# 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-422/485. Data exchange protocol is IEC 60870-5-1-101.

### Features

- 12 bit ADC resolution
- ADC self calibration
- Configuration/parameter setting with IEC protocol at the same line with data communication
- Daisy-chain master-slave connection for up to 15 modules using RS-422/485 interface
- Onboard knife disconnectors for inputs
- PT100, PT1000 and other sensors connections via external converters.

### 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 Int16 |
| Measurement accuracy | 0,1 % (automatically scaled) |
| Resolution | 12 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 56 Ohms |

### Installation, terminals and environment

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|---|---|
| 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 | –30…+70°C |
| Indication | 1 for running indication, 1 for alert indication |
| Built in real time clock with backup capacitor | Yes |

**Power requirements**

| Supply voltage | 20...72 (12...32 optional) V DC, 1 W |
|---|---|

**Configuration**

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

**Communication ports configurable parameters and general settings**

| Link and ASDU address for IEC 60870-5-101 | 1...15 by DIP switches |
|---|---|
| Communication speed | 200...38400 bps |
| Parity | None, Even, Odd |
| Object's base address | 0...65500 |

**Configuration parameters for analog inputs**

| In use | Yes/No |
|---|---|
| Input signal range | 0…5; 0…10; 0…20 +/-5 mA<br>+/-5; +/-10; +/-20; 4…20 mA; 0…10 V |
| Filtration coefficient determines the averaging time | 1...65535 ms |
| Zero zone<br>If the value is in this range around the zero,<br>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 |
| Time interval for periodical time tagged values | 1...65535 sec |
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