Product Technical Datasheet

5000 Series

Alarm & Condition Monitoring

(*Issue H)*

ACCESS Instrumentation

5000 Series **Multi-Channel Process Condition and Critical Alarm Monitor.**

Description

The 5000 Series is highly versatile process condition monitor capable of the simultaneous reading of up to 24 analogue process signals. The instrument is equipped to handle most process signal types from mA and mV to RTD and Thermocouples with software selectable scaling and linearization's. Each channel is equipped with software strategies for Alarming and Logging providing the user with an array of possibilities for process monitoring.

The dual channel I/O cards are built on the proven 1000PLUS platform and feature high quality analogue components giving the best accuracy and thermal stability.

The system is available in 6 Channel 12 Channel and 24 Channel base configurations

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Analogue Process Signal Capability

Resistance Temperature Devices	
PT100	-200 °C to 645 °C
Ni120	-70 °C to 300 °C
Cu10	-50 °C to 250 °C
Cu30	-50 °C to 25 °C
Pt20	-50 °C to 25 °C

Thermocouples	
T/C Type J	-180 °C to 750 °C
T/C Type K	-180 °C to 1250 °C
T/C Type T	-200 °C to 400 °C
T/C Type E	-60 °C to 1000 °C
T/C Type N	0 °C to 1210 °C
T/C Type R	0 °C to 1600 °C
T/C Type S	0 °C to 1560 °C
T/C Type L	-180 °C to 750 °C
T/C Type U	-200 °C to 400 °C
T/C Type B	0 °C to 1210 °C

Linear Signals	
Resistance	0 to 450Ω
Millivolts	-20mV to 20mV
	-50mV to 50mV
	-20mV to 100mV
	-20mV to 200mV
Volts	-1v to +1v
	-2v to 2v
	-5v to 5v
	-10v to 10v
	-20v to 20v
Milliamps	0mA to 10mA
	0mA to 20mA
	4mA to 20mA

Key Features

- 6, 12 and 24 Channel DIN Enclosure with 2 part screw terminal connections to the rear.
- Channel cards may be added at any time by the user, these are available in a Dual Channel format.
- Each Channel has a dedicated microprocessor for high speed data acquisition.
- Universal analogue inputs supporting many industrial process signal types with high accuracy / thermal stability electronics and high performance 24 bit ADC.
- User configurable 'soft' input scaling and linearization, alarm & event triggers and data logging.
- 2 off Global State Relay alarm outputs as standard.
- Optional Channel Dual Alarm outputs with independent set-points and triggering strategies, including; High, Low, Rate of Change and Early Indication.
- Optional Channel Analogue Output repeat facility with user defined rescaling.
- 3.8" LCD HMI with colour touch-screen interface for Channel card monitoring, local interrogation, alarm acknowledgement and system configuration.
- High speed robust and reliable MODBUS backbone between Channel cards and HMI.
- Simple setup via intuitive configuration screens on HMI.
- Communications available for 2 wire RS485 (MODBUS RTU/JBUS) allowing 5000 units to be networked and/or interfaced to DCS & SCADA systems.

Applications

- Temperature Monitoring
- Vibration Monitoring
- Pressure Monitoring
- Flow Monitoring
- Pump Performance Monitoring

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TECHNICAL SPECIFICATIONS

Electrical

Supply Voltage	DC Model : 24 vdc (+/- 10%) AC Model : 90 to 250 vac (50-60Hz)
Consumption	5 watts to 48 watts
Isolation	Power Supply to Logic : >1000 Vdc/µs Comms to Logic : >1000 Vdc/µs Logic to Outputs : >1000 Vdc/µs Channel to Channel : >600 Vdc/µs

Analogue Inputs

Accuracy	Measurement : ±0.1% of Range Linearization : ±0.9% of Range
Resolution	Raw ADC : 24 bits Processed : 16 bits
Scan Speed	<100ms
CMR	>90dB @ 50Hz 500Vdc to Earth
Temp Coefficient	±20ppm/degC
CJC Accuracy	±0.1 °C

Analogue Output

Resolution	12 Bit
Accuracy	±0.1%

Alarm Outputs

Global Solid State	Normally Open Contacts Load Switching: 100mA @ 350v ac/dc On resistance : 20 Ω
Optional Relay's	Normally Open & Closed Contacts Load Switching: 1A @ 200v ac/dc On resistance : 150 milliohms

Mechanical

Casing	Outer : Powder Coated Aluminium Inner : Powder Coated Mild Steel Bezel : Wet Sprayed Aluminium
Fixing	Side secured fixing clamps
Terminals	2 part cage clamp screw terminals Maximum Conductor Size : 2.5 mm^2

Environmental

Ambient Limits	Storage	-20 to +70 degC
	Operation	-10 to 50 degC
	Humidity	20 to 90% RH (non condensing)
Protection	IP42 Standard	
EMC	Immunity to EN50082-2 Emissions to EN50081-1	
Safety	Complies with EN609050	

Functional

Delay Time	Adjustable between 0 and 255 seconds. (for each alarm trip point)
Hysteresis	Adjustable between 0 and 25% of input range in 0.1% increments. (for each alarm trip point)
Response Time	Less than 200mS
Logging	Alarm event and data logging with time stamp. Up to 32768 events/data points.

ORDER CODES

Chassis

5106-M1	6 Channel Chassis, 24v DC powered, 3.8" Colour Touchscreen Display, No Cards fitted.
5106-M2	6 Channel Chassis, 90-250v AC powered, 3.8" Colour Touchscreen Display, No Cards fitted.
5112-M1	12 Channel Chassis, 24v DC powered, 3.8" Colour Touchscreen Display, No Cards fitted.
5112-M2	12 Channel Chassis, 90-250v AC powered, 3.8" Colour Touchscreen Display, No Cards fitted.
5124-M1	24 Channel Chassis, 24v DC powered, 3.8" Colour Touchscreen Display, No Cards fitted.
5124-M2	24 Channel Chassis, 90-250v AC powered, 3.8" Colour Touchscreen Display, No Cards fitted.

Channel Cards

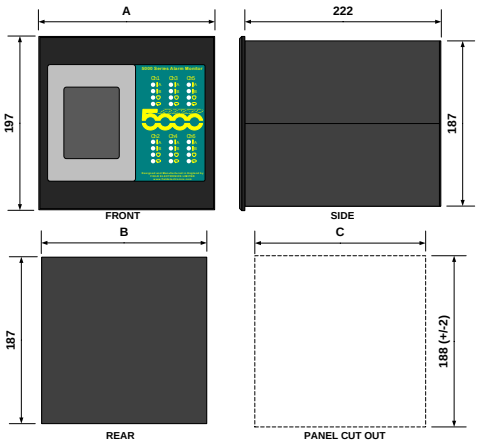
5602	Dual Channel Universal Input plug-in card with 2 off Alarm Indicators per channel, No Analogue Output Card or Relay Output Card fitted.

Options

5401	2 Channel Relay Output Daughter Board (for 5602 - one per channel)
5501	Single Channel 0-20mA or 0-10v Analogue Output Daughter Board (for 5602 - one per channel to repeat Analogue Input reading) – NB. Default setting is 0-20mA unless otherwise specified with order.

DIMENSIONS

All dimensions shown in millimetres unless specified otherwise



Chassis	A	B	C	Weight
5006	200	186	187 (Tol. +/- 2)	3.8 kg
5012	293	281	282 (Tol. +/- 2)	4.6 kg
5024	437	425	426 (Tol. +/- 2)	5.8 kg

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