Technical Information — IQAN-MC2 I/O Modules

Environmental Protection

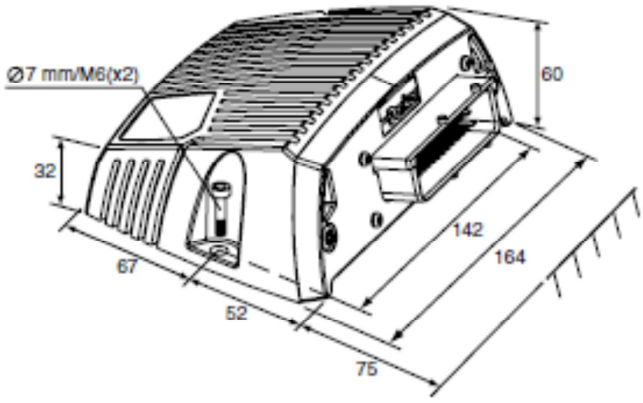
EMI
ISO 11452-2:1995 (immunity vs EM field)
ISO 14982:1998 (radiated emission)
ISO 11452-4:2001 (immunity vs injected RF)
ISO 7637-2:1990 (immunity vs supply transients)
ISO 7637-3:1995 (immunity vs supply transients)

ESD
ISO 10605:2001 (external)

Mechanical environment
IEC 60068-2-64:1993 Fh (random)
IEC 60068-2-29:1987 Eb (bump)

Climate environment
IEC 60529:2001 IP66 (dust, water)
DIN 40050 Part 9:1993 IP6K9K (steam jet cleaning)
IEC 60068-2-30:1985 Db (var1, damp, cyclic)
IEC 60068-2-78:2001 (damp, heat steady state)
IEC 60068-2-2:1993-01 Bb (heat)
IEC 60068-2-1:1993-02 Ab (cold)
IEC 60068-2-14:1984 Nb (change of temperature)

Chemical environment
IEC 60068-2-52:1996 Kb (salt mist, cyclic)



unit=mm

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Application

The IQAN-MC2 is a flexible master unit for the IQAN bus system. This unit is suitable for use as either a Bus master or standalone control. The IQAN-MC2 has new I/O and system flexibility that allows the user greater freedom in defining signals and system layout for both measurement and control.

The 32 bit architecture of the IQAN-MC2 provides computational capacity that allows it to perform high speed (ex. 5 ms) control loops for time critical functions. The unit is equipped with a Real Time Clock and can perform data logging functions.

Inputs

The IQAN-MC2 controller has 5 voltage inputs for connection of 0-5 Vdc signals. The inputs are multi-purpose and for flexibility may be configured in other ways. All five input pins can be configured as on-off inputs for switches or as frequency inputs for measuring frequency.

Voltage inputs, on-off inputs and frequency inputs share pin positions.

Another flexible option available allows the proportional output return pins to be configured as up to eight voltage inputs or on-off inputs. The proportional output return pins, voltage inputs and on-off inputs share pin positions.

Proportional outputs

The MC2 unit has eight double proportional outputs for controlling valves. These outputs can control eight bi-directional proportional valve sections or eight single solenoid devices (ie. proportional cartridge valves).

The proportional outputs can be used in two different modes. Either Current mode (current closed-loop) or PWM mode (voltage open-loop) signals can be selected and the parameters configured using IQAN software.

For flexibility these outputs may also be configured as up to eight high-side, on-off outputs. When used in this manner the proportional output return pins can be configured as up to sixteen low-side, on-off outputs, for a maximum of 24 on-off outputs. A bank of low-side, on-off outputs is typically connected to one or more high-side, on-off outputs and are used for low current functions.

Weather resistance

The aluminum housing is designed to be rugged, but light and has a sealed, automotive AMP/Tyco power timer connector. The IQAN-MC2 has a membrane to prevent condensation inside the housing. Additional protection allows the unit to be steam-cleaned. This controller is designed for the outdoor environment.

General

Weight	0.7 Kg
Temperature range	-40 to +70 °C
Protection	outdoor use
Voltage supply	11- 32 Vdc
Current consumption (idle)	160 mA (28 Vdc) 200 mA (14 Vdc)
Data interface	
Type	Parker ICP (IQAN CAN Protocol) J1939, Generic CAN
Communication port	
Type	USB 1.1

Outputs

Proportional outputs	
Type current mode	current - closed-loop
PWM mode	voltage - open-loop
Signal range	100 - 2000 mA
Dither frequency	25 - 333 Hz
Resolution	1 mA
Digital outputs	
Type	high side switch
Max load	2000 mA

Inputs

Voltage inputs	
Signal range	0 - 5 Vdc
Resolution	5 mV
Frequency inputs	
Signal range (speed mode)	2 - 20000 Hz
(position mode)	0 - 20000 Hz
Digital inputs	
Signal high	4 Vdc - V_{BAT}
Signal low	0 - 1 Vdc

Ordering part number

IQAN-MC2	20070899