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IQAN-TOC8 I/O Modules

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

Application

IQAN-TOC8 is from the same family as the "rugged" generation of expansion modules in the IQAN product group. These modules focus on flexibility, weather resistance and safety.

IQAN-TOC8 is a general purpose controller and communicates with a variety of input and output devices. It connects to a laptop PC and is programmed with IQANdevelop software. No Master module is required. It has proportional current outputs for valve control, digital/PWM outputs for auxiliary functions and analog/digital inputs for signals like pressure, RPM or temperature. The unit has a CAN hub designed to interface with a SAE J1939 network.

Properties

Flexibility

The IQAN-TOC8 has a flexible I/O interface. The same physical pin can be used for different types of I/O. Various types of I/O such as digital and PWM outputs increase the flexibility of the controller. The digital outputs have useful features such as softstart and peak & hold.

Weather resistance

The aluminum housing is designed to be rugged, but light. The IQAN-TOC8 has a membrane to prevent condensation inside the housing. This control is designed for the outdoor environment.

Safety

The unit executes a self-test during start up and cyclic operation. An internal watch dog checks for software errors and will interrupt outputs if errors are detected. Error conditions are displayed by coded flashes of the status LED. All inputs are protected against EMI and voltage transients. Automotive connectors are used that fulfill mobile equipment mechanical and electrical demands.

General

Weight	0.7 Kg
Operating temperature	-40 to +70 °C
Protection	outdoor use
Voltage supply	9 - 34 Vdc
Current consumption (idle)	180 mA (28 Vdc) 170 mA (14 Vdc)
Data interface	RS232 using IQANdevelop
CAN hub	J1939 or other byte-aligned CAN protocol

Outputs

Proportional current outputs	
Number	2 double
Signal range	60 - 1800 mA
Dither frequency	25 - 150 Hz
Dither amplitude	0 - 500 mA
Resolution	0.7 mA
Digital/ PWM (no current feedback) outputs ¹⁾	
Number	6 / 3 double PWM
Type	high side switch
Max load	3 A
PWM frequency	25 - 2000 Hz

Inputs

Voltage/ Frequency inputs ²⁾	
Number	10 / 4
Signal range	0 - 5 Vdc
Resolution	5 mV
Frequency range	2-10000 Hz

1) *The Digital and PWM outputs share the same physical pins. By configuring the channels with IQANdevelop, the user defines the pins as (6) Digital outputs or as (3) double PWM outputs.*

2) *The voltage and frequency inputs share the same physical pins. By configuring the channels with IQANdevelop, the user defines the pins as voltage in or frequency.*

Ordering part number

IQAN-TOC8	5010024
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Environmental Protection

EMI

ISO 11452-2 (immunity vs EM field)
ISO 14982 (radiated emission)
ISO 11452-4 (immunity vs injected RF)
ISO 7637-2 (immunity vs supply transients)

ESD

EN 61000-4-2 (external)

Mechanical environment

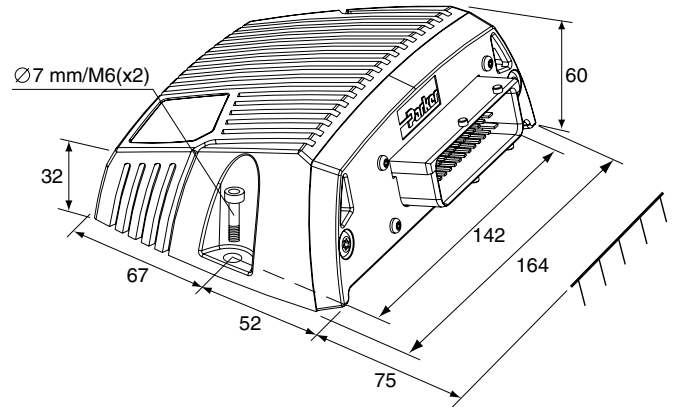
IEC 68-2-64 Fh (random, 10- 250 Hz)
IEC 68-2-27 Es (shock, 11ms)
IEC 68-2-29 Eb (bump, 6ms)

Climate environment

IEC 68-2-18 Rb3 (water)
IEC 68-2-30 Db (var1, damp, cyclic)
IEC 68-2-3 Ca (damp, heat steady state)
IEC 68-2-2 Bb (heat)
IEC 68-2-1 Ab (cold)
IEC 68-2-14 Nb (change of temperature)

Chemical environment

IEC 68-2-52 Kb (salt mist, cyclic)



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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