Woodward Woodward Series Service Manual

5464-334

1. Description

SPECIFICATIONS:

3. Product Information

SPECIFICATIONS:

Part Number: 5464-334

Manufacturer: Woodward

Product type: Isolated 4-20mA Analog Input 8 Channel Module

Input Voltage: 24 Vdc

Maximum Operating Current: 12 V

Number of channels: 2

Operating Temperature: -25°C to +70°C

Isolation Protection: 3000 VDC

Power Supply: 10 - 60 VDC

Size: 30 Cm X 20 Cm X 25 Cm

Weight: 0.8kg

Country of Origin: United States (USA)

FUNCTIONAL DESCRIPTION:

5464-334 is an Isolated 4-20mA Analog Input 8 Channel Module manufactured and designed by Woodward as part of the 5400 Series used in Turbine Control Systems. An isolated 4-20mA analog input 8-channel module is a device designed to accept analog signals within the range of 4 to 20 milliamps (mA). Each channel on the module is isolated, meaning that the signals in one channel are electrically separated from the signals in the other channels. This isolation helps prevent interference and ensures accurate and reliable measurements. The Smart I/O module incorporates its onboard microcontrollers. Upon initialization, the module's microcontroller deactivates the LED once power-on self-tests are completed, and the CPU has initialized the module. In the event of an I/O fault, the LED is illuminated to signal the occurrence.

FEATURES:

Using this initialization/key broadcast system, every I/O module independently manages its rate-group scheduling with minimal CPU involvement. These intelligent I/O modules are equipped with on-card online fault detection and automatic calibration/compensation capabilities.

Each input channel is accompanied by its precision voltage reference. Once per minute, during idle periods when inputs are not being read, the onboard microcontroller reads this reference. Subsequently, the microcontroller utilizes the data obtained from the voltage reference for both fault detection and automatic temperature compensation/calibration purposes.

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The system has predefined thresholds for the anticipated readings during the on-board microcontroller's reading of each voltage reference. If the obtained reading falls beyond these established limits, the system identifies a malfunction in either the input channel, A/D converter, or the channel's precision voltage reference.

In such instances, the microcontroller signals a fault condition for that specific channel. The CPU subsequently executes the actions specified by the application engineer in the application program.

A smart output module observes the output voltage or current for each channel and notifies the system in the event of a detected fault. Each I/O module is equipped with a visible fuse, accessible through a cutout in the module's plastic cover. Should the fuse be blown, replace it with a fuse of identical type and size.

The Actuator Driver module receives digital information from the CPU and produces four proportional actuator-driver signals. These signals are proportional and have a maximum range of 0 to 25 milliamps DC (mA) or 0 to 200 milliamps DC (mA).