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:

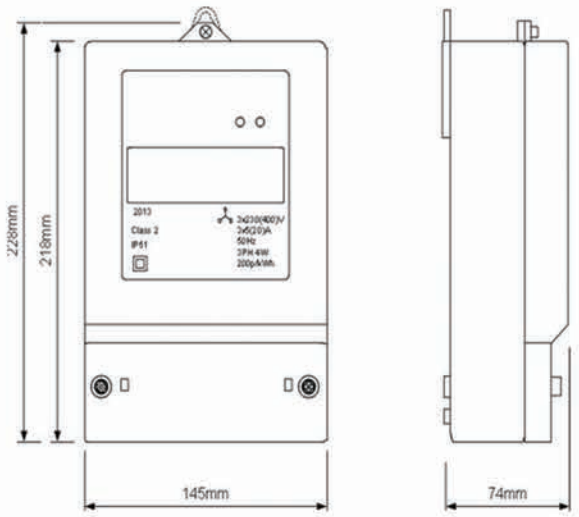
- IEC62053-21, Class 2 active energy (designed for Class 1), IEC62053-23 Class 2 reactive energy.
- M380, M380R - 3x20(80)A, direct connection electricity meters.
- M320CT – 3x5(20)A, CT connection electricity meter.
- Optional software application packages, such as:
- Real two-way "A" band Power Line 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

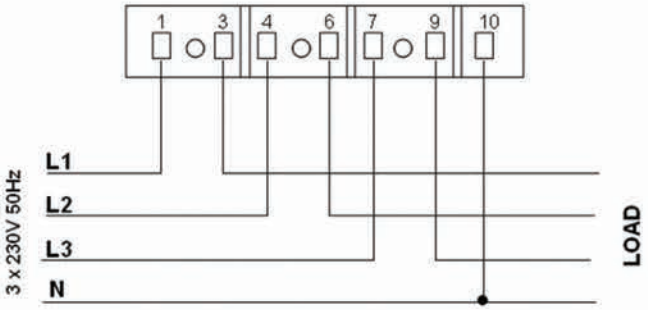
General	
Nominal Voltage (Un)	3 x 230 (400) VAC
Supply Voltage range	80% - 115% Un
Nominal Frequency (fn)	50Hz
Consumption at Un	4 W – 4.1 Var (Capacitive)
System connections	3 phase 4 wire
Measurement	
Class Index	
Active energy acc. to IEC62053-21	Class 2 (designed for Class 1)
Reactive energy acc. 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 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 Dimensiions



M380,M380R direct connection meters



M320CT current transformer connection meter