Ethernet data logger for temperature measurement 16 channels for RTD, 24-bit
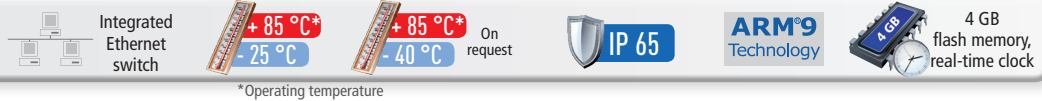
MSX-*i*log

MSX-ilog-RTD

16 differential inputs

For 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 | ARM®9 Technology | 4 GB flash memory, real-time clock

*Operating temperature

RoHS 2002/95/EC

More information at www.addi-data.com

The intelligent Ethernet data logger MSX-ilog-RTD has 16 differential inputs for 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 ARM®9 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 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 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.

System 1
Temperature data logger

System 2
e. g. digital I/O
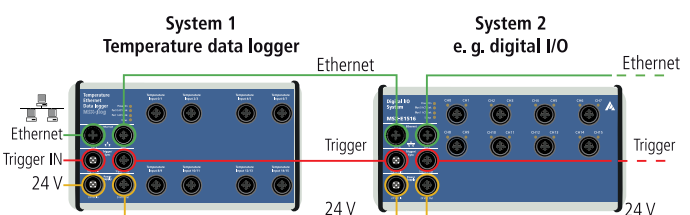
Specifications

Analog inputs

Number of inputs:	16 differential inputs for 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

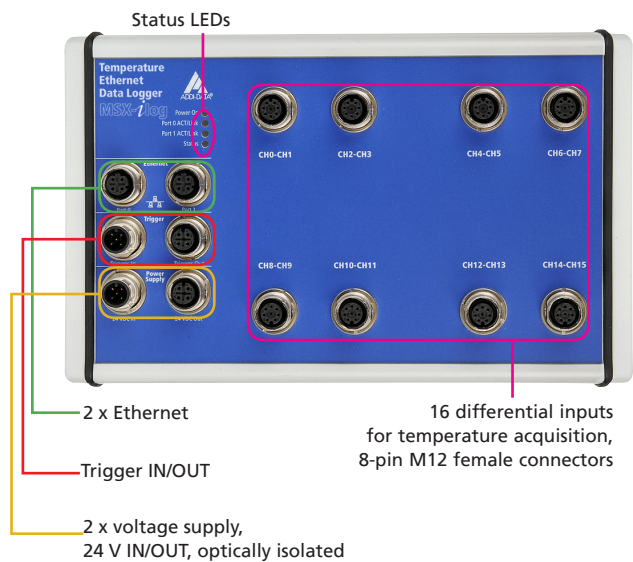|	
Interface:	Ethernet acc. to specification IEEE802.3
Dimensions:	220 x 140 x 50 mm
Weight:	620 g
Degree of protection:	IP 65
Current consumption:	150 mA ± 10 % typ. (Idle/Power Save Mode)
Operating temperature:	-25 °C to +85 °C (-40 °C to +85 °C on request)
Sensor connectors	
Analog inputs:	8 x 8-pin M12 female connector

System requirements

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

Features

Status LEDs

2 x Ethernet

Trigger IN/OUT

2 x voltage supply,
24 V IN/OUT, optically isolated

16 differential inputs
for temperature acquisition,
8-pin M12 female connectors

SC-M12-8-TC
M12 connector with integrated
cold junction compensation (CJC)

Ordering information

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

Versions
MSX-ilog-RTD-16: for 16 RTD

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**