WEST Control Solutions

Product Guide

Temperature Monitors and Limiters

Range Overview

Electronic temperature monitors and limiters provide essential control and safety override capabilities for thermal process machinery. West Control Solutions offers a comprehensive range of devices, from simple, cost-effective units to high-end SIL 2 compliant solutions for safety-critical applications.

The use of limit devices provides vital protection for temperature controlled process systems and where necessary the safety of both the workforce and the plant itself.

Several factors should be considered in selecting the correct device: limit device and machinery standards, risk assessment or legislation defining the safety integrity level and the mounting style needed for a machine.

Applications regularly requiring use of limit and monitoring devices are ovens, furnaces, combustion plant, steam systems and food heating equipment plus many more.

US Standard

General purpose temperature limiting devices - FM 3545

	P6700 / 8700 / 4700	MAXVU RAIL	CAL 3300 / 9300
Format	1/16 DIN (48 x 48mm), 1/8 DIN (96 x 48mm), 1/4 DIN (96 x 96mm)	DIN-rail	1/32 DIN (24 x 48mm), 1/16 DIN (48 x 48mm)
Input type	Thermocouple (single), PT100, Linear DC		
Max number of outputs	3	3	2
Key features	Annunciator alarm Modular I/O and options (except limit output) Digital input or front key reset	Text OLED for easy setup Annunciator alarm All outputs can be latched Digital input or front key reset	Compact front panel format Min/Max monitor Front key reset

At a Glance

Standards

For safety-critical applications, temperature monitors and limiters must be type tested to appropriate standards. These include EN14597-1 in Europe and in the US, FM3545: Approval criteria for temperature limit and supervisory switches.

Additional safety and security features include password protection of limit settings and outputs for remote alarm and monitoring systems.

Device types

Temperature monitors use a non-latching output relay, allowing equipment to restart without external intervention once temperature has returned to the acceptable operating range.

Temperature limiters use a latching output relay, requiring a local or remote reset before operation is resumed.

Safety integrity level

Standard temperature monitors and limiters that have been type tested according to EN14579-1 are approved to operate as an independent safety system offering protection to SIL 1.

Safety temperature limiters include dual sensor inputs for thermocouples to protect against sensor failure. When used with appropriate safety sensors, they are type tested and approved to operate as an independent safety system offering protection to SIL 2 (EN61508).

European Standard

Compact temperature limiting devices - EN14597-1:2013

	TB40-1	TB45-2	STB-55
Format	1/8 DIN (96 x 48mm)	DIN-rail mounted	DIN-rail mounted
Product type	Monitor TW or Limiter TB	Monitor TW or Limiter TB	Safety Limiter STB or Safety Monitor STW
Input type	Thermocouple (Single, TW or Dual, TB), PT100, Linear DC	Thermocouple (Single, TW or Dual, TB), PT100, Linear DC	Thermocouple (Dual, STW or STB), PT100
Max number of outputs	2	3	3
Key features	As TB: SIL1 compliant Digital input or front key reset	Single device for TB or TW As TB: SIL1 compliant Digital input or front key reset	SIL2 Digital input or front key reset

Overview

Biomass combustion plants

Industrial Furnaces

Heat exchangers

General Heat Processes

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