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# IQAN-XP2 I/O Modules

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

### Application

IQAN-XP2 is one of the “rugged generation” IQAN expansion modules. Key improvements for this generation of modules are flexibility, weather resistance and safety.

All IQAN expansion modules communicate with a master over a CAN-BUS serial link. Mobile machine I/O (inputs and outputs) can be optimised by selecting the appropriate expansion modules from the IQAN product family.

### Properties

#### Flexibility

The IQAN-XP2 module has a flexible I/O interface which gives system designers increased options. The same physical pin can be used for different types of I/O.

Additional types of I/O such as PWM outputs increase the flexibility of the module. Digital outputs have features including softstart and peak & hold.

#### Weather resistance

The enclosure is designed and manufactured in aluminum to make the module rugged but light. The module has a membrane to prevent condensation from forming inside the enclosure. The IQAN-XP2 unit is designed for a wide temperature range in an outdoor environment.

#### Safety

The IQAN-XP2 executes a self-test during start up and cyclic operation. Detected errors are sent to the master. An internal watch dog checks for software errors and will interrupt outputs if errors are detected. All inputs are protected against EMI and voltage transients. Automotive connectors are used that fulfil mechanical and electrical demands.

System diagnostics: If an error is detected a LED on the rear of the module flashes a sequence to indicate the nature of the error.

### General

Weight	0.7 Kg
Operating temperature	-40 - +70 °C
Protection	outdoor use
Voltage supply	9 - 34 Vdc
Current consumption (idle)	105 mA (28 Vdc) 90 mA (14 Vdc)
Data interface	Parker ICP (IQAN CAN Protocol)

### Outputs

#### Proportional current outputs

Number	4 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 <sup>1)</sup>

Number	4 / 2 double
Type	high side switch
Max load	3 A
PWM frequency	25 - 2000 Hz

### Inputs

#### Voltage/Frequency <sup>2)</sup>

Number	4 / 2
Signal range	0 - 5 Vdc
Resolution	5 mV
Frequency range	1-10000 Hz (1-30000 Hz > 5 V)

*1) The Digital and PWM outputs share the same physical pin. Pin configuration for either Digital or PWM output is carried out with IQANdevelop.*

*2) The Voltage and Frequency inputs share the same physical pins. Pin configuration for either Voltage or Frequency input is carried out with IQANdevelop.*

### Ordering part number

IQAN-XP2	5010016
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### Environmental protection

#### EMI

EN 61000-4-3, Conducted susceptibility  
EN 50204-4-3, Radiated susceptibility

#### ESD

EN 61000-4-2, handling

#### Mechanical environment

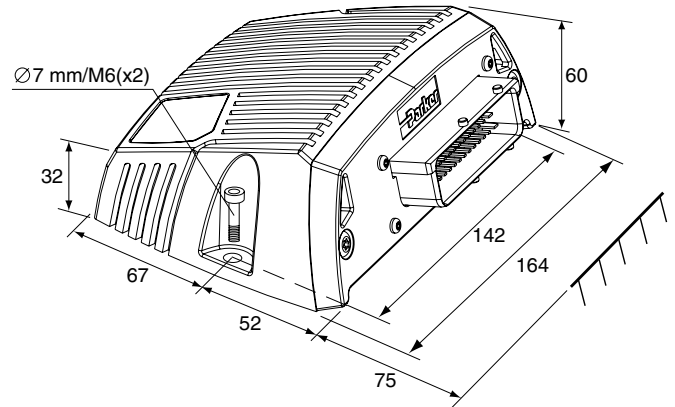
IEC 60068-2-64:1993 Fh, Random vibration  
IEC 60068-2-29:1987 Eb, Bump

#### Climate environment

IEC 60529:2001, IP66 Enclosure protection  
DIN 40050 Part 9:1993, IP6K9K Enclosure protection  
IEC 60068-2-30:1985 Db, Damp heat cyclic  
IEC 60068-2-78:2001, Damp heat, steady state  
IEC 60068-2-14:1984 Nb, Change of temperature

#### Chemical environment

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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