

Technical Datasheet #TDAX020200
ECONOMY FAN CONTROLLER
2 Temperature Sensor and 3 Digital Inputs
1 Proportional or On/Off Output
P/N: AX020200 Series

Features:

- Controls proportional hydraulic fan drive systems
- Proportional control within a range of temperatures and in response to digital inputs (temperature setpoints, ramp rates and input priorities factory programmed for the application)
- Accepts 2 analog temperature sensor inputs (such as oil and water temperatures)
- Interfaces to Bosch PTC type sensors or equivalent
- Accepts 3 digital inputs (such as climate control, machine driving and speed reduction)
- Provides 1 independent proportional DC current output for a solenoid operated, 2 way, proportional pressure control valve or 1 on/off valve
- Maximum current, minimum current, dither frequency and amplitude and ramp rates can be calibrated by the user within factory preset ranges.
- Powered by a 12 or 24VDC (9...32VDC) source and designed for rugged applications
- Reverse polarity protection provided
- Thermal overload and overvoltage protection provided
- Compact IP67 rated packaging and plug-in connections
- Operational from -40 to 85°C (-40 to 185°F)
- RS232 interface to PC or laptop for user configuration and diagnostics



Applications:

- Hydraulic Fan Drives
- Electrohydraulic Controls
- Mobile Equipment Control Systems

Ordering Part Number:

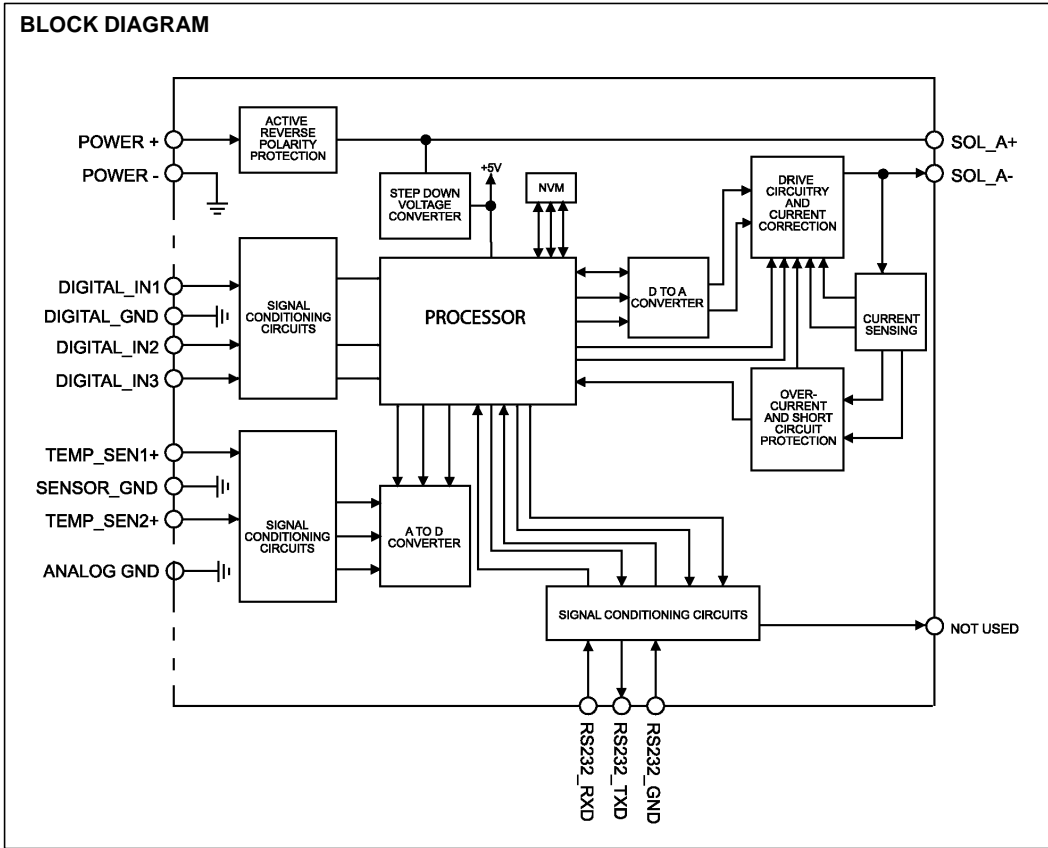
Economy Fan Controller

AX020200 Series

For application-specific control logic, contact Axiomatic for a quotation.

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Technical Specifications: Application-specific software programming provided.

Input Specifications

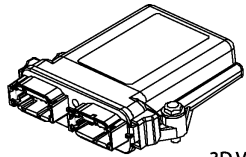
Power Supply Input - Nominal	9...32 VDC power supply range
Reverse Polarity Protection	Provided
Temperature Sensor Inputs	
<i>The controller accepts PTC variable resistance temperature sensor inputs from Bosch or equivalent.</i>	
Temperature Sensor Input 1	Setpoints and control logic are factory programmed based on the application. Provide application-specific requirement upon order.
Temperature Sensor Input 2	Setpoints and control logic are factory programmed based on the application. Provide application-specific requirement upon order.
Sensor Ground	A common ground connection is provided. An analog ground connection can also be used as a Sensor ground.
Digital Inputs	
Digital Input 1	Digital inputs are factory programmed based on the application. Provide application-specific requirement upon order.
Digital Input 2	Digital inputs are factory programmed based on the application. Provide application-specific requirement upon order.
Digital Input 3	Digital inputs are factory programmed based on the application. Provide application-specific requirement upon order.
Digital Ground	A common ground connection is provided.

Output Specifications

Maximum Current Output	<p>High side driver 1 proportional output, up to 2 Amps (HydraForce proportional pressure control valve P/N: TS10-27B-0-N-12DG or equivalent.)</p> <p>Or 1 on/off output, 2 Amps</p> <p>Factory programming for I-max is based on the application. Factory programming for I-min is based on the application. I-min and I-max are adjustable from 0 to 2 Amps. Overcurrent protection is provided for up to 2 Amps.</p> <p>Short circuit protection is provided.</p>
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General Specifications

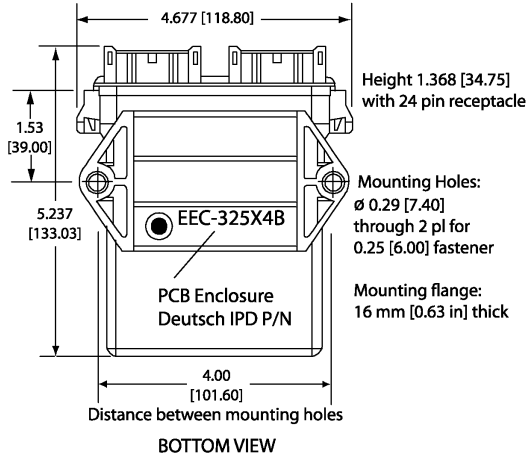
Microprocessor	ADUC832 in-circuit programmable
Diagnostic LEDs	<p>Accessible by opening packaging. For diagnostic purposes only. Power OK – LED 1 and LED 2 are ON (green). Regulating Cycle ON – LED 5 flashes (green). Digital input 1 – LED 4 Digital input 2 – LED 6 Digital Input 3 – LED 7</p>
Output Current Adjustments	Both min. and max. output current are adjustable from 0 to 2 Amps.
Superimposed Dither	<p><u>Dither Amplitude:</u> 10% I-max. (factory default) Adjustable from 0-50%</p> <p><u>Dither Frequency:</u> 200 Hz (factory default) Adjustable from 50-400 Hz</p>
Ramp Rates – Ramp Up and Ramp Down	<p>0.33A/s (factory default) is equivalent to 2.1 seconds $0.33[A/s] = (1.4[A] - 0.70[A]) / 2.1[s]$ Adjustable from 2000A/s to 0.0001A/s.</p>
Electrical Connections	<p><u>24 pin</u> Deutsch DTM series 24 pin receptacle (DTM13-12PA-12PB-R008) Mating plug: Deutsch DTM06-12SA and DTM06-12SB with 2 wedgelocks (WM12S) and 24 contacts (0462-201-20141). Either 18 or 20 AWG wire is recommended for use with controller. Use dielectric grease on the pins when installing the controller.</p>
Packaging and Dimensions	<p>High Temperature Nylon housing Deutsch IPD PCB Enclosure (EEC-325X4B) 4.62 x 5.24 x 1.43 inches 117.42 x 133.09 x 36.36 mm (WxLxH excluding mating plug) OEM specific packaging and connection styles are available.</p>
Operating Conditions	-40 to 85°C (-40 to 185°F)
Vibration	Vibration compliance is suitable for mobile equipment applications.
Protection	IP67; Unit is conformally coated within the housing. Plugs carry an IP69 rating.
Interface	<p>RS232 serial communication is available for interface to a serial port (i.e. COM1) on a PC (9600 baud rate, N81) Tera Term or Microsoft HyperTerminal™ or an equivalent data terminal</p>



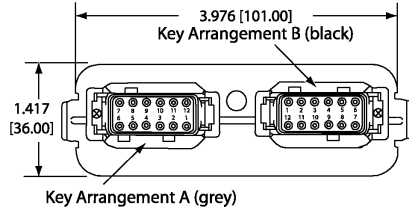
HOUSING DIMENSIONS

Housing Material: High Temperature Nylon (Black)

3D VIEW
Housing with 24 Pin Receptacle



FRONT VIEW 24-PIN RECEPTACLE (NOT TO SCALE)



Mating Plug Assemblies for 24-pin receptacle:
Deutsch IPD P/N: DTM06-12SA and DTM06-12SB
with wedgelocks WM12S and contacts
(Contact factory for contact specification.)

Dimensions: inches [mm]
excluding mating plug(s)

CONNECTIONS

Grey Connector PIN #	Function	Black Connector PIN #	Function
12	RS232_RXD	6	Not Used
1	Not Used	7	Digital Input 1 (Climate Control – active low)
11	RS232_TXD	5	Not Used
2	Analog GND	8	Digital Input 2 (Machine Driving – active high)
10	RS232_GND	4	Digital_GND
3	Not Used	9	Digital Input 3 (Speed Reduction – active high)
9	Not Used	3	Not Used
4	Not Used	10	Not Used
8	Solenoid A +	2	Sensor Input 2 (Oil Temperature)
5	Solenoid A -	11	Sensor_GND
7	Power +	1	Sensor Input 1 (Water Temperature)
6	Power_GND	12	Not Used

Form: TDAX020200-02/28/06