

Ethernet data logger for temperature measurement

16 channels for thermocouples or RTD, 24-bit



MSX-ilog-RTD / MSX-ilog-TC

16 differential inputs

For thermocouples or RTD (Pt100, Pt1000)

Acquisition, visualisation and analysis in one device

No software installation needed

Automatic storage of measured values (4 GB of internal flash memory)

Integrated Ethernet switch
 +85 °C, -25 °C, +85 °C, -40 °C On request
 IP 65
 ARM9 Technology
 4 GB flash memory, real-time clock

*Operating temperature



The intelligent Ethernet data logger MSX-ilog-RTD/TC has 16 differential inputs for thermocouples or resistance temperature detectors (RTD, Pt100/Pt1000).

The measurement is parameterised and visualised on an integrated web interface. Thus, no additional software needs to be installed. The acquisition of the channels as well as visualisation and storage of the measured values take place automatically.

Features

- Onboard ARM⁹ 32-bit processor
- 4 GB memory: No data loss in case of voltage loss
- Buffered real-time clock to keep the system time without supply voltage
- Robust metal housing
- Power Save Mode: Reduced power consumption when no acquisition runs
- Digital trigger input (24 V)

Analog inputs

- 8-pin M12 female connectors
- 16 differential inputs for thermocouples or RTD, 24-bit
- Max. sampling frequency: 1 kHz

Acquisition

- Automatic acquisition and storage of measured data
- Conversion into temperature (°C)
- Acquisition of virtual channels

Trigger

- Acquisition triggered via hardware or software
- 24 V hardware trigger
- Threshold trigger (when the defined level of the analog inputs is exceeded)

- Optional pre-trigger (Storage of measured values before the trigger event)
- Triggers from external hardware (e. g. MSX-E systems) are possible

Alarm functions

- Upper and lower limits of channels
- Data storage depending on alarms
- Can be combined with the pre-trigger

Analysis

- Graphical analysis of measured data online
- Data export (XML, CSV)

Safety features

- LED status display for fast error diagnosis
- Optical isolation
- Input filters
- Overvoltage protection: ± 40 V
- Internal temperature monitoring

Applications

- Data logger
- Long-term data recording
- Monitoring of infrastructure

Interfaces

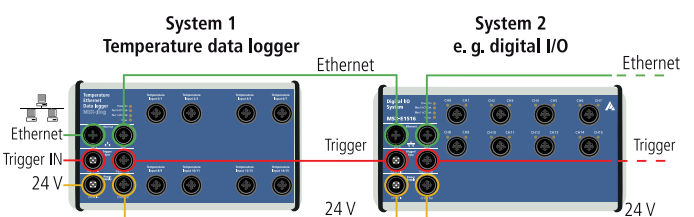
- Fast 24 V trigger input
- Ethernet switch with 2 ports
- Trigger In/Out
- 24 V supply and cascading

Communication interfaces

- Web server (configuration and monitoring)
- Data server (TCP/IP or UDP socket) for transferring acquired values

Combination with external hardware

Ethernet and supply signals can be looped from the MSX-ilog-RTD/TC to MSX-E systems, e.g. These can then react to the values measured by the MSX-ilog (e.g. via alarm or trigger) and acquire or switch distributed I/O signals. This allows for monitoring tasks or regulation, for example.



Specifications

Analog inputs

| | |
|--------------------|---|
| Number of inputs: | 16 differential inputs for thermocouples or RTD |
| Resolution: | 24-bit |
| Optical isolation: | 1000 V |
| Throughput: | 1000 Hz max. |

Data storage

| | |
|---------------------------|---------------------------------|
| RAM: | 64 MB |
| Flash: | 4 MB for system data |
| Extended flash memory: | 4 GB (3.7 GB for measured data) |
| Buffered real-time clock: | approx. 4 weeks at 20 °C |

Voltage supply

| | |
|-----------------------------|----------|
| Nominal voltage : | 24 VDC |
| Supply voltage: | 18-30 V |
| Optical isolation: | 1000 V |
| Reverse voltage protection: | 1 A max. |

Connectors

| | |
|----------------|--------------------------------|
| 24 VDC input: | 1 x 5-pin M12 male connector |
| 24 VDC output: | 1 x 5-pin M12 female connector |

Ethernet

| | | |
|--------------------|---|---------------------|
| Interface: | Ethernet acc. to IEEE802.3 specification | |
| Number of ports: | 2 | |
| Cable length: | 150 m | max. at CAT5E UTP |
| Bandwidth: | 10 Mbps | auto-negotiation |
| | 100 Mbps | auto-negotiation |
| Protocol: | 10Base-T | IEEE802.3 compliant |
| | 100Base-TX | IEEE802.3 compliant |
| Optical isolation: | 1000 V | |
| MAC address: | 00:0F:6C:##:##:##, unique for each device | |

| | | |
|--------------------|---|--|
| Connectors: | 2 x 4-pin M12 female connector, D-coded for Port 0 and Port 1 | |
|--------------------|---|--|

Trigger

| | |
|----------------------------|-----------------------|
| Number of inputs: | 1 |
| Number of outputs: | 1 |
| Filter/Protective circuit: | Low-pass/TVS diode |
| Optical isolation: | 1000 V |
| Nominal voltage: | Ext. 24 V |
| Input voltage: | 0 -30 V |
| Input current: | 11 mA at 24 VDC, typ. |
| Input frequency (max.): | 2 MHz at 24 V |

| | |
|-------------------|--------------------------------|
| Connectors | |
| Trigger input : | 1 x 5-pin M12 male connector |
| Trigger output: | 1 x 5-pin M12 female connector |

EMC – Electromagnetic compatibility

The product complies with the European EMC directive. The tests were carried out by a certified EMC laboratory in accordance with the standard DIN EN IEC 61326-1. The limit values as set out by the European EMC directive for an industrial environment are complied with. The respective EMC test report is available on request.

System features

| | |
|------------------------|--|
| Interface: | Ethernet acc. to specification IEEE802.3 |
| Dimensions: | 220 x 140 x 50 mm |
| Weight: | 620 g |
| Degree of protection: | IP 65 |
| Current consumption: | 150 mA ± 10 % typ. (Idle/Power Save Mode) |
| Operating temperature: | -25 °C to +85 °C (-40 °C to +85 °C on request) |

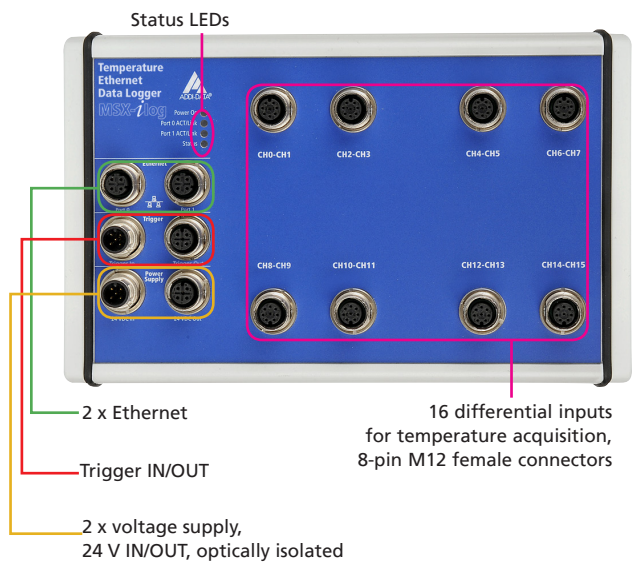
Sensor connectors

| | |
|----------------|--------------------------------|
| Analog inputs: | 8 x 8-pin M12 female connector |
|----------------|--------------------------------|

System requirements

Standard browser (Google Chrome, Mozilla Firefox) with Java from version 1.6.x

Features



SC-M12-8-TC

M12 connector with integrated cold junction compensation (CJC)



Ordering information

MSX-ilog-RTD / MSX-ilog-TC

Ethernet data logger for temperature measurement, 16 channels for thermocouples or RTD, 24-bit. Incl. technical description.

Versions

MSX-ilog-RTD-16: for 16 RTD

MSX-ilog-TC-16: for 16 thermocouples

Connection cables

Voltage supply

CMX-2x: Shielded cable, 5-pin M12 female connector / open end, IP 65

CMX-3x: For cascading, shielded cable, 5-pin M12 female connector / male connector, IP 65

Trigger

CMX-4x: Shielded cable, 5-pin M12 female connector / open end, IP 65

CMX-5x: For cascading, shielded cable, 5-pin M12 female connector / male connector, IP 65

Ethernet

CMX-6x: CAT5E cable, D-coded M12 male connector / RJ45 connector

CMX-7x: For cascading: CAT5E cable, 2 x D-coded M12 male connector

Cold junction compensation

SC-M12-8-TC: M12 connector with integrated cold junction compensation (CJC) for connecting thermocouples (included in delivery)

Options

MSX-E 5V-Trigger: Level change of the trigger input and output to 5 V, **MX-Clip, MX-Rail** (Please specify when ordering!), **MX-Screw, PCMX-1x**