SMS metering

Energy Measurement and Management

ME371

Single-phase meter with DLC modem for AMR and remote control

ME371 is targeted at deregulated energy markets and enables provision of an AMR service. It is a single-phase meter intended for use in residential applications. The meter is a perfect combination of well-proven metering technology and state-of-the-art DLC communication modem, all integrated and sealed in a single enclosure. The integrated solution attains the same high quality and reliability of Iskraemeco meters. The meter is approved according to IEC 62052-11 and IEC 62053-21, ISO 9001, EN 50470-1, EN 50470-3 and designed according to even higher internal Iskraemeco standards, based on 60 years of experience of meter manufacturing and more than 55 million meters installed worldwide.

kWh kvarh	Active energy Reactive energy (option)
A V	Measured quantities
	Single or double direction
T(4)	Multirate registration
	Internal clock
	Log book
	Load profile
	Maximum demand
	Detection of meter cover and terminal cover removal
	Switching device
DLC	Distribution Line Carrier
IP54	Protection level
M-Bus	M-Bus
dlms IEC 62056-21	Communicaton protocols

- AMR with integrated DLC communicaton
- Multi-utility input for water, heat or gas meters reading
- Relays for remote and local load control
- Indication of operational status and alarming
- Very high EMC immunity
- Tamper detection
- Universal current terminal for all types of wires
- Optical port for local meter reading/programming

FUNCTIONAL AND TECHNICAL DATA

Measured and recordered quantities

Active energy (reactive) in both energy flow directions – import (A+), export (A-) and absolute IAI, accuracy class 1 or 2

Maximum demand with programmable integration period (typically 5, 10, 15, 30 or 60 minutes)

Power quality parameters

- Instantaneous voltage and current
- Under/over voltages
- Voltage faults
- Daily peak and minimum voltage
- Number of short power-downs (less than 3 minutes), total time without power supply

Multirate registration

- Programmable tariff structure, up to 4 rates
- Up to 4 seasons, up to 4 weekly programs
- Up to 4 day types, up to 8 daily changeovers

Load profile

- Two independent load profiles (LP1, LP2) up to 16 channels each
- Programmable LP period (typically 15, 30 or 60 minutes, 1 day)
- Capacity (one measurement value with a time stamp and status, period 1 hour): 144 days

Log book: up to 64 events with a time stamp

Communication

- Integrated DLC modem for CENELEC A band outdoor communication. Spread FSK (S-FSK) with two narrow band carriers type of modulation is used

Communication protocols

Two protocols are supported:

- IEC 62056-46 (DLMS) on DLC for remote reading and programming
- IEC 62056-46 (DLMS) and IEC 62056-21 (former 61107) on optical port

Metrological LED

LEDs are built in, indicating active (reactive) energy flow. Blinking frequency is related to energy consumption.

Real time clock

- Accuracy according to IEC 62052-21
- Day-light saving feature
- Remote synchronization available
- Super Cap for backup power supply (up to 10 days)

LCD

- Data can be displayed in Automatic or Manual scroll mode
- Programmable data set and sequence
- Data identification according to IEC 62056-61 (OBIS)

Switching device state, energy flow direction, self-diagnosis parameters as well as some communication parameters are also shown on the LCD:

- Connection to the data concentrator
- Communication in progress

Tamper-proof features

- The meter detects the main cover and the terminal cover opening and records it in a logbook

Output relay

One 6 A relay is integrated into the meter. It can be used for load control according to the internal tariff program or can be managed remotely.

Switching device

High quality 100 A switching device (10^6 actions) is integrated into the meter. Information about the state of the switching device is available in the certain register and on the display (code red and load limitation functionality).

Multiutility

The meter is equipped with M-Bus micro master to which up to 4 gas, heat or water meters can be connected.

Alarm input

The meter is optionally equipped with two additional inputs (an external alarm device can be connected).

Prepayment mode

The meter can be remotely switched to the prepayment mode. Information about the amount of purchased energy is sent to the meter remotely. The purchased energy is consumed according to the tariff programme.

Terminals of current circuits

- Universal clamping type:
  D = 8.5 mm or D = 9.5 mm

Programming

Programming of the meter as well as Firmware upgrade can be done locally (via an optical port) or remotely (via a DLC modem) in compliance with the predefined security levels.

Housing

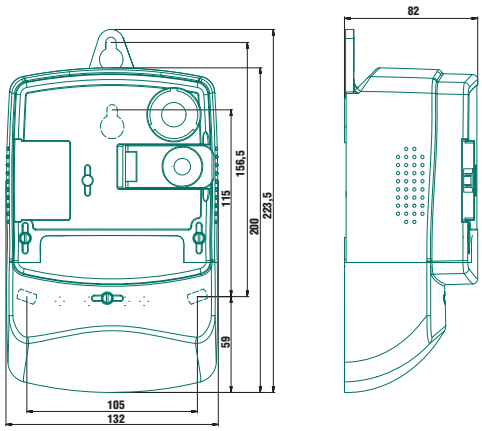
- Self-extinguishable polycarbonate
- IP 54 protection against water and dust

Available accessories

- MeterRead software for local reading and programming using HHU
- MeterView software for local or remote programming using PC
- IR optical probe (DB9 or USB)

Accuracy class (IEC 62052-11, IEC 62053-21, EN 50470-1, EN 50470-3)	2 or 1
Nominal current In	5 or 10 A
Maximum current Imax	85 A or 100 A
Minimum current	0.05 In
Starting current	0.004 In
Nominal voltage Un	230 V (other voltages on request)
Voltage range	0.8 Un ... 1.15 Un
Nominal frequency	50 Hz or 60 Hz
Operation temperature range	-25°C ... +60°C
Extended temperature range	-40°C ... +70°C
Storage temperature	-40°C ... +80°C
Internal clock	quartz crystal 32 kHz
Clock accuracy (at 25°C)	≤±3 min/year
Clock reserve	10 days
Optical interface	IEC62056-21 or DLMS-HDLC
DLC interface	DLMS-HDLC
Data transmission rate	
optical interface	19200 baud
DLC interface	max. 1200 baud
Inherent consumption	
of current circuit	<0.5 VA
of voltage circuit	<2 W / 10 VA
Insulation strength	4 kV, 50 Hz, 1 min
Shock voltage	
measuring circuits	12 kV, 1.2/50 µs
communication circuits	6 kV, 1.2/50 µs
Electrostatic discharge (IEC 1000-4-2)	15 kV
High frequency radiant field (IEC 1000-4-3)	10 V/m
High frequency interferences (IEC 1000-4-4)	4 kV
Switching device	100 A
Life time of switching device	1,000,000 cycles
Dimensions	200 x 132 x 82 mm
Mass approx.	1 kg

OVERALL DIMENSIONS (mm)



Owing to periodical improvements of our products the supplied products may differ in some details from the data stated in the prospectus material.

SMS Metering Ltd - SolarCorner
41 London Road, Castle Court, Reigate RH2 9RJ, UK
T: 0845 604 7244
E: info@smsmetering.co.uk
W: www.smsmetering.co.uk.

722.999.198 0501/06