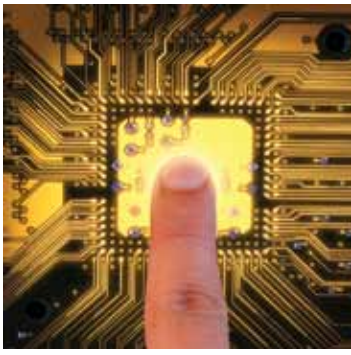
IQAN-LC5-C01
Input Devices

Electronic Control Systems



Parker

ENGINEERING YOUR SUCCESS.

Application

The IQAN-LC5-C01 is a large, coordinate joystick that incorporates ruggedness, functionality, light weight, and has high flexibility for mobile market applications. The unit is extremely robust, able to withstand aggressive conditions during outdoor use and in outdoor installations, including EMI, vibrations and a wide temperature range. The IQAN-LC5-C01 features a compact ergonomic design making it ideal for armrest and panel installations in mobile equipment. The IQAN-LC5-C01 has a high I/O count and the ability to support up to 5 axes in IQANdesign platform applications. Fourth generation IQAN-LL joysticks are easily replaced with IQAN-LC5-C02 or -C03 versions.

Design and function

The mechanical life is greatly increased over previous generations of joysticks. Full stroke force in any direction is > 100 Nm. The torsional strength has more than doubled, compared to the previous generation.

The IQAN-LC5-C01 with MP handle is rated IP65 above the flange, and has integrated Deutsch connectors. The handle cable may be routed completely through the main housing. This makes field mounting of new handles or replacing a bellow very easy to accomplish. In case of water ingress (i.e. a damaged bellow), the built-in drainage from this design will protect the electronics. The base material was chosen for its non-corrosive properties.

All sensors are of contactless Hall effect type with dual sensors to provide redundancy for high safety and reliability. This make it easy for the application designer to meet high safety requirements functions by using IQAN software.

The IQAN-LC5-C01 levers are connected to other modules through a CAN bus which makes data exchange more efficient, simplifies installation and increases noise immunity. The high number of inputs makes the base an excellent input module for external signals.

The joystick has a heavy duty stem and tough base material for long life. The precise force configuration makes it easy to feel X and Y direction. The wide operating voltage range allows the IQAN-LC5-C01 to connect to both 12 VDC and 24 VDC systems. All inputs and outputs are protected against short circuit to ground and to main power supply. LED indicators show supply voltage and internal operation.

The IQAN-LC5-C01 is made using selected components and conforms to strict international requirements.

General (base)

Weight	.40 kg
Voltage supply	9 - 32 Vdc
Current consumption	45mA @ 14VDC 30mA @ 28VDC
CAN (ISO 11898)	CAN 2.0b
Protocol	ICP (IQAN CAN Protocol)

Mechanical (base)

Angle of movement	±18°
Expected life (full stroke cycles)	5 million
Lever force in neutral, XY	0.6 Nm
Full actuated, XY direction	1.4 Nm
One time loading (max.)	100 Nm

Environmental (base)

Temperature range	
Operating, ambient	-40 to +85° C
Temperature range	-40 to +100° C
Sealing, with MP handle	IPx5 (above flange)

Electrical (base)

Addressing	idTag (address 0-7 without termination)
Termination	idTag (address 0-7 with termination)

Connection

Electrical connection	Deutsch DTM, 2x6 pos., 1x12 pos.

Inputs

Voltage inputs	8[1]
Signal range	0-5 VDC
Resolution	5 mV
Digital inputs	5(13)[1]
Signal high	>4 VDC
Signal low	<= 1 VDC

Outputs

Digital output	1
Type	high side switch
Max load	200 mA

1) The voltage and digital inputs share the same physical pins. The user defines the channels/pins with IQANdesign.

MP handle

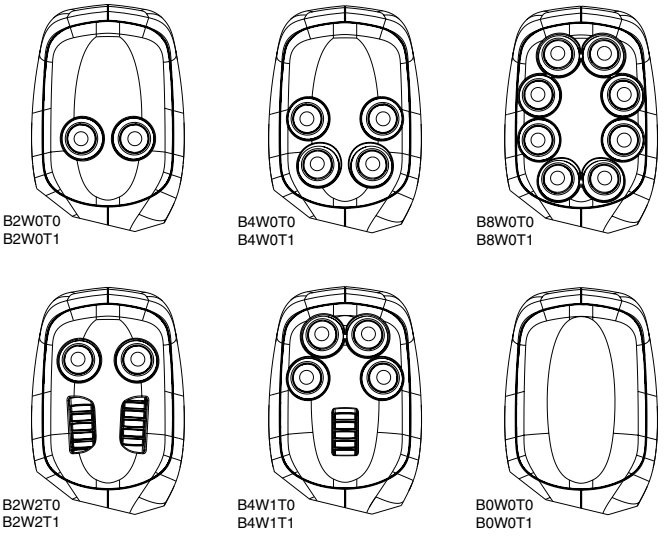
The MP handle option provides a variety of control interfaces in an ergonomic, multi-function handle that comfortably fits your hand. The handle is a robust design, able to withstand heavy use in outdoor installations, including exposure to a wide range of automotive chemicals. The MP features an ergonomic design making it ideal for repetitive motion functions during extended periods in mobile equipment applications. The handle has the capability to have a maximum of 8 buttons or 2 proportional thumbwheels in the faceplate. Combinations of buttons and thumbwheels, with or without a trigger are also possible.

Design and function

The MP handle is made to fit either the right or left hand, reducing inventory part numbers. The options are flexible and include many combinations of buttons, thumbwheels, and trigger to satisfy virtually any operator interface requirements. The buttons are large, and have a nice tactile feel. The proportional thumbwheel has dual sensors providing 2 crossed outputs that may be compared in IQAN modules for safe operation.

The MP handle is designed for outdoor use. The buttons and thumbwheels are rated for the outdoor environment. The cable is routed completely through the base housing making field mounting of new handles very easy to accomplish.

MP standard faceplate configurations



General (handle)

Weight	.25 kg
Temperature range	-40 to +100° C
Sealing	outdoor use

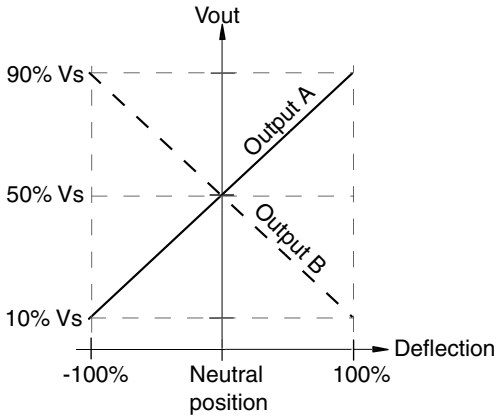
Buttons/Trigger

Expected life (electrical)	0.5 million
Expected life (mechanical)	1 million
Travel	1.5 mm
Actuating force	2 - 5 Nm
Switching current (max)	400 mA, 32 VAC, resistive load

Thumbwheel

Rated power supply (Vs)	5 VDC
Load resistive (min)	4.5 kohm
Load capacitive (max)	1 uF
Current consumption (typ)	16 mA
Analog output active range (Vout)	10%-90% Vs
Resolution	< 2 mV
Angle of movement	± 25 degrees
Expected life (operations)	5 million

Deflection vs. output diagram



Parker Hannifin
Electronic Controls Division
Mölnlycke, Sweden

Model code

IQAN - LC5 - C01 - MP B2 W0 T0

Code	Description
L	lever
C	co-ordinate
5	fifth generation

Code	Description
C01	CANbus (ICP)
C02	repl. IQAN-LL

Code	Description
T0	no trigger
T1	1 trigger

Code	Description
W0	no thumbwheel
W1	1 thumbwheel
W2	2 thumbwheels

Code	Description
U1	no handle, without bellow
U2	no handle, with bellow, Ø40mm [Ø1.57”]
G	handle, with extra proportional function
MP	multi-purpose, see handle options

Code	Description
B0	no buttons
B2	2 buttons
B4	4 buttons
B8	8 buttons

Ordering part numbers

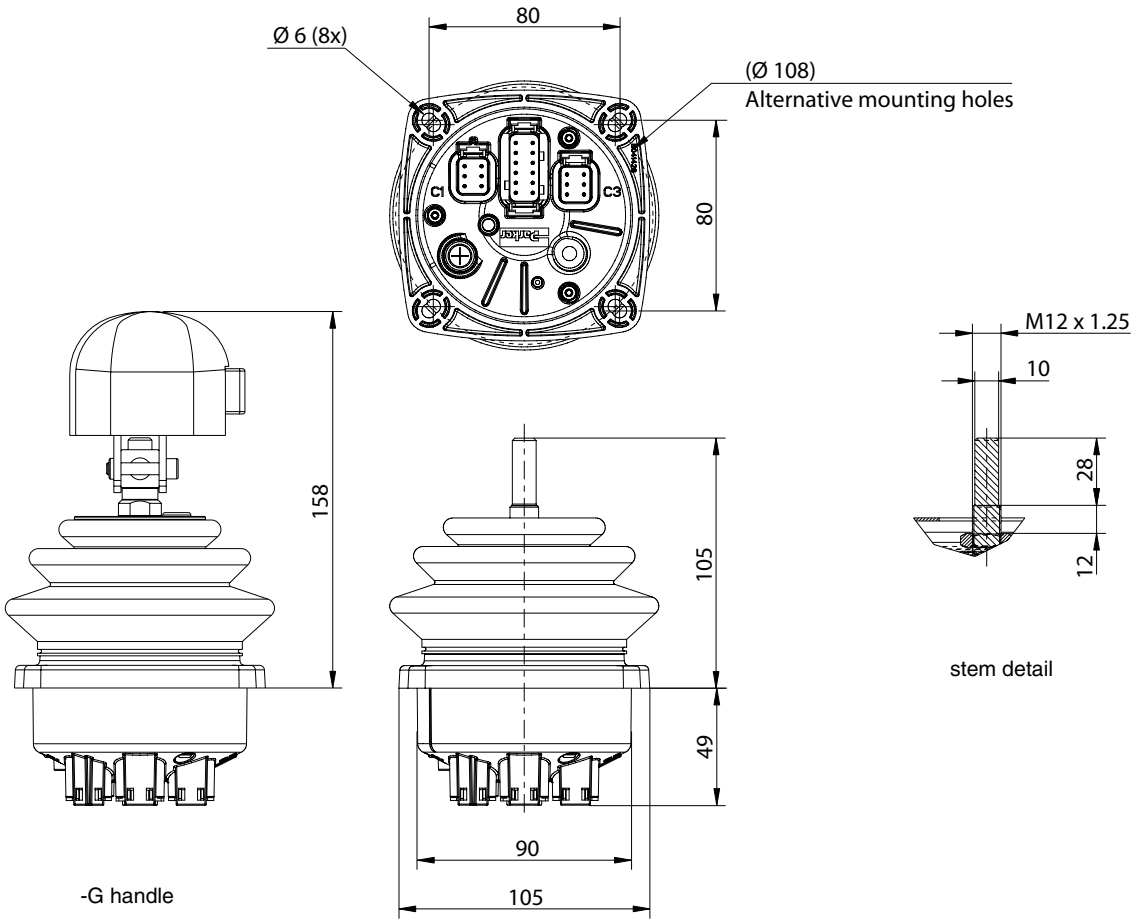
IQAN-LC5-C01-U1	20076330
IQAN-LC5-C01-U2	20076331
IQAN-LC5-C01-G	20077750
IQAN-LC5-C01-MPB0W0T0	20077723
IQAN-LC5-C01-MPB0W0T1	20077724
IQAN-LC5-C01-MPB2W0T0	20076996
IQAN-LC5-C01-MPB2W0T1	20076997
IQAN-LC5-C01-MPB2W2T0	20076998
IQAN-LC5-C01-MPB2W2T1	20076999
IQAN-LC5-C01-MPB4W0T0	20077000
IQAN-LC5-C01-MPB4W0T1	20077001
IQAN-LC5-C01-MPB4W1T0	20077002
IQAN-LC5-C01-MPB4W1T1	20077003
IQAN-LC5-C01-MPB8W0T0	20077004
IQAN-LC5-C01-MPB8W0T1	20077005

Ordering part numbers for -LL compatible units

IQAN-LC5-C02-U1[1]	20076333
IQAN-LC5-C02-U2[1]	20076334
IQAN-LC5-C03-G[1]	20077752
IQAN-LC5-C02-N2[1]	20077690
IQAN-LC5-C02-N2T[1]	20077685
IQAN-LC5-C02-N4[1]	20077688

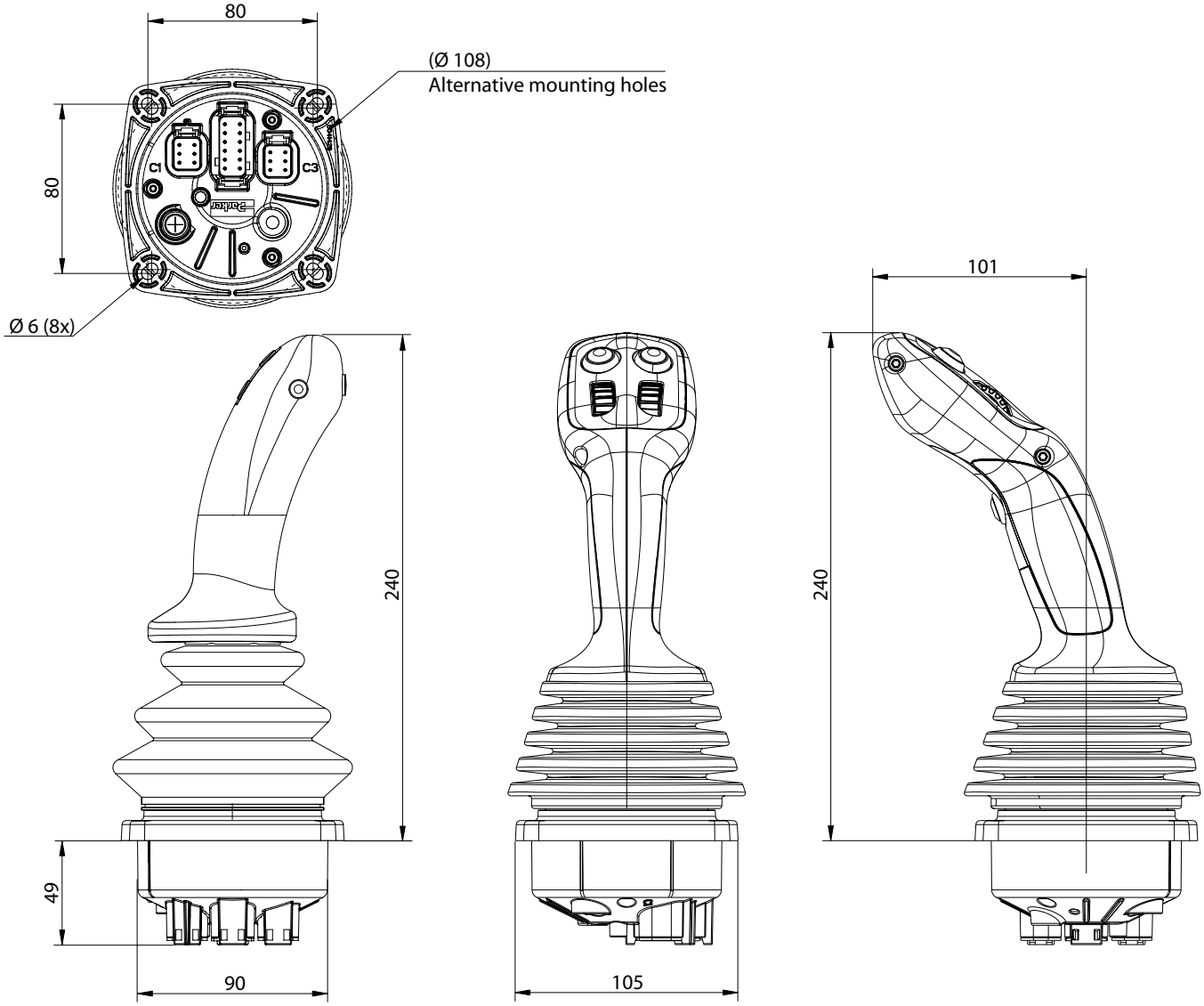
1) use adapter cable 2830018 to get one-to-one replacement of old IQAN-LL products

Parker Hannifin
Electronic Controls Division
Mölnlycke, Sweden



units=mm

Parker Hannifin
Electronic Controls Division
Mölnlycke, Sweden



-N handle

-MP handle

units=mm

Parker Hannifin
Electronic Controls Division
Mölnlycke, Sweden

Environmental Protection

EMI
ISO 13766/ISO 14982 (radiated emission)
EN 55025:2003 (conducted emission)
ISO 11452-4:2005 (conducted susceptibility)
ISO 11452-2:2004 (radiated susceptibility)
ISO 7637-3:2007 (immunity vs supply transients)
ISO 7637-2:2004 (conducted transient susceptibility)

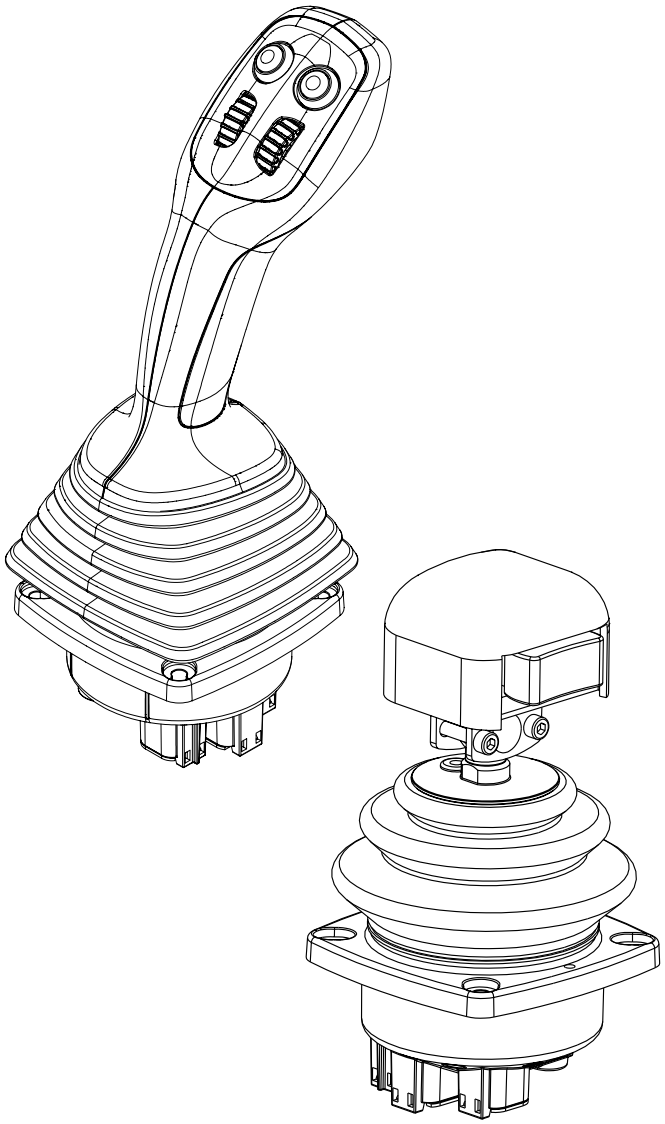
ESD
ISO 10605:2001, (Handling)

Climate Environment
IEC 60529:2001 IP65 (water)[1]
IEC 60068-2-78:2001 (damp heat, steady state)
IEC 60068-2-30:1985 Db (var1,damp,cyclic)
IEC 60068-2-14:1984 Nb (change of temp.)
IEC 60068-2-2:1993 Bb (dry heat)
IEC 60068-2-1:1993 Ab (cold)

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

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

1) with sealed handle and bellow



⚠ 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 Hannifin
Electronic Controls Division
Mölnlycke, Sweden

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: +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, 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
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: +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 (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

ID – Indonesia, Tangerang
Tel: +62 21 7588 1906

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: +662 186 7000

TW – Taiwan, New Taipei City
Tel: +886 2 2298 8987

VN – Vietnam, Ho Chi Minh City
Tel: +84 8 3999 1600

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, Toluca
Tel: +52 72 2275 4200

Ed. 2016-04-04

© 2009-2016 Parker Hannifin Corporation. All rights reserved.

Catalogue HY33-8404/UK, POD 07/2016 EMDC

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