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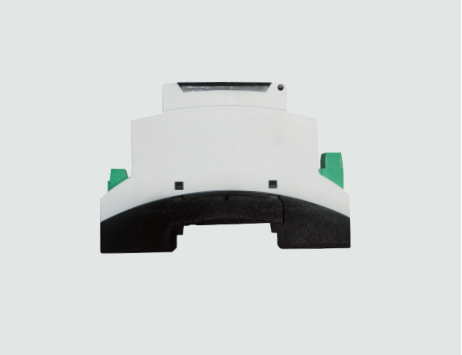
DATA LOGGER



PURPOSE AND APPLICATION AREA

DATA LOGGER is designed for remote retrieval of metering device data, its storage in memory, analysis and transfer of the results into central data collection and management system.

- Retrieval of metering device data
- Data archiving and transfer
- Monitoring of pressure, temperature sensors
- Event reporting

MAIN SPECIFICATIONS

- Instrument power supply 230 V
- Digital inputs
- Analogue inputs
- Digital outputs
- Transfer interfaces GPRS/ETHERNET
- Communication interfaces RS232, RS485, MBus/CL
- Protection class IP30
- Data recording and storage
- Backup battery connection
- Total Flash memory size 512 kB (~4500 records)
- Expandable memory (miniSD connector)
- Remote configuration and software updates

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FUNCTIONS

Clear channel	TCP -> MBus/CL TCP -> RS232 x 2 pcs. TCP -> RS485 Modem (CSD) -> MBus/CL Modem (CSD) -> RS232 x 2 pcs. Modem (CSD) -> RS485
Metering device reading	Types of metering devices: - all metering devices supporting MBus (EN 13757-3); - metering devices manufactured by Axis Industries MBus conversion into MODBus. Metering data reading, compression and optimized transfer.
Data processing and transfer	Pressure measurement (4–20 mA) sensors. Temperature measurement. Data archiving. Event reporting.
Remote update of controller program	Active.

INSTRUMENT POWER SUPPLY

AC 230 V power supply	When supplied with external voltage converter. Max. power does not exceed 10 VA.

COMMUNICATION INTERFACES

GSM/GPRS 900/1800MHz	Types of communication modems: - internal integrated modem; - external modem; - remote modem over RS422 interface (~50 m from the controller installation location).
LAN	Ethernet 10/100 interface.
RS232	2 pcs. of RS232 interfaces.
MBus or CL	MBus Master type interface, supporting up to 4 metering devices. CL - current loop. Only one interface of a selected type operating at a time.
RS485 or low-level serial communication interface	Interface operating in Master/Slave modes. Instead of RS485, a low-level (3.3 V) serial communication inteface may be installed (based on special order).
Modem connection	Compatible with modems supporting HAYES AT commands.

INPUTS/OUTPUTS

Digital inputs	2 pcs. of optically isolated and independent inputs. Up to 10 kHz. Input current 5–40 mA. Input resistance 470 Ω.
Digital outputs	2 pcs. of optically isolated and independent outputs. Max. collector current 50 mA. Max. collector-emitter voltage 30 V.
Analogue inputs	Measures both in „0...20 mA“ and „4...20 mA“ ranges. Precision ± 0.5 % (by individual calibration).
Temperature sensors	Digital 1-wire thermometers 16 psc. Measurement range -55 °C...125 °C Precision ±0.5 °C, -10 °C...85 °C

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SPECIFICATIONS

General:

Operating temperature	5-55 °C
Protection class	IP30

Instrument power supply:

Instrument power supply	230 V, 50 Hz, ~100mA max;
Backup battery	Based on special order

Inputs:

Optically isolated digital inputs	2 pcs.
Analogue inputs for pressure measurement	2 pcs. “0...20 mA”, “4...20 mA”
1-wire DS18S20 thermometers	16 pcs., measurement range: -55 °C...125 °C

Outputs:

Optically isolated digital outputs	2 pcs. Imax 50 mA; VCE 30 V

Connection modules:

GSM/GPRS 900/1800 MHz	1 pc. Internal modem
Connection intefaces:	
Ethernet	1 pc. 10/100 interface
RS232	2 pcs.
RS485	1 pc. Master/Slave
Mbus/CL	1 pc.
MBus conversion	MODBUS

Other:

GSM antenna	External
Expandable memory	miniSD Card
Mounting method	Standard DIN rail

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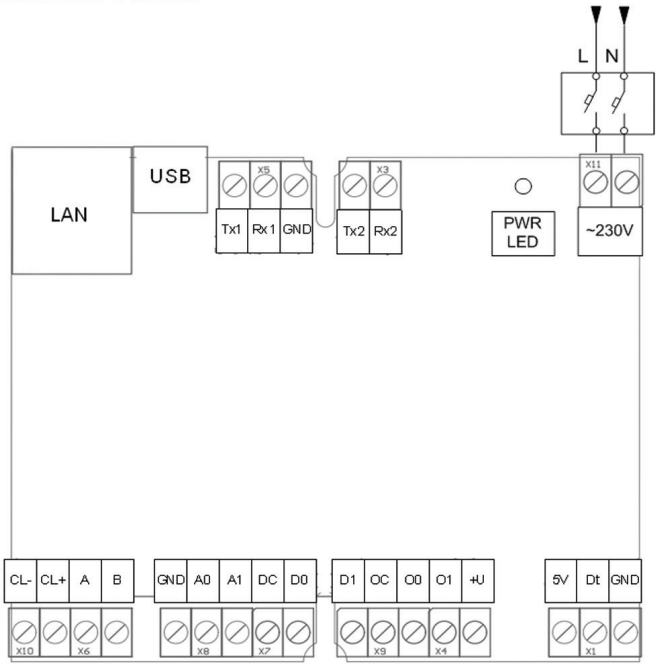
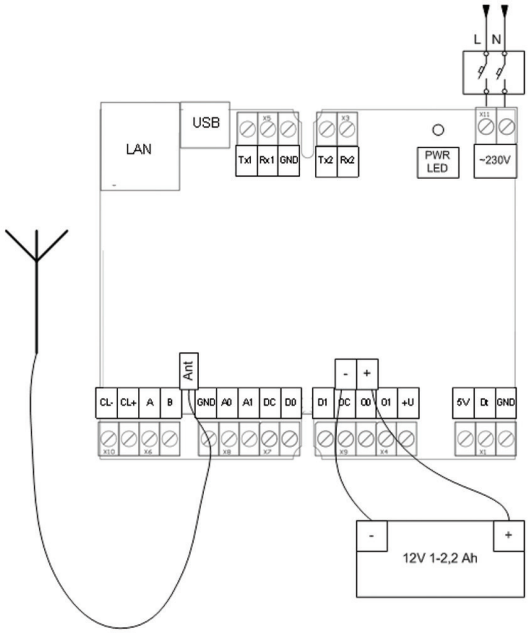
CONNECTION DIAGRAM



CONNECTION DIAGRAM WHEN AN INTERNAL MODEM WITH CHARGING FUNCTION IS INSTALLED



Terminal	Description	
~230 V	Instrument power supply	Supplied from ~230 V mains. Max. 10 VA
~230 V	Instrument power supply	
5V	5V power supply for OneWire devices	
Dt	OneWire interface data channel	
GND	Signal ground	
A0	1st analogue input for pressure meas. 4-20 mA	
A1	2nd analogue input for pressure meas. 4-20 mA	
OC	Common signal for digital outputs	
O0	1st digital output	
O1	2nd digital output	
+U	Common signal for digital inputs	
D0	1st digital input	
D1	2nd digital input	
CL-	MBus/ CL interface	
CL+	MBus/ CL interface	
B	Noninverted signal of RS485 interface	
A	Inverted signal of RS485 interface	
Tx1	Transmitter of the 1st RS232 interface	
Rx1	Receiver of the 1st RS232 interface	
Tx2	Transmitter of the 2nd RS232 interface (for the modem, if installed)	
Rx2	Receiver of the 2nd RS232 interface (for the modem, if installed)	
USB	USB (B) connector	
LAN	Ethernet connector	

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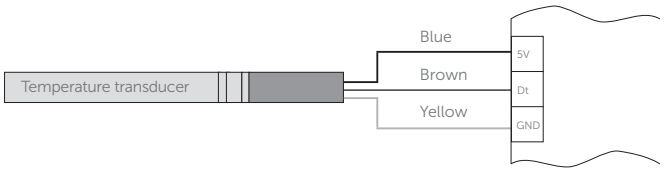
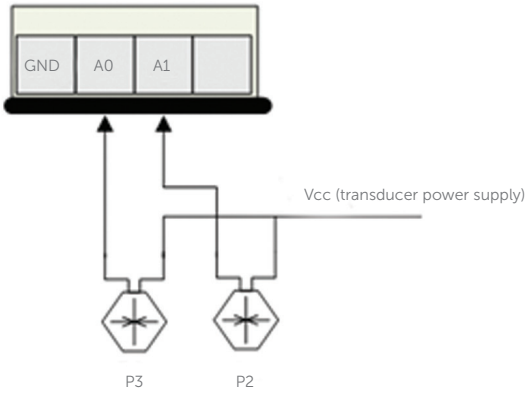
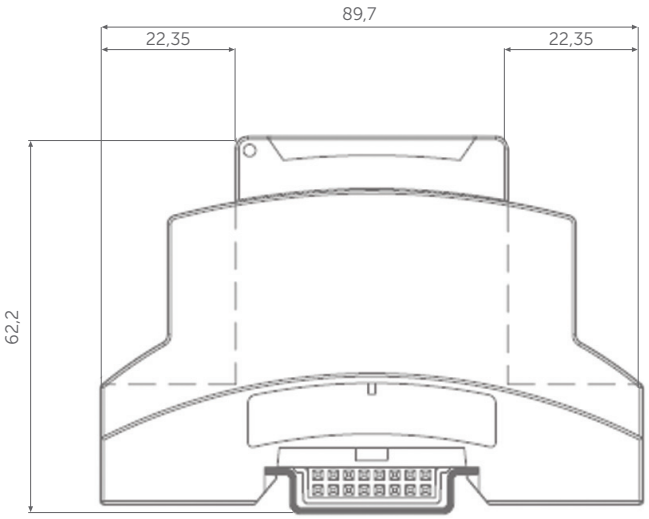
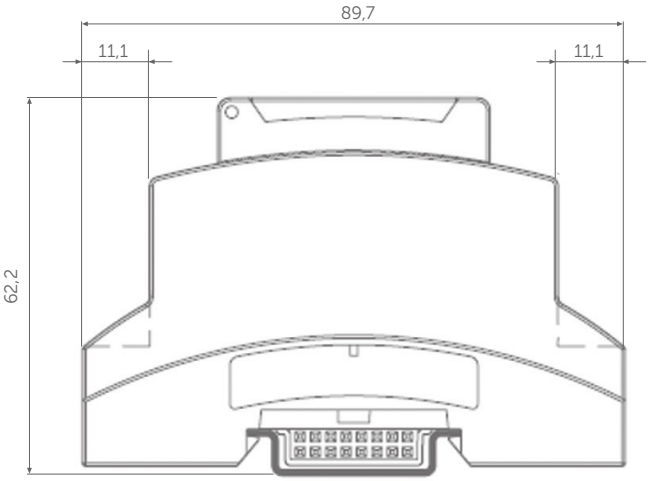
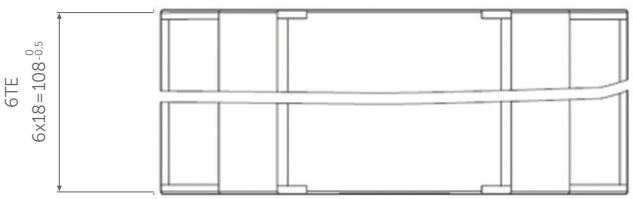
CONNECTION OF TEMPERATURE TRANSDUCERS



CONNECTION OF PRESSURE TRANSDUCERS



OUTER DIMENSIONS