Communication

Industrial and commercial

CU-L52

E65C

Technical data

E65C CU-L52 communication units provide LTE communication between E650/S650 or E850 device families and the metering system.

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Revision history

Version	Date	Comments
a.01	26.07.2017	First draft (standards and power to be confirmed).
a.02	05.04.2018	Updated draft after beta version available.
a.03	26.06.2018	Updated draft.
a	02.07.2018	First edition.
b	17.08.2018	Second edition.
c	11.09.2018	Added safety standard IEC 60950.
d	24.06.2019	Updated External 5 V power supply connection

E65C CU-L52 – Technical data

Design

Product type options		
Type	LTE modem	RS-485
CU-L52	●	●

Supported communication protocols

- IEC 62056-21 and DLMS
- TCP/IP
- IPT (according to DIN 43863-4)

Fitting

- Directly in meter (E650 ZxD300/400xT or E850 ZxQ)
- In CU adapter CU-ADP2 (for other meters)

Features

- EMC conformance for the combination of meter and modem for electrical metering equipment and industrial environments
- Two independent channels for meter access
- Configuration without additional software tools other than .MAP110 Service Tool
- Configuration using an optical head only
- Remote updatable firmware for the microcontroller

Power consumption

Maximum active/apparent power

4.0 W/7.3 VA

LTE modem

Operating modes

GPRS or LTE

Standards and approvals

Complies with the essential requirements of the 2014/53/EC directive (Radio Equipment Directive)
RED Article 3.2

- ETSI EN 301 511 v9.0.2
- ETSI EN 301 908-1 v11.1.1
- ETSI EN 301 908-13 v11.1.1

RED Article 3.1b

- ETSI EN 301 489-1 v2.1.1
- ETSI EN 301 489-52 v1.1.1

Health RED Article 3.1a

- EN 62311:2008

Safety IEC 60950

- 3GPP Release 9 compliant
- GPRS class 10 (maximum)
- LTE category 1

Functions

- Time window and time master functions
- SMS forwarding of alarm messages (only if fitted in meter)
- Modem initialisation and data flow control
- Hardware watchdog
- Communication monitoring and logging

LTE module

Type	Telit LE910-EU1
Frequency bands	
GSM/GPRS bands	GSM900 and GPRS1800
LTE bands	FDD B1 (2100), B3 (1800), B7 (2600), B8 (900), B20 (800) MHz

Output power

- Class 4 (2 W) at GSM 900 MHz
- Class 1 (1 W) at GPRS (DCS) 1800 MHz
- Class 3 (0.2 W, 23 dBm) at LTE

SIM card

SIM 1.8/3 V	exchangeable from outside
Size	mini-SIM (2FF)

RS-485 interface

Characteristics

Symmetrical, serial, asynchronous, bi-directional interface (master or slave depending on parameterisation)

Standard	ISO 8482
Maximum number of slaves	31
Maximum transmission rate	57.6 kbps

Maximum line length

- Up to 250 m at max. 57.6 kbps, max. 31 slaves
- Up to 550 m at max. 38.4 kbps, max. 31 slaves
- Up to 1000 m at max. 19.2 kbps, max. 15 slaves

LED displays

LEDs RX and TX

Indication of data flow and field strength level

LED CON

Indication of connection status

LED MODE

Indication of operating mode (GSM, GPRS, LTE)

Environmental influences

Temperature range	according to IEC 62052-11
Operation	-40 °C to +70 °C
Storage	-40 °C to +85 °C

Insulation strength to meter

Insulation strength	
	4 kV at 50 Hz for 1 min
Insulation spacing	at least 6.3 mm

Weight and dimensions

Weight
approximately 100 g

Width / height / depth
65 / 103 / 38 mm

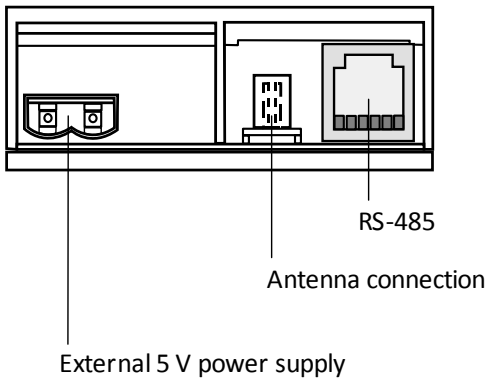
Connections

Connection to meter or CU adapter
10-pin connector at rear of CU

External 5 V power supply (for E650 meters only)
2-pin connector; recommended for reliable modem operation in M circuits when the phase - neutral supply voltage to the meter is between 58 V nominal and 64 V nominal, and where there is only one phase present. Landis+Gyr should be consulted, if supply voltage to the meter is between 100 V nominal and 115 V nominal, and there are only one or two phases present. The maximum supply voltage must be below 150 V for both (i) phase - phase and (ii) phase - neutral connections. The statements above apply to E650 Series 3 meters (firmware version B31 or higher). Information on previous versions can be found in the User Manual.

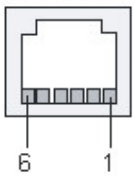
Antenna connection	
	MCX socket
Tear-off strength	< 390 N

Terminal layout



RS-485 interface	RJ12 socket

Pin allocation:



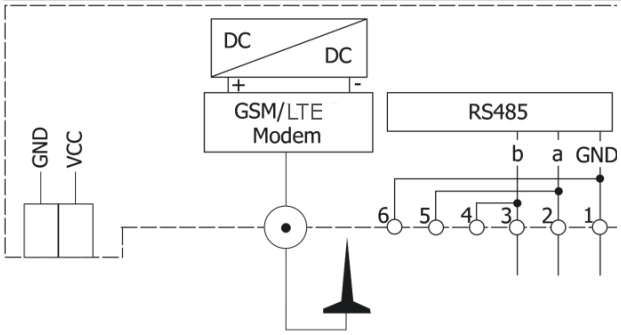
RS485:
1 GND
2 UP (Data a)
3 UN (Data b)
4 UN (Data b)
5 UP (Data a)
6 GND

Material

Case
polycarbonate

Connection diagram

Example CU-L52



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