

General Overview



M380, M380R, M320CT

M380, M380R, M320CT - Three-phase, low voltage 3x230(400)V, wall mounted electricity meter with advanced Automatic Meter Reading (AMR) and management features.

These meters measure active and reactive electricity energy consumption and transmit data over the power network, using two way Power Line Communication (PLC) to a central unit – concentrator – from which data is transmitted to the control center by cellular communication – GSM/GPRS.

The wall mounted meters come in three types depending on the needs of the customer:

M380 - Direct connection meter.

M320CT - CT - Current Transformers connection meter.

M380R - Direct connection meter. The meter has an internal load switching relay in each phase and is capable of remotely disconnecting/reconnecting power from/to customer.

These 3 meters are capable of receiving data from the concentrator such as: Time Of Use (TOU) tables, power limit, real time clock.

These 3 meters are capable of transmitting data to the concentrator such as: energy reading, status, TOU reading.

Optional: can be supplied with an internal radio receiver using unlicensed RF communication that reads nearby Water / Gas meters.

Features:

- ✓ IEC62053-21, Class 2 active energy (designed for Class 1), IEC62053-23 Class 2 reactive energy.
- ✓ M380, M380R - 3x20(80)A, direct connection electricity meters.
- ✓ M320CT - 3x5(20)A, CT connection electricity meter.
- ✓ Optional software application packages, such as:
- ✓ Real two-way "A" band Power Line Communication.
- ✓ Measures and reports active and reactive energy in each phase separately.
- ✓ Measures and reports voltage level in each phase.
- ✓ Calculates consumption in accordance with Time Of Use (TOU) tariff table.
- ✓ Automatic calibration (NO physical adjustment).
- ✓ Repeats and amplifies signals transmitted by other distant units towards the
- ✓ concentrator over the power network – No distance limitation.
- ✓ Internal real time clock updated periodically by concentrator.
- ✓ Real time recovery synchronization from the cellular network.
- ✓ 2 line 16 characters large LCD Display
- ✓ LED consumption indication – 200pulses/kWh
- ✓ M380R - Internal 100A load switching elements in each phase
 - ✓ Remote disconnection/reconnection
 - ✓ Remotely limits customer maximum power demand.
- ✓ Non volatile back-up memory.
- ✓ Directly energized by power lines.
- ✓ Simple and fast installation.

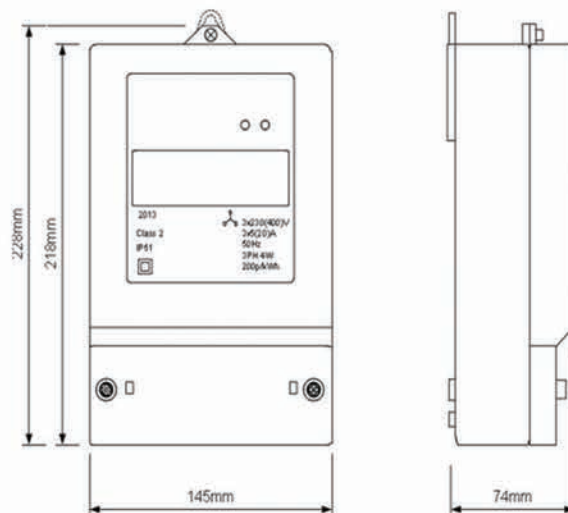


Technical Specifications

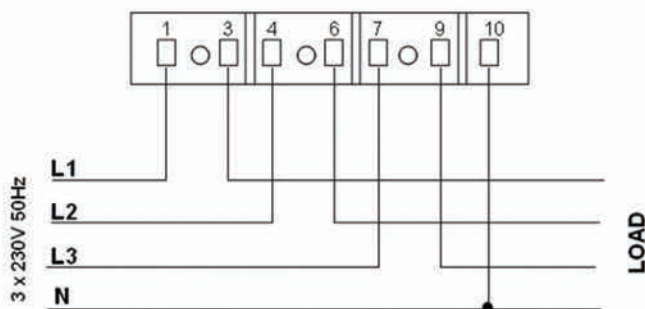
| General | |
|---|--------------------------------|
| Nominal Voltage (Un) | 3 x 230 (400) VAC |
| Supply Voltage range | 80% - 115% Un |
| Nominal Frequency (fn) | 50Hz |
| Consumption at Un | 4 W – 4.1 Var (Capacitive) |
| System connections | 3 phase 4 wire |
| Measurement | |
| Class Index | |
| Active energy acc. to IEC62053-21 | Class 2 (designed for Class 1) |
| Reactive energy acc. to IEC62053-23 | Class 2 |
| M380, M380R | |
| Basic Current (Ib) | 3x20A |
| Maximum continuous current (Imax) | 3x80A |
| M320CT | |
| Basic Current (Ib) | 3x5A |
| Maximum continuous current (Imax) | 3x20A |
| Environmental | |
| Temperature range | |
| operation | -15°C to 55°C |
| storage | -25°C to 70°C |
| Protection rating according to IEC60529 | IP51 |
| Insulation Strength | |
| Protective Class according to IEC62052-11 | Class I ↓ |
| Display | |
| Type | LCD |
| Format | 16 Characters x 2 Lines |
| Character size | 9.55mm x 5.2mm |
| LED Indicator | |
| Flash rate | 200 imp/kWh |
| Communication Interfaces | |
| PLC Frequency range | A-band 60-90 kHz |
| PLC Method | Spread FSK |
| LC301R Disconnection device | |
| Type | Polarized latching relay |
| Maximum switching current | 100A |
| Maximum switching voltage | 440VAC |
| Mechanical life | 1 000 000 operation |
| Weight/External Dimensions | |
| Weight | 1300 g |
| Width | 145 mm |
| Height | 228 mm |
| Depth | 74 mm |

Connection Diagrams

Fig. 2.Meter Dimensions



M380,M380R direct connection meters



M320CT current transformer connection meter

