CANopen 939

certified E MODULE

CiA200910-301V402/20-0108

Description:

Interface module board that can be configured to CANopen, J1939 or basic CAN protocols. Designed to be mounted directly to the CS3 single and dual axis joysticks with the connectors wrapped around the body for the most common configuration, but will mount on and interface with any joystick that can generate a 0 to 5 volt pot or 0.5 to 4.5 volt Hall effect command signal. It can also be remote mounted near the command source if space restrictions are an issue. A flash memory is provided to configure the protocol to standard CAN protocol or modified for specific customer's needs.

Features:

- Joystick mounted for simple installation.
- 2 Analog and 3 digital inputs for direct connection to joystick functions.
- 2 Additional analog inputs for joystick handle twist or thumbwheels.
- 5 Additional digital inputs for handle or control panel push buttons.
- 2 Digital outputs for indicator lights or alarms.
- Factory Flash programmed with baud rate and node ID.
- Custom protocols programmed on request (consult factory)

Applications:

- Industrial vehicles
- Off road vehicles
- Truck mounted lifts
- Scissor and boom lifts
- Telehandlers

CANopen

certified

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J.R. MERRITT CONTROLS, INC.

Stratford, CT • 1-800-333-JRMC • www.jrmerritt.com

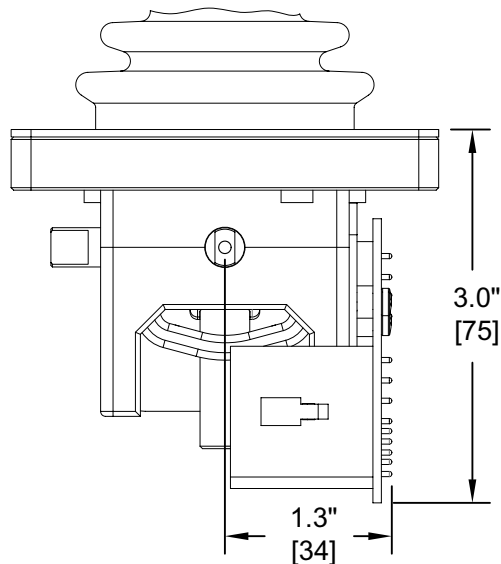# CANopen & J1939 JOYSTICK INTERFACE MODULE

Technical Details:

Electrical Ratings:

Supply Voltage (Vcc)	9 - 36 Volts DC
Absolute Maximum	36 Volts
Supply Current	50 - 100mA (typ.) 200mA (max.)
Supply Input	Reverse Polarity Protected
Outputs	Short Circuit To Vcc Protected

Environment:

Operating Temperature	-40 to +60°C
Storage Temperature	-40 to +80°C
Sealing	Silicone conformal coating

CANopen Interface:

Vendor ID	0000028B
CANopen Device Profile	DS301, DS401 V3.0 6/08
Maximum Bit Rate	500Kbps
Dynamic PDO	Communication
Variable PDO	Identifier
Terminal Resistance	120R Removable
Connection	Amp 6 position Mini Mate-N-Lok 172168-1

Diagnostics:
LED on board, on during normal operation, blink on error.
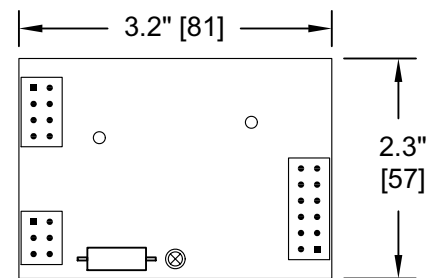
I/O Connections:

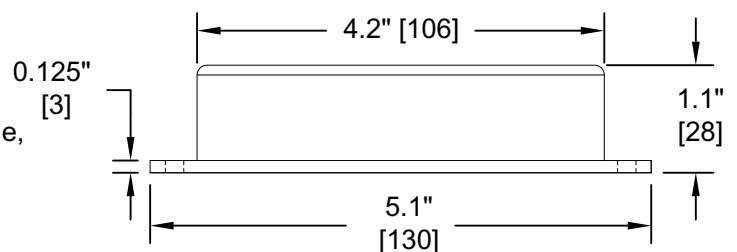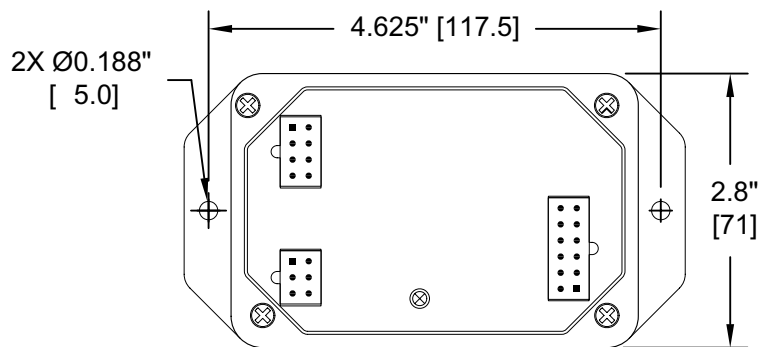|	
Analog Inputs	4 (0.5 to 4.5 volts DC) 12μA Per Ch. (4 to 20mA) using external 100R Over Voltage Protected to 36 VDC
Digital Inputs	8 (+8 to 36 volts DC) 3.5mA Per Ch.
Digital Outputs	2 (Open Collector) 36 Volts @ 1 A Max. Short Circuit To Vcc Protected

Connector Contacts (Sockets):

Amp # 794407 (20 - 16 AWG Wire)
Amp # 770904 (22 - 18 AWG Wire)
Amp # 770902 (26 - 22 AWG Wire)

Compatible with all joysticks with 0 to 5 volt or 0.5 to 4.5 volt command signal.

Dimensional Details:

3.2" [81]
2.3" [57]

Optional remote mounting enclosure

2X Ø0.188" [5.0]
4.625" [117.5]
2.8" [71]

4.2" [106]
0.125" [3]
1.1" [28]
5.1" [130]

Module installed on CS3 Joystick

3.0" [75]
1.3" [34]

Ordering Details:

JRMC Item # 05.651 - CANopen protocol
JRMC Item # 05.649 - J1939 protocol
JRMC Item # 04.654 - Kit, remote mounting CAN module, includes 12" interface cable.

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CANopen & J1939 JOYSTICK INTERFACE MODULE

Connection Details:
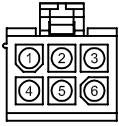
CAN Connector	(172168-1)	
Pin	Function	Note
1	CAN High	
2	CAN Low	
3	Ground In	Supply GND
4	Digital Out 1	e.g. Buzzer
5	Digital Out 2	e.g. Fault Ind.
6	Power In	9 to 36 VDC
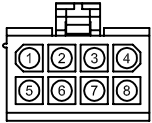
Joystick Connector	(770579-1)	
Pin	Function	Note
1	Digital Supply	Vcc Out (Handle Power)
2	Digital Input 1	e.g. Handle Rocker Left
3	Digital Input 2	e.g. Handle Rocker Right
4	Digital Input 3	e.g. Handle Trigger
5	Analog Supply	+5 VDC Out
6	Analog Input 2	e.g. C-D axis signal
7	Analog Input 1	e.g. A-B Axis Signal
8	Analog Ground	GND Out
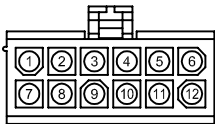
Aux Connector	(770581-1)	
Pin	Function	Note
1	Digital Input 1	Only If Not Used In Joystick
2	Digital Input 2	Only If Not Used In Joystick
3	Digital Input 3	Only If Not Used In Joystick
4	Digital Input 4	
5	Digital Input 5	
6	Digital Input 6	
7	Not Used	No Connection
8	Analog Input 4	
9	Analog Input 3	
10	Analog Input 2	Only If Not Used In Joystick
11	Digital Input 7	
12	Digital Input 8	

JOYSTICK CONNECTOR

CAN CONNECTOR

AUX CONNECTOR

TERMINATOR RESISTOR

LED

External Connection Block Diagram

INPUTS

CAN
6 — POWER
3 —

JOYSTICK
7 — ANALOG1
6 — ANALOG2
4 — DIGITAL3
3 — DIGITAL2
2 — DIGITAL1

AUX
1 — DIGITAL1
2 — DIGITAL2
3 — DIGITAL3
4 — DIGITAL4
5 — DIGITAL5
6 — DIGITAL6
8 — ANALOG4
9 — ANALOG3
10 — ANALOG2
11 — DIGITAL7
12 — DIGITAL8

CAN DRIVER

DIGITAL OUTPUT DRIVER

OUTPUTS

CAN-HI — 1
CAN-LO — 2
OUT1 — 4
OUT2 — 5

HALL POWER — 5
HALL GROUND — 8
HANDLE POWER — 1