

TELEM-AI12G analog input RTU module



The TELEM family RTU module TELEM-AI12 with 12 analog differential analog inputs is used for measure 12 analogue values. Module bases on 16-bit DSP. It can be used as an independent RTU or in connection with other devices. Interfaces to other equipment are RS-232, RS-422 or RS-485. Data exchange protocol IEC 60870-5-1-101. Time synchronization with GPS receiver.

Features

- GPS time tagged measurements for quick changes
- Leased line or dial-up mode operation
- Reference voltage correction
- 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 30 modules using RS-422 interface
- Self diagnostics and supervision simultaneously with data acquisition

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	0,2 % (automatically scaled)
Resolution	12 bit (16 A/D resolution)
Inputs scanning time	1 ms

Power requirements

Supply voltage	9-30 V DC, 4 VA
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Installation, terminals and environment

Weight	0,4 kg
Mounting	DIN 35
Terminals for signal	MC1,5/8-ST-3,5
Terminal for power	MCVW1,5/8-ST-3,5
Terminal for communication	RJ45
Over voltage protection	IEC-60255-4, 5 kV pulse protecti IEC-60255-5, 2 kV DC on
Disturbance	IEC-61000-3-2, 61000-6-2, 6100-6-4
Ambient temperature in operation	-20...+50 °C
Indication	1 for power indication, 1 for operation indication, 1 for fail indication
Built in clock with backup battery	Yes

Configuration

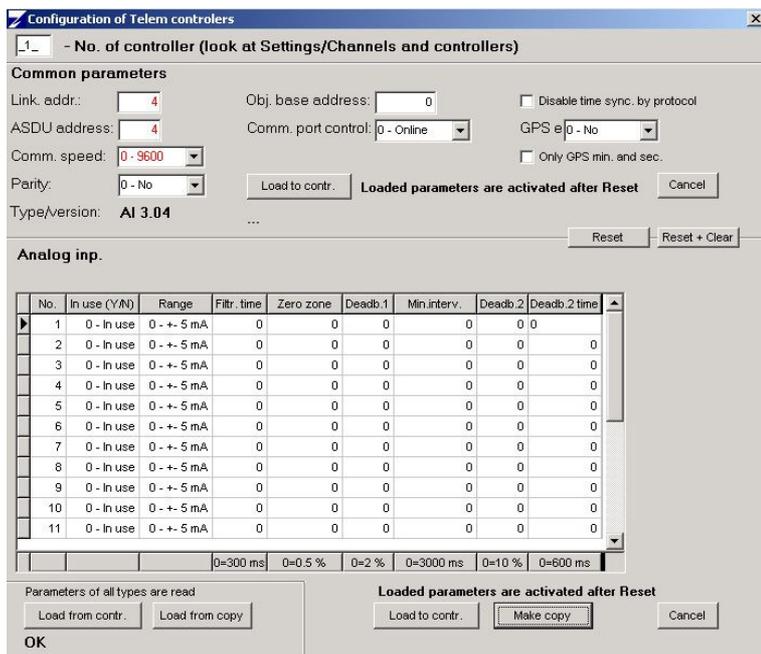
Configuration of TELEM-AI12 is configured using **TELEM 2000** software. All 12 analog inputs are configured independently.

Communication ports configurable parameters and general settings

Communication speed	200 - 38400 bps
Link Address	1 - 255
ASDU address	1 - 255
Object's base address	0 - 65534
Communication mode	Online, Online with RTS/CTS, Offline with RTS
Type of periodical analog measurements	Spontaneous per./Request
GPS enabled	Yes/No
Reference voltage correction	Yes/No

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
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 % 0,5 %
Dead Band 1 for events without time tag	0,01 - 100 % 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



Configuration of Telem controllers

No. of controller (look at Settings/Channels and controllers)

Common parameters

Link. addr.: 4 Obj. base address: 0 Disable time sync. by protocol
 ASDU address: 4 Comm. port control: 0 - Online GPS e[0 - No] Only GPS min. and sec.
 Comm. speed: 0 - 9600 Parity: 0 - No
 Type/version: AI 3.04

Analog inp.

No.	In use (Y/N)	Range	Filtr. time	Zero zone	Deadb.1	Min.interv.	Deadb.2	Deadb.2 time
1	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
2	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
3	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
4	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
5	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
6	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
7	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
8	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
9	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
10	0 - In use	0 - +- 5 mA	0	0	0	0	0	0
11	0 - In use	0 - +- 5 mA	0	0	0	0	0	0

Parameters of all types are read
 OK