

# Ethernet data logger for temperature measurement

## 16 channels for thermocouples, 24-bit



### MSX-ilog-TC

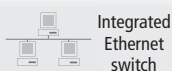
16 differential inputs

For thermocouples

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



\*Operating temperature



On  
request



IP 65



ARM9  
Technology



4 GB  
flash memory,  
real-time clock



More information at  
[www.addi-data.com](http://www.addi-data.com)

The intelligent Ethernet data logger MSX-ilog-TC has 16 differential inputs for thermocouples. 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 thermocouples, 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:  $\pm 40$  V
- Internal temperature monitoring

### Applications

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

### Interfaces

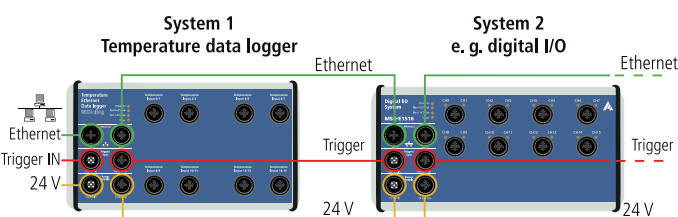
- Fast 24 V trigger input
- Ethernet switch with 2 ports
- Trigger In/Out
- 24 V supply and cascading

### 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-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

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  $\pm$  10 % typ. (Idle/Power Save Mode)  
Operating temperature: -25 °C to +85 °C (-40 °C to +85 °C on request)

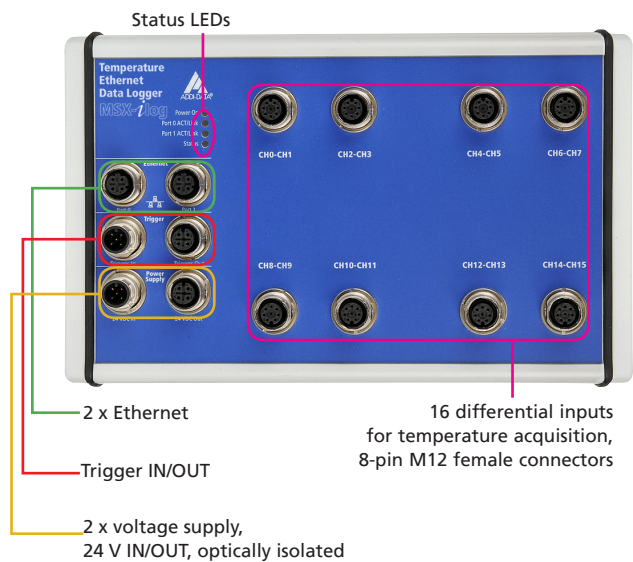
### Sensor connectors

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-TC

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

### Versions

**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**