

AZ Series
Connector Type
Frame Size 42 mm, 60 mm

One cable, IP66 rated locking connector enables a simple direct connection between the motor and the driver.

**Features**

Direct Connection Motor to Driver

One cable locking connector allows for a maximum of 10 m between the motor and driver with the same motor performance specifications as our standard AZ Series. The one motor and driver cable includes the power line to the motor, signal line, electromagnetic brake line (brake motor type) and the ground wire for easy motor connection with no separate connection required for extension cables.

A Lock Lever Connector is Used To Ensure Connection

Connecting the cable is easy due to the lock lever that does not require screws.

Three Cable Outlet Directions Can be Selected

The product line contains multiple cable outlet directions. This allows for choosing the cable type based on the cable outlet direction required.
System Configuration

- Combination of Connector Type Motor with Electromagnetic Brake and EtherCAT Drive Profile-compatible Driver

Motors, drivers, and connection cables/flexible connection cables must be ordered individually.

- Please be sure to purchase one
- Please purchase as needed

![Diagram of system configuration]

- Motor
- Driver
- Connection Cable
- Cables for DC Power Supply
- Cables for AC Power Supply
- Cables for I/O Signals
- Support Software MEXE02

Example of System Configuration

<table>
<thead>
<tr>
<th>Motor</th>
<th>Driver</th>
<th>Connection Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZM66MCH</td>
<td>AZD-CED</td>
<td>CCM01021BFF</td>
</tr>
<tr>
<td>511.00 €</td>
<td>572.00 €</td>
<td>63.00 €</td>
</tr>
</tbody>
</table>

- The system configuration shown above is an example. Other combinations are also available.
Motor Type: AZM: AZ Series Motor

Motor Frame Size:
- 42 mm
- 60 mm

Motor Case Length:
- 4: 42 mm
- 6: 60 mm

Output Shaft Type:
- A: Single Shaft
- M: Electromagnetic Brake Type

Additional Function:
- O: Round Shaft
- T: Key Shaft

Motor Type:
- C: AC Power Supply Input Specifications

Motor Connection Method:
- H: Connector Type

Connection Cables/Flexible Connection Cables

CCM: Cable

Length:
- 010: 1 m
- 020: 2 m
- 030: 3 m
- 050: 5 m
- 070: 7 m
- 100: 10 m

Applicable Model:
- Z1: AZ Series Connector Type

Description:
- A: AC Input For Motor / Encoder
- B: AC Input For Motor / Encoder / Electromagnetic Brake Type

Cable Outlet Direction:
- F: Output Shaft Direction
- V: Vertical
- B: Opposite to Output Shaft Direction

Cable Type:
- F: Connection Cable
- R: Flexible Connection Cable

Three types of the connection cables with different cable outlet directions are available. Please select the cable outlet direction needed for the installation.

Product Line

Motors, drivers, and connection cables must be ordered individually.

Motor

Frame Size
- 42 mm
- 60 mm

Product Name
- AZM46ACH
- AZM46A0CH
- AZM48ACH
- AZM48A0CH
- AZM48A1CH
- AZM66ACH
- AZM66A0CH
- AZM66A1CH
- AZM69ACH
- AZM69A0CH
- AZM69A1CH

List Price
- 290.00 €
- 290.00 €
- 300.00 €
- 300.00 €
- 311.00 €
- 338.00 €
- 338.00 €
- 348.00 €
- 344.00 €
- 344.00 €
- 354.00 €

Motor Type with Electromagnetic Brake

Frame Size
- 42 mm
- 60 mm

Product Name
- AZM46MCH
- AZM46M0CH
- AZM66MCH
- AZM66M0CH
- AZM66M1CH
- AZM69MCH
- AZM69M0CH
- AZM69M1CH

List Price
- 424.00 €
- 511.00 €
- 511.00 €
- 521.00 €
- 517.00 €
- 517.00 €
- 525.00 €

Connection Cables/Flexible Connection Cables

A connection cable is needed to connect the motor and driver. Please be sure to purchase one. Use a flexible connection cable in applications where the cable is bent and flexed. Refer to page 21 for details.
<table>
<thead>
<tr>
<th>Product Line</th>
<th>Type</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>Standard Type</td>
<td>AZM46CH, AZM48A_CH &lt;br&gt; AZM66CH, AZM69_CH</td>
</tr>
<tr>
<td>Driver</td>
<td>EtherCAT Drive Profile-compatible</td>
<td>AZD-AED, AZD-CED</td>
</tr>
<tr>
<td>Driver</td>
<td>EtherCAT/IP-compatible</td>
<td>AZD-AEP, AZD-CEP</td>
</tr>
<tr>
<td>Driver</td>
<td>PROFINET-compatible</td>
<td>AZD-APN, AZD-CPN</td>
</tr>
<tr>
<td>Driver</td>
<td>MECHATROLINK-II-compatible</td>
<td>AZD-AM3, AZD-CM3</td>
</tr>
<tr>
<td>Driver</td>
<td>SSCNET/H-compatible</td>
<td>AZD-AS3, AZD-CS3</td>
</tr>
<tr>
<td>Driver</td>
<td>Built-in Controller Type</td>
<td>AZD-AD, AZD-CD</td>
</tr>
<tr>
<td>Driver</td>
<td>Pulse Input Type with RS-485 Communication</td>
<td>AZD-A_X, AZD-_CX</td>
</tr>
<tr>
<td>Driver</td>
<td>Pulse Input Type</td>
<td>AZD-A, AZD-_C</td>
</tr>
<tr>
<td>Connection Cables/Flexible Connection Cables</td>
<td>Connection Cable</td>
<td>For motor/encoder: CCMZ1AF &lt;br&gt; For motor/encoder/electromagnetic brake: CCMZ1BF</td>
</tr>
<tr>
<td>Connection Cables/Flexible Connection Cables</td>
<td>Flexible Connection Cable</td>
<td>For motor/encoder: CCMZ1AR &lt;br&gt; For motor/encoder/electromagnetic brake: CCMZ1BR</td>
</tr>
</tbody>
</table>

A number indicating the following is specified where the code is located in the product name.

- Output Shaft Type
- Additional Function
- Cable Outlet Direction
- Cable Length

AZ Series Catalog
- Driver Functions
- Communication Specifications
- Driver Dimensions
- Cables & Peripheral Equipment
Standard Type  Frame Size 42 mm, 60 mm

**Specifications**

<table>
<thead>
<tr>
<th>Motor Product Name</th>
<th>Single Shaft</th>
<th>With Electromagnetic Brake</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AZM46A CH</td>
<td>AZM46CH</td>
<td>AZM48A CH</td>
<td>AZM48CH</td>
<td>AZM66A CH</td>
</tr>
<tr>
<td>Driver Product Name</td>
<td>AZD-A</td>
<td>AZD-C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Holding Torque</td>
<td>Nm</td>
<td>0.3</td>
<td>0.77</td>
<td>1.2</td>
<td>2</td>
</tr>
<tr>
<td>Holding Torque at Motor Standstill</td>
<td>Power ON</td>
<td>Nm</td>
<td>0.15</td>
<td>0.38</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Electromagnetic Brake</td>
<td>Nm</td>
<td>0.15</td>
<td>–</td>
<td>0.6</td>
</tr>
<tr>
<td>Rotor Inertia</td>
<td>J: kg m²</td>
<td>55×10⁻⁷</td>
<td>115×10⁻⁷</td>
<td>370×10⁻⁷</td>
<td>740×10⁻⁷</td>
</tr>
<tr>
<td></td>
<td></td>
<td>71×10⁻⁷</td>
<td>15×10⁻⁷</td>
<td>530×10⁻⁷</td>
<td>900×10⁻⁷</td>
</tr>
<tr>
<td>Resolution</td>
<td>1000 P/R</td>
<td>0.36°/Pulse</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Speed – Torque Characteristics (Reference values)**

**AZM46**

![Graph of Speed - Torque Characteristics for AZM46]

**AZM48**

![Graph of Speed - Torque Characteristics for AZM48]

**AZM46**

![Graph of Speed - Torque Characteristics for AZM66]

**AZM69**

![Graph of Speed - Torque Characteristics for AZM69]

**Note**

- Data for the speed – torque characteristics is based on Oriental Motor’s internal measurement conditions. If the conditions are changed, the characteristics may also change as a result.
- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. To protect the Absolute Sensor, be sure to keep the temperature of the motor case at 80°C or less.
- (When conforming to the UL or CSA Standards, the temperature of the motor case must be kept at 75°C or less since the motor is recognized as heat-resistant class A.)
## Driver Specifications

<table>
<thead>
<tr>
<th>Driver Product Name</th>
<th>AZD-AM3</th>
<th>AZD-AS3</th>
<th>AZD-CM3</th>
<th>AZD-CS3</th>
<th>AZD-AD</th>
<th>AZD-CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Power Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Input Current</strong></td>
<td>AZM46: 2.7 A</td>
<td>1.7 A</td>
<td>1.0 A</td>
<td>AZM48: 2.7 A</td>
<td>1.6 A</td>
<td>1.0 A</td>
</tr>
<tr>
<td>Control Power Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Input Voltage</strong></td>
<td>24 VDC ±5%</td>
<td>24 VDC ±5%</td>
<td>24 VDC ±5%</td>
<td>24 VDC ±5%</td>
<td>24 VDC ±5%</td>
<td>24 VDC ±5%</td>
</tr>
<tr>
<td><strong>Input Current</strong></td>
<td>0.25 A (0.5 A)**</td>
<td>0.25 A (0.5 A)**</td>
<td>0.25 A (0.5 A)**</td>
<td>0.25 A (0.5 A)**</td>
<td>0.25 A (0.5 A)**</td>
<td>0.25 A (0.5 A)**</td>
</tr>
<tr>
<td>Interface</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulse Input</td>
<td>-</td>
<td>2 points, Photocoupler</td>
<td>-</td>
<td>2 points, Photocoupler</td>
<td>4 points, Photocoupler</td>
<td>4 points, Photocoupler</td>
</tr>
<tr>
<td>Control Input</td>
<td>-</td>
<td>2 points, Photocoupler</td>
<td>-</td>
<td>2 points, Photocoupler</td>
<td>2 points, Photocoupler</td>
<td>2 points, Photocoupler</td>
</tr>
<tr>
<td>Pulse Output</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Control Output</td>
<td>-</td>
<td>2 points, Line driver</td>
<td>-</td>
<td>2 points, Line driver</td>
<td>2 points, Line driver</td>
<td>2 points, Line driver</td>
</tr>
<tr>
<td>Power Shut Down Signal Input</td>
<td>-</td>
<td>2 points, Photocoupler and Open collector</td>
<td>-</td>
<td>2 points, Photocoupler and Open collector</td>
<td>2 points, Photocoupler and Open collector</td>
<td>2 points, Photocoupler and Open collector</td>
</tr>
<tr>
<td>Power Shut Down Monitor Output</td>
<td>-</td>
<td>1 point, Photocoupler and Open collector</td>
<td>-</td>
<td>1 point, Photocoupler and Open collector</td>
<td>1 point, Photocoupler and Open collector</td>
<td>1 point, Photocoupler and Open collector</td>
</tr>
</tbody>
</table>

*The value inside the (   ) represents the value when an electromagnetic brake motor is connected. AZM46 is 0.33 A.

** Connecting the AZ Series to three-phase 3×400 VAC will damage the product.
General Specifications

Motor

<table>
<thead>
<tr>
<th>Thermal Class</th>
<th>130 (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Recognized</td>
<td>105 (A)</td>
</tr>
</tbody>
</table>

Insulation Resistance

- 100 MΩ or more when 500 VDC megger is applied between the following places:
  - Case – Motor windings
  - Case – Electromagnetic Brake Windings

Dielectric Strength

Sufficient to withstand the following for 1 minute:
- Case – Motor Winding
  - 1.5 kVAC 50/60 Hz
- Case – Electromagnetic Brake Windings
  - 1.5 kVAC 50/60 Hz
- PE Terminal – Power Supply Terminal
- Encoder Connector – Power Supply Terminal
- I/O Signal Terminal – Power Supply Terminal

Operating Environment

<table>
<thead>
<tr>
<th>Ambient Temperature</th>
<th>0 to +40°C (+32 to +104°F) (Non-Freezing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altitude</td>
<td>Max. of 1000 m (3300 ft.) above sea level</td>
</tr>
<tr>
<td>Surrounding Atmosphere</td>
<td>No corrosive gas or dust. No water or oil.</td>
</tr>
</tbody>
</table>

Degree of Protection

When connecting the connection cable
- IP66 (excluding the mounting surface and connector on the driver side of the connection cable)
- IP10
- IP20

Stop Position Accuracy

- AZM46, AZM48: ±4 arcmin (±0.067°)
- AZM66, AZM69: ±3 arcmin (±0.05°)
- AZM66, AZM69 only.

Shaft Runout

- 0.05 T.I.R. (mm)

Concentricity of Installing Pilot to the Shaft

- 0.075 T.I.R. (mm)

Perpendicularity of Installation Surface to the Shaft

- 0.075 T.I.R. (mm)

Multiple Rotation Detection Range in Non-Conduction State

- ±900 Revolutions (1800 Revolutions)

Electromagnetic Brake Specifications

<table>
<thead>
<tr>
<th>Product Name</th>
<th>AZM46</th>
<th>AZM66</th>
<th>AZM69</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Power Off Activated Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply Voltage</td>
<td>24 VDC ±5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply Current</td>
<td>0.08</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Time Rating</td>
<td>Continuous</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Permissible Radial Load and Permissible Axial Load

<table>
<thead>
<tr>
<th>Type</th>
<th>Motor Frame Size [mm]</th>
<th>Product Name</th>
<th>Permissible Radial Load</th>
<th>Permissible Axial Load</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Distance from Shaft End mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Standard Type</td>
<td>42</td>
<td>AZM46</td>
<td>35</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZM48</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZM66, AZM69</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

Radial Load and Axial Load

Distance from Shaft End mm

Note:
- Electromagnetic brake type only.
- Based on Oriental Motor’s measurement conditions.
- When a heat sink of a capacity at least equivalent to an aluminum plate with a size of 200×200 mm, 2 mm thick is installed.
- T. I. R. (Total Indicator Reading): The total dial gauge reading when the measurement section is rotated once around the reference axis center.
- Separate the motor and driver when measuring insulation resistance or performing a dielectric strength test.
- Also, do not perform these tests on the Absolute Sensor part of the motor.
### Dimensions Unit = mm

#### Motor

#### Standard Type

**Frame Size 42 mm**

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM46ACH</td>
<td>0.4</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM46A0CH</td>
<td></td>
</tr>
</tbody>
</table>

**Single Shaft Flat Type**

![Diagram of Single Shaft Flat Type]

**Straight Type**

![Diagram of Straight Type]

---

**With Connection Cable Attached**

- **Cable Drawn in the Same Direction As the Output Shaft**
- **Cable Drawn Vertically**
- **Cable Drawn in the Opposite Direction of the Output Shaft**

### With Connection Cable Attached

#### Cable Drawn in the Same Direction As the Output Shaft

![Diagram of Cable Drawn in the Same Direction As the Output Shaft]

#### Cable Drawn Vertically

![Diagram of Cable Drawn Vertically]

#### Cable Drawn in the Opposite Direction of the Output Shaft

![Diagram of Cable Drawn in the Opposite Direction of the Output Shaft]

---

**Key Shaft Type**

![Diagram of Key Shaft Type]

**Parallel Key (Included)**

---

The color in the dimensions indicates the connection cable that is sold separately.
### Frame Size 60 mm

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>L</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM66ACH</td>
<td>74.5</td>
<td>0.84</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM66A0CH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM66A1CH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM69ACH</td>
<td>100</td>
<td>1.3</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM69A0CH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM69A1CH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Single Shaft Flat Type**

- L: 24 1/10
- 20: ±0.25
- 9.5: ±0.15
- 6: ±0.15
- 80: ±0.25

**Straight Type**

- L: 24 1/10
- 20: ±0.25
- 80: ±0.25

**Key Type**

- L: 24 1/10
- 20: ±0.25
- 80: ±0.25

**With Connection Cable Attached**

- Cable Drawn in the Same Direction As the Output Shaft
- Cable Drawn Vertically
- Cable Drawn in the Opposite Direction of the Output Shaft

- Protective Earth Terminal M4
- Parallel Key (Included)

- M3 × 8 Deep
- 3: 0.08
- 3: 0.05
- 15: 0.18
- 19: 0.1

The color in the dimensions indicates the connection cable that is sold separately.
## Standard Type with Electromagnetic Brake

**Frame Size 42 mm**

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM46MCH</td>
<td>0.54</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM46M0CH</td>
<td></td>
</tr>
</tbody>
</table>

**Single Shaft Flat Type**

- Mass: 0.54 kg
- Dimensions: 108.5 mm x 20.1 mm x 15.0 mm
- Shaft Diameter: 5.5 mm x 4.5 mm
- Protective Earth Terminal M4
- Cable Drawn in the Same Direction as the Output Shaft
- Cable Drawn Vertically
- Cable Drawn in the Opposite Direction of the Output Shaft

**Straight Type**

- Mass: 0.54 kg
- Dimensions: 31.0 mm x 42.0 mm x 31.0 mm
- Shaft Diameter: 4 mm x 4 mm
- Protective Earth Terminal M4
- Cable Drawn in the Same Direction as the Output Shaft
- Cable Drawn Vertically
- Cable Drawn in the Opposite Direction of the Output Shaft

*The color in the dimensions indicates the connection cable that is sold separately.*
### Frame Size 60 mm

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>L</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM66MCH</td>
<td>120</td>
<td>1.2</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM66M0CH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM66M1CH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM69MCH</td>
<td>145.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM69M0CH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM69M1CH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Single Shaft Flat Type**

![Diagram of Single Shaft Flat Type]

**Straight Type**

![Diagram of Straight Type]

**Key Type**

![Diagram of Key Type]

**With Connection Cable Attached**

- Cable Drawn in the Same Direction As the Output Shaft
- Cable Drawn Vertically
- Cable Drawn in the Opposite Direction of the Output Shaft

The **color** in the dimensions indicates the connection cable that is sold separately.
## System Configuration

- Combination of Connector Type Motor with Electromagnetic Brake and EtherCAT Drive Profile-compatible Driver

Motors, drivers, and connection cables/flexible connection cables must be ordered individually.

- Please be sure to purchase one
- Please purchase as needed

### Support Software

- The Support Software MEXE02 can be downloaded from the Oriental Motor website.

### Example of System Configuration

<table>
<thead>
<tr>
<th>Motor</th>
<th>Driver</th>
<th>Cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZM66MKH</td>
<td>AZD-KED</td>
<td>Connection Cable: Cable Outlet Direction: 1m</td>
</tr>
<tr>
<td>511.00 €</td>
<td>572.00 €</td>
<td>CCM010Z1DFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>63.00 €</td>
</tr>
</tbody>
</table>

- The system configuration shown above is an example. Other combinations are also available.
### Product Number

- **Motor**
  - **Standard Type**
    - AZM 6 6 A 0 K H

### Connection Cables/Flexible Connection Cables

- **CCM 010 Z1 C F F**

### Product Line

**Motors, drivers, and connection cables must be ordered individually.**

- **Motor**
  - **Standard Type**
    - **Frame Size** | **Product Name** | **List Price**
      - 42 mm
        - AZM46AKH: 290.00 €
        - AZM46A0KH: 290.00 €
        - AZM48AKH: 300.00 €
        - AZM48A0KH: 300.00 €
        - AZM48A1KH: 311.00 €
      - 60 mm
        - AZM66AKH: 338.00 €
        - AZM66A0KH: 338.00 €
        - AZM66A1KH: 348.00 €
        - AZM69AKH: 344.00 €
        - AZM69A0KH: 344.00 €
        - AZM69A1KH: 354.00 €

- **Standard Type with Electromagnetic Brake**

### Connection Cables/Flexible Connection Cables

A connection cable is needed to connect the motor and driver. Please be sure to purchase one.

Use a flexible connection cable in applications where the cable is bent and flexed. Refer to page 21 for details.
### List of Combinations

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Type</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>Standard Type</td>
<td>AZM46 KH, AZM48A KH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZM66 KH, AZM69 KH</td>
</tr>
</tbody>
</table>

#### Driver

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Type</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EtherCAT Drive Profile-compatible</td>
<td>AZD-KED</td>
</tr>
<tr>
<td></td>
<td>EtherNet/IP-compatible</td>
<td>AZD-KEP</td>
</tr>
<tr>
<td></td>
<td>PROFINET-compatible</td>
<td>AZD-KPN</td>
</tr>
<tr>
<td></td>
<td>Built-in Controller Type</td>
<td>AZD-KD</td>
</tr>
<tr>
<td></td>
<td>Pulse Input Type with RS-485 Communication</td>
<td>AZD-KX</td>
</tr>
<tr>
<td></td>
<td>Pulse Input Type</td>
<td>AZD-K</td>
</tr>
</tbody>
</table>

*AZ mini drivers and multi-axis drivers are not eligible for combination.*

#### Connection Cables/Flexible Connection Cables

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Type</th>
<th>For motor/encoder: CCM</th>
<th>For motor/encoder/electromagnetic brake: CC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Connection Cable</td>
<td>Z1C Z1F</td>
<td>Z1D Z1F</td>
</tr>
<tr>
<td></td>
<td>Flexible Connection Cable</td>
<td>Z1C Z1R</td>
<td>Z1D Z1R</td>
</tr>
</tbody>
</table>

*A number indicating the following is specified where the code is located in the product name.*

- Output Shaft Type
- Additional Function
- Cable Outlet Direction
- Cable Length

---

**AZ Series Catalog**

- Driver Functions
- Communication Specifications
- Driver Dimensions
- Cables & Peripheral Equipment
Specifications

<table>
<thead>
<tr>
<th>Motor Product Name</th>
<th>Single Shaft With Electromagnetic Brake</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AZM46A KH</td>
</tr>
<tr>
<td></td>
<td>AZM46M KH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driver Product Name</th>
<th>AZD-K</th>
</tr>
</thead>
</table>

Max. Holding Torque Nm
- AZM46A: 0.3
- AZM48A: 0.72
- AZM66A: 1
- AZM69A: 2

Holding Torque at Motor Standstill Nm
- AZM46A: 0.15
- AZM48A: 0.36
- AZM66A: 0.5
- AZM69A: 1

Electromagnetic Brake Nm
- AZM46A: 0.15
- AZM48A: –
- AZM66A: 0.5
- AZM69A: 1

Resolutions
- AZM46A: 1000 P/R
- AZM48A: 3000 P/R
- AZM66A: 5000 P/R
- AZM69A: 15000 P/R

Rotor Inertia J: kg·m²
- AZM46A: 55×10⁻⁷
- AZM48A: 115×10⁻⁷
- AZM66A: 370×10⁻⁷
- AZM69A: 745×10⁻⁷

Resolution
- 1000 P/R
- 0.36º/Pulse

Power Supply Input
- Please check “Driver Specifications” on page 16 for the driver current specifications when combined with a motor.

Control Power Supply
- Please check “List of Combinations” on page 14 for driver product names.

Note
- Data for the speed – torque characteristics is based on Oriental Motor’s internal measurement conditions. If the conditions are changed, the characteristics may also change as a result.
- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. To protect the Absolute Sensor, be sure to keep the temperature of the motor case at 80°C or less.
- When conforming to the UL or CSA Standards, the temperature of the motor case must be kept at 75°C or less since the motor is recognized as heat-resistant class A.

Speed – Torque Characteristics (Reference values)

![AZM46 Speed-Torque Graph](image)

![AZM48 Speed-Torque Graph](image)

![AZM66 Speed-Torque Graph](image)

![AZM69 Speed-Torque Graph](image)
## Driver Specifications

<table>
<thead>
<tr>
<th>Driver Product Name</th>
<th>AZD-KED</th>
<th>AZD-KEP</th>
<th>AZD-KPNN</th>
<th>AZD-KX</th>
<th>AZD-KD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Power Supply</td>
<td>AZM46</td>
<td>1.5 A</td>
<td></td>
<td>1.72 A (1.8 A)²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AZM48</td>
<td>2.1 A</td>
<td></td>
<td>2.2 A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AZM66</td>
<td>3.3 A</td>
<td></td>
<td>3.55 A (3.8 A)²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AZM69</td>
<td>3.1 A</td>
<td></td>
<td>3.45 A (3.7 A)²</td>
<td></td>
</tr>
<tr>
<td>Input Current</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Power Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Voltage</td>
<td>24 VDC±5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Current</td>
<td>0.15 A (0.4 A)²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Interface

- **Pulse Input**
  - 2 points, Photocoupler
  - Maximum Input Pulse Frequency
    - Line driver: 1 MHz (at 50% duty)
    - Open collector: 250 kHz (at 50% duty)

- **Pulse Output**
  - 2 points, Line driver

- **Control Input**
  - 6 points, Photocoupler

- **Control Output**
  - 6 points, Photocoupler and Open collector

- **Power Shut Down Signal Input**
  - 2 points, Photocoupler

- **Power Shut Down Monitor Output**
  - 1 point, Photocoupler and Open collector

1. The value inside the ( ) represents the value when an electromagnetic brake motor is connected.
2. The value inside the ( ) represents the value when an electromagnetic brake motor is connected. AZM46 is 0.23 A.

## General Specifications

<table>
<thead>
<tr>
<th></th>
<th>Motor</th>
<th>Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thermal Class</strong></td>
<td>130 (B) [UL Recognized 105 (A)]</td>
<td></td>
</tr>
<tr>
<td><strong>Insulation Resistance</strong></td>
<td>100 MΩ or more when 500 VDC megger is applied between the following places:</td>
<td>100 MΩ or more when 500 VDC megger is applied between the following places:</td>
</tr>
<tr>
<td></td>
<td>Case – Motor windings</td>
<td>PE Terminal – Power Supply Terminal</td>
</tr>
<tr>
<td></td>
<td>Case – Electromagnetic Brake Windings¹</td>
<td></td>
</tr>
<tr>
<td><strong>Dielectric Strength</strong></td>
<td>Sufficient to withstand the following for 1 minute:</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Case – Motor Winding</td>
<td>1.0 kVAC 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>Case – Electromagnetic Brake Windings²</td>
<td>1.0 kVAC 50/60 Hz</td>
</tr>
<tr>
<td><strong>Operating Environment</strong></td>
<td>Ambient Temperature</td>
<td>0 to +50°C (+32 to +122°F) (Non-Freezing)</td>
</tr>
<tr>
<td>(In Operation)</td>
<td>Ambient Humidity</td>
<td>85% or less (Non-Condensing)</td>
</tr>
<tr>
<td></td>
<td>Altitude</td>
<td>Max. of 1000 m (3300 ft.) above sea level</td>
</tr>
<tr>
<td></td>
<td>Surrounding Atmosphere</td>
<td>No corrosive gas or dust. No water or oil.</td>
</tr>
<tr>
<td><strong>Degree of Protection</strong></td>
<td>When connecting the connection cable</td>
<td>IP10</td>
</tr>
<tr>
<td></td>
<td>IP66 (excluding the mounting surface and connector on the driver side of the connection cable)</td>
<td></td>
</tr>
<tr>
<td><strong>Stop Position Accuracy</strong></td>
<td>AZM46, AZM48: ±4 arcmin (±0.067°)</td>
<td>AZM66, AZM69: ±3 arcmin (±0.05°)</td>
</tr>
<tr>
<td></td>
<td>AZM46, AZM48:</td>
<td></td>
</tr>
<tr>
<td><strong>Shaft Runout</strong></td>
<td>0.05 T.I.R. (mm)²</td>
<td>-</td>
</tr>
<tr>
<td><strong>Concentricity of Installing Pilot to the Shaft</strong></td>
<td>0.075 T.I.R. (mm)²</td>
<td>-</td>
</tr>
<tr>
<td><strong>Perpendicularity of Installation Surface to the Shaft</strong></td>
<td>0.075 T.I.R. (mm)²</td>
<td>-</td>
</tr>
<tr>
<td><strong>Multiple Rotation Detection Range in Non-Conduction State</strong></td>
<td>±900 Revolutions (1800 Revolutions)</td>
<td></td>
</tr>
</tbody>
</table>

1. Electromagnetic brake type only.
2. T. I. R. (Total Indicator Reading): The total dial gauge reading when the measurement section is rotated once around the reference axis center.

**Note:** Separate the motor and driver when measuring insulation resistance or performing a dielectric strength test. Also, do not perform these tests on the Absolute Sensor part of the motor.

## Electromagnetic Brake Specifications

- Page 7

## Permissible Radial Load and Permissible Axial Load

- Page 7
## Dimensions

Unit = mm

### Motor

#### Standard Type

**Frame Size 42 mm**

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM46AKH</td>
<td>0.4</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM46A0KH</td>
<td></td>
</tr>
</tbody>
</table>

**Single Shaft Flat Type**

- Shaft Diameter: 20 + 0.1 mm
- Length: 75.50 + 0.10 mm
- Key Diameter: 6.35 + 0.10 mm
- Parallel Key (Included)
- Protective Earth
  - Terminal M4
- With Connection Cable Attached
  - Cable Drawn in the Same Direction as the Output Shaft
  - Cable Drawn Vertically
  - Cable Drawn in the Opposite Direction of the Output Shaft

**Straight Type**

- Shaft Diameter: 20 + 0.1 mm
- Length: 42 + 0.12 mm
- Key Diameter: 6.35 + 0.10 mm
- Parallel Key (Included)
- Protective Earth
  - Terminal M4
- With Connection Cable Attached
  - Cable Drawn in the Same Direction as the Output Shaft
  - Cable Drawn Vertically
  - Cable Drawn in the Opposite Direction of the Output Shaft

The color in the dimensions indicates the connection cable that is sold separately.
**Frame Size 60 mm**

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>L</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM66AKH</td>
<td>74.5</td>
<td>0.84</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM66A0KH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM66A1KH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM69AKH</td>
<td>100</td>
<td>1.3</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM69A0KH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM69A1KH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Single Shaft Flat Type**

![Diagram of Single Shaft Flat Type](image1)

**Straight Type**

![Diagram of Straight Type](image2)

**Key Type**

![Diagram of Key Type](image3)

**With Connection Cable Attached**

- Cable Drawn in the Same Direction As the Output Shaft
  - ![Diagram of Connection Cable Attached Same Direction](image4)
  - Cable Drawn Vertically
  - ![Diagram of Connection Cable Attached Vertically](image5)
  - Cable Drawn in the Opposite Direction of the Output Shaft
  - ![Diagram of Connection Cable Attached Opposite Direction](image6)

The color in the dimensions indicates the connection cable that is sold separately.
Standard Type with Electromagnetic Brake
Frame Size 42 mm

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM46MKH</td>
<td>0.54</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM46M0KH</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Single Shaft Flat Type

With Connection Cable Attached
Cable Drawn in the Same Direction As the Output Shaft

With Connection Cable Attached
Cable Drawn Vertically

Cable Drawn in the Opposite Direction of the Output Shaft

The color in the dimensions indicates the connection cable that is sold separately.
### Frame Size 60 mm

<table>
<thead>
<tr>
<th>Shaft Type</th>
<th>Product Name</th>
<th>L</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM66MKH</td>
<td>120</td>
<td>1.2</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM66M0KH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM66M1KH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Shaft Flat Type</td>
<td>AZM69MKH</td>
<td>145.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Straight Type</td>
<td>AZM69M0KH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Type</td>
<td>AZM69M1KH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Single Shaft Flat Type**

- L
- 24:1
- 50 (±0.36)
- 4×4.5 Through
- Protective Earth Terminal M4

**Straight Type**

- 24:1
- 2
- 15
- Parallel Key (Included)

**Key Type**

- 24:1
- 2
- 15
- 3.8 (±0.05)
- M3×8 Deep

**With Connection Cable Attached**

- Cable Drawn in the Same Direction As the Output Shaft

- Cable Drawn Vertically

- Cable Drawn in the Opposite Direction of the Output Shaft

The color in the dimensions indicates the connection cable that is sold separately.
## Connection Cables/Flexible Connection Cables

These cables directly connect a motor and driver. Use a flexible connection cable in applications where the cable is bent and flexed.

Three types of cables with different drawing directions are available. Please select the drawing direction that suits the installation.

### Product Line

<table>
<thead>
<tr>
<th>Connection cable</th>
<th>[For AC Input]</th>
<th>[For Motor/Encoder/Type with Electromagnetic Brake]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For Motor/Encoder</td>
<td>For Motor/Encoder/Type with Electromagnetic Brake</td>
</tr>
</tbody>
</table>

### Cable Outlet Direction

- **Output Shaft Side**
- **Vertical**
- **Opposite Side of Output Shaft**

### Cable Outlet Direction List Price

<table>
<thead>
<tr>
<th>Cable Outlet Direction</th>
<th>Length L [m]</th>
<th>Product Name</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output Shaft Direction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5.0</td>
<td>CCM010Z1AFF</td>
<td>51.00 €</td>
</tr>
<tr>
<td>2</td>
<td>6.0</td>
<td>CCM020Z1AFF</td>
<td>61.00 €</td>
</tr>
<tr>
<td>3</td>
<td>7.0</td>
<td>CCM030Z1AFF</td>
<td>72.00 €</td>
</tr>
<tr>
<td>5</td>
<td>9.0</td>
<td>CCM050Z1AFF</td>
<td>111.00 €</td>
</tr>
<tr>
<td>7</td>
<td>11.0</td>
<td>CCM070Z1AFF</td>
<td>133.00 €</td>
</tr>
<tr>
<td>10</td>
<td>15.0</td>
<td>CCM100Z1AFF</td>
<td>168.00 €</td>
</tr>
<tr>
<td><strong>Vertical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5.0</td>
<td>CCM010Z1AVF</td>
<td>51.00 €</td>
</tr>
<tr>
<td>2</td>
<td>6.0</td>
<td>CCM020Z1AVF</td>
<td>61.00 €</td>
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<tr>
<td>3</td>
<td>7.0</td>
<td>CCM030Z1AVF</td>
<td>72.00 €</td>
</tr>
<tr>
<td>5</td>
<td>9.0</td>
<td>CCM050Z1AVF</td>
<td>111.00 €</td>
</tr>
<tr>
<td>7</td>
<td>11.0</td>
<td>CCM070Z1AVF</td>
<td>133.00 €</td>
</tr>
<tr>
<td>10</td>
<td>15.0</td>
<td>CCM100Z1AVF</td>
<td>168.00 €</td>
</tr>
<tr>
<td><strong>Opposite to Output Shaft Direction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5.0</td>
<td>CCM010Z1ABF</td>
<td>51.00 €</td>
</tr>
<tr>
<td>2</td>
<td>6.0</td>
<td>CCM020Z1ABF</td>
<td>61.00 €</td>
</tr>
<tr>
<td>3</td>
<td>7.0</td>
<td>CCM030Z1ABF</td>
<td>72.00 €</td>
</tr>
<tr>
<td>5</td>
<td>9.0</td>
<td>CCM050Z1ABF</td>
<td>111.00 €</td>
</tr>
<tr>
<td>7</td>
<td>11.0</td>
<td>CCM070Z1ABF</td>
<td>133.00 €</td>
</tr>
<tr>
<td>10</td>
<td>15.0</td>
<td>CCM100Z1ABF</td>
<td>168.00 €</td>
</tr>
</tbody>
</table>

### Cable Outlet Direction List Price

<table>
<thead>
<tr>
<th>Cable Outlet Direction</th>
<th>Length L [m]</th>
<th>Product Name</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output Shaft Direction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>5.0</td>
<td>CCM005Z1CFF</td>
<td>51.00 €</td>
</tr>
<tr>
<td>1</td>
<td>6.0</td>
<td>CCM010Z1CFF</td>
<td>51.00 €</td>
</tr>
<tr>
<td>2</td>
<td>7.0</td>
<td>CCM020Z1CFF</td>
<td>61.00 €</td>
</tr>
<tr>
<td>3</td>
<td>9.0</td>
<td>CCM030Z1CFF</td>
<td>72.00 €</td>
</tr>
<tr>
<td>5</td>
<td>11.0</td>
<td>CCM050Z1CFF</td>
<td>111.00 €</td>
</tr>
<tr>
<td>7</td>
<td>13.0</td>
<td>CCM070Z1CFF</td>
<td>133.00 €</td>
</tr>
<tr>
<td>10</td>
<td>15.0</td>
<td>CCM100Z1CFF</td>
<td>168.00 €</td>
</tr>
<tr>
<td><strong>Vertical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>5.0</td>
<td>CCM005Z1DVF</td>
<td>51.00 €</td>
</tr>
<tr>
<td>1</td>
<td>6.0</td>
<td>CCM010Z1DVF</td>
<td>51.00 €</td>
</tr>
<tr>
<td>2</td>
<td>7.0</td>
<td>CCM020Z1DVF</td>
<td>61.00 €</td>
</tr>
<tr>
<td>3</td>
<td>9.0</td>
<td>CCM030Z1DVF</td>
<td>72.00 €</td>
</tr>
<tr>
<td>5</td>
<td>11.0</td>
<td>CCM050Z1DVF</td>
<td>111.00 €</td>
</tr>
<tr>
<td>7</td>
<td>13.0</td>
<td>CCM070Z1DVF</td>
<td>133.00 €</td>
</tr>
<tr>
<td>10</td>
<td>15.0</td>
<td>CCM100Z1DVF</td>
<td>168.00 €</td>
</tr>
<tr>
<td><strong>Opposite to Output Shaft Direction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Flexible Connection Cable

#### For Motor/Encoder
- **Output Shaft Direction**
  - 1: CCM010Z1AFR 91.00 €
  - 2: CCM020Z1AFR 102.00 €
  - 3: CCM030Z1AFR 112.00 €
  - 5: CCM050Z1AFR 138.00 €
  - 7: CCM070Z1AFR 170.00 €
  - 10: CCM100Z1AFR 219.00 €
- **Vertical**
  - 1: CCM010Z1AVR 91.00 €
  - 2: CCM020Z1AVR 102.00 €
  - 3: CCM030Z1AVR 112.00 €
  - 5: CCM050Z1AVR 138.00 €
  - 7: CCM070Z1AVR 170.00 €
  - 10: CCM100Z1AVR 219.00 €
- **Opposite to Output Shaft Direction**
  - 1: CCM010Z1ABR 91.00 €
  - 2: CCM020Z1ABR 102.00 €
  - 3: CCM030Z1ABR 112.00 €
  - 5: CCM050Z1ABR 138.00 €
  - 7: CCM070Z1ABR 170.00 €
  - 10: CCM100Z1ABR 219.00 €

#### For Motor/Encoder/Type with Electromagnetic Brake
- **Output Shaft Direction**
  - 1: CCM010Z1BFR 114.00 €
  - 2: CCM020Z1BFR 133.00 €
  - 3: CCM030Z1BFR 146.00 €
  - 5: CCM050Z1BFR 180.00 €
  - 7: CCM070Z1BFR 222.00 €
  - 10: CCM100Z1BFR 280.00 €
- **Vertical**
  - 1: CCM010Z1BVR 114.00 €
  - 2: CCM020Z1BVR 133.00 €
  - 3: CCM030Z1BVR 146.00 €
  - 5: CCM050Z1BVR 180.00 €
  - 7: CCM070Z1BVR 222.00 €
  - 10: CCM100Z1BVR 280.00 €
- **Opposite to Output Shaft Direction**
  - 1: CCM010Z1BBR 114.00 €
  - 2: CCM020Z1BBR 133.00 €
  - 3: CCM030Z1BBR 146.00 €
  - 5: CCM050Z1BBR 180.00 €
  - 7: CCM070Z1BBR 222.00 €
  - 10: CCM100Z1BBR 280.00 €

#### For DC Input
- **Output Shaft Direction**
  - 0.5: CCM005Z1CFR 91.00 €
  - 1: CCM010Z1CFR 91.00 €
  - 2: CCM020Z1CFR 102.00 €
  - 3: CCM030Z1CFR 112.00 €
  - 5: CCM050Z1CFR 138.00 €
  - 7: CCM070Z1CFR 170.00 €
  - 10: CCM100Z1CFR 219.00 €
- **Vertical**
  - 0.5: CCM005Z1CVR 91.00 €
  - 1: CCM010Z1CVR 91.00 €
  - 2: CCM020Z1CVR 102.00 €
  - 3: CCM030Z1CVR 112.00 €
  - 5: CCM050Z1CVR 138.00 €
  - 7: CCM070Z1CVR 170.00 €
  - 10: CCM100Z1CVR 219.00 €
- **Opposite to Output Shaft Direction**
  - 0.5: CCM005Z1CBR 91.00 €
  - 1: CCM010Z1CBR 91.00 €
  - 2: CCM020Z1CBR 102.00 €
  - 3: CCM030Z1CBR 112.00 €
  - 5: CCM050Z1CBR 138.00 €
  - 7: CCM070Z1CBR 170.00 €
  - 10: CCM100Z1CBR 219.00 €

#### For Motor/Encoder/Type with Electromagnetic Brake
- **Output Shaft Direction**
  - 0.5: CCM005Z1DFR 114.00 €
  - 1: CCM010Z1DFR 114.00 €
  - 2: CCM020Z1DFR 133.00 €
  - 3: CCM030Z1DFR 146.00 €
  - 5: CCM050Z1DFR 180.00 €
  - 7: CCM070Z1DFR 222.00 €
  - 10: CCM100Z1DFR 280.00 €
- **Vertical**
  - 0.5: CCM005Z1DVR 114.00 €
  - 1: CCM010Z1DVR 114.00 €
  - 2: CCM020Z1DVR 133.00 €
  - 3: CCM030Z1DVR 146.00 €
  - 5: CCM050Z1DVR 180.00 €
  - 7: CCM070Z1DVR 222.00 €
  - 10: CCM100Z1DVR 280.00 €
- **Opposite to Output Shaft Direction**
  - 0.5: CCM005Z1DBR 114.00 €
  - 1: CCM010Z1DBR 114.00 €
  - 2: CCM020Z1DBR 133.00 €
  - 3: CCM030Z1DBR 146.00 €
  - 5: CCM050Z1DBR 180.00 €
  - 7: CCM070Z1DBR 222.00 €
  - 10: CCM100Z1DBR 280.00 €
Customer Service Center
(Support in German & English)

00800 22 55 66 22*
Mon-Thu: 08:00 - 16:30 CET
Friday: 08:00 - 15:00 CET
*Free Call Europe

info@orientalmotor.de