638 Series
Servo Drive from 1 to 15 A
WARNING — USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS 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 or system options for further investigation by users having technical expertise.

• The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

• To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.
Parker Hannifin
- the global leader in motion and control technologies

A world class player on a local stage

**Global Product Design**
Parker Hannifin has more than 40 years experience in the design and manufacturing of drives, controls, motors and mechanical products. With dedicated global product development teams, Parker draws on industry-leading technological leadership and experience from engineering teams in Europe, North America and Asia.

**Local Application Expertise**
Parker has local engineering resources committed to adapting and applying our current products and technologies to best fit our customers’ needs.

**Manufacturing to Meet Our Customers’ Needs**
Parker is committed to meeting the increasing service demands that our customers require to succeed in the global industrial market. Parker’s manufacturing teams seek continuous improvement through the implementation of lean manufacturing methods throughout the process. We measure ourselves on meeting our customers’ expectations of quality and delivery, not just our own. In order to meet these expectations, Parker operates and continues to invest in our manufacturing facilities in Europe, North America and Asia.

**Worldwide Manufacturing Locations**

**Europe**
- Littlehampton, United Kingdom
- Dijon, France
- Offenburg, Germany
- Milan, Italy

**Asia**
- Shanghai, China
- Chennai, India

**North America**
- Rohnert Park, California
- Irwin, Pennsylvania
- Wadsworth, Ohio
- Charlotte, North Carolina
- New Ulm, Minnesota

**Local Manufacturing and Support in Europe**
Parker provides sales assistance and local technical support through a network of dedicated sales teams and authorized technical distributors throughout Europe.

For contact information, please refer to the Sales Offices on the back cover of this document or visit www.parker.com
Servo Drive - 638 Series

Overview

Description
638 series servo drives are suitable for all servo applications, from simple speed or current control to most complex positioning applications. The processor of 638 series servo drives gives a rapid response time to the control circuits of 105 µs. Numerous expansion slots allow 638 series servo drives to reach a high degree of versatility, opening access to a wide variety of fieldbus communication and feedback sensors options.

Features
- Integrated motion controller
- 230 or 400 VAC direct power supply
- STO: Safety torque off in accordance with EN13849-1 Category 3, Performance Level d and EN1037 as standard
- Ultra-fast control loops (105 µs)
- Embedded PLC functions
- Programmable electronic cam
- 3 configurable trajectory generators
- Multi-axis synchronization through process bus
- Numerous fieldbuses options
- Hiperface and SSI encoder inputs options
- Optional flash memory chip for data storage
- Simple commissioning and programming Software

Technical Characteristics - Overview

<table>
<thead>
<tr>
<th>Service</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>1*230 VAC (±10 %), 50 - 60 Hz</td>
</tr>
<tr>
<td></td>
<td>3*230 VAC (±10 %), 50 - 60 Hz</td>
</tr>
<tr>
<td></td>
<td>3*400/480 VAC (±10 %), 50 - 60 Hz</td>
</tr>
<tr>
<td>Permanent current [Arms]</td>
<td>1...15</td>
</tr>
<tr>
<td>Peak current [A]</td>
<td>2...30</td>
</tr>
<tr>
<td>Overload</td>
<td>200 % during 5 s</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0...40 °C</td>
</tr>
<tr>
<td>Humidity</td>
<td>&lt; 85 % relative humidity non-condensing</td>
</tr>
<tr>
<td>Altitude</td>
<td>1000 m (1 % derating per 100 m up to 4000 m)</td>
</tr>
<tr>
<td>Product enclosure rating</td>
<td>IP20</td>
</tr>
</tbody>
</table>
Technical Characteristics

### Technical Data

<table>
<thead>
<tr>
<th>Supply and currents</th>
<th>Model 638....F0STO</th>
<th>Unit</th>
<th>A013</th>
<th>A023</th>
<th>A043</th>
<th>A063</th>
<th>B036 (1)</th>
<th>B056 (1)</th>
<th>B086 (1)</th>
<th>B106 (1)</th>
<th>B156 (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage [V]</td>
<td>1*230 VAC (±10 %), 50 - 60 Hz</td>
<td>3*230 VAC (±10 %), 50 - 60 Hz</td>
<td>3*400 VAC (±10 %), 50 - 60 Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent current [Aeff]</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>2.5</td>
<td>5</td>
<td>7.5</td>
<td>10</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak current (200 % for 5 s) [A]</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame size</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control voltage [V]</td>
<td>24 VDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0...40 °C (2 % derating per °C between up to 50 °C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>&lt; 85 % relative humidity non-condensing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Altitude</td>
<td>1000 m (1 % derating per 100 m up to 4000 m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product enclosure rating</td>
<td>IP20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Also available with 230 and 480 VAC power supply

### Input / outputs (X10 Plug)

- 8 Digital inputs (24 V) including 2 interrupts
- 5 Digital outputs (24 V) including 3 opto-coupled (configurable) and 2 relays (1 configurable, 1 for drive ready)
- 2 Analog inputs (0 - 10 V, ±10 V)
- 2 Analog outputs (±10 V)

### Configurable feedback interface (X30 plug)

- Resolver input (standard)
- Hiperface encoder input (option)
- Sine / Cosine encoder input (option)

### Optional Flash memory chip (X300 - module)

- Storage of complete drive data (firmware, function code, parameters, applications program)

### Configurable multi-function interface (X40 plug)

- Incremental encoder input
- Incremental encoder output
- Stepper-motor input
- Absolute single or multi-turn SSI encoder input

### Communication

- Serial communication (COM1 Interface) RS232
- Application communication (COM2 Interface)
  - RS232, RS422, RS485
  - Profibus-DP
  - CANopen DS402
- Inter axis communication (COM3 Interface) Parker System bus / RS485

### I/O extension

- 5 Digital Inputs / 2 Digital Outputs (COM2 Interface)
- 14 Digital Inputs / 10 Digital Outputs (X200 Plug)
- 4 Digital Inputs / 4 Digital Outputs (X120 Plug)

### Safety

- STO: Safety torque off in accordance with EN13489-1 Category 3, Performance Level d and EN1037 as standard (connector STO X11)
- Brake / PTC output (BR/TH X62 Plug)

### Standards & Conformance

- CE marked:
  - EN61800-3 (EMC compliance) with integral filter
  - EN50178 (Safety, low voltage)
- UL certification
EASYRIDER is a graphical software for the 630 series providing a single user interface for accessing all drive parameters, programming motion and calibrating the drive. This unique assistant offers an autopilot mode helping user in all phases of application set-up: from the choice of the motor in the motor library to the drive auto adjustment. All set-up steps are extremely simplified.

EASYRIDER gives also the possibility to develop advanced motion in an intuitive way using its BIAS language.

**Features**

- Intuitive and easy use
- Set-up assistant
- Integrated motor library
- Oscilloscope function
- Drive and fieldbus diagnostic
- Drive advanced programming

### Dimensions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>638A</td>
<td>1 ... 6</td>
<td>56</td>
<td>250</td>
<td>232</td>
<td>28</td>
<td>211</td>
<td>1.6</td>
</tr>
<tr>
<td>638B</td>
<td>2.5 ... 5</td>
<td>66</td>
<td>318.6</td>
<td></td>
<td>44</td>
<td>281.25</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>7.5 ... 15</td>
<td>86</td>
<td></td>
<td></td>
<td>64</td>
<td></td>
<td>4.4</td>
</tr>
</tbody>
</table>
## 638 - Servo Drive

### Order Code

<p>| | | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>638</td>
<td>x</td>
<td>xx</td>
<td>3</td>
<td>F</td>
<td>0</td>
<td>STO</td>
<td>000</td>
<td>EAE</td>
<td>RD2</td>
<td>RM1</td>
<td>X7x</td>
</tr>
</tbody>
</table>

#### 1 Series

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>638</td>
<td>638 series</td>
<td></td>
</tr>
</tbody>
</table>

#### 2 Frame size

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Size A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Frame B</td>
<td></td>
</tr>
</tbody>
</table>

#### 3 Nominal current

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1 A</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>2 A</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>4 A</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>6 A</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>2.5 A</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>5 A</td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>7.5 A</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10 A</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15 A</td>
<td></td>
</tr>
</tbody>
</table>

#### 4 Intermediate circuit voltage

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>325 VDC / 230 VAC</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>565 VDC / 400 VAC</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>678 VDC / 480 VAC</td>
<td></td>
</tr>
</tbody>
</table>

#### 5 Filter

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>With integrated filter (Standard)</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Less leakage current (AC side Y capacitors deactivated, JP600 open)</td>
<td></td>
</tr>
</tbody>
</table>

#### 6 EMC clip

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Without EMC - clip (Standard)</td>
<td></td>
</tr>
</tbody>
</table>

#### 7 Safety technology

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>STO</td>
<td>Safe Torque Off (Standard)</td>
<td></td>
</tr>
</tbody>
</table>

#### 8 Additional option module RP xxx via COM2

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>No option A (A, B)</td>
<td></td>
</tr>
<tr>
<td>232</td>
<td>RS232 interface A (B)</td>
<td></td>
</tr>
<tr>
<td>422</td>
<td>RS422 interface A (B)</td>
<td></td>
</tr>
<tr>
<td>485</td>
<td>RS485 interface A (B)</td>
<td></td>
</tr>
<tr>
<td>CAN</td>
<td>CAN-Bus interface B (A)</td>
<td></td>
</tr>
<tr>
<td>CCA</td>
<td>CANopen (DS402) + Parker System bus + RS485 B (A)</td>
<td></td>
</tr>
<tr>
<td>CC8</td>
<td>CANopen (DS402) + Parker system bus + 4 inputs and 4 outputs + RS485 B (A)</td>
<td></td>
</tr>
<tr>
<td>PDN</td>
<td>PROFIBUS DP B (A)</td>
<td></td>
</tr>
<tr>
<td>PC8</td>
<td>Profibus DP+CAN2+outputs and 4 inputs + RS485 B (A)</td>
<td></td>
</tr>
<tr>
<td>PCA</td>
<td>Profibus DP+CAN2 + RS485 B (A)</td>
<td></td>
</tr>
<tr>
<td>EA5</td>
<td>I/O Interface (5 inputs, 2 outputs)</td>
<td></td>
</tr>
</tbody>
</table>

#### 9 Additional option module on the drive via X200

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>No option -</td>
<td></td>
</tr>
<tr>
<td>EAE</td>
<td>I/O Interface (14 inputs, 10 outputs) C</td>
<td></td>
</tr>
<tr>
<td>CCA (1)</td>
<td>Parker System bus + RS485 C</td>
<td></td>
</tr>
<tr>
<td>CC8 (1)</td>
<td>Parker system bus + 4 inputs and 4 outputs + RS485 C</td>
<td></td>
</tr>
</tbody>
</table>

#### 10 X300 Functions module

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RD2</td>
<td>Standard X30 Resolver module D</td>
<td></td>
</tr>
<tr>
<td>HF2</td>
<td>HIPERFACE Module D</td>
<td></td>
</tr>
<tr>
<td>SC2</td>
<td>Sine/Cosine Module D</td>
<td></td>
</tr>
</tbody>
</table>

#### 11 With memory chip

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RM1</td>
<td>Resolver + Memory-Module D</td>
<td></td>
</tr>
<tr>
<td>HM1</td>
<td>HIPERFACE + Memory Module D</td>
<td></td>
</tr>
<tr>
<td>SM1</td>
<td>Sine/Cosine + Memory Module D</td>
<td></td>
</tr>
<tr>
<td>EM1</td>
<td>EnDat + Memory module D</td>
<td></td>
</tr>
</tbody>
</table>

#### 12 Additional option

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>empty</td>
<td>no additional options</td>
<td></td>
</tr>
<tr>
<td>X7x</td>
<td>Ready - contacts X10.7 - X10.8</td>
<td></td>
</tr>
<tr>
<td>BSx</td>
<td>Moisture / condensation protection</td>
<td></td>
</tr>
</tbody>
</table>

(1) Cannot be combined with CCA, CC8, PC8, PCA No CANopen DS402
At Parker, we’re guided by a relentless drive to help our customers become more productive and achieve higher levels of profitabil-
ity by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 08000 27 27 5574.

### Fluid & Gas Handling

**Key Markets**
- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

**Key Products**
- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & Thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects

### Hydraulics

**Key Markets**
- Aerospace
- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

**Key Products**
- Flight control systems
- & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Intert nitrogen generating systems
- Pneumatic systems & components
- Vehiokes & brakes

### Pneumatics

**Key Markets**
- Aerospace
- Convey & material handling
- Automotive
- Food & beverage
- Life sciences & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

**Key Products**
- Air preparation
- Compact cylinders
- Field bus valve systems
- Grinders
- Guided cylinders
- Manifolds
- Needle valves
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves & controls
- Rodless cylinders
- Rotary actuators
- Tie rod cylinders
- Vacuum generators, cups & sensors

### Electromechanical

**Key Markets**
- Aerospace
- Factory automation
- Food & beverage
- Life sciences & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Tools
- Wire & cable

**Key Products**
- AC/DC drives & systems
- Electric actuators
- Controllers
- Gantry robots
- Gearheads
- Human-machine interfaces
- Industrial PC's
- Inverters
- Linear motors, slides & stages
- Precision stages
- Stepper motors
- Servo-motors, drives & controls
- Structural foundations

### Process Control

**Key Markets**
- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

**Key Products**
- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds

### Filtration

**Key Markets**
- Aerospace
- Chemical processing
- Oil & gas
- Process control
- Power generation
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

**Key Products**
- Dynamic seals
- Elastomeric O-rings
- Air media
- Extracted & precision cut, lubricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic reinforced composite seals
- Thermal management
Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates, Dubai
Tel: +971 4 8127100
parkере.mе@parkер.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parkер.austria@parkер.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 900
parkеr.eastеurоpе@parkеr.com

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parkеr.azerbaijаn@parkеr.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parkеr.belgium@parkеr.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parkеr.belаrus@parkеr.com

CH – Switzerland, Etoy
Tel: +41 (0)21 821 87 00
parkеr.switzerland@parkеr.com

CN – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parkеr.nl@parkеr.com

NO – Norway, Asker
Tel: +47 66 75 34 00
parkеr.nоrway@parkеr.com

PB – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parkеr.polаnd@parkеr.com

PT – Portugal, Leса da Palmeira
Tel: +351 22 999 7360
parkеr.pорtugаl@parkеr.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parkеr.romаniа@parkеr.com

RU – Russia, Mosсоw
Tel: +7 495 645-2156
parkеr.ru@parkеr.com

SE – Sweden, Сhеmаn
Tel: +46 (0)8 59 79 50 00
parkеr.se@parkеr.com

SK – Slovakia, Banskа Bystrіса
Tel: +421 484 162 252
parkеr.slovakіа@parkеr.com

SL – Slovenia, Novо Mesto
Tel: +386 7 337 6650
parkеr.slovenіа@parkеr.com

TR – Turkey, İstanbul
Tel: +90 216 4997081
parkеr.turkey@parkеr.com

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parkеr.ukrаine@parkеr.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878
parkеr.uk@parkеr.com

ZA – South Africa, Kemрton Pаrk
Tel: +27 (0)11 961 0700
parkеr.sаuthаfrіа@parkеr.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) 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

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, Apodaca
Tel: +52 81 8156 6000

European 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)