

INDUSTRIAL AND COMMERCIAL

Landis+Gyr Dialog Communication unit

CU-A1 / A2 / A4 / A5

TECHNICAL DATA



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

RS232-interface CU-A1, CU-A2, CU-A3, CU-A5

Asymmetric, serial, asynchronous, bi-directional interface

- 3-wire design basic version
for use with external modems with sufficient intelligence built in.
- 6-wire design extended version
For use to initialise the external modem at regular intervals

Operating conditons

Standard	DIN 66256
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Pin connection 3-wire basic version

- TxD (Transmitted Data)
- RxD (Received Data)
- GND (Ground)

Pin connection 6-wire extended version

- TxD (Transmitted Data)
- RxD (Received Data)
- GND (Ground)
- CTS (Clear to send)
- DTR (Data terminal ready)
- DSR (Data set ready)

Rated voltage	± 12 V DC
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Max. voltage	± 25 V DC
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Max. bit rate	56 kbps
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Max. line length	up to 15 m
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Insulation resistance to meter	4 kV
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Additional functions (extended 6-wire version)

- Modem initialisation with AT commands
- Periodic modem initialisation
- Flow control with DTR and CTS
- Time window with multiple-use telephone lines
- Acceptance of calls
- Programmable number of ring signals

CU-Ax

Definition and use

Version	S01	S02	RS232	CS
CU-A1	●	●	●	●
CU-A2			●	●
CU-A3	●	●	●	
CU-A4				●
CU-A5			●	

S0-Interface CU-A1, CU-A3

Pulse inputs permitting connection of external pulse emitting devices, e.g. electricity-, water-, gas- or heat-meters.

Operating conditons

Standard	IEC61393 / DIN 43864
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Rated voltage	24 V DC
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Max. voltage	27 V DC
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Current

- Condition "On"	min. 10mA, max 27mA
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- Condition "Off"	max. 2 mA
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CS-Interface CU-A1, CU-A2, CU-A4

serial, bi-directional current interface used for simple AMR (automatic meter reading) systems, e.g. with several meters connected together.

Operating conditons

Standard	IEC61107 / DIN 66258
Rated voltage	24 V DC
Max. voltage	30 V DC
Transmitter current	
- Condition "On"	min. 11 mA, typ. 20 mA, max. 30 mA
- Conditon "Off"	max. 2.5 mA
Receiver rcurrent	
- Condition "On"	min. 9 mA, typically 20 mA, max. 30 mA
- Conditon "Off"	max. 3 mA
max. baud rate	typisch 9600 bps
Max. line length depending on environment / cable	
Insulation resistance to meter	4 kV

External influences

In general	Same as for base meter
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Weight and dimensions

Weight	approx. 80 g
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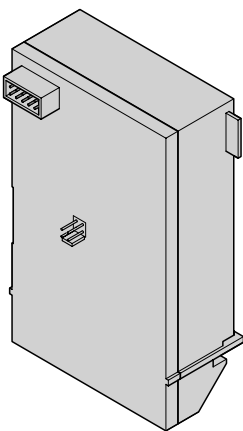
External dimensions

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

RS232 (basic version)

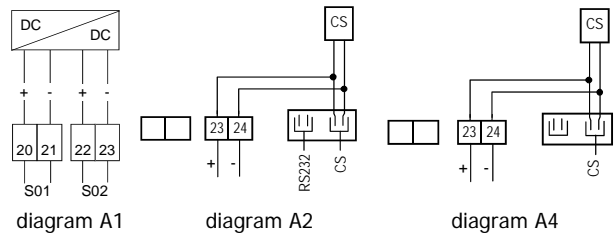
TxD	Transmitted Data
GND	Signal Ground
RxD	Received Data

RS232/+ (extended version)

CTS	Clear to Send
TxD	Transmitted Data
GND	Signal Ground
DTR	Data Terminal Ready
RxD	Received Data
DSR	Data Set Ready

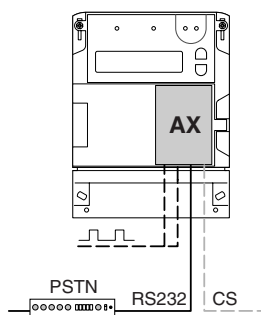
CS

CS+	connection +
CS-	connection -

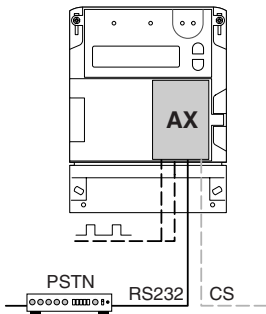


Typical applications

Communication by telephone modem (PSTN)

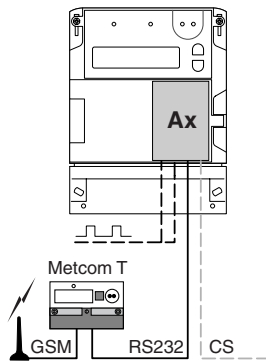


The telephone modem is connected via the RS232 interface. If available, the 2 S0 impulse inputs may be used to input and register metering values. If available, the 2 S0 impulse inputs may be used to input and register metering values.

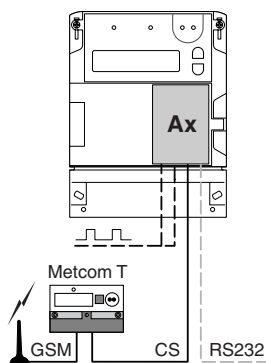


A CS-suitable telephone modem is connected via the CS interface. If available, the 2 S0 impulse inputs may be used to input and register metering values. If a RS232 interface is available, this may be used e.g. for local purposes.

Communication by GSM modem (e.g. MetcomT)



The GSM modem (e.g. MetcomT) is connected via the RS232 interface. If available, the 2 S0 impulse inputs may be used to input and register metering values. If a CS interface is available, this may be used e.g. for local purposes.



The GSM modem (e.g. Metcom T) is connected via the CS interface. If available, the 2 S0 impulse inputs may be used to input and register metering values. If a RS232 interface is available, this may be used e.g. for local purposes.

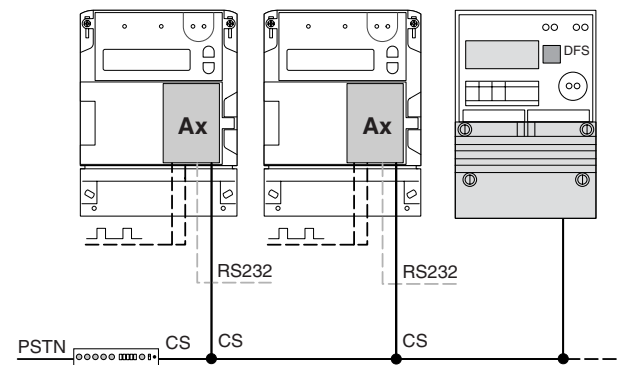
Multiple meter reading application (up to 4 meters)

The communication units of the family CU-Ax permit multiple meter reading of up to 4 meters via a bi-directional 2-wire bus that connects the CS interfaces of the various meters. If multiple meter reading of a larger number of meters is required, we are able to propose such solutions.

All connected meters use their CS interface for communication with the PSTN modem or the GSM modem. If RS232 interfaces are fitted to the meters these may be used for local applications.

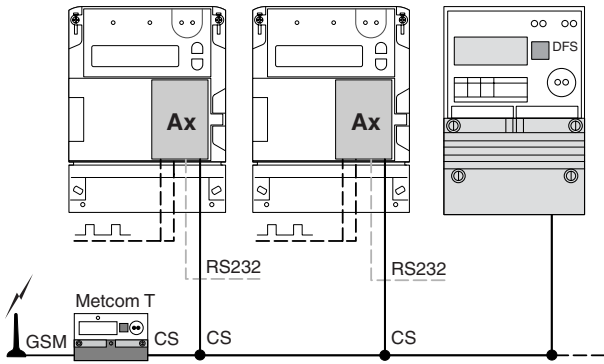
Using a bi-directional 2-wire bus connecting the CS interfaces of the various meters involved has the advantage that any meters already fitted with a CS interface (e.g. meters of Landis+Gyr family ZxB...) maybe included in the multiple meter reading scheme

Multiple meter reading by telephone modem (PSTN)



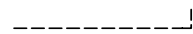


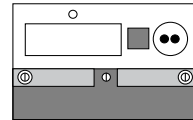
In the configuration shown all meters use their CS interfaces for the communication with the PSTN modem. Since the CS interfaces of the communication units are passive, the current loop must be powered by the CS interface of the PSTN modems.

Multiple meter reading by GSM (e.g. MetcomT)



The configuration shown above is practically identical with the one shown before. The only difference is that instead of a PSTN modem a GSM modem is used in this configuration (e.g. MetcomT).

Key to symbols used

-  Optional data channel for local applications
-  Optional pulse inputs
-  **PSTN modem** (Public Service Telephone Network Modem)
-  **MetcomT**
 - Product of Landis+Gyr AG
 - GSM modem with RS232 or CS interface

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