

# INDUSTRIAL AND COMMERCIAL

Landis+Gyr Dialog Communication unit

## CU-M1 / M2 / M4 TECHNICAL DATA



### CU-Mx

#### Definition and use

Version	S01	S02	PSTN-Modem	RS485
CU-M1	●	●	●	●
CU-M2			●	
CU-M3	●	●	●	
CU-M4			●	●

#### S0 interface CU-M1, CU-M3

The pulse inputs permit the connection of external pulse emitting devices, e.g. electricity-, water-, gas- or heat-meters.

#### Operating conditions

Standard	IEC61393 / DIN 43864
Rated voltage	24 V DC
Max. voltage	27 V DC
Current	
- Condition "On"	min. 10mA, max 27mA
- Condition "Off"	max. 2 mA

Pulse length	≥30 ms
Max. line length	normally up to 0.5 m
Insulation resistance to meter	4 kV

#### PSTN-Modem CU-M1, CU-M2, CU-M3, CU-B4

PSTN (Public Switched Telephone Network)

#### Operating conditions

Standard	IEC 62056-21
Approval	TBR21 (ET81 Guide EG201121)
Bit rate	V21, V22, V22bis
Insulation resistance to meter	4 kV
Communication protocol	IEC 62056-21 and <i>dlms</i>
Telephone answering machine	periodical synchronisation

#### Time window

- No readiness (modem is out of service)
  - Reception at all times, daily, weekly or monthly
- Emergency window after 24 hrs without remote reading

#### Functions of the LEDs Tx/ Rx/CON

- Tx: transmission of characters via modem / RS485
- Rx: reception of characters via modem / RS485
- CON: continuously lit if there is a connection.  
Flashing indicates reception of "Ring" function

#### RS485 interface CU-M1, CU-M4

asymmetric, serial, asynchronous, bi-directional interface

#### Operating conditions

Standard	ISO-8482
Signal condition binary 1	
- Voltage difference	< -0.2 V DC
Signal condition binary 0	
- Voltage difference	> 0.2 V DC
Max. number of slaves	31
Max. line length depending on environment / cable	
- up to 250 m at max. 57'600 bps + max. 31 Slaves	
- up to 550 m at max. 38'400 bps + max. 31 Slaves	
- up to 1000 m at max. 19'200 bps + max. 15 Slaves	
Insulation resistance to meter	4 kV

## External influences

In general same as for base meter

## Weight and dimensions

Weight approx. 80 g

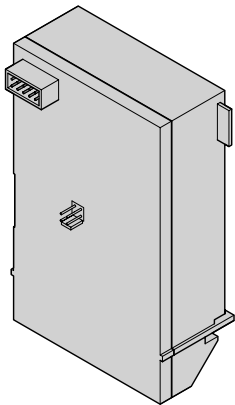
### External dimensions

Width 65 mm  
 Height 103 mm  
 Depth 38 mm

## Connection to base meter

### Base meter to communication unit

via 10-pin plug and socket serving for supply voltage and internal bus and 4-pin plug for Ground connection



## Connection diagram

### S0 (pulse inputs)

S01 Pulse input 1  
 S02 Pulse input 2

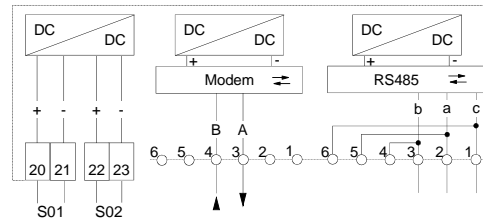
### Modem

GND Signal Ground  
 A A-wire (telephone network)  
 B B-wire (telephone network)

### RS485

c Signal Ground  
 a Data a  
 b Data b

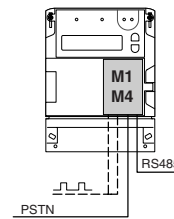
## CU-M1



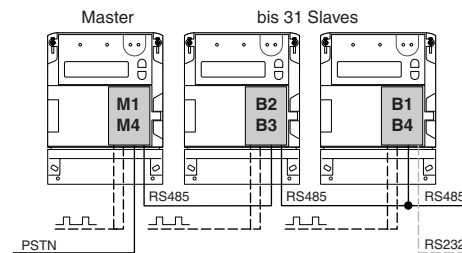
## Typical applications

### Communication via built-in PSTN modem

Since the meter is fitted with a built-in PSTN modem the telephone line may be connected directly at the meter without using external devices. Communication takes place via the PSTN modem. Depending on the version of the meter, pulse inputs may be available for registering external measured values. If a RS485 interface is fitted this may be used for AMR purposes, e.g. multiple meter reading application (see below).



### Multiple meter reading via built-in PSTN modem



The meter fitted with a communication unit CU-M1 (with 2 S0 inputs) or CU-M4 (without S0 inputs) is used as master Communication with all other meters takes place via the RS485 interface. Grace of built-in PSTN modem, the telephone line may be connected directly.

### Key to symbols used

- Optional data channel for local applications
- Optional pulse inputs

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