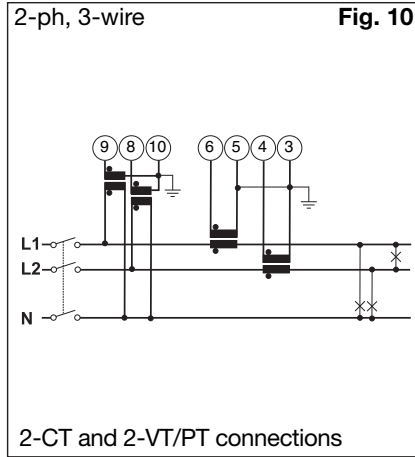
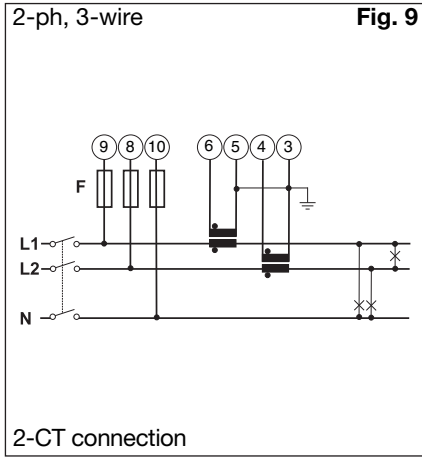


(\*) **NOTE:** For a correct power supply of the instrument, the neutral must always be connected.

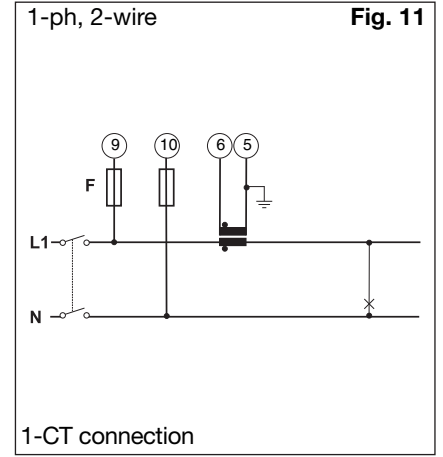


## Wiring diagrams

(6A) System type selection: 2P

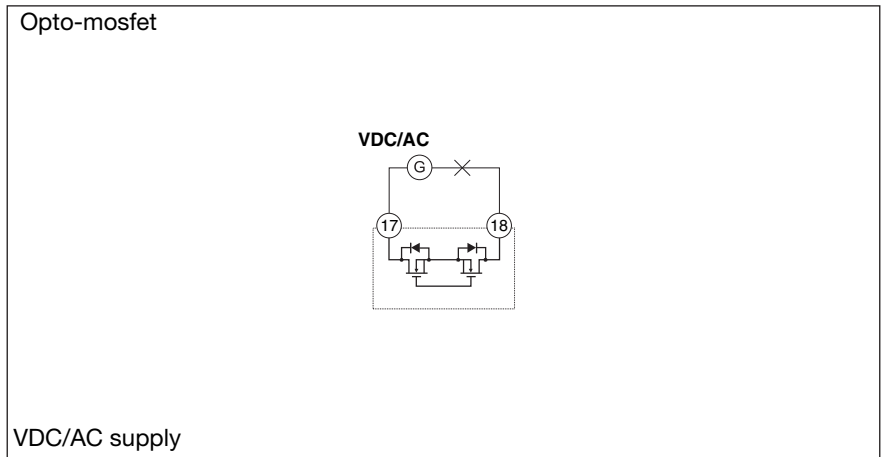
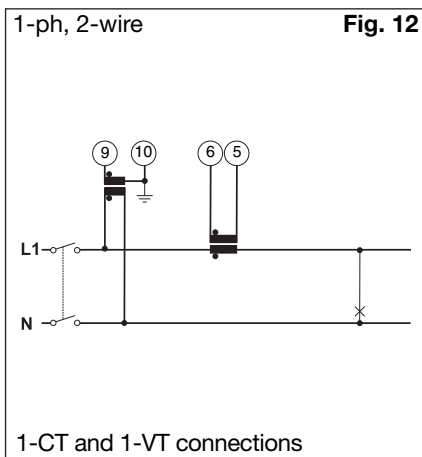


(6A) System type selection: 1P

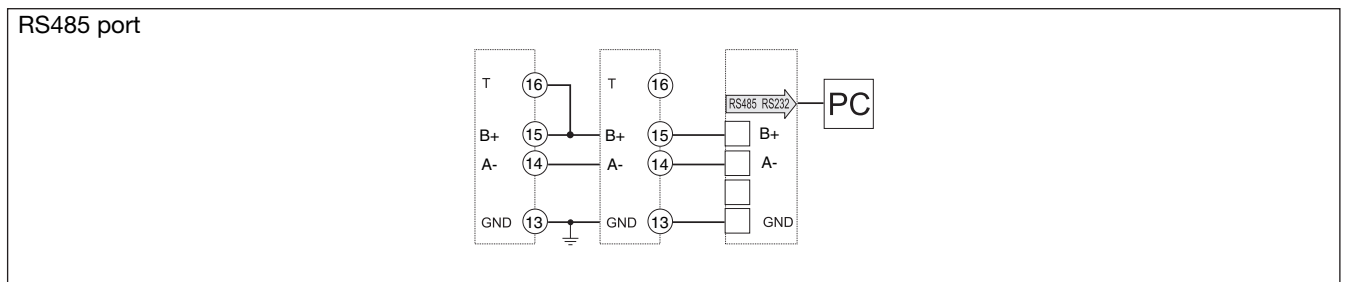


## Static output wiring diagram

(6A) System type selection: 1P

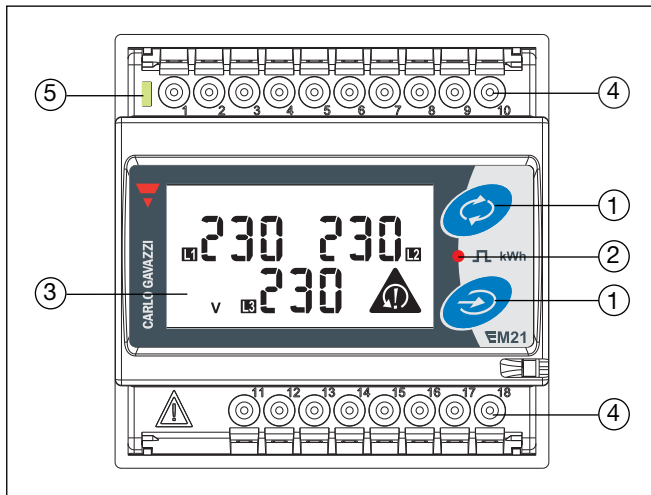


## RS485 port wiring diagram



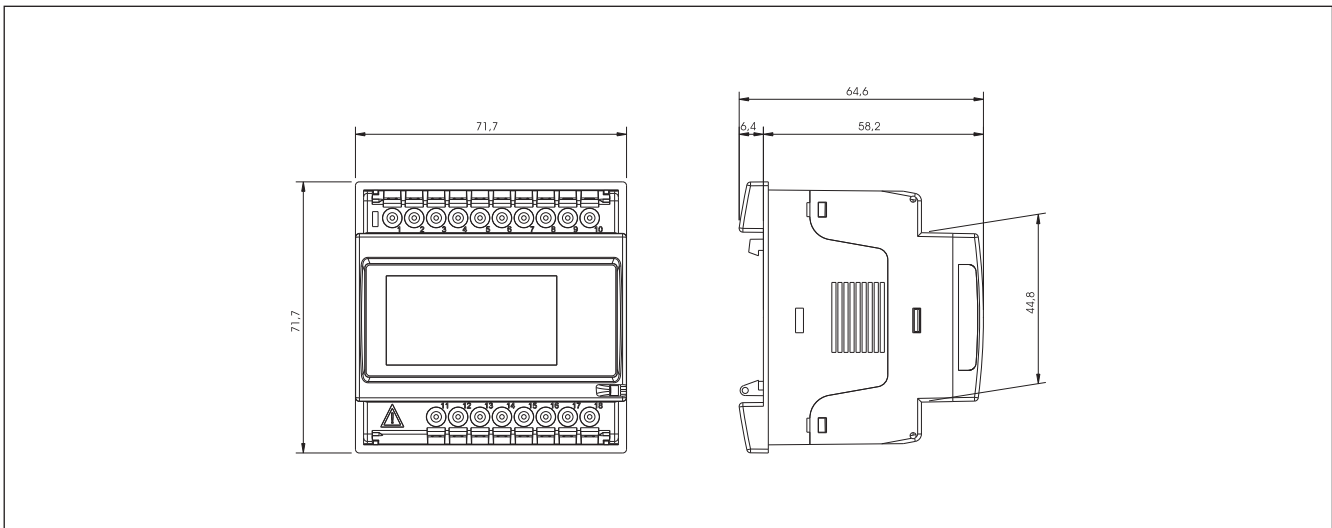
**RS485 NOTE:** additional devices provided with RS485 are connected as per the picture above. The termination of the serial output is carried out only on the last instrument of the network, by means of a jumper between (B+) and (T).

## Front panel description



1. **Keypad**  
To program the configuration parameters and scroll the variables on the display.
2. **Pulse output LED**  
Red LED blinking proportional to the energy being measured.
3. **Display**  
LCD-type with alphanumeric indications to display all the measured variables.
4. **Connections**  
Screw terminal blocks for instrument wiring.
5. **Green LED**  
Lit when power supply is available

## Dimensions (DIN configuration)



## Dimensions and panel cut out (72x72 panel mounting configuration)

