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IQAN-XC21 I/O Modules

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

Application

The IQAN-XC21 is an IQANdesign platform expansion module in the IQAN product group. This unit is a small dimension I/O module to be used as an expansion unit in an IQAN system. It is also useful as an interface with the IQAN-LC6-X05 joystick to provide CAN capability.

All IQAN expansion modules communicate with a master over a CAN bus, using the IQAN CAN protocol. The IQAN-XC21 module has I/O flexibility that allows the user freedom in defining signals for measurement and control.

I/O

Inputs

The IQAN-XC21 has up to 20 digital inputs for connection to switches. Up to 8 of these inputs may be configured as voltage inputs for connection of 0-5 Vdc signals from resistive or Hall-effect sensors and joysticks. The sensors can be powered from one of the 5 Vdc reference voltages on the module.

The remaining 12 inputs can be configured as up to 10 frequency inputs and 1 encoder input for measuring speed and position.

Outputs

The module's low power digital outputs are designed for driving low power loads such as relays, LEDs or alarm buzzers. The outputs share pins with the inputs and are configured using IQAN software.

Installation

The IQAN-XC21 is designed for in-cab use on mobile machinery. It uses four Molex Micro-fit connectors of varying pin density to prevent wiring mix-ups. The module has addressing in the wiring harness through use of an IDtag; the addressing of the IQAN-XC21 allows up to 8 modules of this type on the bus.

The housing is designed for stacking multiple modules, providing a high density of I/O in a small footprint. The module also has pins that allow 'daisy chaining' of power and CAN for simplified cable harness installation.

Diagnostics

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

Specifications

General

Weight	0.1 kg
Temperature range	
Operating, ambient	-30 to +70 °C
Storage, ambient	-40 to +85 °C
Protection	IP32
Voltage supply	9 - 32 Vdc
Current consumption (idle)	20 mA (28 Vdc) 30 mA (14 Vdc)
CE marking	2004/108/EC
Data interface	Parker ICP (IQAN CAN Protocol)

Outputs

Digital out low	up to 8 ¹
Type	low-side switch
Max load, 1 output	300 mA
Max load, DOUT-A+B+C+D	850 mA
Max load, DOUT-E+F+G+H	850 mA

Inputs

Voltage inputs	up to 8 ¹
Signal range	0 - 5 Vdc
Resolution	1.22 mV
Frequency inputs	up to 10 ¹
Signal range (FIN-A to B)	1 - 20000 Hz
Signal range (FIN-C to J)	1 - 4000 Hz
Logic level high	>4 Vdc
Logic level low	<1 Vdc
Encoder inputs	up to 1 ¹
Signal range	0 - 20000 Hz
Logic level high	>4 Vdc
Logic level low	<1 Vdc
Digital inputs	up to 20 ¹
Signal high	>4 Vdc
Signal low	<1 Vdc

Sensor supplies

Voltage references	2
Supply range	5 Vdc ±100 mV
Max load C2 connector	70 mA (has 2 pins)
Max load C3 connector	70 mA (has 1 pin)

1) depending on configuration

Ordering part numbers

IQAN-XC21	20077775
Connector kit, -XC21	20077776
Cables kit, -XC21	20077777

Environmental protection

EMI

ISO 13766:2010/ISO 14982:2009, Radiated emission
EN 55025:2003, Conducted emission
ISO 11452-2:2004, Radiated susceptibility
ISO 11452-4:2005, Conducted susceptibility
ISO 7637-2:2004, Conducted transient on power
ISO 7637-3:2007, Conducted transient on signal

ESD

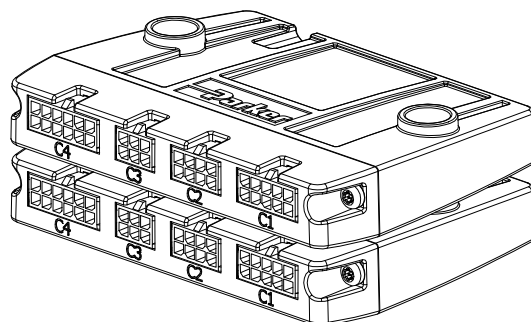
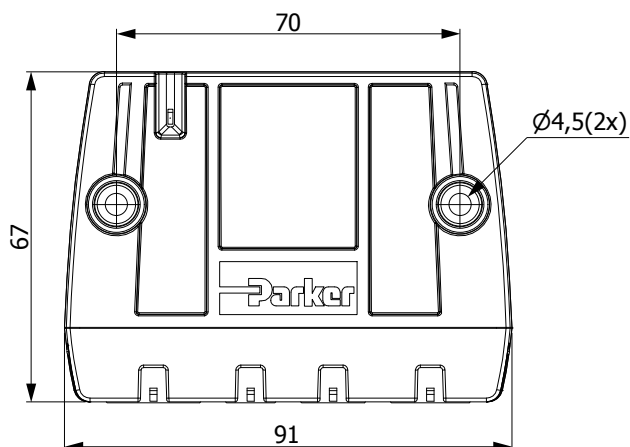
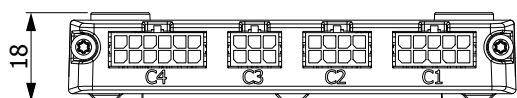
ISO 10605:2008, Operation
ISO 10605:2008, Handling

Mechanical environment

IEC 60068-2-64: 2008 Fh, Random vibration
IEC 60068-2-27:2008 Ea, Bump

Climate environment

IEC 60529:2001 IP32 (water)
IEC 60068-2-30:2005 Db, Damp heat cyclic
IEC 60068-2-78:2001 Cab, Damp heat, steady state
IEC 60068-2-14:1984 Nb, Change of temperature
IEC 60068-2-2:2007 Bb, Heat, operation
IEC 60068-2-1:1993 Ab, Cold
IEC 60068-2-52:1996 Kb, Salt mist



unit=mm

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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