Woodward Woodward Series Service Manual

5466-253

1. Description

SPECIFICATIONS

3. Product Information

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Part Number: 5466-253

Manufacturer: Woodward

Product type: Analog Combo Module

Number of channels: 4

Update time: 5 ms

Analog Input Ratings

Number of channels: 8

Update time: 5 millisecond

Input range: 0-25 mA

Availability: In Stock

Country of Manufacture: United States (USA)

Functional Description

5466-253 is a Analog Combo Module developed by Woodward. It is equipped with circuitry to handle a diverse range of inputs and outputs, making it suitable for a wide array of applications. This module boasts four speed sensor inputs, eight analog inputs, four analog outputs, and two proportional actuator driver outputs, enhancing its flexibility and adaptability. The speed sensor inputs cater to different types of speed sensors, accommodating both magnetic pick-up and proximity probe inputs. This capability ensures seamless integration with various types of rotating machinery and equipment, providing precise and accurate speed measurement.

Features

For analog inputs, the High Density Analog Combo module supports 4-20 mA input signals. This range is widely used in industrial control and measurement applications, allowing seamless connectivity with a variety of sensors, transducers, and other analog devices.

In terms of actuator driver outputs, the module offers two proportional actuator driver outputs, each configurable for either 4-20 mA or 20-160 mA operation. This versatile configuration enables seamless compatibility with different types of proportional actuators, empowering precise control over valves, motors, and other proportional devices.

The module's integration of multiple functionalities into one unit not only saves space but also simplifies system design and reduces wiring complexity. This consolidation of inputs and outputs streamlines the installation process and enhances system reliability, as there are fewer points of potential failure.

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The module's robust design and high-quality components ensure reliable and consistent performance, even in demanding industrial environments. Its adaptability and compatibility with various sensor types and actuator devices make it an ideal choice for industries such as power generation, oil and gas, petrochemicals, and more.

Analog Inputs

The analog inputs in the system must be of the current type as specified in Appendix A, which provides specific part numbers for reference. Notably, all modules across the system utilize the same cable and Fault Tolerant Modules (FTMs), ensuring uniformity and compatibility.

Regarding the current inputs, there are two options for transducer usage: two-wire ungrounded (loop powered) transducers or isolated (self-powered) transducers. Both types can be seamlessly integrated into the system.

To ensure reliable and accurate readings, all analog inputs boast an impressive 200 Vdc of common mode rejection, minimizing the impact of common-mode noise and disturbances on the measurements.

However, when interfacing with a non-isolated device that has the potential to reach over 200 Vdc with respect to the control's common, an additional precautionary step is recommended. The use of a loop isolator is advised to break any return current paths that may lead to erroneous readings. This precautionary measure ensures the integrity of the data and prevents potential issues arising from ground differences.

In the design of all current inputs, 200 ohm resistors are placed across their inputs. This further enhances accuracy and stability, contributing to the overall precision and reliability of the analog input measurements.

The implementation of these features ensures that the system can effectively handle a wide range of analog input scenarios while maintaining accuracy and safety. By adhering to the recommended practices and precautions, the system can reliably process current inputs from various transducer types, making it suitable for a diverse range of industrial applications.