PRESS RELEASE

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Multiple I/O for rugged machine control applications from Axiomatic Technologies Corporation features 12 inputs signals and 13 outputs to drive solenoids with CAN networking.

The AX020400 electronic controller provides precise, repeatable control of 8 proportional or on/off solenoids up to 2.5A plus 5 on/off solenoids up to 3A. It is networked on a SAE J1939 bus. Up to 7 universal signal inputs (analog voltage or current, resistive, PWM or Digital) and 5 digital signal inputs (PWM or Digital) are accepted for interface to a PLC, Engine Control Module, switches, command potentiometers or sensors. It operates with 12Vdc or 24Vdc power. Designed for rugged machine applications, it features an IP67 rating and is suitable for high vibration installations.

Controller settings are user configurable to suit many applications. Configuration is via a *Windows*-based Electronic Assistant® configuration tool and an USB-CAN converter. From the control logic perspective, the AX020400 consists of a set of internal functional blocks, which can be individually configured. Using the input function block, each input can be configured to measure the input value, and send the data to a SAE J1939 network. With the output function block, any output on the controller can be configured to use any of the on board inputs as either a control signal or an enable signal, instead of taking the control information from the CAN bus. The PID Control Function Block is associated with the proportional output type. The Lookup Table Function Block is used to give output response with up to 10 slopes per input. If more than 10 slopes are needed then the Programmable Logic Function Block is used to combine up to 3 tables to generate up to 30 slopes. The Math Function Blocks allow the user to define basic algorithms. The DTC React Function Block allows for a received DTC from another device on the CAN network to disable an output or act as an input to a function block. Diagnostics messages are provided over the CAN network for the status of inputs or outputs and are configurable via the Diagnostic Function Block.

The model operates with Simulink® for easy graphical programming in a model based simulation and development environment. The functional blocks have been readily implemented into the Simulink model. With the Simulink model it is possible for a customer to easily modify functional blocks to produce their own custom software. For example, input and CAN message connections can be altered, transfer functions can be added between inputs and CAN messages and initial values for functional block set points can be configured. The Axiomatic Hardware Interface Library (HWIL) is provided for this purpose. For simulating models using Axiomatic HWIL, licenses for Simulink® and Stateflow® are required. Code generation also requires the Simulink Coder™ license.

Applications:

- off-highway vehicles
- on-highway vehicles
- oilfield services equipment
- agricultural equipment

Axiomatic designs and manufactures electronic machine controls, power converters, gateways and motor controls for the off-highway, on-highway, bus, electric vehicle, military, power generation, material handling, industrial and alternate energy markets. We provide efficient, innovative solutions that focus on adding value for our customers. We emphasize service and partnership with our customers, suppliers, and employees to build long term relationships and mutual trust.

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