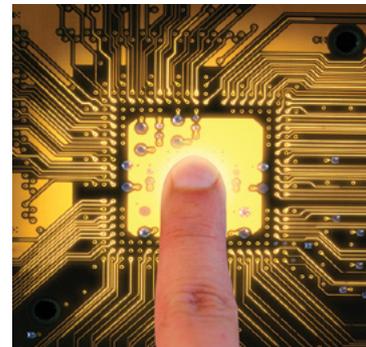




IQAN-MC2 **I/O Modules**

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

Application

The IQAN-MC2 is a flexible master module in the IQANdesign platform. It can be used as a standalone controller, as a single bus master, or together with other IQAN master modules.

The IQAN-MC2 is able 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 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. This controller is designed for the outdoor environment.

General

Weight	0.7 Kg
Temperature range	
Operating, ambient	-40 to +70 °C
Storage, ambient	-40 to +85 °C
Protection	outdoor use
Voltage supply	11- 32 Vdc
Current consumption (idle)	160 mA (28 Vdc) 200 mA (14 Vdc)

Performance

Processor	32-bit (144 MHz)
Logging	40K records
Sample time	min 3 ms
Software tools	IQANdesign family

Communication interfaces

CAN (ISO 11898)	2
Protocols	ICP, SAE J1939, Generic CAN
USB 1.1	0 (IQAN-MC2-M19) 1 (IQAN-MC2/MC2-M14)

Outputs

Proportional outputs	
Type, current mode	current - closed-loop
Type, 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	1.2 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-M19	20085165 ¹
--------------	-----------------------

Phased-out part number

IQAN-MC2-M14	20077787 ¹
(replaced by 20085165 from July 1, 2019)	

IQAN-MC2	20070899
(replaced by 20077787 from January 1, 2015)	

¹ these p/ns require software versions 2.63 and 3.15 or higher

Environmental Protection

EMI

ISO 14982:2009 (radiated emission)
EN 55025:2003 (conducted emission)
ISO 11452-2:2004 (immunity vs EM fields)
ISO 11452-4:2005 (immunity vs injected RF)
ISO 7637-2:2004 (immunity vs supply transients)
ISO 7637-3:2007 (immunity vs transients)

ESD

ISO 10605:2008 (external)

Mechanical environment

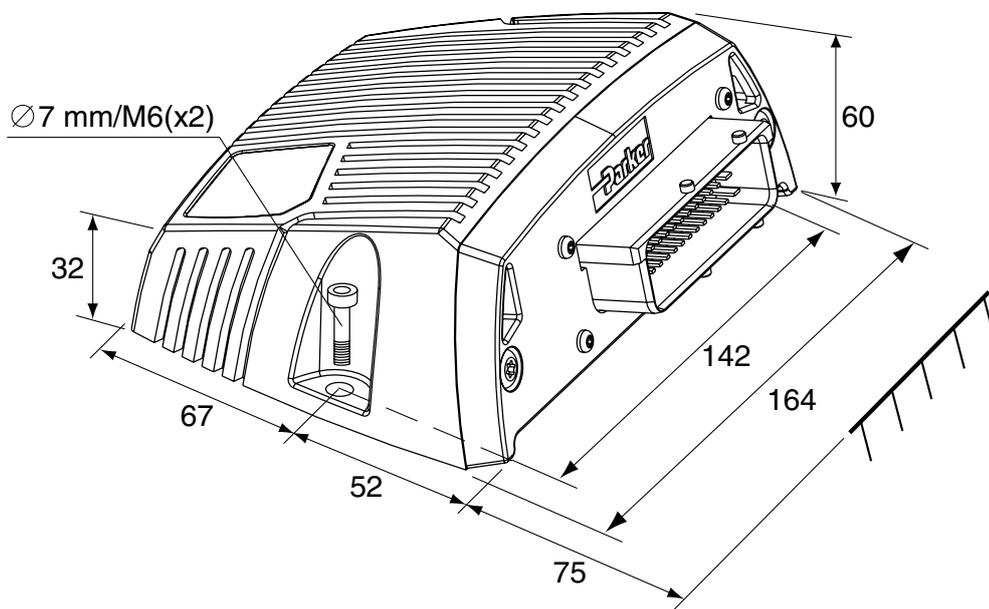
IEC 60068-2-64:2008 (vibration)
IEC 60068-2-27:2008 (shock)

Climate environment

IEC 60529:2001 IP66 (dust, water)
DIN 40050 Part 9:1993 IP6K9K (steam jet cleaning)
IEC 60068-2-30:2005 Db (var1, damp, cyclic)
IEC 60068-2-78:2001 (damp, heat steady state)
IEC 60068-2-2:2007 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



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.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure, and review the information concerning the product or system in the current product catalogue. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

Please contact your Parker representation for a detailed "Offer of Sale".

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates,
Dubai

Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, St. Florian

Tel: +43 (0)7224 66201
parker.austria@parker.com

AZ – Azerbaijan, Baku

Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/NL/LU – Benelux,

Hendrik Ido Ambacht
Tel: +31 (0)541 585 000
parker.nl@parker.com

BG – Bulgaria, Sofia

Tel: +359 2 980 1344
parker.bulgaria@parker.com

BY – Belarus, Minsk

Tel: +48 (0)22 573 24 00
parker.poland@parker.com

CH – Switzerland, Etoy

Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany

Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst

Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup

Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid

Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa

Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve

Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Piraeus

Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budaörs

Tel: +36 23 885 470
parker.hungary@parker.com

IE – Ireland, Dublin

Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IL – Israel

Tel: +39 02 45 19 21
parker.israel@parker.com

IT – Italy, Corsico (MI)

Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty

Tel: +7 7273 561 000
parker.easteurope@parker.com

NO – Norway, Asker

Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw

Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal

Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest

Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow

Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Borås

Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica

Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto

Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul

Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev

Tel: +48 (0)22 573 24 00
parker.poland@parker.com

UK – United Kingdom, Warwick

Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park

Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario

Tel: +1 905 693 3000

US – USA, Cleveland

Tel: +1 216 896 3000

Asia Pacific

AU – Australia, Castle Hill

Tel: +61 (0)2-9634 7777

CN – China, Shanghai

Tel: +86 21 2899 5000

HK – Hong Kong

Tel: +852 2428 8008

IN – India, Mumbai

Tel: +91 22 6513 7081-85

JP – Japan, Tokyo

Tel: +81 (0)3 6408 3901

KR – South Korea, Seoul

Tel: +82 2 559 0400

MY – Malaysia, Shah Alam

Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington

Tel: +64 9 574 1744

SG – Singapore

Tel: +65 6887 6300

TH – Thailand, Bangkok

Tel: +662 186 7000

TW – Taiwan, Taipei

Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires

Tel: +54 3327 44 4129

BR – Brazil, Sao Jose dos Campos

Tel: +55 800 727 5374

CL – Chile, Santiago

Tel: +56 2 623 1216

MX – Mexico, Toluca

Tel: +52 72 2275 4200

Ed. 2018-09



EMEA Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)

US Product Information Centre

Toll-free number: 1-800-27 27 537

www.parker.com

Your local authorized Parker distributor