



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



CM2904 Controllers

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

Application

The CM2904 is a small module that has standard software for J1939 network (with proprietary CAN messages) for expanding the system I/O.

CM2904 can be utilized as an interface to the CAN bus. The module takes measuring data from buttons, switches, potentiometers and/or joysticks. It is recommended for in-cab applications, for example; in tractors, forest machines, and construction equipment.

Properties

I/O flexibility

The CM2904 can control proportional valves using current mode (current closed-loop) or PWM mode (voltage open-loop) signals. The analog inputs accept 0-8V signals from input devices or sensors. There are 2 sensor supply circuits, 1 is 5 Vdc and the other is 8 Vdc.

Weather resistance

The plastic housing with silicone sealing is designed for indoor cabin applications. The CM2904 fullfills IP54 in an upside-down mounting position (with all 4 pcs of fixing screws installed).

Diagnostics

An internal watch dog checks for software errors and will interrupt outputs if errors are detected. The outputs have diagnostics with open load/short circuit detection and current feedback. Overvoltage protection drives outputs safely down.

Diagnostics leds are situated inside the module and they are viewable through transparent silicone sealing.

There is also separate service tool available for downloading software and parameters.

Specifications

General

Weight	160 g
Operating temperature	-40°C to +85°C
Protection	IP54
(upside down mounting, indoor cabin applications)	
Voltage supply	+9V to +32V

Performance

Processor	Freescale @ 40MHz
Flash size	60kB
RAM size	3kB

Communication

CAN buses (J1939)	2
-------------------	---

Outputs

PWM high-side outputs (max. total current rating 4A, all together)	
Number	4
Max. load per output	2 A (continuous)
Feedback accuracy	Typical ± 25 mA max. ± 50 mA

Inputs¹

Digital / frequency inputs	
Number	2
Measurement range	1 Hz - 4 kHz
Sensor types (stuffing options)	active (NPN) or passive (VR)

Analog inputs (pull-down)

Number	8
Measurement range	0 - 8 V (± 80 mV)

Digital / analog inputs (Multifunction digital inputs)

Number	19
Measurement range	0 - 32 V (± 500 mV)

Ordering part numbers

CM2904	88CM2904
CM2904IQ ²	88CM2904IQ
Accessories ³	

¹ All inputs withstand 36 V.

² Motomit IQ version.

³ See CM Controllers Accessories catalogue HY33-4910/UK.

Environmental protection

EMC

Electrical transients ISO 7637-2 Test pulses
1,2a,2b,3a,3b,5a 12V system
Emissions: CISPR 25, ISO 14982 - 2009
Immunity: ISO 10605, ISO 15003, ISO 11452-2, ISO
11452-4
Electrical steady state SAE J1455

Electrical

Operating, over/under voltage,
reverse polarity, short circuit protection,
transient batteryless operation ISO 15003
Accessory noise EP455

Mechanical environment

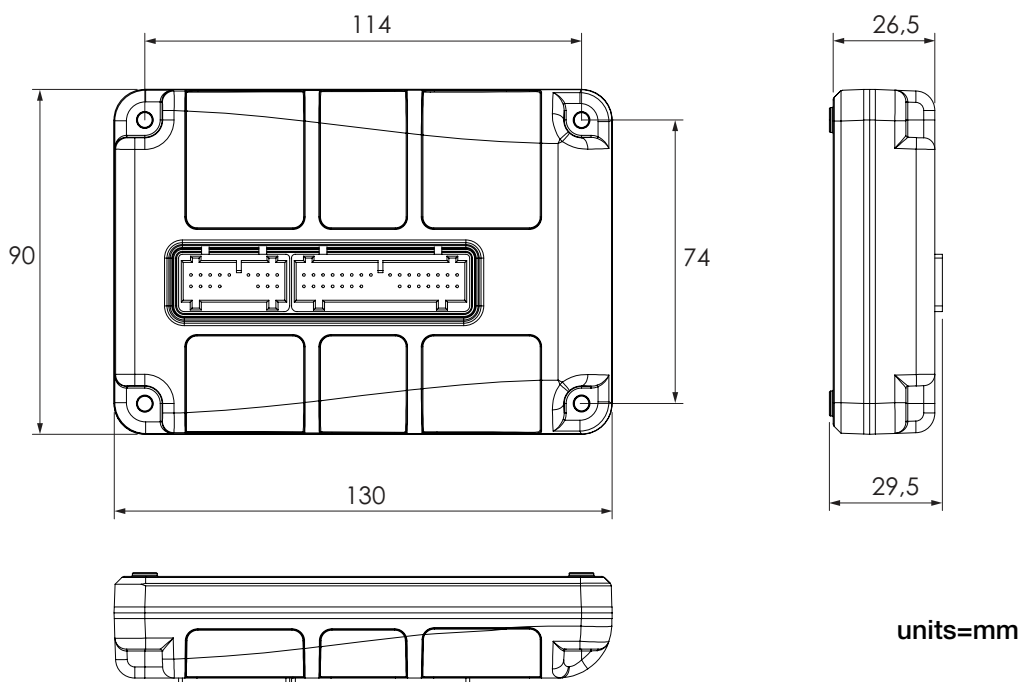
Mechanical shock ISO 15003
Drop EN 60068-2-32
Vibration ISO 15003

Climate environment

IP protection IP22 / IP54 (depending on mounting
position)
Operating temperature EP455
Storage high/low temp IEC 60068-2-2Bb
Thermal cycling ISO 15003
Thermal shock ISO 15003

Chemical environment

Chemical brush exposure ISO 15003



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, Wiener Neustadt

Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt

Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku

Tel: +994 50 22 33 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles

Tel: +32 (0)67 280 900
parker.belgium@parker.com

BG – Bulgaria, Sofia

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

BY – Belarus, Minsk

Tel: +375 17 209 9399
parker.belarus@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, Athens

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

HU – Hungary, Budaoers

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

IE – Ireland, Dublin

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

NL – The Netherlands, Oldenzaal

Tel: +31 (0)541 585 000
parker.nl@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, Leca da Palmeira

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, Spånga

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 +380 44 494 2731
parker.ukraine@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

(industrial)
Tel: +1 216 896 3000

US – USA, Elk Grove Village

(mobile)
Tel: +1 847 258 6200

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, Fujisawa

Tel: +81 (0)4 6635 3050

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: +662 717 8140

TW – Taiwan, New Taipei City

Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires

Tel: +54 3327 44 4129

BR – Brazil, Cachoeirinha RS

Tel: +55 51 3470 9144

CL – Chile, Santiago

Tel: +56 2 623 1216

MX – Mexico, Apodaca

Tel: +52 81 8156 6000

Ed. 2013-01-30

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

