

Converters Mesh/RS485 of **AMCV M4x** type are designed for collection of data from electricity meters in the distribution network equipped with RS485 interface and for their subsequent sending to the Mesh network.

The converters consist of the Mesh receiver/transmitter module and the RS485 interface with a supply source. Maximal output transmitting power of the receiver/transmitter Mesh module is 500 mW (27 dBm).

Properties

- Converters are parameterized by the manufacturer. They can be set as:
 - router** - connected to a gateway of type *AMCV M4-CG* (pict. 1) or *AMCV MU-CG* (pict. 2),
 - gateway** – allows data collection via router;
- Possibility to set 17 parameterizable channels, the manufacturer sets the address, frequency, transmission power and baud rate;
- Four indicator LEDs on the front panel, which in addition to the connection to the gateway also indicate the signal strength;
- Pulse input for connecting devices with open connector or relay contact;
- The converters are manufactured in accordance with the standards IEC/EN 300 220, IEC/EN 301 489, IEC/EN 60950, IEC/EN 62056-21, IEC/EN 62056-61 and according to requirements of EU Directive for R&TTE.



Technical data

Nominal voltage [V_{rms}]	230 ± 10 % (Single-phase supply)
Converter's internal consumption [W]	Max. 0,6
Number of nodes ISM - Mesh	256 (Depends upon network typology)
Number of nodes for RS485	Max. 32, optim. 20
ISM – Mesh communication [MHz]	868 - 870
Number of frequency channels	Max. 17
Output power	Adjustable: 1mW / 0 dBm, 10 mW / 10 dBm; 25 m W/ 14 dBm; 300 mW / 25 dBm; 500 mW / 27 dBm
Sensitivity [dBm]	– 106 (typical, at 4800 bps at RF side)
Range for ISM Mesh [m]	Typ. 2 000 for direct connection, 100 in buildings with obstacles
Antenna input of converter [Ω]	50 (SMA female)
RS 485 communication	Half-duplex (Twisted-pair)
Transmission speed [Bd]	300 - 19 200
Insulation strength [kV]	4 (Device of Class II)
Length of line wire [m]	300 (at 9600 bps)
Line wire impedance [Ω]	100
Connection	Push-in terminal block
External supply output	5 V / 50 mA (Connection – terminal panel)
Impulse input	Middle contacts of the push-in terminal block
Dimensions w x h x d [mm]	35 x 90 x 66
Temperature range [°C]	- 10 to 65
Relative humidity [%]	5 – 75
Weight [kg]	0,15 kg

Marking of the converters

AMCV M4_{x3} - C x₅

AMCV . designation of a type

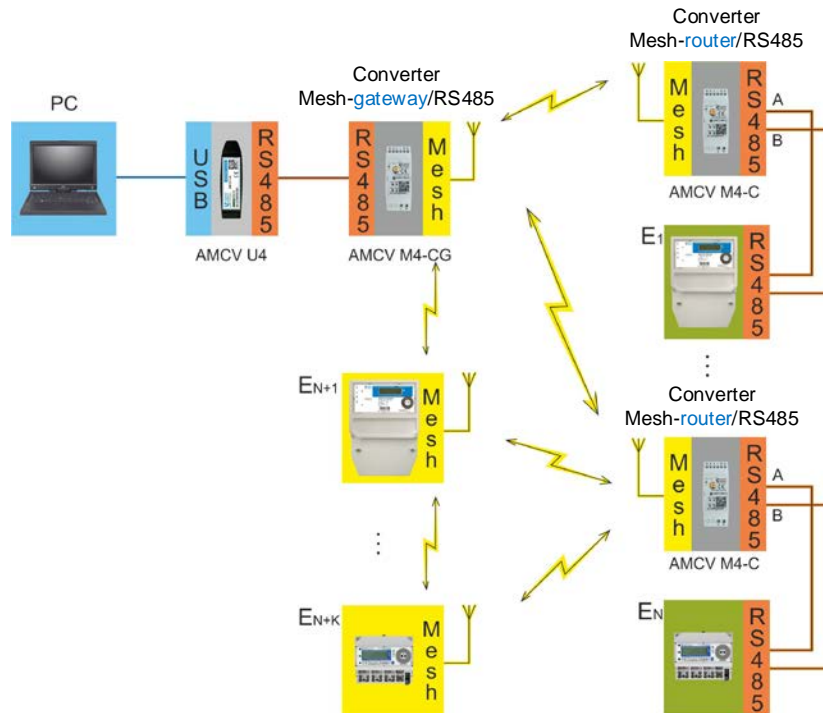
M4 interfaces: **M** – Mesh interface – wireless, **4** – RS 485 interface

x₃ impulse input: **no sign** – without impulse input, **I** – impulse input

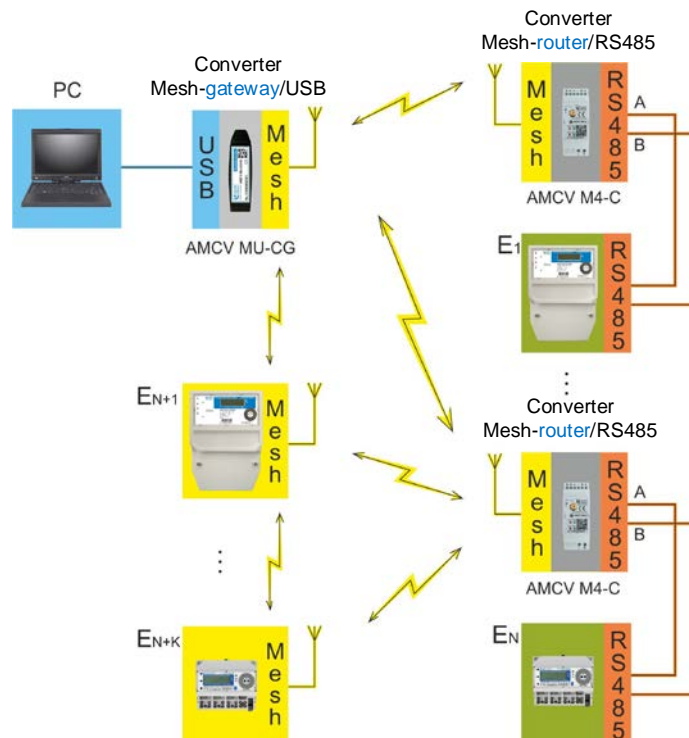
C antenna: external antenna with cable and SMA connector (wall mount)

X₅ parameterization: **no sign** – router, **G** – gateway

AMR Flow chart – example of converter's usage



Pict. 1 – Usage of converters as a **gateway** (AMCV M4-CG) and **routers** (AMCV M4-C)



Pict. 2 – Usage of converters as **routers** (AMCV M4-C)

Ordering data - specification of type and version, number of pieces.