TELEM-AI12-T analog input RTU module

The TELEM family RTU module TELEM-AI12-T with 12 analog differential analog inputs is used for measure 12 analogue values. Module bases on 32-bit ARM CPU. Interfaces to other equipment are RS-232 and RS-422. Data exchange protocol is IEC 60870-5-1-101. Time synchronization is possible with 1 second synchronization pulse and over protocol.

Features

- Time tagged measurements for quick changes
- ADC self calibration
- Periodical measurements
- Configuration / parameterization with IEC protocol at the same line with data communication
- 16 bit A/D resolution
- Daisy- chain master – slave connection for up to 15 modules using RS- 422 interface

Technical data

Number of differential analog inputs	12
User configurable input ranges	+/-5 mA, +/-10mA, +/-20 mA, 4…20mA for every input separately
Form of transferred measurements	Normalized
Measurement accuracy	0,1 % (automatically scaled)
Resolution	16 bit
Acquisition time	100 ms per channel
Input circuit galvanic isolation from earth, power and communication circuits	Yes
Analogue input circuit DC impedance	Current input <100 Ohms Voltage input >10 KOhms

Installation, terminals and environment

Weight	310 g
Mounting	DIN 35
Dimensions (WxHxD)	160 x 125 x 60
Terminals for signal	MVSTBWA 2,5/4-ST
Terminal for power	MVSTBWA 2,5/4-ST
Terminal for communication	RJ4/4 (RS232); RJ12 (RS422)
Over voltage protection	IEC-60255-4, 2,5 kV pulse protection IEC-60255-5, 2 kV DC on
Disturbance	IEC-61000-3-2, 61000-6-2, 6100-6-4
Ambient temperature in operation	–20…+50℃
Indication	1 for running indication, 1 for alert indication
Built in real time clock with backup capacitor	Yes

Supply voltage	9-30 V DC, 4 VA

Configuration

Configuration of TELEM-AI12-T is configured using **TELEM 2000** software. All 12 analog inputs are configured independently.

Communication ports configurable parameters and general settings

Communication speed	200 - 115200 bps
Link Address	1 - 15
ASDU address	1 - 15
Object's base address	0 - 65500
Time synchronization enabled	Yes
ADC self calibration	Yes

Configuration parameters for analog inputs

In use	Yes/No
Input signal range	0…5; 0…10; 0…20 +/-5 mA +/-5; +/-10; +/-20; 4…20 mA 0…10 V
Filtration coefficient determines the averaging time	1 - 65535 ms
Zero zone If the value is in this range around the zero, it is transferred as zero	0,01 - 100 %, default 0,5 %
Dead Band 1 for events without time tag	0,01 - 100 %, default 2 %
Min. interval for events	1 - 65535 ms
DeadBand2 for time tagged event. If this value change takes place within specified time period, then two events are created with min and max values of this time period	0,01 - 100 %
Time interval for Dead band 2	1 - 65535 ms
Time interval for periodical time tagged values	1 - 65535 sec