Product Specifications

VC-6000 Monitoring System
Monitoring Module – SM-610-T01
12x Temperature Channels, 12x Relays

The VC-6000 Monitoring System hardware is used for both stand-alone safety monitoring and condition monitoring using the Compass 6000 monitoring software modules and database. The VC-6000 offers various standard monitoring modules, power supply modules and communication modules. This Product Specification describes the SM-610-T01.

Applications

The SM-610 series of VC-6000 Monitoring Modules are designed to provide protective monitoring of various types of industrial machines.
The SM-610-T01 is specifically designed for monitoring temperatures of a machine.

General Description

The features and functions common to all SM-610 Monitoring Modules are briefly listed below. Please refer to the VC-6000 Product Specification (BPS 0044) for more information.

- Interfacing with the CI-6xx Communication Modules
- High speed digital signal processor
- Relay outputs (logic controlled)
- OK-relay status indication
- Extensive local LED indication
- Flash memory for storing settings and local logbook
- High speed reaction time
- Alarm limits with programmable hysteresis and response delay time
- Global trip multiply and override
- Extensive self-monitoring functions
- System bus interface to other modules

Inputs

- 12x temperature input signals
- For PT100 and PT1000 sensors
- 3-wire and 4-wire connection possible
- Integrated OK-monitoring

Outputs

- 12x relays – Up to 30x Alert, 30x Danger

Measurements

- 12x temperature
- 6x absolute temperature difference for free configurable sensor pairs
- 6x real temperature difference for free configurable sensor pairs

Product Specifications - VC-6000 Monitoring Module – SM-610-T01

Input Channel Configuration Combinations

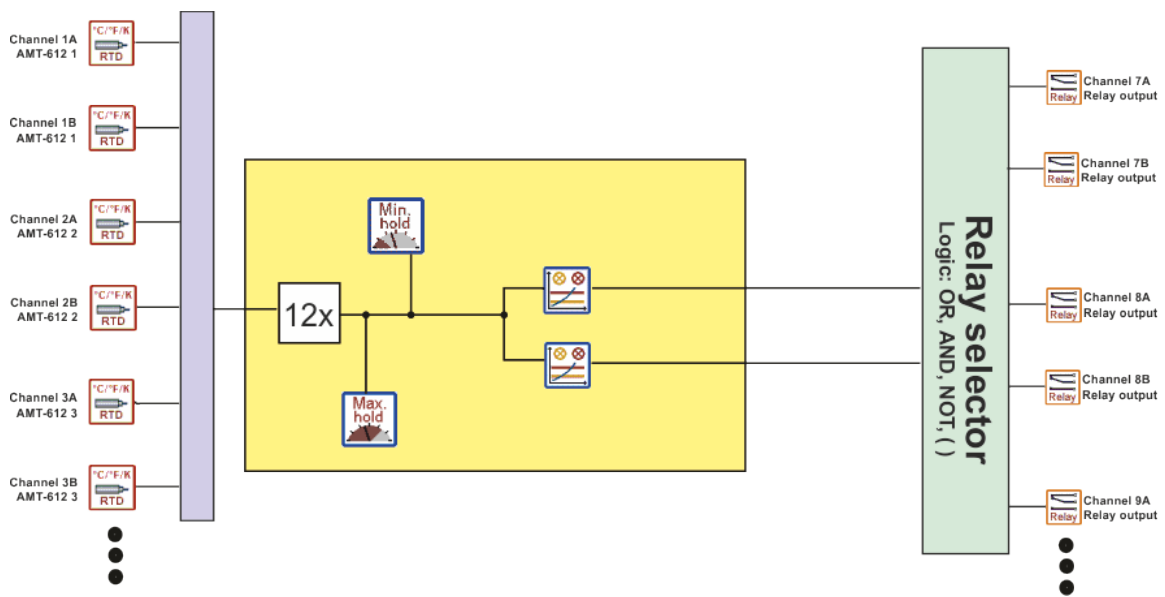| No. of Inputs	Channel Types			Relays
	Temperature	Absolute Temperature Difference (pairs configurable)	Relative Temperature Difference (pairs configurable)	12 free configurable
12	12	6	6	

Signal Flow Diagram
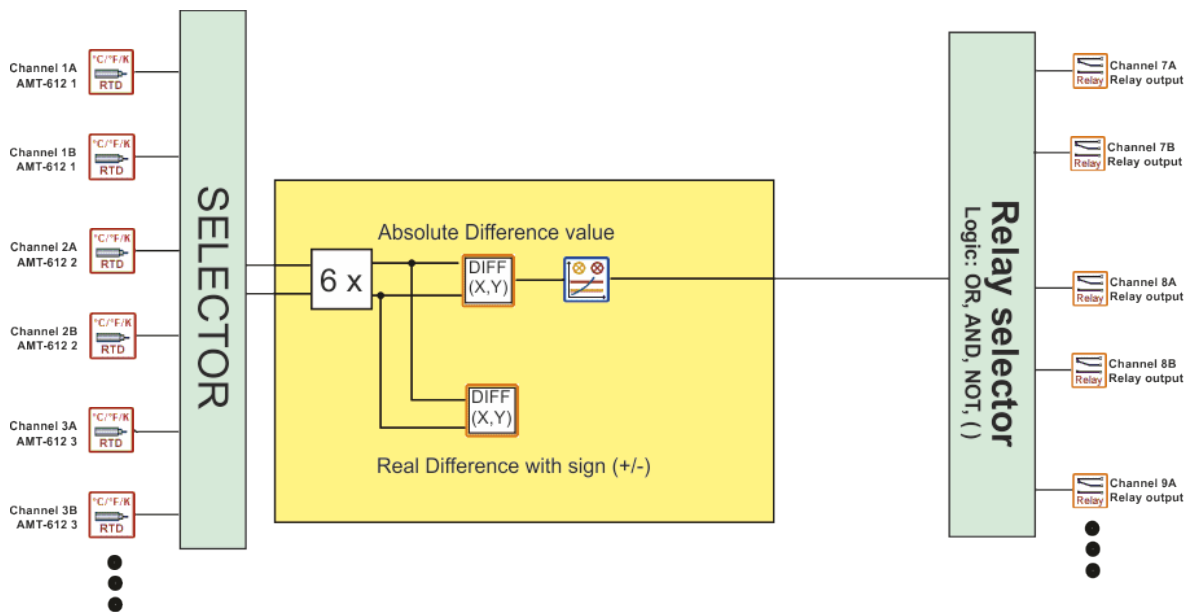

Figure 1: Temperature channels (12 channels).

Figure 2: Temperature difference measurements (6 free definable sensor pairs)

Technical Specifications

The specifications given below are specific for the SM-610-T01 Monitoring Module. See the VC-6000 Product Specifications for features and functions common to all SM-610 Monitoring modules.
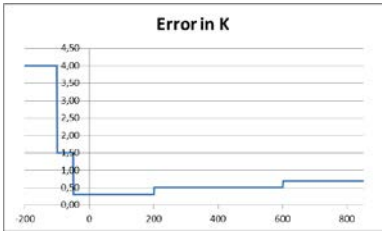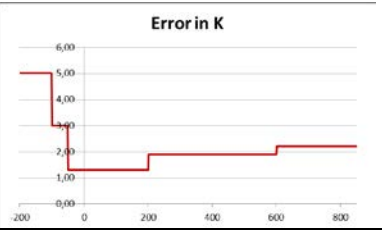
Temperature Inputs

Current – PT100 ....1 mA
Current – PT1000 ....0.1 mA
Sensitivity..adjustable

Relay Outputs

Nominal working voltage.......................................24V
Maximum current 100mA

Measurements

Meas. Name	Measuring Time	Detection	Alarm Limits	Measuring Range	Units	Accuracy
Temperature	500ms	-	1x Alert, 1x Danger	-200 K… 850 K	°C, °F, °K	**-50°C … +200°C** **: ± 0.3°K** +201°C … +600°C : ± 0.5°K +601°C … +850°C : ± 0.7°K -51°C … -100°C : ± 1.5°K -101°C … -200°C : ± 4.0°K Error in K
EX-area Temperature **ONLY PT100** recommended Safety barrier: e.g. KCD2-RR-Ex1 (Pepperl & Fuchs)	500ms	-	1x Alert, 1x Danger	-200 K… 850 K	°C, °F, °K	**-50°C … +200°C** **: ± 1.3°K** +201°C … +600°C : ± 1.9°K +601°C … +850°C : ± 2.2°K -51°C … -100°C : ± 3.0°K -101°C … -200°C : ± 5.0°K Error in K
Computation		Abs(Chl. X – Chl. Y) configurable	1x Alert, 1x Danger	-99999.099 to 99999.99		
Computation		Rel.(Chl. X – Chl. Y) configurable	1x Alert, 1x Danger	-99999.099 to 99999.99		

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