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IQAN-XC10 **I/O Modules**

Electronic Control Systems



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Application

The IQAN-XC10 is an IQANdesign platform expansion module in the IQAN product group. This unit is designed to get a high digital I/O count in one module.

All IQAN expansion modules communicate with a master over a CAN bus, using the IQAN CAN protocol.

I/O

Inputs

The module has a large number of digital inputs for connection to switches. The IQAN-XC10 has analog inputs for connection to 0-5 Vdc sensors from resistive or Hall-effect sensors and joysticks. The sensors can be powered from the 5 V reference on the module. For flexibility, all of the analog voltage inputs can also be configured as digital inputs.

There are frequency inputs for active sensors, such as Hall-effect speed sensors.

Outputs

The module has a large number of digital outputs designed for driving on-off solenoids in a hydraulic system. The dedicated digital outputs can also be used for driving other types of loads, such as LEDs.

Some of the outputs can also be configured as PWM outputs, for less demanding proportional functions when temperature compensation is not needed.

The PWM outputs are configured in pairs, where each pair is intended for one valve section. These outputs are monitored, and use a combination of high-side and low-side switches to make it possible to shut down in the event of wiring faults.

Installation

The IQAN-XC10 is designed for use on mobile machinery. It uses two keyed 35-pin Ampseal connectors. The IQAN modules always have addressing in the wiring harness; the addressing of the IQAN-XC10 allows up to 3 modules of this type on the bus.

Diagnostics

The module provides diagnostics by monitoring its voltage reference, input voltages, output status, and temperature. This is sent on CAN and easily viewed on the IQAN master module.

It also has two LEDs for aiding diagnostics when it is connected to a master without a display.

Specifications

General

Weight	1.2 kg
Temperature range	
Operating, ambient	-40 to +85 °C
Storage, ambient	-40 to +85 °C
Protection	IPX6
Voltage supply	7.5 - 32 Vdc
Current consumption (idle)	200 mA
Data interface	Parker ICP (IQAN CAN Protocol)

Outputs

Digital out high	16
Type	high-side switch
Max load	2.5 A
Max PWM frequency	500 Hz
Digital out low	4
Type	low-side switch
Max load	2.5 A

Inputs

Voltage inputs	10
Signal range	0 - 5 Vdc
Resolution	5 mV
Frequency inputs	4
Signal range	0 - 10000 Hz
Digital inputs	16
Signal high	3.65 Vdc - VBAT
Signal low	0 - 1.56 Vdc

Ordering part numbers

IQAN-XC10	20077638
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Environmental protection

EMI

J1455 (AUG 1994), Steady state reverse voltage
 EP455 (FEB 2003) Section 5.10.4, Short circuit
 EP455 (AUG 1994) Section 5.11, Electrical transients
 J1455 (AUG 1994) Section 4.11.3.3.1, EMC emissions
 J1455 (AUG 1994) Section 4.11.3.3.2, EMC susceptibility

ESD

J1455 (AUG 1994) Section 4.11.12.2.5, ESD

Mechanical environment

J1455 (AUG 1994) Section 4.9.4.2, Random vibration

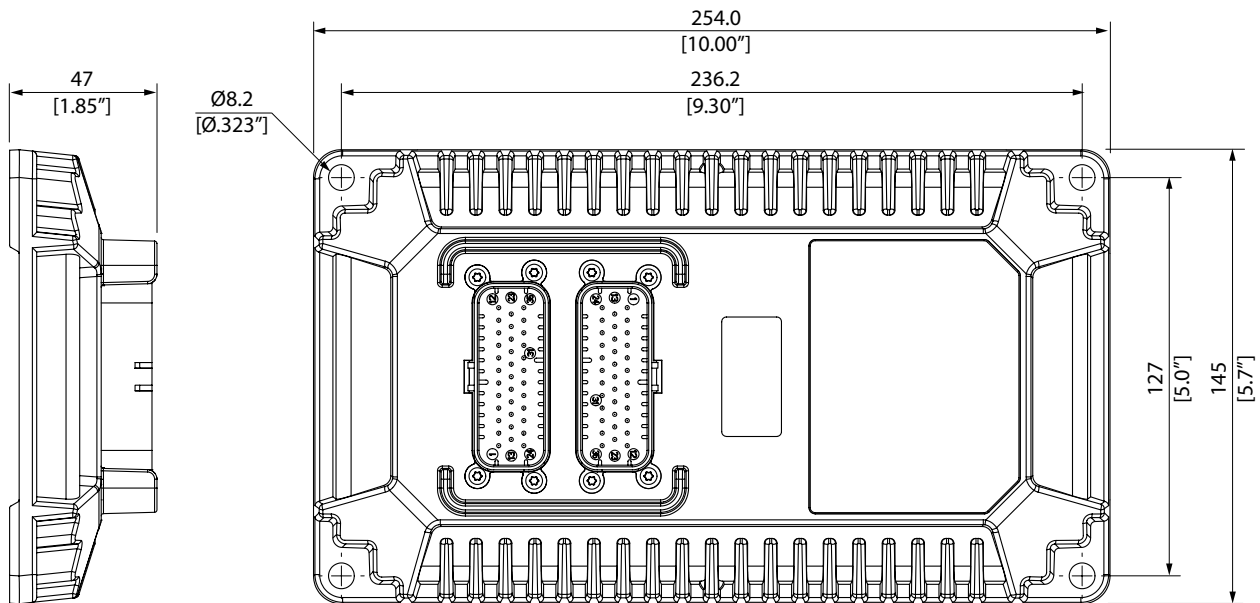
J1455 (AUG 1994) Section 4.10.3.1, Handling drop test

Climate environment

60529 IEC Edition 2.1 2001-02 Pressure wash IPX6
 J1455 (AUG 1994) Section 4.2.3, Humidity cycle
 EP455 (FEB 2003) Section 5.13.2, Humidity soak
 J1455 (AUG 1994) Section 4.1.3.1, Thermal cycle
 J1455 (AUG 1994) Section 4.1.3.2, Thermal shock

Chemical environment

J1455 (AUG 1994) Section 4.3.3, Salt spray atmosphere



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