ISKRAEMECO

Energy Measurement and Management

MT371

Polyphase meter with DLC modem for AMR and remote control

MT371 is targeted at deregulated energy markets and enables provision of an AMR service. It is a polyphase meter intended for use in residential and commercial 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
DLC	Distribution Line Carrier
IP54	Protection level
M-Bus	M-Bus
dlms IEC 62056-21	Communication protocols

- AMR with integrated DLC communication
- 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 and (optionally) reactive energy in both energy flow directions (apparent energy also available) – import (A+, R+, S+) and export (A-, R-, S-), 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
- Phase voltage faults
- Voltage unbalance
- Daily peak and minimum voltage for each phase
- 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 and optionally 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)

Phase voltage presence, 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
- Neutral line break-off detection

Multiphase metering operation

The meter can be used as a single or three phase meter.

Output relays: Two relays are built in:

- 6 A electromechanical (for load control)
- 100 mA Opto-mos

Switching device

Optionally, the meter can be equipped with an external three phase switching device (100 A) which is connected to the terminal block and can be sealed (code red and load limitation functionality).

Multiutility

- M-Bus micromaster to which up to 4 gas, heat or water meters can be connected
- M-Bus for control of a switching device

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 for direct connection
- D = 5.5 mm for CT connection

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

- Se.lf-extinguishing polycarbonate
- IP 54 protection against water and dust

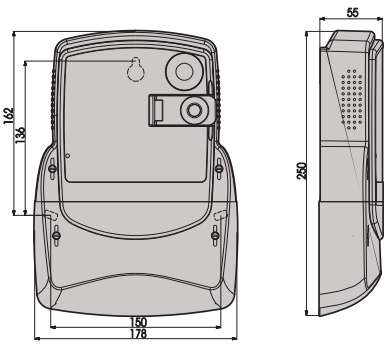
Available accessories

- 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 (CT connection)	5 A
Maximum current Imax (CT connection)	6 A
Nominal current In (direct connection)	5 or 10 A
Maximum current Imax (direct connection)	85 A or 120 A
Minimum current	0.05 In
Starting current	0.004 In
Nominal voltage Un	3x230/400 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
Inherent consumption of voltage circuit	<2 W / 10 VA
Short-circuit current	30 Imax
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 61000-4-2)	15 kV
High frequency radiant field (IEC 61000-4-3)	10 V/m
High frequency interferences (IEC 61000-4-4)	4 kV
Switching device (option)	3 x 100 A
Life time of switching device	10^6 cycles
Dimensions	250 x 178 x 55 mm
Mass (without a switching device)	1 kg

External plug-in switching device (option)

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.

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