



AIS spol. s r.o.

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Established 1990

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Phasor Measurement Unit METEL – PMU

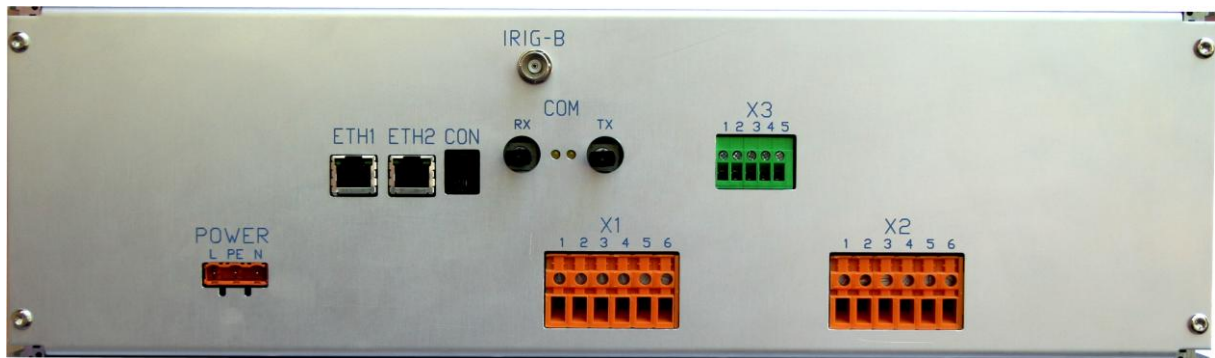
The METEL device is programmable terminal determined for synchronous measurement (Phasor Measurement Unit, PMU). The typical input range of unit is measurement of three voltages and three currents in one outlet.



Specification:

- Programmable microcomputer for synchronous measurement
- Fast parallel measurement with data storage, typical sample rate 10kHz
- Measuring inputs are adapted to the outputs of instrument transformers; total 6 inputs per one PMU
- 4 digital outputs, free relay contact
- High precision GPS time synchronization
- Wide range of communication possibilities in physical layer (2x Ethernet, 1x RS232, 1x GSM/GPRS), implementation of standard protocols e.g. IEC-68570-5-101/103/104, IEEE-C37.118)
- FTP client for data transfer via files
- Internal data storage, communication without data loss
- Auto diagnostic functions, monitoring of internal temperature and supply voltage
- Serial service port
- WEB server for local and remote parameterization
- Local and remote update of firmware
- Secured communication including IPsec
- Accordance with EMC standard for industrial environment
- Power supply 100-230 V AC/DC
- 19" rack installation, height 3U, depth 280 mm.
- Input resistance of current inputs < 12 mΩ.
- Input resistance of voltage inputs > 100 kΩ.
- 2 configurations of PMU unit.

Configuration A:



PMU is equipped with 6 analog inputs and 6 digital outputs

Configuration B:



PMU is equipped with 6 analog inputs

Screw terminals X1 (X2) :
Voltage inputs

Terminal No.	Input
1	U L1
2	U N
3	U L2
4	U N
5	U L3
6	U N

Screw terminals X2 (X1) :
Current inputs

Terminal No.	Input
1	I L1 in
2	I L1 out
3	I L2 in
4	I L2 out
5	I L3 in
6	I L3 out

Power supply:

Terminal No.	Input
1	L
2	PE
3	N

Screw terminals X3 :
Digital outputs

Terminal No.	Input
1	RE1-open contact
2	RE2-open contact
3	RE3-open contact
4	RE4-closed contact
5	Common ground

Ethernet interfaces ETH1, ETH2:

Usage
10/100 Mbit/s Ethernet ports for data transfer and access to WEB server for parameterization

Serial interfaces:

	Usage
CON	Serial service console
COM	Fiber optic port for serial protocols

IRIG-B interface:

Usage
BNC type connector for connection of GPS receiver with IRIG-B output, e.g. SEL-2401

Auto diagnostic functions:

Results of auto diagnostic functions are indicated by LED diodes in the front panel.
The correct operational state is indicated by continuous LED shine.

Meaning of LED diodes:

- yellow:
 - *off* - no IRIG-B signal or PMU is not synchronized
 - *blinking* (period cca 1s) - low quality of signal IRIG-B
 - *on* - operational state
- blue:
 - *off* - no data being sent to central station (no data request from central station)
 - *blinking* (low rate, period cca 1s) - problem with data transfer or problem with data quality (see yellow LED)
 - *blinking* (high rate, period cca 250ms) - overload of input (more than 97.5% of A/D converter range)
 - *on* - operational state
- green:
 - *off* - no power supply
 - *on* - operational state

Type code:

