

XHA2 Hi Amp Relay Module: CAN Controlled

Overview:

The High Current I/O module is a printed circuit board relay controller with J1939 CAN bus communication. The module is designed to be controlled by a GS switch panel or as a node on a J1939 CAN bus. The outputs can also be controlled through discrete digital inputs available on the module. The distinct advantage for this assembly is the ability to be a "stand alone" or J1939 controlled relay module..

The XHA2 is a functional 12 or 24 Volt mobile machine load control system. The module has 12 sourcing digital inputs, 12 Relay Outputs with over current protection and 6 digital FET outputs. A series of LED diagnostic indicators are provided for troubleshooting.

The XHA2 uses advanced communication technology with traditional mechanical relays allowing the operator or mechanic better diagnostic and troubleshooting features.

Mechanical:

The XHA2 can be mounted in a standard or custom enclosure. The power is supplied to the module with a single 100 Amp Amphenol Surlok connector. The outputs are protected by either traditional automotive fuses or circuit breakers, with manual or auto reset. The high current output connections are made with Tyco Mate-N-Lok series connectors. All remaining inputs, outputs and communications connections are through Molex Mini-Fit Jr. connectors.

Mechanical Specifications:

Housing: 6.0" x 9.5" x 1.8 " ref drawing

System Features:

- CAN (J1939) Communication- with status light
 - GS Switch (RS-485) Communication- GS Switch Panel control system
 - 12 Digital Inputs- External inputs for control.
 - 12 Relay Outputs up to 19 amps per Output.
- All Relay outputs have red indication LED for quick "power on" indication of the Relay
- 6 FET Outputs up to 4 amps per Output. J1939 Controlled or External Input controlled.
 - All outputs controlled by GS Switch, CAN or digital inputs.
 - All outputs are protected via the Fuse/circuit breaker.

Environmental Specifications

Operating temp:- -40°C to +85°C (-40°F to +185°F)

Storage temp:- -50 to +90°C (-58°F to +194°F)

Environmental protection: (Housing Dependant)

EMI:

ISO 13766:2006 Radiated Emission



XHA2 High Amp Output Module .

Electrical:

CAN Protocol: SAEJ1939

CAN control allows for the interfacing to full machine control and monitoring of load functions of the system.

PGN numbers:

Outputs: 65380

Source Address: 80 (0x50)

12 Output Socket Style Relays- Automotive Style:
Replaceable

Each Relay Circuit protected

12 Inputs allow for standalone use of the XHA2.

Electrical Specifications:

Supply: Range 9-32 VDC 12 volt (9 to 18Vdc) or 24 volt (+17Vdc +32Vdc). Outputs have integral "Freewheeling" Diode

Outputs: 12 Relay Outputs individually protected via fuse. Outputs rated to connector terminal limitation. 19 Amps maximum with continuous outputs at 85 Degree C. Maximum Current per Module (Total all 12 outputs): 100 Amps Total Continuous Current (125 Amp Limited usage)

Inputs: 12 Digital Inputs

Circuit Protection: Output Type Automotive Relay, Socket Mounted, Replaceable Output Protection ATO fuse or optional Type I, II, or III Circuit Breaker

Note Type I: continuous reset, Type II: power reset, Type III: manual reset

XHA2 Hi Amp Relay Module: CAN Controlled

ESD:

ISO 10605:2001 Air: 15kV, Contact: 8kV

Connections:

J1 Connector:

Mating Connector: Amphenol C10-647184-061
Pin 1: +Supply (100 Amp) (Continuous)

J2 Connector:

Mating Connector: Tyco 1-480702-0
Pin 1: +Battery Supply
Pin 2: Power Switch Supply
Pin 3: Power Point (+)
Pin 4: Common Supply

J3 Connector: Machine Connection

Mating Connector: Molex 39-01-2125
Pin 1: +Ignition Supply
Pin 2: 5 Amp Continuous Power
Pin 3: 5 Amp Switched Power
Pin 4: Indicator
Pin 5: Crane Hour Meter(Through connect to J9)
Pin 6: PTO Hour Meter(Through connect to J9)
Pin 7: Digital Input 1
Pin 8: Digital Input 2
Pin 9: Digital Input 3
Pin 10: Digital Input 4
Pin 11: Digital Input 5
Pin 12: Digital Input 6

J4 Connector: Can Connection

Mating Connector: Molex 39-01-3042
Pin 1: CAN-H
Pin 2: CAN-L
Pin 3: CAN Shield
Pin 4: No Connection

J5 Connector: Relay Outputs 1-7

Mating Connector: Tyco 1-480763-0
Pin 1: Relay 1
Pin 2: Relay 2
Pin 3: Relay 3
Pin 4: Relay 4
Pin 5: Relay 5
Pin 6: Relay 6
Pin 7: Relay 7
Pin 8: No Connection
Pin 9: No Connection

J6 Connector: Relay Outputs 8-12

Mating Connector: Tyco 1-480706-0
Pin 1: Relay 8
Pin 2: Relay 9
Pin 3: Relay 10
Pin 4: Relay 11
Pin 5: Relay 12

J7 Connector: FET Outputs- 4 Amp Control

Mating Connector: Molex 39-01-2100
Pin 1: FET Out 1
Pin 2: FET Out 2
Pin 3: FET Out 3
Pin 4: FET Out 4
Pin 5: FET Out 5
Pin 6: FET Out 6
Pin 7: FET Common Supply
Pin 8: FET Common Supply
Pin 9: FET Common Supply
Pin 10: FET Common Supply

J8 Connector: FET External Input Control

Mating Connector: Molex 39-01-2080
Pin 1: Relay or FET Input 1
Pin 2: Relay or FET Input 2
Pin 3: Relay or FET Input 3
Pin 4: Relay or FET Input 4
Pin 5: Relay or FET Input 5
Pin 6: Relay or FET Input 6
Pin 7: Switch Supply
Pin 8: Switch Supply

J9 Connector:

Mating Connector: Molex 39-01-4040
Pin 1: Accessory Hour Meter
Pin 2: Crane Hour Meter from Pin 5 J3 Connector
Pin 3: PTO Hour Meter from Pin 6 J3 Connector
Pin 4: Hour Meter Common Supply

J9 Connector: Switch panel Control RS-485

Mating Connector: Molex 39-01-2060
Pin 1: Switch Panel RS-485-A
Pin 2: Switch Panel Common Supply
Pin 3: Switch Panel +5VDC Supply
Pin 4: Switch Panel RS-485-/B
Pin 5: No Connection
Pin 6: Switch Panel Shield

XHA2 Hi Amp Relay Module: CAN Controlled

