

PRELIMINARY DATA SHEET

RI-17-45 Series



Single phase Energy meter (MID certified)

- Available with LCD or mechanical display
- Import Energy measurement
- Single module width DIN rail mounted
- 45A direct connection
- MID B + D certified (SGS Cert. No. : 0120/SGS0207)
- Single pulse output
- LED pulse indication

Application

The RI-17-45 Series is a range of single phase DIN rail mounted, MID approved active energy meters. Suitable for monitoring energy consumption in residential, solar PV, industrial and utility applications.

All models are MID approved (B and D) and may be used for billing purposes.

The meter is available in three versions:-

- Mechanical display register.
- LCD display register.
- Backlit LCD display register.

The unit is housed in a 17.5mm wide single module case suitable for 35mm DIN rail mounting.

Displayed Parameters

Import Active Energy (kWh)



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Display

| | | |
|-------------------------------------|---|--|
| Display Type | LCD (with or without backlight available) or mechanical display | |
| Digit height | 6mm | |
| Page scrolling | N/A - single page | |
| Displayed parameters and accuracies | Active Energy | Class B (EN50470-3) / Class 1 (EN62053-21) |
| Energy maximum display | 99999.9 | |
| Resolution | 100wh | |

Programming

| | | |
|-------------------------|---------------------|--|
| Programmable parameters | N/A | |
| Programming access | N/A | |
| Memory retention | Non Volatile memory | |

Input

| | | |
|--|-------------------------------------|--|
| Connection | Single phase only | |
| Input voltage (Un) | 230V | |
| Operating voltage range | 176...276V | |
| Voltage circuit power consumption (Max.) | ≤10VA, ≤2W | |
| Current rating (Imin-Iref) | 0.25...5A | |
| Max current (Imax) | 45A | |
| Current circuit power consumption (Max.) | N/A combined with voltage input | |
| Starting current | 0.4% of Iref | |
| Short time overcurrent | 30 Imax / 10mS (EN62053-21 and -23) | |
| Impulse voltage withstand | 6kV/ 1.2μS | |
| AC voltage withstand | 4kV for 1 minute | |
| CT ratio range | N/A direct connection | |
| VT ratio range | N/A direct connection | |
| Frequency | 50Hz | |

Auxiliary Supply

| | | |
|---------------------|------------------------------------|--|
| Voltage range | Self supplied from measuring input | |
| Operating frequency | See input section | |
| Power consumption | See input section | |

Outputs

| Energy pulses | |
|----------------------------|--|
| Number of pulse outputs | 1 |
| Pulse output function | 1x fixed at 1000imp/kWh |
| Pulse output type | Semiconductor (does not support volt-free operation) |
| Pulse output Max. current | 27mA (Class A to IEC/EN62053-31) |
| Pulse output voltage range | 5...27VDC |
| Pulse duration | 80mS |

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Communication

| | |
|---------------------------------------|-----|
| Communication Type | N/A |
| Communication protocol | N/A |
| Address | N/A |
| Number of bits | N/A |
| Parity | N/A |
| Baud rate | N/A |
| Required response time to request | N/A |
| Number of meters connected on the bus | N/A |
| Max distance from Master device | N/A |

Insulation

| | |
|---------------------------|------|
| Installation category | III |
| Pollution degree | 2 |
| Insulation voltage rating | 300V |

Environmental Conditions

| | |
|---------------------------------------|--------------------------|
| Reference temperature | 23°C ±2°C |
| Specified temperature operating range | -25°C...+55°C |
| Storage temperature | -40°C...+70°C |
| Relative humidity | 0 to 85%, non condensing |
| Mechanical environment | M1 |
| Electromagnetic environment | E2 |

Mechanical

Housing

| | |
|-----------------------------------|---|
| Housing Type | 1 module DIN 43880 |
| Mounting | Snap-on 35mm rail |
| Tamper sealing | Terminal cover and meter housing (meter housing by means of a tamper sticker) |
| Housing material | Self-extinguishing polycarbonate (UL94 V-0) |
| Protection degree (EN/ IEC 60715) | IP20 (terminals), IP51 (front of housing) |
| Weight | <70g |

Termination

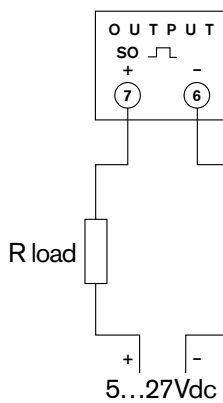
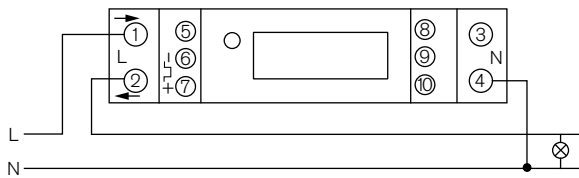
| | |
|-----------------------------|-------------------------------|
| Current input terminal type | Screw type - rising clamp |
| Max. wire size | 13mm ² |
| Voltage input terminal type | Combined with current circuit |
| Max. wire size | N/A |
| Output terminal type | Screw type - rising clamp |
| Max. wire size | 2.5mm ² |

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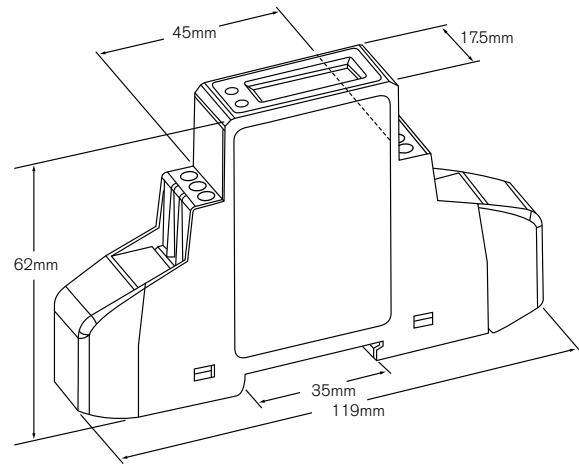
Conformity

| | |
|-------------------------------|--|
| Electromagnetic compatibility | Emission and immunity tests according to EN50470 Immunity test according to EN 50470 |
| Accuracy and functionality | EN50470-1:2006 - Electricity metering equipment (a.c.). Part 1: General requirements, tests and test conditions Metering equipment (class indexes A, B and C) EN50470-3:2006 - Electricity metering equipment (a.c.). Part 3: Particular requirements Static meters for active energy (class indexes A, B and C) EC Directive 2004/22/EC |

Wiring Diagrams



Dimensions



Model Selection Table

| Tariffs and Communications | Model |
|---|-------------|
| Single Phase Energy Meter - LCD | RI-17-45-D |
| Single Phase Energy Meter - LCD with backlight | RI-17-45-DB |
| Single Phase Energy Meter - mechanical register | RI-17-45-A |