

GTm-s communication module



Application

GTm-s is a configurative communication module, designed for data transmission from electricity meters using GSM mobile network. The device works with meters equipped with CLO and RS485 communication interfaces. Its housing is designed for installation on standard DIN rail.

Configuration

GTm-s module configuration is performed through optical head USB/OPTO or RS232/OPTO connected to the optical interface, placed on the front panel of the device.

Configuration of GTm-s working mode may be performed at the stage of the device production or it is also possible on site, after module installation. For proper configuration, the transmission module has to be equipped with SIM card. Configuration of GTm-s module is made by using 'GT Konfigurator' software that is provided with the device.

GTm-s may work in one of the following modes:

- GPRS transmission (IP static address has to be assigned to SIM card);
- GPRS or CSD data transmission (IP static address has to be assigned to the SIM card and a number for measuring data transmission in CSD mode);
- GPRS bundled transmission with programmable time window for working in CSD mode (IP static address has to be assigned to the SIM card and the number for data transmission in CSD mode);
- CSD data transmission (the number for data transmission in CSD mode has to be assigned to the SIM card).

Communication interfaces

GTm-s communication module is equipped with two communication interfaces, applicable for connecting of electricity meters: CLO and RS485.

GTm-s allows connecting following electricity meters:

- 4 electricity meters max. using CLO interface;
- 31 electricity meters max. using RS485 interface (Figure 1).

GTm-s communication module has synchronization output that may be used for time synchronization in (max.) two ZEUP Pozyton electricity meters. The appropriate pulse separator (made in ZEUP Pozyton) has to be used, when there is the necessity to have time synchronization of more than two meters.

Time synchronization function is available, when the device is equipped with SIM card with active GPRS bundled transmission.

Additional functions

- Remote module configuration through GPRS or CSD connection by 'GT Konfigurator' software (this action may be password protected).
- Signalling working phase and diagnostic functions, e.g. GPRS/ CSD active connection, the device availability to transmission, synchronization pulse activity, transmission status on communication interfaces, GSM signal level, time synchronization through http or ntp, communication errors.
- Automatic device restart at programmed time, as well as after log in errors occurrence or actuation of net controlling function.
- RTC synchronization through http or ntp, programmed while the device configuration.

Communication

GTm-s is a transparent communication module that means, after connection with reading application is to be established the module sets transparent communication between reading application and the meters. Defining of mode and range of meters data read out using GTm-s module (billing data or load profile) is to be made in reading application after establishing of connection with the module. This type of working mode gives assurance of easy adaptation to many different data collecting systems used by utilities.

GTm-s is provided with one of following GSM aerial: gain 0 dBi, 5 dBi, 9 dBi or 13.5 dBi (directional aerial).

Data reading

All measuring data stored in the meters memory billing data in standard remote data reading systems may be read using tool software SOLEN and SKADEN included in ZEUP Pozyton offer.

Selection of reading software depends of the customers' individual needs and should be done at the time of preparing an offer.

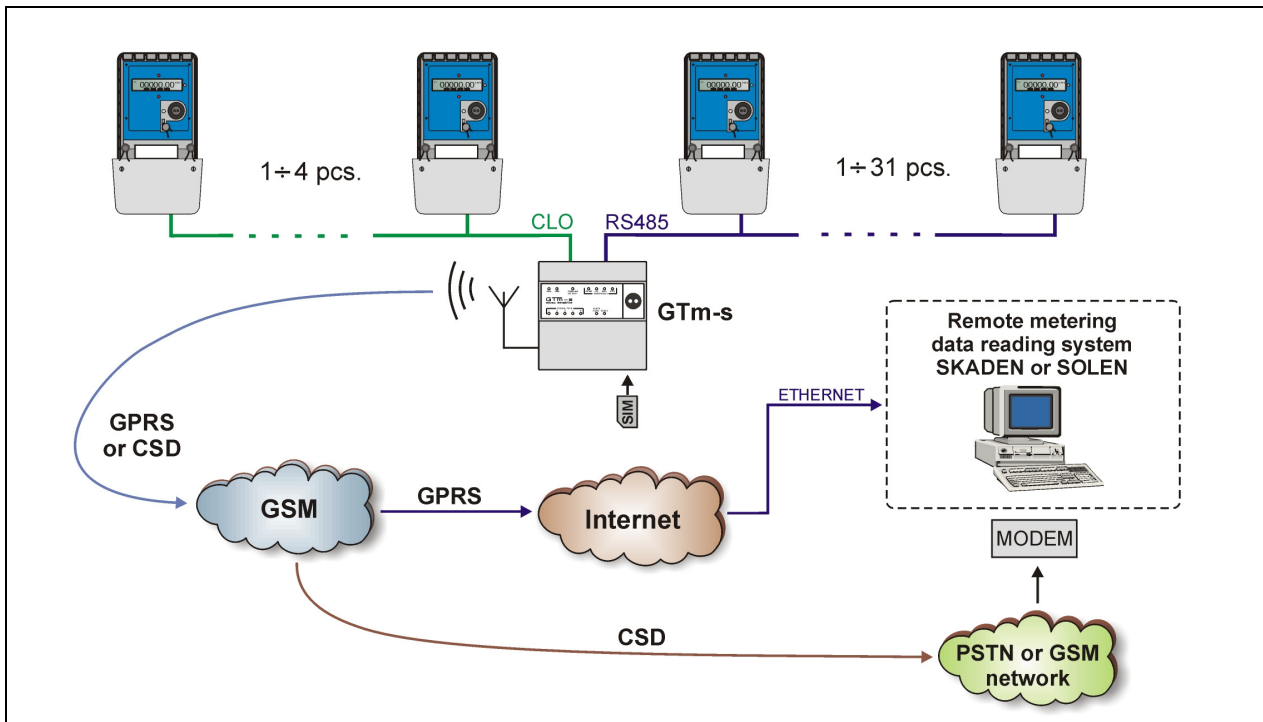
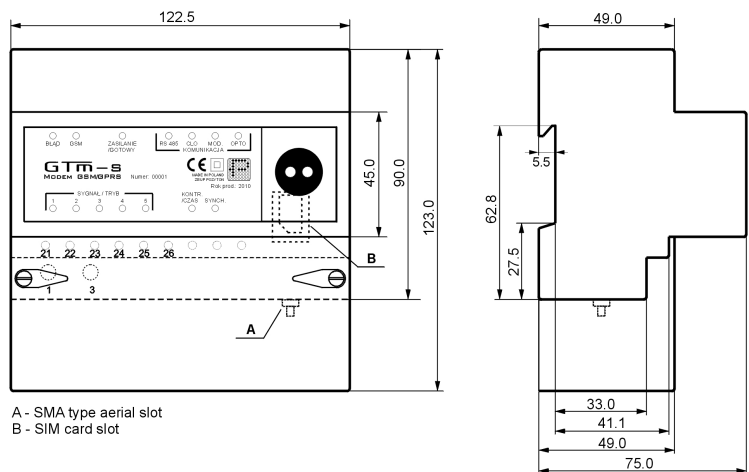


Figure 1. Example of data transmission using GTm-s

Technical data

Supply voltage	230 V AC 50 Hz
Voltage range	0,8 ... 1,1 Un
Power consumption	<15 VA
EMC compatibility	IEC 55024:2000; IEC 55022:2006
Information technology equipment – Safety	IEC 60950-1:2004
GSM standards	GSM 900; GSM(DCS) 1800; GPRS – Multislot Class 10; EGPRS (EDGE) – Multislot Class 10
Power emission	GSM 900 – 2 W (33 dBm); GSM(DCS) 1800 – 1 W (30 dBm)
SIM card handled	ISO/IEC 7816-3 – Class B (3 V); ISO/IEC 7810:2003 – ID-000 (Mini-SIM)
Meters interfaces	RS485; CLO, 20 mA
Configuration interfaces	Optical interface (acc. IEC 62056-21)
Synchronization output	$U_{nom} = 24 V$; $I_{max} = 20 mA$; Programmable pulse duration time of range 0-65535 [ms] (negative or positive programmable polarization)
TCP ports	1024-65535
Transmission speed for RS485 communication interface	600, 1200, 2400, 4800, 9600, 19200 [Baud]
Transmission speed for CLO communication interface	600, 1200, 2400, 4800, 9600 [Baud]
Aerial slot type	SMA (female)
Operating temperature range	- 20 °C ... + 60 °C
Weight	~ 0.5 kg
Dimensions	122.5 x 123 x 75 mm [wide x high. x depth]

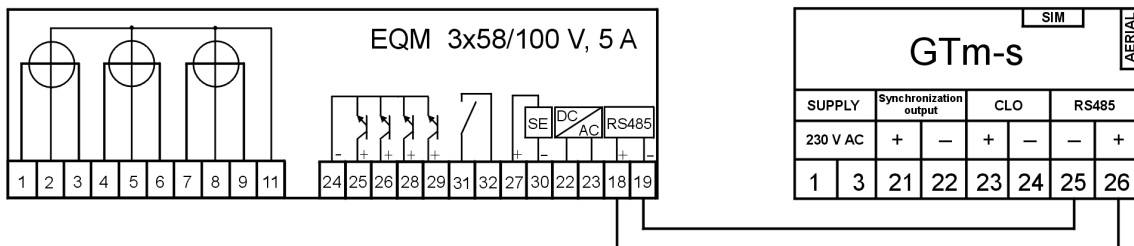
GTm-s dimensions



GSM aerials



Example connection diagram of GTm-s with EQM 3x58/100 V, 5 A meter



GTm-s module is given CE certificate.

ZEUP POZYTON reserves the right to change without notice all features according to products improvements.