Motornet DC
Brushless Servomotor with Integrated Servo Drive 0.9 - 7.5 Nm

Parker

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## Brushless Servomotor with Integrated Servo Drive - Motornet DC

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A world class player on a local stage

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Europe
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Brushless Servomotor with Integrated Servo Drive - Motornet DC

Overview

Description

Motornet DC is a brushless servomotor system with integrated servo drive, supplied from a DC-bus voltage. Hybrid power, control and communications cables, a Power supply and Interface module complete the system and local I/O’s can be connected directly to the motor.

Ideally suited to multi-axis applications where a number of motors are mounted in close proximity on the machine, Motornet DC allows a decentralized approach to motion control to be taken.

- Packaging Machines
- Rotary Tables
- Filling, bottling and capping machines

Motion control functionality is executed by means of EtherCAT communication or optionally CANopen DS402 communication.

Features

- Feedback: Resolver / EnDat (optional)
- Fieldbus: EtherCAT
- 2 digital Inputs / 2 digital Outputs
- Protection level: IP64 standard, IP65 / IP67 (optional)
- STO (optional)
- CAN Service Bus

Technical Characteristics - Overview

<table>
<thead>
<tr>
<th>Size</th>
<th>MDC60</th>
<th>MDC70</th>
<th>MDC100</th>
</tr>
</thead>
<tbody>
<tr>
<td>230 VAC supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed 3000 min⁻¹</td>
<td>Stall torque [Nm]</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Peak torque [Nm]</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Speed 6000 min⁻¹</td>
<td>Stall torque [Nm]</td>
<td>0.9</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Peak torque [Nm]</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Inertia without brake [kgmm²]</td>
<td>30.2</td>
<td>100</td>
<td>504</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>MDC60</th>
<th>MDC70</th>
<th>MDC100</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 VAC supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed 3000 min⁻¹</td>
<td>Stall torque [Nm]</td>
<td>1</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Peak torque [Nm]</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Speed 5200 min⁻¹</td>
<td>Stall torque [Nm]</td>
<td>-</td>
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<tr>
<td></td>
<td>Peak torque [Nm]</td>
<td>-</td>
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<tr>
<td>Speed 6000 min⁻¹</td>
<td>Stall torque [Nm]</td>
<td>0.9</td>
<td>2.2</td>
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<tr>
<td></td>
<td>Peak torque [Nm]</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Inertia without brake [kgmm²]</td>
<td>30.2</td>
<td>100</td>
<td>504</td>
</tr>
</tbody>
</table>

Typical System Architecture
Motornet DC System

Description
The next logical evolution in machine motion control, Motornet DC integrates servo control electronics into a brushless servomotor creating a self-contained motor and servo controller. This offers considerable benefits in terms of machine design by allowing a decentralised motion control architecture to be used. This in turn allows substantial savings in time and materials to be realised, while reducing machine footprints.

Typical applications for Motornet DC include packaging machines and rotary tables where numerous motors are mounted on the machine.

Features and Benefits

Quick and simple machine configuration and reduced wiring
The hybrid cabling solution, which contains all power supply, control and communications signalling offers machine builders a number of benefits including:

• Simplified plug and socket connections at the motor
• Reduced number of connections and potential points of failure
• Reduced wiring time and cost of associated cabling

Reduced machine footprint
With a power supply and PSI Interface module being the only additional components required in the cabinet, the electronics footprint is up to 70 % smaller than traditional centralised solutions. Additionally, all wiring changes are made on the machine via plug and socket connections rather than in the electrical cabinet.

Modular machine design
Because of the modular nature of Motornet DC, machine design becomes very easy. Additional axes can be added with very little effort, simply by duplicating schematic drawings from other axes. This not only reduces engineering time and costs, but simplifies build and significantly improves time to market.

Efficient power control
Motornet DC works on a common DC bus power supply that allows the system to share much of the braking energy to other Motornet DC units rather than dissipating it in the form of heat via external resistors. In some instances, the resistor can be removed completely and in others a smaller resistor is required.
Application
Motornet DC is ideally suited to applications where a number of motors are mounted in close proximity on a machine, such as a filling machine. In this case, the reduced cabling and electronics allow a much smaller physical footprint for the machine to be developed. Motornet DC is suited to packaging lines in general as the plug and play nature of its cable architecture allows new machine modules to be easily added or removed without considerable rewiring cost being incurred.

- Packaging lines
- Rotary tables
- Filling, bottling and capping machinery

Functionality
Motornet DC offers full motion control and is designed to complement the existing Parker servo drive and motor product range. Being flexible in its configuration, Motornet DC can be used to provide repeatable and accurate motion control for a wide range of applications and can be integrated into a larger hybrid motion solution.

Standard Version
Available in flange sizes of 60 mm, 70 mm and 100 mm with continuous torque ratings of 0.9 to 7.5 Nm and motor speeds up to 6000 min⁻¹. Motornet DC can be configured to suit the needs of any number of applications with a range of options. As standard Motornet DC is supplied with:

- EtherCAT
- Localised I/O - 2 digital inputs and 2 digital outputs
- Resolver feedback
- CAN Service Bus

Options
The capabilities of Motornet DC can be further enhanced with numerous options which are available upon request, including:

- IP65 protection for harsh environments
- Safe Torque Off (STO) functionality
- CANopen DS402 communication in place of EtherCAT
- Encoder feedback
- Holding brake
## Technical Characteristics

### General Characteristics

<table>
<thead>
<tr>
<th>Type</th>
<th>AC Voltage Power Supply [VAC]</th>
<th>Speed [min⁻¹]</th>
<th>Rated torque [Nm]</th>
<th>Rated power [W]</th>
<th>Cont. stall torque [Nm]</th>
<th>Peak torque [Nm]</th>
<th>Peak power [W]</th>
<th>Inertia (without brake) [kgmm²]</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDC60</td>
<td>230</td>
<td>3000</td>
<td>0.90</td>
<td>314</td>
<td>1.0</td>
<td>4.0</td>
<td>1257</td>
<td>30.2</td>
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<tr>
<td></td>
<td></td>
<td>6000</td>
<td>0.55</td>
<td>384</td>
<td>0.9</td>
<td>4.0</td>
<td>2513</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>3000</td>
<td>0.90</td>
<td>314</td>
<td>1.0</td>
<td>4.0</td>
<td>1257</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6000</td>
<td>0.55</td>
<td>384</td>
<td>0.9</td>
<td>4.0</td>
<td>2513</td>
<td></td>
</tr>
<tr>
<td>MDC70</td>
<td>230</td>
<td>3000</td>
<td>2.00</td>
<td>698</td>
<td>2.5</td>
<td>11.0</td>
<td>3456</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6000</td>
<td>0.50</td>
<td>620</td>
<td>1.9</td>
<td>7.0</td>
<td>4398</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>3000</td>
<td>2.00</td>
<td>698</td>
<td>2.6</td>
<td>11.0</td>
<td>3456</td>
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<tr>
<td></td>
<td></td>
<td>6000</td>
<td>0.50</td>
<td>698</td>
<td>2.2</td>
<td>11.0</td>
<td>6911</td>
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<tr>
<td>MDC100</td>
<td>230</td>
<td>3000</td>
<td>4.40</td>
<td>1535</td>
<td>6.5</td>
<td>15.0</td>
<td>4712</td>
<td>504</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5200</td>
<td>1.00</td>
<td>1536</td>
<td>5.7</td>
<td>15.0</td>
<td>8168</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>3000</td>
<td>4.40</td>
<td>1535</td>
<td>7.5</td>
<td>26.7</td>
<td>8388</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5200</td>
<td>1.00</td>
<td>1536</td>
<td>5.7</td>
<td>15.0</td>
<td>8168</td>
<td></td>
</tr>
</tbody>
</table>

Data refer to MDC mounted in horizontal position to allow for free convection, at 40 °C ambient temperature.

### Motornet DC - Torque vs Speed Characteristic Curves

#### MDC60 - 3000 min⁻¹ 230 VAC

#### MDC60 - 3000 min⁻¹ 400 VAC

#### MDC60 - 6000 min⁻¹ 230 VAC

#### MDC60 - 6000 min⁻¹ 400 VAC

<table>
<thead>
<tr>
<th>Key</th>
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</thead>
<tbody>
<tr>
<td>-----</td>
<td>Voltage Limit</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>S1 60 K ΔT</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>S3 50 %</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>S3 10 %</td>
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</tbody>
</table>
## Electrical Characteristics

### MDC - Motornet DC

<table>
<thead>
<tr>
<th>Motornet DC Model</th>
<th>MDC60</th>
<th>MDC70</th>
<th>MDC100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auxiliary Voltage Supply</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Input Voltage</td>
<td>[V]</td>
<td>24...48 VDC (0...+10 %)</td>
<td></td>
</tr>
<tr>
<td>Maximum Input Current$^{1}$</td>
<td>[A]</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Control Stage Input Power</td>
<td>[W]</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td><strong>Power Stage Voltage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum DC Voltage Supply</td>
<td>[V]</td>
<td>750 VDC</td>
<td></td>
</tr>
</tbody>
</table>

$^{1}$ This is the maximum rated input current that may be supplied to the overall MDC branch. To calculate the maximum number of MDC units that can be connected in a single branch without exceeding this value, the user must also consider the input braking current.

### PSI - Power Supply Fieldbus Interface for Motornet DC

<table>
<thead>
<tr>
<th>Power Supply Interface</th>
<th>PSI5</th>
<th>PSI10</th>
<th>PSI20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply Voltage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Voltage Range</td>
<td>[V]</td>
<td>300...750 VDC</td>
<td></td>
</tr>
<tr>
<td><strong>Regenerative braking</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td>[µF]</td>
<td>470</td>
<td>940</td>
</tr>
<tr>
<td>Storable energy</td>
<td>[WS]</td>
<td>75@400 VAC</td>
<td>150@400 VAC</td>
</tr>
<tr>
<td></td>
<td>42@480 VAC</td>
<td>84@480 VAC</td>
<td>84@480 VAC</td>
</tr>
</tbody>
</table>
Environmental Characteristics

Motornet DC, PSUP - Power Supply Unit and PSI - Power Supply Interface

Temperature

- Operating Temperature: 0...+40 °C
- Storage Temperature: -25...+55 °C
- Shipping Temperature: -25...+70 °C

Product Enclosure Rating

<table>
<thead>
<tr>
<th></th>
<th>Motornet DC</th>
<th>PSUP</th>
<th>PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Enclosure</td>
<td>IP64, IP65</td>
<td>IP20 (only in closed</td>
<td>UL open type equipment</td>
</tr>
<tr>
<td>Rating</td>
<td>/ IP67 as option</td>
<td>electrical cabinet)</td>
<td></td>
</tr>
</tbody>
</table>

Altitude

1000 m ASL: Derate output current by 1.5 % per 100 m to a maximum of 2000 m

Humidity

- Operating Humidity: Class 3K3 - Maximum 85 % non-condensing
- Storage Humidity: Class 1K3 - Maximum 95 % non-condensing
- Shipping Humidity: Class 2K3 - Maximum 95 % at 40 °C

Operating Vibration

<table>
<thead>
<tr>
<th></th>
<th>Motornet DC</th>
<th>PSUP</th>
<th>PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M1 Class</td>
<td>IEC60068-2-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2...9 Hz width 0.3 mm</td>
<td>10...57 Hz width 0.075 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9...200 Hz accel. 1 m/s²</td>
<td>57...150 Hz accel. 9.81 m/s²</td>
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</tr>
</tbody>
</table>

Standards & Conformance

Motornet DC

2006/95/EC
- Low Voltage Directive

2004/108/CE
- EMC Directive

EN 61800-3
- Adjustable speed electrical power drive systems - Part 3: EMC product standard including specific test method

EN 61800-5-1
- Adjustable speed electrical power drive systems - Part 5-1: Safety requirements - Electrical, thermal and energy

EN 60034-1
- Rotating electrical machines - Part 1: Rating and performances

EN 60034-5
- Rotating electrical machines. Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification

PSUP - Power Supply Unit and PSI - Power Supply Interface for Motornet DC

2006/95/EC
- Low voltage directive

2004/108/CE
- EMC Directive

EN 61800-3
- Adjustable speed electrical power drive systems - Part 3: EMC product standard including specific test method

EN 61800-5-1
- Adjustable speed electrical power drive systems - Part 5-1: Safety requirements - Electrical, thermal and energy
Motornet DC
Technical Characteristics

Dimensions
Motornet DC

<table>
<thead>
<tr>
<th>Type</th>
<th>Flange</th>
<th>H [mm]</th>
<th>W [mm]</th>
<th>D [mm]</th>
<th>ød x length [mm]</th>
<th>øPilot [mm]</th>
<th>F [mm]</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDC60</td>
<td>5</td>
<td>154</td>
<td>70</td>
<td>192</td>
<td>9x20 / 11x23</td>
<td>60</td>
<td>75</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td></td>
<td>60</td>
<td></td>
<td></td>
<td>40</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>MDC70</td>
<td>5</td>
<td>164</td>
<td>70</td>
<td>287</td>
<td>11x23 / 14x30 / 19x40</td>
<td>60</td>
<td>75</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>MDC100</td>
<td>5</td>
<td>194</td>
<td>100</td>
<td>262</td>
<td>19x40 / 24x50</td>
<td>80</td>
<td>100</td>
<td>8.6</td>
</tr>
</tbody>
</table>

PSU - Power Supply Unit and PSI - Power Supply Interface for Motornet DC

<table>
<thead>
<tr>
<th>Type</th>
<th>W [mm]</th>
<th>D [mm]</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSUP10, PSIS/PSI10/PSI20</td>
<td>50</td>
<td>270</td>
<td>3.6</td>
</tr>
<tr>
<td>PSUP20/PSUP30</td>
<td>100</td>
<td>270</td>
<td>5.4</td>
</tr>
</tbody>
</table>
**Motornet DC**

**Technical Characteristics**

### Connector Layout

**Motornet DC**

- **X1**: IN: DC Bus, 24 VDC Supply, Motion Bus, Service Bus
- **X2**: OUT: DC Bus, 24 VDC Supply, Motion Bus, Service Bus
- **X3**: Digital Inputs
- **X4**: Digital Outputs
- **X5**: I/O STO, RS232
- **AS**: Address setting selector switches
- **ST**: Status LEDs: Green - Power On, Red - Status

### Typical Connection Diagram

**Motornet DC**

- Voltage supply selection (by dip-switch)
- Serial connection
- USB - PC configuration tool
- 24 V In Aux P.S.
- Bus Bar
- Line 3 phase 230...480 VAC
- EtherCAT in

**Hybrid cable**

- DC bus
- Aux Power
- Motion bus
- Service bus

**Motornet DC**

- 2 digital Outputs
- 2 digital Inputs

**Motornet DC**

- 2 digital Outputs
- 2 digital Inputs
Accessories

Configuration Software - MotionWiz

MotionWiz is free of charge downloadable configuration software that allows users to configure and optimise the Motornet DC series with a few easy clicks of the mouse.

MotionWiz features an intuitive, easy and simple to use Windows® style environment to aid installation, optimisation and diagnostic use.

MotionWiz permits operation in both “on line” mode, directly in the controller, and in “offline” mode, remotely on the PC before downloading to the controller.

To simplify the configuration of systems with a large number of similar axes but with different motion profiles, MotionWiz allows users to copy the configuration from one application to another.

Inside the MotionWiz configurator is a database containing the technical characteristics of the full range of Parker motors and drives.

MotionWiz can be downloaded at www.parker.com/eme/motornet
In this example Motornet DC is shown in a system which also uses the TPD-M series servoamplifier, SMB/H series servomotors, Interact Xpress series HMI and PIO series I/O to form a complete integrated hybrid motion solution. This type of architecture can be used for the complete control of packaging or process lines.
TPDM: Triple Power Drive

TPD-M is a flexible servo drive that integrates three power stages in a single housing. The flexibility of the TPD-M servo drive is based on the power stage adapting to supply the corresponding servo motor with the necessary power within the range of 2 to 30 Amperes. The base configuration consists of a common DC bus supply (PSU) and TPD-M multiple modules connected through DC bus bars. The modular concept allows a system to be configured using 50 mm wide modules comprising either 3 axes, 2 axes or a single axis. A single common DC bus supply can support up to 15 modules.

SMB/H-MB/H: Brushless servo motors

The MB/H and SMB/H Series of highly-dynamic brushless servo motors utilise "salient pole" technology to produce an extremely compact design. Motor dimensions are drastically reduced and significant gains in terms of torque and dynamic performance are achieved. The high quality Neodymium-Iron-Boron magnets and the encapsulation method used to fasten them to the shaft, allows the two Series to achieve very high acceleration and withstand high overloads without risk of demagnetisation or detachment of the magnets. The MB/H and SMB/H Series is available in sizes from 0.2 to 285 Nm.

Interact Xpress: HMI

Interact Xpress is Parker’s HMI hardware and software solution, for the process’s control in distributed applications where multiple HMIs are deployed on a single machine or across several remote stations. Interact Xpress software, features an advanced development environment for easy creation of rich graphics and multimedia applications. Interact Xpress allows you to run, view and edit online - from any PC - applications in Internet Explorer™ browser. Available with 6, 8, 10 and 15 inch, these units are specifically designed to optimize the performance, storage and connectivity features of the software.

PIO: I/O System

Parker’s PIO modular bus terminal system offers a range of popular industrial fieldbus networks to interface to a wide variety of control signals from field-based devices. Connection to field level devices can be implemented quickly and reliably with PIO.

PS/RS Series: Planetary Gearheads

Stealth advanced gearheads are available in either in-line or right-angled versions with 8 frame sizes and 12 gear ratios. With input speeds up to 6000 min⁻¹ and exceptionally quiet, strong and reliable operation, you can be confident that there is a Stealth advanced gearhead to fit any of your high performance servo application needs.
## Order Code

**MDC - Motornet DC**

<table>
<thead>
<tr>
<th>Order example</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor family</td>
<td>MDC</td>
<td>E</td>
<td>A</td>
<td>60</td>
<td>30</td>
<td>5</td>
<td>9</td>
<td>S</td>
<td>Hxx</td>
<td>F4</td>
<td>M</td>
<td>R</td>
<td>E</td>
<td>64</td>
<td>4</td>
</tr>
<tr>
<td>Encoder*</td>
<td>Empty field</td>
<td>Resolver</td>
<td>Encoder (option)</td>
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<tr>
<td>Brake*</td>
<td>Empty field</td>
<td>Without holding brake</td>
<td>With holding brake (option)</td>
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<tr>
<td>Motor frame size (Refer to compatibility table)</td>
<td>60</td>
<td>60 mm motor frame</td>
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<tr>
<td>Nominal speed (Refer to compatibility table)</td>
<td>30</td>
<td>3000 min⁻¹ (230/400 VAC - all frames)</td>
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<tr>
<td>Flange</td>
<td>5</td>
<td>Flange 5 (available for all sizes)</td>
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<tr>
<td>Shaft diameter</td>
<td>9</td>
<td>9 mm shaft (frame 60 only)</td>
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<tr>
<td>Smooth shaft - keyway</td>
<td>Empty field</td>
<td>With keyway</td>
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<tr>
<td>Motor shaft*</td>
<td>Empty field</td>
<td>Standard shaft</td>
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<tr>
<td>Encoder</td>
<td>Hxx</td>
<td>Hollow shaft, xx = internal dia. (max 12 mm) Available only for MDC70 and MDC100 with resolver</td>
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<tr>
<td>Feedback</td>
<td>Empty field</td>
<td>Standard resolver</td>
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<tr>
<td>Increased inertia*</td>
<td>Empty field</td>
<td>Standard inertia</td>
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<tr>
<td>Safe torque off (STO)*</td>
<td>Empty field</td>
<td>Without safe torque off</td>
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<tr>
<td>Fieldbus</td>
<td>E</td>
<td>EtherCAT</td>
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</tr>
<tr>
<td>Protection level</td>
<td>D*</td>
<td>CANopen (option)</td>
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<tr>
<td>AC supply voltage (PSU supply voltage)</td>
<td>2</td>
<td>230 VAC</td>
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</tbody>
</table>
* Option currently under development
**Motornet DC Hybrid Cables**

<table>
<thead>
<tr>
<th>Order example</th>
<th>HYBCA</th>
<th>0030</th>
<th>PSI</th>
<th>4</th>
</tr>
</thead>
</table>

1. **Cable type**
   - HYBCA: Hybrid cable for Motornet DC

2. **Length (x10 mm)**
   - 0030: 300 mm
   - 0100: 1000 mm (1 m)
   - 1000: 10 m

   *Note: maximum cable length is 15 m*

3. **Connector Type**
   - PSI: Wired cable for PSI to MDC with PSI connector and female mating MDC connector
   - MDC: Wired cable for MDC to MDC with male and female mating MDC connectors

4. **Cable Size**
   - Empty field: 2.5 mm² cable size
   - 4: 4.0 mm² cable size

**Cables options**
- HYBCA1: MDC hybrid cable only (no connectors) - 1 m length / 2.5 mm²
- HYBCA14: MDC hybrid cable only (no connectors) - 1 m length / 4 mm²
- CONMDCMV: MDC hybrid connector (male)
- CONMDCFV: MDC hybrid connector (female)
- TAPMDCETH: Terminal cup for MDC EtherCAT
- TAPMDCETHS: Terminal cup for MDC EtherCAT with Service Bus

**Mains module: PSUP**

<table>
<thead>
<tr>
<th>Order example</th>
<th>PSU</th>
<th>P</th>
<th>10</th>
<th>D6</th>
<th>USB</th>
<th>M00</th>
</tr>
</thead>
</table>

1. **Device family**
   - PSU: Power module

2. **Device type**
   - P: Power module

3. **Nominal power; supply voltage**
   - 10 D6: 10 kW; 400 VAC (3-phase)
   - 20 D6: 20 kW; 400 VAC (3-phase)
   - 30 D6: 30 kW; 400 VAC (3-phase)

4. **Interface**
   - USB: USB connection

5. **Options**
   - M00: no additional supplement

---

**Capacitor module**

<table>
<thead>
<tr>
<th>Order example</th>
<th>PSC</th>
<th>023 M00</th>
</tr>
</thead>
</table>

1. **Accessories**
   - PSC: Capacitor module

2. **Type**
   - 023 M00: 2300 μF no additional supplement
   - 047 M00: 4700 μF no additional supplement
   - 068 M00: 6800 μF no additional supplement

**Mains filter for PSUP**

<table>
<thead>
<tr>
<th>Order example</th>
<th>NFI</th>
<th>03/01</th>
</tr>
</thead>
</table>

1. **Accessories**
   - NFI: Mains filter

2. **Type**
   - 03/01: for PSUP10
     - Reference axis combination 3 x 480 V 25 A
     - 6 x 10 m motor cable length
   - 03/02: for PSUP10
     - Reference axis combination 3 x 480 V 25 A
     - 6 x 50 m motor cable length
   - 03/03: for PSUP20, PSUP30
     - Reference axis combination 3 x 480 V 50 A
     - 6 x 50 m motor cable length

**Braking resistors**

<table>
<thead>
<tr>
<th>Order example</th>
<th>BRM</th>
<th>05/01</th>
</tr>
</thead>
</table>

1. **Accessories**
   - BRM: Braking resistor

2. **Type**
   - 13/01: 30 Ω / 0.5 kW; for PSUP10, 0.5 kW; for PSUP20
   - 14/01: 15 Ω / 0.5 kW; for PSUP10D6 (2 x 15 Ω in series)
   - 12/01: 18 Ω / 4.5 kW; for PSUP30

**PSI - Power Supply Interface for Motornet DC**

<table>
<thead>
<tr>
<th>Order example</th>
<th>PSI</th>
<th>10</th>
<th>P</th>
</tr>
</thead>
</table>

1. **Device type**
   - PSI: Power supply interface for Motornet DC

2. **Type**
   - 5: 5 kW rating
   - 10: 10 kW rating
   - 20: 20 kW rating

---

1) Operation of the PSUP30 only with line choke. Required line choke for the PSUP30: 0.45 mH / 55 A

We offer the following line chokes:
- LCG-0055-0.45 mH (WxDxH: 180 mmx140 mmx157 mm; 10 kg)
- LCG-0055-0.45 mH-UL (with UL certification) (WxDxH: 180 mmx170 mmx157 mm; 15 kg)
Parker’s Motion & Control Technologies

At Parker, we’re guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability 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 0800 27 27 5374.