

Hybrid Stepper Servo α STEP **AZ Series** with Neugart Gearheads

- High-Efficiency Closed Loop Combination with Neugart Planetary Gearheads
- Motor and Gearhead are Pre-assembled
- $\phi 40 - \phi 80$ mm up to 150 Nm



Planetary
Gearheads
Pre-assembled

Motor Features

Save Energy with High Reliability and High Efficiency

High Reliability

We have adopted a proprietary control system.

We have achieved high reliability by linking the benefits of open loop control and closed loop control.

- **Keeps driving even in the case of sudden load changes or sudden acceleration**

Normally it drives with open loop control in sync with the pulse commands. At times of overload, control instantly switches to using a closed loop, and perform positioning correction.

- **Outputs an alarm signal in case an abnormality occurs**

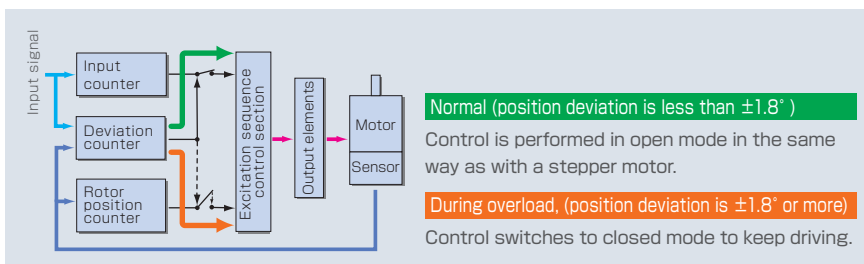
When overload continuously occurs, an alarm signal is output and when positioning determination is complete, a signal is output. This supports high reliability.

- **Tuning not required**

As normally it drives with open loop control, when there is a change in load, such as in the belt mechanism, cam and chain drive, the positioning can be determined without gain adjustment.

- **Storing of stop position**

When determining positioning, it stops using the motor's own holding torque without hunting. Therefore it is suitable for use in a situation where vibration could cause a problem when stopping due to a low-rigidity mechanism.



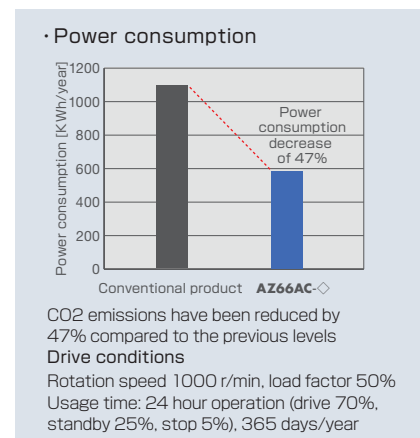
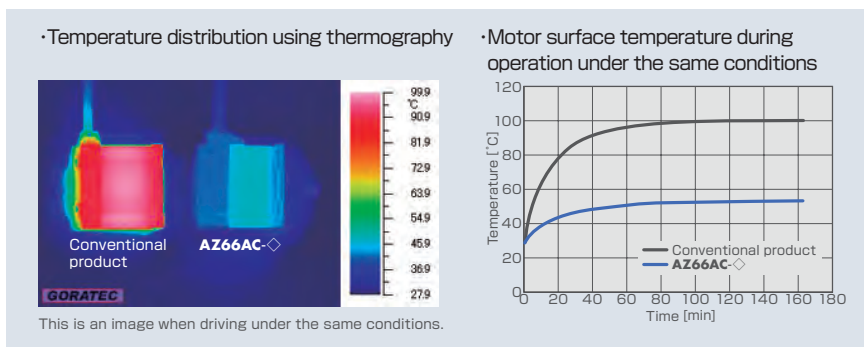
Energy Saving

Energy saving is also achieved by reducing motor heat generation through high efficiency.

- **Reduced heat generation**

We have achieved a significant decrease in heat generation through high efficiency.

- **The power consumption has been reduced to 47% of its previous levels through energy saving**



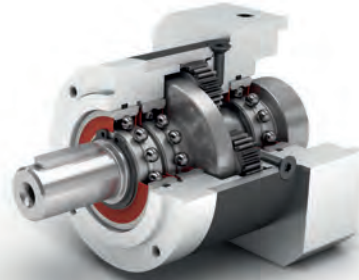
Gearhead Features

Pre-assembled Motor and Gearhead



PLE & PLN Features

PLE Planetary



PLE Series employs optimized planetary gear mechanism and is composed of fully hardened gears. Sun gear and planetary gears are honed (precision final machining after heat treatment). This technology guarantees extremely high torque density, long life, low backlash, and so on.

- Low Backlash
- High Output Torque
Max. 150 Nm

PLN Planetary



PLN Series is high precision planetary gearhead for applications with very high precision requirements. Whether high torque density, minimal transmission error, low operating noise, lowest backlash or exceptional reliability... – the **PLN** series satisfies all these requirements in every application.

- Minimal Backlash
3 – 5 min
- High Output Torque
Max. 150 Nm

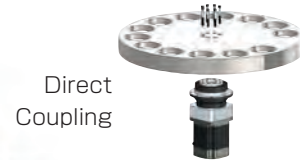
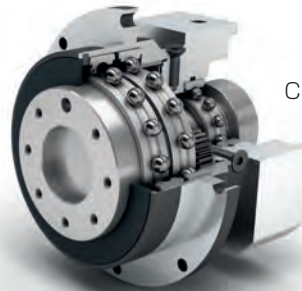
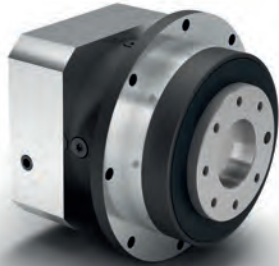
Gearhead Features

Pre-assembled Motor and Gearhead



PLFE & WPLE Features

PLFE Planetary

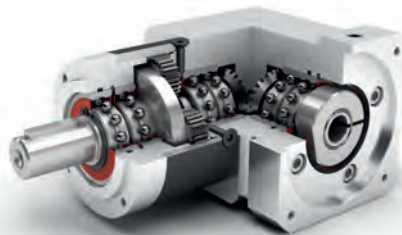
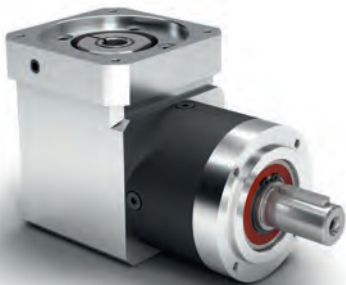


Direct Coupling

PLFE Series employs optimized planetary gear mechanism and is composed of fully hardened gears. Equipment tables and arms can be installed directly on the output flange. This saves you the hassle and cost of designing an installation mechanism, arranging necessary mechanism parts, adjusting the belt tension, etc., when mechanical components such as a belt and pulley are used for installation.

- Flange Gearhead
- Low Backlash
- High Output Torque
Max. 150 Nm

WPLE Right Angle Planetary



WPLE Series is the right angle gearhead of PLE series. This bevel gear was designed especially for space-saving installation in a right-angle position of the motor/gearbox combination. This provides solutions for a compact machine mechanism.

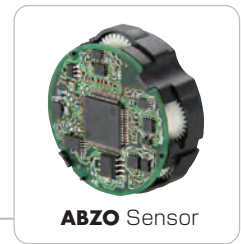
- Right Angle Planetary Gear
- Low Backlash
- High Output Torque
Max. 140 Nm

αSTEP **AZ Series**

Equipped with a ABZO sensor, this is advanced technology at an affordable price.

ABZO sensor

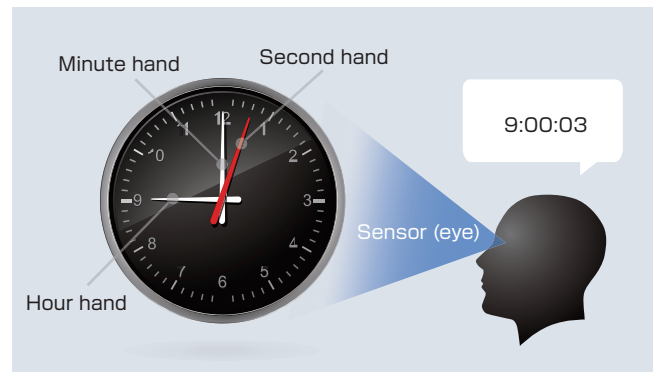
We have developed a compact, low cost, battery-free mechanical absolute sensor (patented). This affordable motor series allows for productivity improvements and cost reductions.



● Mechanical Sensor

Analog clocks measure the current time based on the positions of the second hand, minute hand and hour hand. ABZO sensor is a mechanical sensor equipped with multiple gears equivalent to the hands on a clock. As it detects positioning information by detecting the angles of the respective gears, a battery is not required. Absolute position detection is possible with ± 900 rotations (1800 rotations)* of the motor shaft from the home position.

* The frame sizes 20 and 28 mm are ± 450 rotations (900 rotations).



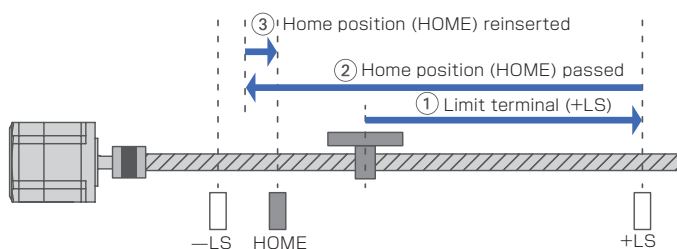
● Home Position Setting

By pressing the switch on the driver surface home position can be set simply, and the home position can be saved with the ABZO sensor. Furthermore, it is possible to set the home position using the data setting software (**MEXE02**) or the external input signal.



High Speed Return-to-Home + Improved Return-to-Home Accuracy

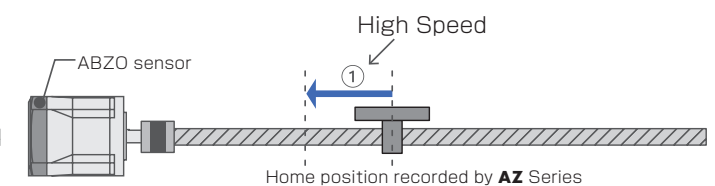
Because return-to-home is possible without using an external sensor, return-to-home can be performed at high speed without taking the sensor sensitivity into account, allowing for a shortened machine cycle.



Pre-ABZO homing method example

The home position is detected at low speed by detecting the limit sensor (\pm LS) and home sensor (HOME).

Furthermore, as return-to-home can be performed without concern for differences in the home sensor, it is possible to improve home position accuracy.



AZ Series utilising ABZO sensor homing method

There is no need to detect the limit sensor, and it moves directly at high speed to the home position recorded by the ABZO sensor.

Battery-Free ABZO Sensor

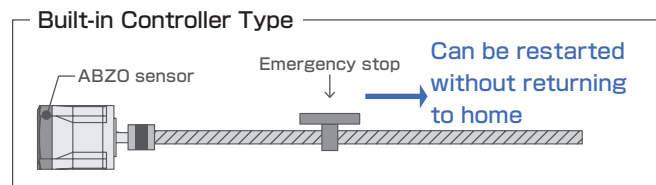
The positioning information is managed mechanically by the ABZO sensor.



Maintaining Positioning Information

Even if the power shuts down during a positioning operation, the positioning information is retained. Furthermore, for built-in controller types, positioning operations can restart without performing a return-to-home operation when recovering from an emergency stop of the production line or a power cut.

- If the motor is temporarily replaced it is necessary to reset the home position as the positioning information is stored in the ABZO sensor.



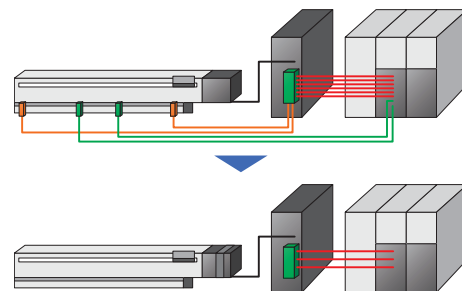
Cost and Space reduction

● Cost reductions

Sensor costs and cable costs can be reduced, leading to lower system costs.

● Cable savings

This reduces cabling, increasing device design degree of freedom.



Four Types of Driver

- Built-in Controller Type FLEX
- Pulse-Input Type
- Pulse-Input type with RS485 Communication
- Network Compliant Driver
⇒ Profinet, EtherCAT, Ethernet/IP

Product Number

● Motor

◇ Standard

AZM 6 9 A C

① ② ③ ④ ⑤

◇ Motor with **PLE**, **PLN** or **PLFE**, Neugart Gearhead

AZM 6 9 A C - PLN 70 - 10

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

◇ Motor with **WPLE** Neugart Gearhead

AZM 6 9 A C - WPLE 60 - 10 - D

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

● Driver

AZD - C D

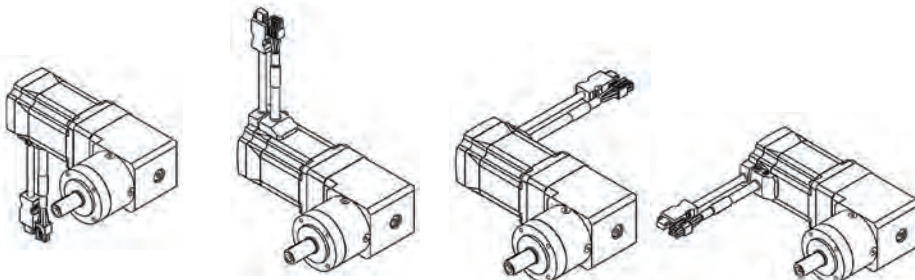
① ② ③

● Connection Cable Sets/Flexible Connection Cable Sets

CC 050 V Z F B 2

① ② ③ ④ ⑤ ⑥ ⑦

● Cable Direction – Only for **WPLE** Neugart geared type.



D: Down

U: Up

R: Right

L: Left

| | | | | |
|---|-------------------|--|---|------------------|
| ① | Motor | AZM: AZ Series Motor | | |
| ② | Motor Frame Size | 4: 42 mm | 6: 60 mm | 9: 85 mm |
| ③ | Motor Case Length | | | |
| ④ | Configuration | A: Single Shaft M: With Electromagnetic Brake* ¹ | | |
| ⑤ | Winding Type | C: AC Power Supply Input Specifications K: DC Power Supply Input Specifications* ² | | |
| ⑥ | Geared Type | PLE: PLE Series PLN: PLN Series PLFE: PLFE Series | | |
| ⑦ | Gear Size | 40: PLE40 70: PLN70 64: PLFE64 | 60: PLE60 90: PLN90* ³ 90: PLFE90 | 80: PLE80 |
| ⑧ | Gear Ratio | 5, 10, 20, 40 | | |

*¹ Only for the motor size of 46/69. See product line.

*² Only for the motor size 46/69 with PLE gearhead. See product line.

*³ Only for gear ratio 40. See product line.

| | | | | |
|---|-------------------------------|--|-------------------|--|
| ① | Motor | AZM: AZ Series Motor | | |
| ② | Motor Frame Size | 6: 60 mm | 9: 85 mm | |
| ③ | Motor Case Length | | | |
| ④ | Configuration | A: Single Shaft M: With Electromagnetic Brake* ¹ | | |
| ⑤ | Winding Type | C: Single-Phase 200-240 VAC K: 24/48 VDC Input* ¹ | | |
| ⑥ | Geared Type | WPLE: WPLE Series | | |
| ⑦ | Gear Size | 60: WPLE60 | 80: WPLE80 | |
| ⑧ | Gear Ratio | 5, 10, 20, 40 | | |
| ⑨ | Cable Direction* ² | D: Down, U: Up, R: Right, L: Left | | |

*¹ Only for the motor size of 69. See product line.

*² See diagram (Cable direction) on the bottom.

| | | |
|---|--------------------|---|
| ① | Driver Type | AZD: AZ Series |
| ② | Power Supply Input | K: 24/48 VDC C: Single-Phase, Three-Phase 200-240 VAC* |
| ③ | Type | Blank: Pulse Input D: Built-in Controller X: Pulse Input with RS-485 Communication ED: With EtherCAT interface EP: With Ethernet/IP interface PN: With PROFINET interface |

*¹ WARNING: The AZ Series is not suitable for operation on 3 × 400 VAC.

| | | | | | | | | | | | | | |
|---|-----------------------|--|-----------------|-------------------|-----------------|-------------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| ① | | CC: Cable | | | | | | | | | | | |
| ② | Length | 005: 0.5 m | 010: 1 m | 015: 1.5 m | 020: 2 m | 025: 2.5 m | 030: 3 m | 040: 4 m | 050: 5 m | 070: 7 m | 100: 10 m | 150: 15 m | 200: 20 m |
| ③ | Reference Number | | | | | | | | | | | | |
| ④ | Applicable Models | Z: AZ Series | | | | | | | | | | | |
| ⑤ | Cable Type | F: Connection Cable Sets R: Flexible Connection Cable Sets | | | | | | | | | | | |
| ⑥ | Electromagnetic Brake | Blank: For Motors without Electromagnetic Brake B: For Motors with Electromagnetic Brake | | | | | | | | | | | |
| ⑦ | Cable Specifications | Blank: For Drivers with AC Power Supply Input 2: For Drivers with DC Power Supply Input | | | | | | | | | | | |

Product Line

◇ PLE Geared (AC Power Supply Input)

| Product Name | Gear Ratio |
|--------------------------|-----------------|
| AZM46AC-PLE40- □ | 5, 10 20, 40 |
| AZM48AC-PLE40- □ | 5, 10 20, 40 |
| AZM69AC-PLE60- □ | 5, 10 20, 40 |
| AZM911AC-PLE80- □ | 5, 10 20, 40 |

◇ PLE Geared (DC Power Supply Input)

| Product Name | Gear Ratio |
|-------------------------|-----------------|
| AZM46AK-PLE40- □ | 5, 10 20, 40 |
| AZM48AK-PLE40- □ | 5, 10 20, 40 |
| AZM69AK-PLE60- □ | 5, 10 20, 40 |

◇ PLN Geared (AC Power Supply Input)

| Product Name | Gear Ratio |
|--------------------------|-----------------|
| AZM69AC-PLN70- □ | 5, 10 20, 40 |
| AZM911AC-PLN70- □ | 5, 10 20 |
| AZM911AC-PLN90- □ | 40 |

◇ PLFE Geared (AC Power Supply Input)

| Product Name | Gear Ratio |
|---------------------------|-----------------|
| AZM69AC-PLFE64- □ | 5, 10 20, 40 |
| AZM911AC-PLFE90- □ | 5, 10 20, 40 |

◇ WPLE Geared (AC Power Supply Input)

| Product Name | Gear Ratio |
|-----------------------------|-----------------|
| AZM69AC-WPLE60- □-◇ | 5, 10 20, 40 |
| AZM911AC-WPLE80- □-◇ | 5, 10 20, 40 |

◇ WPLE Geared (DC Power Supply Input)

| Product Name | Gear Ratio |
|----------------------------|-----------------|
| AZM69AK-WPLE60- □-◇ | 5, 10 20, 40 |

◇ PLE Geared (AC Power Supply Input) with Electromagnetic Brake

| Product Name | Gear Ratio |
|-------------------------|-----------------|
| AZM46MC-PLE40- □ | 5, 10 20, 40 |
| AZM69MC-PLE60- □ | 5, 10 20, 40 |

◇ PLE Geared (DC Power Supply Input) with Electromagnetic Brake

| Product Name | Gear Ratio |
|-------------------------|-----------------|
| AZM46MK-PLE40- □ | 5, 10 20, 40 |
| AZM69MK-PLE60- □ | 5, 10 20, 40 |

◇ PLN Geared (AC Power Supply Input) with Electromagnetic Brake

| Product Name | Gear Ratio |
|-------------------------|-----------------|
| AZM69MC-PLN70- □ | 5, 10 20, 40 |

◇ PLFE Geared (AC Power Supply Input) with Electromagnetic Brake

| Product Name | Gear Ratio |
|--------------------------|-----------------|
| AZM69MC-PLFE64- □ | 5, 10 20, 40 |

◇ WPLE Geared (AC Power Supply Input) with Electromagnetic Brake

| Product Name | Gear Ratio |
|----------------------------|-----------------|
| AZM69MC-WPLE60- □-◇ | 5, 10 20, 40 |

◇ WPLE Geared (DC Power Supply Input) with Electromagnetic Brake

| Product Name | Gear Ratio |
|----------------------------|-----------------|
| AZM69MK-WPLE60- □-◇ | 5, 10 20, 40 |

● A number indicating the gear ratio is entered where the box □ is located in the product name.

● Cable direction is entered where the box ◇ is located in the product name.

Product Line (200-240 VAC)

Stepper Motor

Standard



| Frame Size | Product Name |
|------------|-----------------|
| 42 mm | AZM46AC |
| | AZM48AC |
| 60 mm | AZM66AC |
| | AZM69AC |
| 85 mm | AZM98AC |
| | AZM911AC |

Standard with Electromagnetic Brake



| Frame Size | Product Name |
|------------|----------------|
| 42 mm | AZM46MC |
| 60 mm | AZM66MC |
| | AZM69MC |
| 85 mm | AZM98MC |

Driver



| Type | Power Supply Input | Product Name |
|---------------------------------------|--------------------------|---------------|
| Pulse-Input | Single-Phase 200-240 VAC | AZD-C |
| Built-in Controller | | AZD-CD |
| Pulse Input with RS-485 Communication | | AZD-CX |

| Type | Power Supply Input | Product Name |
|-------------|--------------------------|----------------|
| EtherCAT | Single-Phase 200-240 VAC | AZD-CED |
| Ethernet/IP | | AZD-CEP |
| PROFINET | | AZD-CPN |

Cable

For motors without Electromagnetic Brake



| Product Line | Length L [m] | Product Name |
|-----------------------|-----------------|-----------------|
| Connection Cable Sets | 0.5 | CC005VZF |
| | 1 | CC010VZF |
| | 1.5 | CC015VZF |
| | 2 | CC020VZF |
| | 2.5 | CC025VZF |
| | 3 | CC030VZF |
| | 4 | CC040VZF |
| | 5 | CC050VZF |
| | 7 | CC070VZF |
| | 10 | CC100VZF |
| | 15 | CC150VZF |
| 20 | CC200VZF | |

| Product Line | Length L [m] | Product Name |
|--------------------------------|-----------------|-----------------|
| Flexible Connection Cable Sets | 0.5 | CC005VZR |
| | 1 | CC010VZR |
| | 1.5 | CC015VZR |
| | 2 | CC020VZR |
| | 2.5 | CC025VZR |
| | 3 | CC030VZR |
| | 4 | CC040VZR |
| | 5 | CC050VZR |
| | 7 | CC070VZR |
| | 10 | CC100VZR |
| | 15 | CC150VZR |
| 20 | CC200VZR | |

For motors with an Electromagnetic Brake



| Product Line | Length L [m] | Product Name |
|-----------------------|------------------|------------------|
| Connection Cable Sets | 0.5 | CC005VZFB |
| | 1 | CC010VZFB |
| | 1.5 | CC015VZFB |
| | 2 | CC020VZFB |
| | 2.5 | CC025VZFB |
| | 3 | CC030VZFB |
| | 4 | CC040VZFB |
| | 5 | CC050VZFB |
| | 7 | CC070VZFB |
| | 10 | CC100VZFB |
| | 15 | CC150VZFB |
| 20 | CC200VZFB | |

| Product Line | Length L [m] | Product Name |
|--------------------------------|------------------|------------------|
| Flexible Connection Cable Sets | 0.5 | CC005VZRB |
| | 1 | CC010VZRB |
| | 1.5 | CC015VZRB |
| | 2 | CC020VZRB |
| | 2.5 | CC025VZRB |
| | 3 | CC030VZRB |
| | 4 | CC040VZRB |
| | 5 | CC050VZRB |
| | 7 | CC070VZRB |
| | 10 | CC100VZRB |
| | 15 | CC150VZRB |
| 20 | CC200VZRB | |

Product Line (24 VDC / 48 VDC)

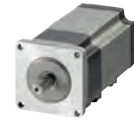
Stepper Motor

Standard



| Frame Size | Product Name |
|------------|----------------------------------|
| 42 mm | AZM46AK AZM48AK |
| 60 mm | AZM69AK |

Standard with Electromagnetic Brake



| Frame Size | Product Name |
|------------|----------------|
| 42 mm | AZM46MK |
| 60 mm | AZM69MK |

Driver



| Type | Power Supply Input | Product Name |
|---------------------------------------|--------------------|---------------|
| Pulse-Input | 24 VDC / 48 VDC | AZD-K |
| Built-in Controller | | AZD-KD |
| Pulse Input with RS-485 Communication | | AZD-KX |

| Type | Power Supply Input | Product Name |
|-------------|--------------------|----------------|
| EtherCAT | 24 VDC / 48 VDC | AZD-KED |
| Ethernet/IP | | AZD-KEP |
| PROFINET | | AZD-KPN |

Cable

For motors without Electromagnetic Brake



| Product Line | Length L [m] | Product Name |
|-----------------------|------------------|------------------|
| Connection Cable Sets | 0.5 | CC005VZF2 |
| | 1 | CC010VZF2 |
| | 1.5 | CC015VZF2 |
| | 2 | CC020VZF2 |
| | 2.5 | CC025VZF2 |
| | 3 | CC030VZF2 |
| | 4 | CC040VZF2 |
| | 5 | CC050VZF2 |
| | 7 | CC070VZF2 |
| | 10 | CC100VZF2 |
| 15 | CC150VZF2 | |
| 20 | CC200VZF2 | |

| Product Line | Length L [m] | Product Name |
|--------------------------------|------------------|------------------|
| Flexible Connection Cable Sets | 0.5 | CC005VZR2 |
| | 1 | CC010VZR2 |
| | 1.5 | CC015VZR2 |
| | 2 | CC020VZR2 |
| | 2.5 | CC025VZR2 |
| | 3 | CC030VZR2 |
| | 4 | CC040VZR2 |
| | 5 | CC050VZR2 |
| | 7 | CC070VZR2 |
| | 10 | CC100VZR2 |
| 15 | CC150VZR2 | |
| 20 | CC200VZR2 | |

For motors with an Electromagnetic Brake



| Product Line | Length L [m] | Product Name |
|-----------------------|------------------|------------------|
| Connection Cable Sets | 0.5 | CC005VZFB |
| | 1 | CC010VZFB |
| | 1.5 | CC015VZFB |
| | 2 | CC020VZFB |
| | 2.5 | CC025VZFB |
| | 3 | CC030VZFB |
| | 4 | CC040VZFB |
| | 5 | CC050VZFB |
| | 7 | CC070VZFB |
| | 10 | CC100VZFB |
| 15 | CC150VZFB | |
| 20 | CC200VZFB | |

| Product Line | Length L [m] | Product Name |
|--------------------------------|------------------|------------------|
| Flexible Connection Cable Sets | 0.5 | CC005VZRB |
| | 1 | CC010VZRB |
| | 1.5 | CC015VZRB |
| | 2 | CC020VZRB |
| | 2.5 | CC025VZRB |
| | 3 | CC030VZRB |
| | 4 | CC040VZRB |
| | 5 | CC050VZRB |
| | 7 | CC070VZRB |
| | 10 | CC100VZRB |
| 15 | CC150VZRB | |
| 20 | CC200VZRB | |

Holding Torque

| Motor Size | Gear Series | Gear Ratio | Holding Torque at Motor Standstill [Nm] | |
|-----------------|--------------------------|------------|---|-----------------------|
| | | | Power ON | Electromagnetic Brake |
| AZM46/48 | PLE | 5 | 0.75 / 1.8 | 0.75 / — |
| | | 10 | 1.5 / 3.6 | 1.5 / — |
| | | 20 | 3 / 7.2 | 3 / — |
| | | 40 | 6 / 14 | 6 / — |
| AZM69 | PLE/PLN/PLFE/WPLE | 5 | 5 | 5 |
| | | 10 | 10 | 10 |
| | | 20 | 20 | 20 |
| | | 40 | 40 | 40 |
| AZM911 | PLE/PLN/PLFE/WPLE | 5 | 10 | — |
| | | 10 | 20 | — |
| | | 20 | 40 | — |
| | | 40 | 80 | — |

AZ Series Specifications and Connections

PLE Geared Type

Specifications

| Type | PLE40 ⁽¹⁾ | | | | PLE60 ⁽¹⁾ | | | | PLE80 ⁽¹⁾ | | | |
|---|----------------------|----|----|----|----------------------|----|----|----|----------------------|-----|-----|-----|
| | 1 | | 2 | | 1 | | 2 | | 1 | | 2 | |
| Reduction ratio | 5 | 10 | 20 | 40 | 5 | 10 | 20 | 40 | 5 | 10 | 20 | 40 |
| Backlash [arcmin] | 15 | | 19 | | 10 | | 12 | | 7 | | 9 | |
| Nominal output torque [Nm] ⁽²⁾⁽³⁾ | 14 | 5 | 20 | 18 | 40 | 15 | 44 | 40 | 110 | 38 | 120 | 110 |
| Max. output torque [Nm] ⁽²⁾⁽³⁾⁽⁴⁾ | 22 | 8 | 32 | 29 | 64 | 24 | 70 | 64 | 176 | 61 | 192 | 176 |
| Emergency stop torque [Nm] ⁽⁵⁾ | 36 | 27 | 40 | 36 | 80 | 80 | 88 | 80 | 220 | 200 | 240 | 220 |
| Max. input speed [r/min] ⁽⁶⁾ | 18000 | | | | 13000 | | | | 7000 | | | |
| Running noise [dB (A)] ⁽⁷⁾ | 58 | | | | 58 | | | | 60 | | | |
| Permitted radial load for 30000h (Fa=0) [N] ⁽²⁾⁽⁸⁾ | 160 | | | | 340 | | | | 650 | | | |
| Permitted axial load for 30000h (Fr=0) [N] ⁽²⁾⁽⁹⁾ | 160 | | | | 450 | | | | 900 | | | |
| Permitted radial load for 20000h (Fa=0) [N] ⁽²⁾⁽⁸⁾ | 200 | | | | 400 | | | | 750 | | | |
| Permitted axial load for 20000h (Fr=0) [N] ⁽²⁾⁽⁹⁾ | 200 | | | | 500 | | | | 1000 | | | |
| Degree of protection | | | | | IP54 | | | | | | | |
| Lifetime [h] | | | | | 30000 | | | | | | | |

(1) These values refer only to the Gearhead. The actual value depends on the motor combination.

(2) These values refer to a speed of the output shaft of $n_2=100$ r/min on duty cycle KA=1 and S1-mode for electrical machines and $T=30^\circ\text{C}$.

(3) With key, at tumescent load.

(4) Allowable for 30000 revolutions at the output shaft.

(5) Allowed 1000 times.

(6) Allowed operating temperature must be kept; other input speeds on inquiry.

(7) Sound pressure level; distance 1 m; measured on idle running with an input speed of $n_1=3000$ r/min, ratio=5.

(8) Half way along the output shaft.

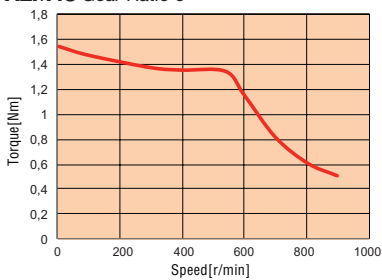
(9) With respect to center of output shaft.

Speed – Torque Characteristics

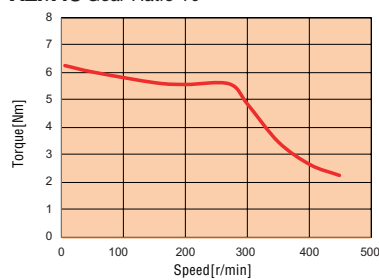
Single-Phase 200-240VAC

◇ AZM46AC-PLE40 / AZM46MC-PLE40 (Reference value)*

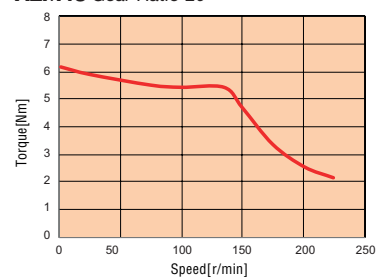
AZM46 Gear Ratio 5



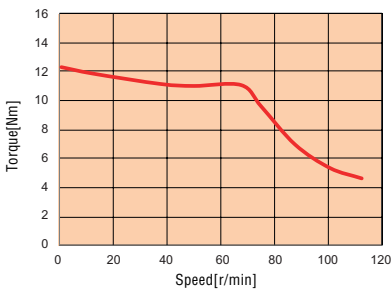
AZM46 Gear Ratio 10



AZM46 Gear Ratio 20

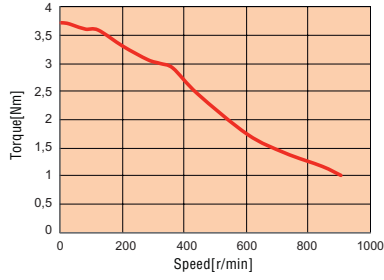


AZM46 Gear Ratio 40

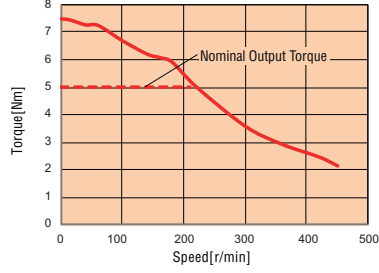


◇ **AZM48AC-PLE40** (Reference value)*

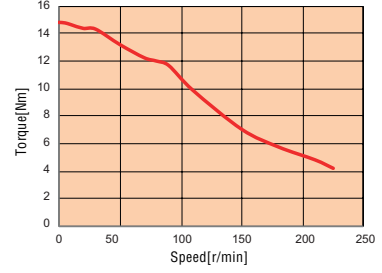
AZM48 Gear Ratio 5



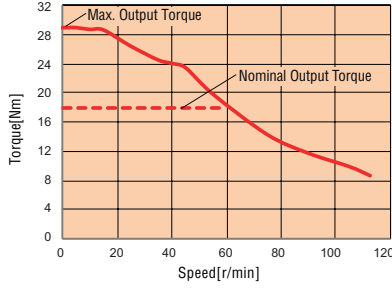
AZM48 Gear Ratio 10



AZM48 Gear Ratio 20

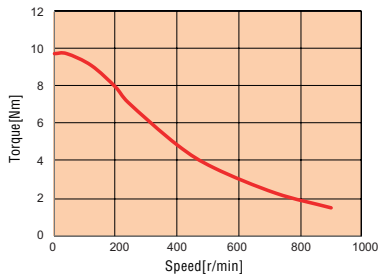


AZM48 Gear Ratio 40

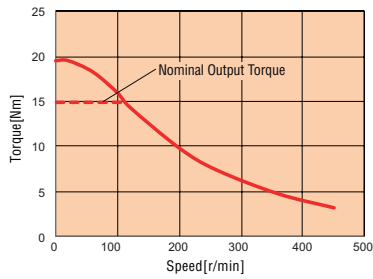


◇ **AZM69AC-PLE60 / AZM69MC-PLE60** (Reference value)*

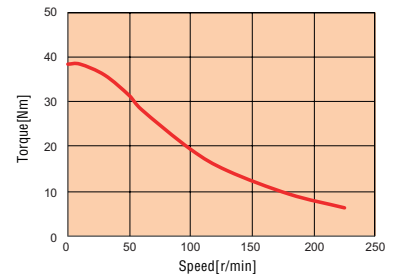
AZM69 Gear Ratio 5



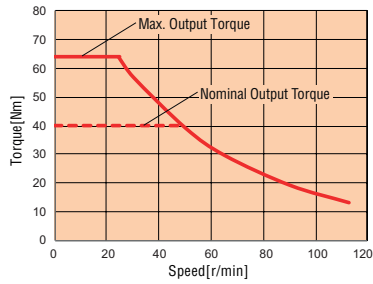
AZM69 Gear Ratio 10



AZM69 Gear Ratio 20

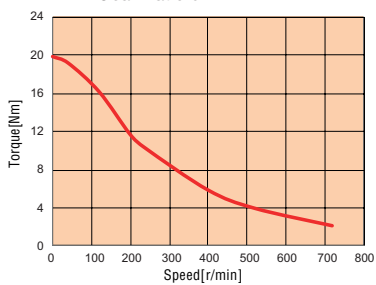


AZM69 Gear Ratio 40

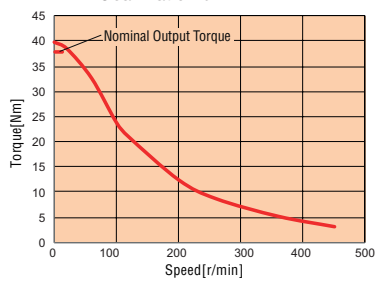


◇ **AZM911AC-PLE80** (Reference value)*

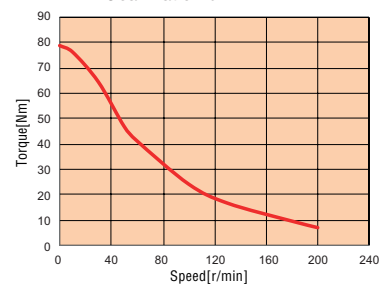
AZM911 Gear Ratio 5



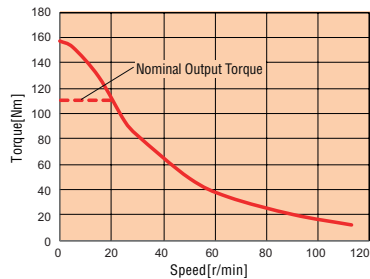
AZM911 Gear Ratio 10



AZM911 Gear Ratio 20



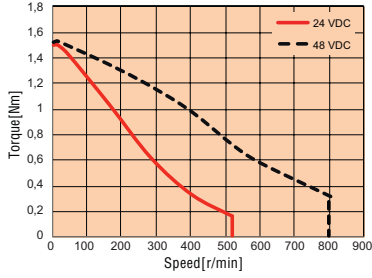
AZM911 Gear Ratio 40



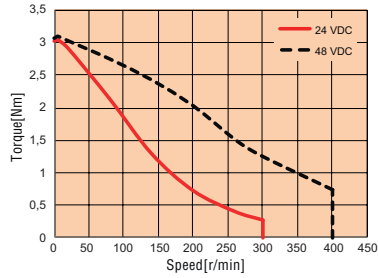
● 24/48 VDC

◇ AZM46AK-PLE40 / AZM46MK-PLE40 (Reference value)*

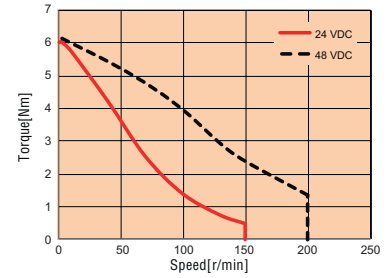
AZM46 Gear Ratio 5



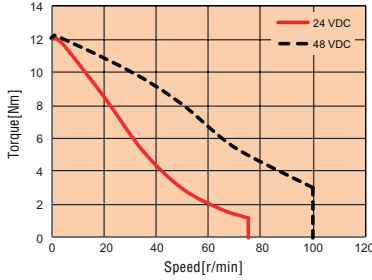
AZM46 Gear Ratio 10



AZM46 Gear Ratio 20

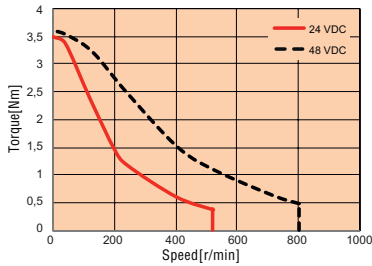


AZ46 Gear Ratio 40

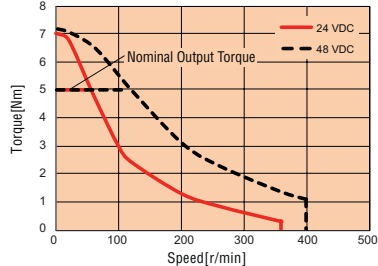


◇ AZM48AK-PLE40 (Reference value)*

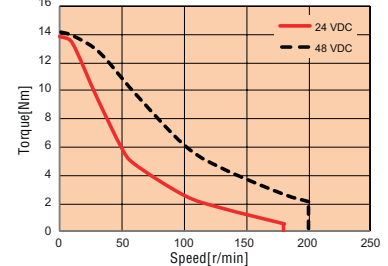
AZM48 Gear Ratio 5



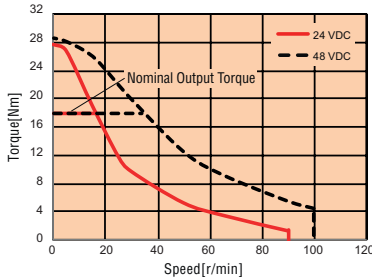
AZM48 Gear Ratio 10



AZM48 Gear Ratio 20

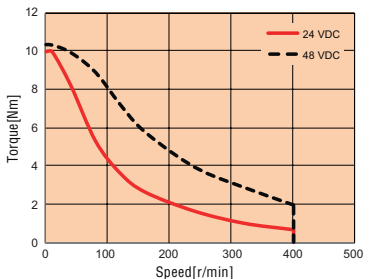


AZ48 Gear Ratio 40

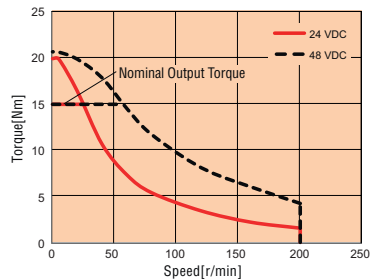


◇ AZM69AK-PLE60 / AZM69MK-PLE60 (Reference value)*

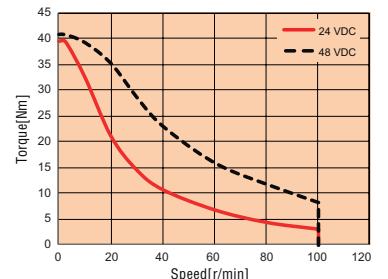
AZM69 Gear Ratio 5



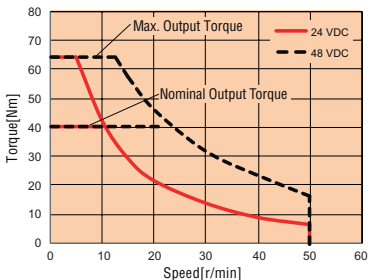
AZM69 Gear Ratio 10



AZM69 Gear Ratio 20



AZM69 Gear Ratio 40



*There is condition for using nominal output torque or max. output torque(see specification of gearhead)

*Speed-Torque Characteristics vary depending on conditions.

PLN Geared Type

Specifications

| Type | PLN70 ⁽¹⁾ | | | | PLN90 ⁽¹⁾ |
|---|----------------------|----|-----|-----|----------------------|
| Stage | 1 | | 2 | | 2 |
| Reduction ratio | 5 | 10 | 20 | 40 | 40 |
| Backlash [arcmin] | 3 | | 5 | | 5 |
| Nominal output torque [Nm] ⁽²⁾ | 65 | 27 | 77 | 65 | 140 |
| Max. output torque [Nm] ⁽²⁾⁽³⁾ | 104 | 43 | 123 | 104 | 224 |
| Emergency stop torque [Nm] ⁽⁴⁾ | 130 | 90 | 150 | 150 | 300 |
| Max. input speed [r/min] ⁽⁵⁾ | 14000 | | | | 10000 |
| Running noise [dB (A)] ⁽⁶⁾ | 68 | | | | 70 |
| Permitted radial load for 30000h (Fa=0) [N] ⁽²⁾⁽⁷⁾ | 3200 | | | | 4800 |
| Permitted axial load for 30000h (Fr=0) [N] ⁽²⁾⁽⁸⁾ | 3900 | | | | 5700 |
| Permitted radial load for 20000h (Fa=0) [N] ⁽²⁾⁽⁷⁾ | 3200 | | | | 5500 |
| Permitted axial load for 20000h (Fr=0) [N] ⁽²⁾⁽⁸⁾ | 4400 | | | | 6400 |
| Degree of protection | — | | | | |
| Lifetime [h] | | | | | 20000 |
| Lifetime [h] (at Nominal output torque x 0.88) | | | | | 30000 |

(1) These values refer only to the Gearhead. The actual value depends on the motor combination.

(2) These values refer to a speed of the output shaft of $n_2=100$ r/min on duty cycle KA=1 and S1-mode for electrical machines and $T=30^\circ\text{C}$.

(3) Allowable for 30000 revolutions at the output shaft.

(4) Allowed 1000 times.

(5) Allowed operating temperature must be kept; other input speeds on inquiry.

(6) Sound pressure level; distance 1 m; measured on idle running with an input speed of $n_1=3000$ r/min, ratio=5.

(7) Half way along the output shaft.

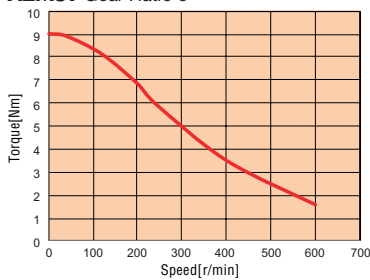
(8) With respect to center of output shaft.

Speed – Torque Characteristics

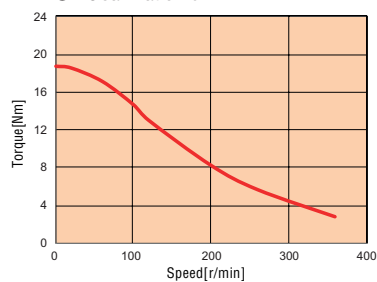
Single-Phase 200-240VAC

◇ AZM69AC-PLN70 / AZM69MC-PLN70 (Reference value)*

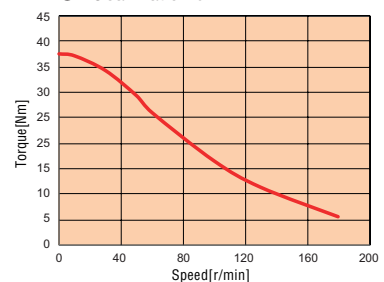
AZM69 Gear Ratio 5



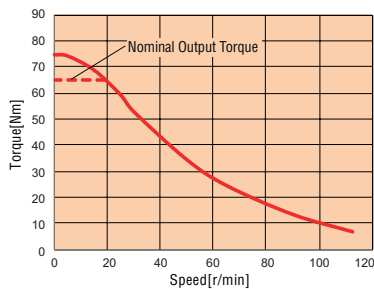
AZM69 Gear Ratio 10



AZM69 Gear Ratio 20

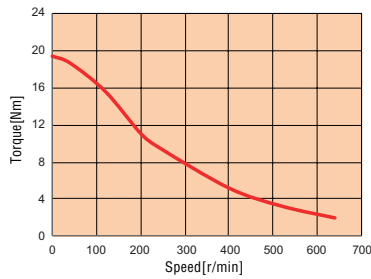


AZM69 Gear Ratio 40

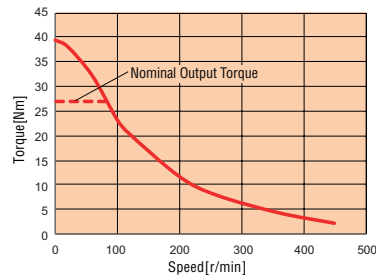


◇ **AZM911 AC-PLN70 / AZM911 AC-PLN90** (Reference value)*

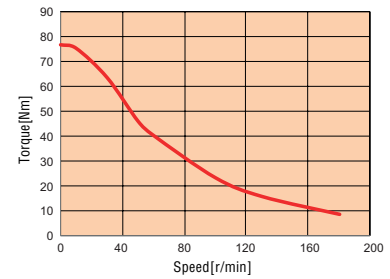
AZM911 Gear Ratio 5 (PLN70-5)



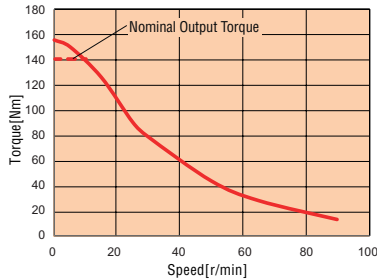
AZM911 Gear Ratio 10 (PLN70-10)



AZM911 Gear Ratio 20 (PLN70-20)



AZM911 Gear Ratio 40 (PLN90-40)



- *There is condition for using nominal output torque or max. output torque (see specification of gearhead)
- *Speed-Torque Characteristics vary depending on conditions.

PLFE Geared Type

PLFE Gearhead Specifications

| Type | PLFE64 ⁽¹⁾ | | | | PLFE90 ⁽¹⁾ | | | |
|---|-----------------------|----|----|----|-----------------------|-----|-----|-----|
| | 1 | | 2 | | 1 | | 2 | |
| Stage | 5 | | 2 | | 5 | | 2 | |
| Reduction ratio | 5 | 10 | 20 | 40 | 5 | 10 | 20 | 40 |
| Backlash [arcmin] | 10 | | 12 | | 7 | | 9 | |
| Nominal output torque [Nm] ⁽²⁾ | 40 | 15 | 44 | 40 | 110 | 38 | 120 | 110 |
| Max. output torque [Nm] ⁽²⁾⁽³⁾ | 64 | 24 | 70 | 64 | 176 | 61 | 192 | 176 |
| Emergency stop torque [Nm] ⁽⁴⁾ | 80 | 80 | 88 | 80 | 220 | 200 | 240 | 220 |
| Max. input speed [r/min] ⁽⁵⁾ | 13000 | | | | 7000 | | | |
| Running noise [dB (A)] ⁽⁶⁾ | 58 | | | | 60 | | | |
| Permitted radial load for 30000h (Fa=0) [N] ⁽²⁾⁽⁷⁾ | 500 | | | | 1200 | | | |
| Permitted axial load for 30000h (Fr=0) [N] ⁽²⁾⁽⁸⁾ | 1200 | | | | 3000 | | | |
| Permitted radial load for 20000h (Fa=0) [N] ⁽²⁾⁽⁷⁾ | 550 | | | | 1400 | | | |
| Permitted axial load for 20000h (Fr=0) [N] ⁽²⁾⁽⁸⁾ | 1200 | | | | 3000 | | | |
| Degree of protection | IP54 | | | | | | | |
| Lifetime [h] | 30000 | | | | | | | |

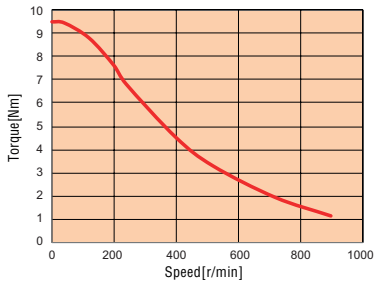
- (1) These values refer only to the Gearhead. The actual value depends on the motor combination.
- (2) These values refer to a speed of the output shaft of n₂=100 r/min on duty cycle KA=1 and S1-mode for electrical machines and T=30°C.
- (3) Allowable for 30000 revolutions at the output shaft.
- (4) Allowed 1000 times.
- (5) Allowed operating temperature must be kept; other input speeds on inquiry.
- (6) Sound pressure level; distance 1 m; measured on idle running with an input speed of n₁=3000 r/min, ratio=5.
- (7) Half way along the output shaft.
- (8) With respect to center of output shaft.

Speed – Torque Characteristics

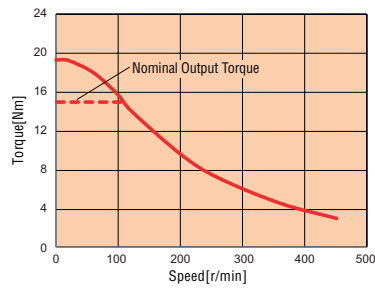
● Single-Phase 200-240VAC

◇ **AZM69AC-PLFE64 / AZM69MC-PLFE64** (Reference value)*

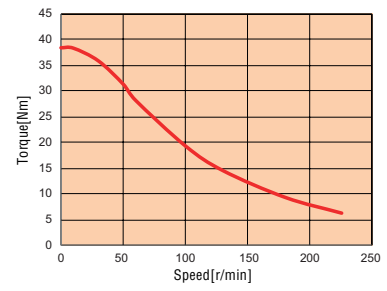
AZM69 Gear Ratio 5



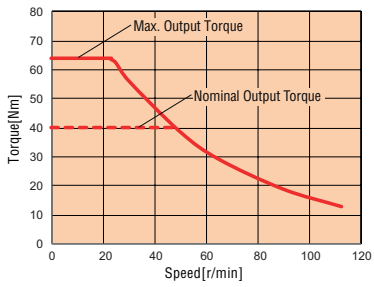
AZM69 Gear Ratio 10



AZM69 Gear Ratio 20

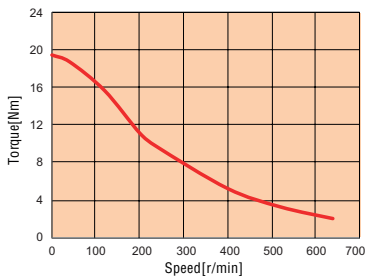


AZM69 Gear Ratio 40

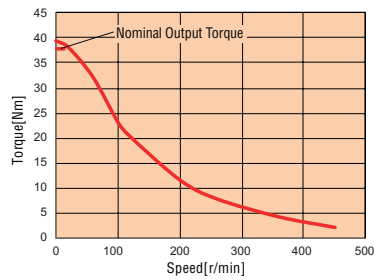


◇ **AZM911AC-PLFE90** (Reference value)*

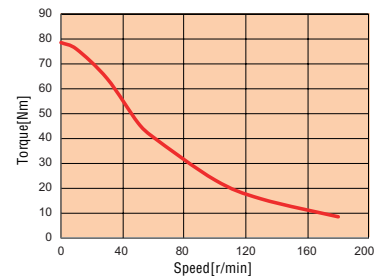
AZM911 Gear Ratio 5



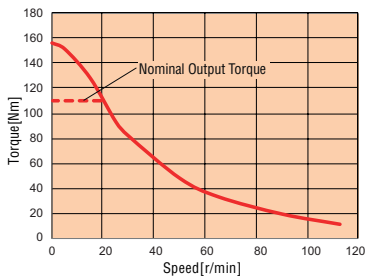
AZM911 Gear Ratio 10



AZM911 Gear Ratio 20



AZM911 Gear Ratio 40



*There is condition for using nominal output torque or max. output torque (see specification of gearhead)

*Speed-Torque Characteristics vary depending on conditions.

WPLE Geared Type

WPLE Gearhead Specifications

| Type | WPLE60 ⁽¹⁾ | | | | WPLE80 ⁽¹⁾ | | | |
|---|-----------------------|----|----|----|-----------------------|-----|-----|-----|
| | 1 | | 2 | | 1 | | 2 | |
| Stage | | | | | | | | |
| Reduction ratio | 5 | 10 | 20 | 40 | 5 | 10 | 20 | 40 |
| Backlash [arcmin] | 16 | | 18 | | 13 | | 15 | |
| Nominal output torque [Nm] ⁽²⁾⁽³⁾ | 24 | 15 | 44 | 40 | 67 | 38 | 120 | 110 |
| Max. output torque [Nm] ⁽²⁾⁽³⁾⁽⁴⁾ | 38 | 24 | 70 | 64 | 107 | 61 | 192 | 176 |
| Emergency stop torque [Nm] ⁽⁵⁾ | 80 | 70 | 88 | 80 | 220 | 170 | 240 | 220 |
| Max. input speed [r/min] ⁽⁶⁾ | 13000 | | | | 7000 | | | |
| Running noise [dB (A)] ⁽⁷⁾ | 70 | | | | 73 | | | |
| Permitted radial load for 30000h (Fa=0) [N] ⁽²⁾⁽⁸⁾ | 340 | | | | 650 | | | |
| Permitted axial load for 30000h (Fr=0) [N] ⁽²⁾⁽⁹⁾ | 450 | | | | 900 | | | |
| Permitted radial load for 20000h (Fa=0) [N] ⁽²⁾⁽⁸⁾ | 400 | | | | 750 | | | |
| Permitted axial load for 20000h (Fr=0) [N] ⁽²⁾⁽⁹⁾ | 500 | | | | 1000 | | | |
| Degree of protection | IP40 | | | | | | | |
| Lifetime [h] | 20000 | | | | | | | |
| Lifetime at Nominal output torque x 0.88 [h] | 30000 | | | | | | | |

(1) These values refer only to the Gearhead. The actual value depends on the motor combination of motor.

(2) These values refer to a speed of the output shaft of $n_2=100$ r/min on duty cycle KA=1 and S1-mode for electrical machines and $T=30^\circ\text{C}$.

(3) With key, at tumescent load

(4) Allowable for 30000 revolutions at the output shaft.

(5) Allowed 1000 times.

(6) Allowed operating temperature must be kept; other input speeds on inquiry.

(7) Sound pressure level; distance 1 m; measured on idle running with an input speed of $n_1=3000$ r/min, ratio=5.

(8) Half way along the output shaft.

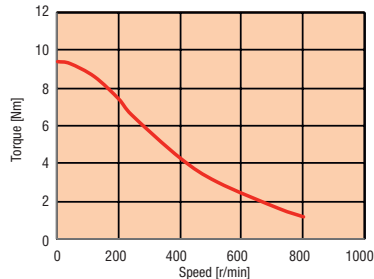
(9) With respect to center of output shaft.

Speed – Torque Characteristics

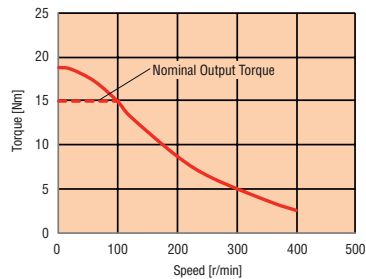
Single-Phase 200-240VAC

◇ AZM69AC-WPLE60 /AZM69MC-WPLE60 (Reference value)*

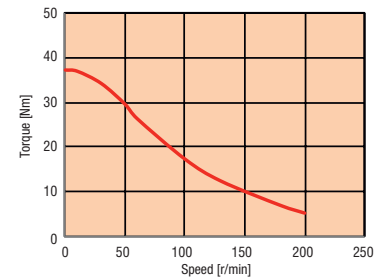
AZM69 Gear Ratio 5



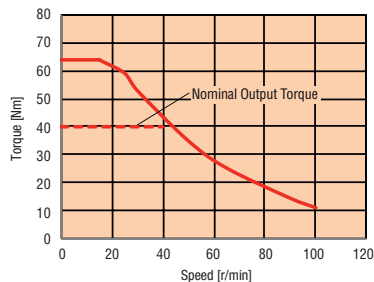
AZM69 Gear Ratio 10



AZM69 Gear Ratio 20

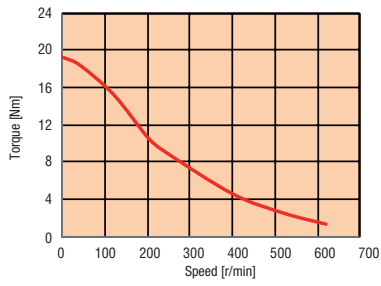


AZM69 Gear Ratio 40

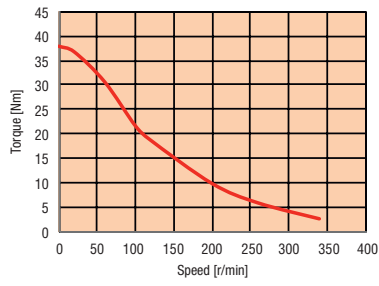


◇ **AZM911AC-WPLE80 (Reference value)***

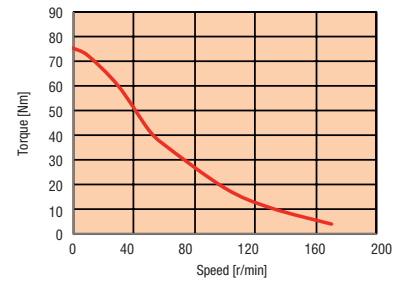
AZM911 Gear Ratio 5



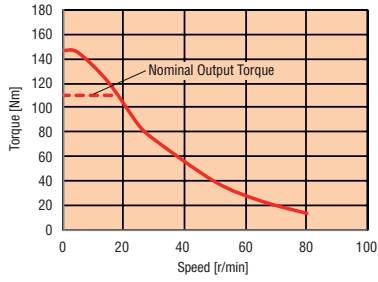
AZM911 Gear Ratio 10



AZM911 Gear Ratio 20



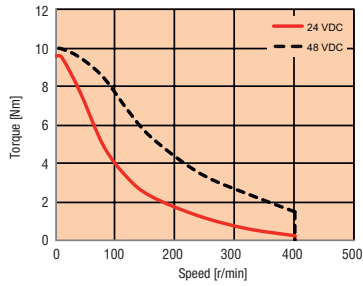
AZM911 Gear Ratio 40



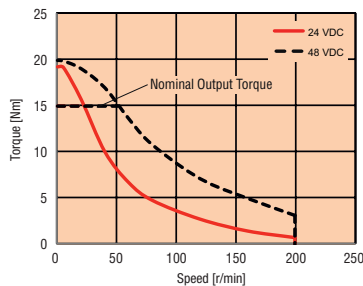
● **24/48 VDC**

◇ **AZM69AK-WPLE60 /AZM69MK-WPLE60 (Reference value)***

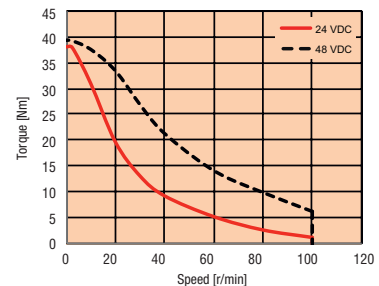
AZM69 Gear Ratio 5



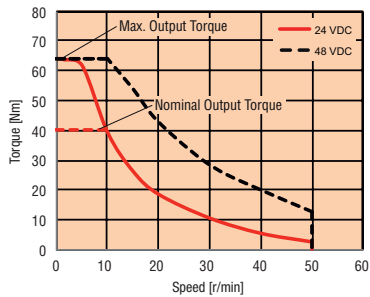
AZM69 Gear Ratio 10



AZM69 Gear Ratio 20



AZM69 Gear Ratio 40



*There is condition for using nominal output torque or max. output torque (see specification of gearhead)

*Speed-Torque Characteristics vary depending on conditions. Dimensions

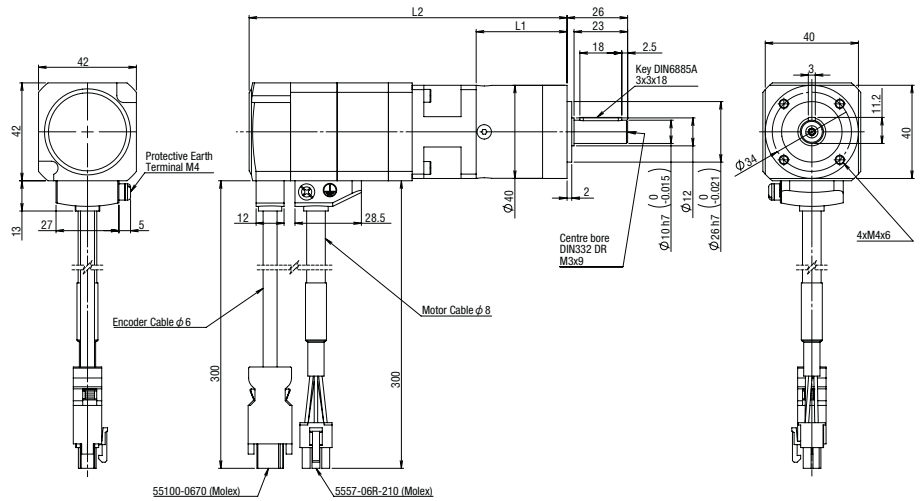
Dimensions

PLE Geared Type

◇ AZM46AC-PLE40

◇ AZM46AK-PLE40

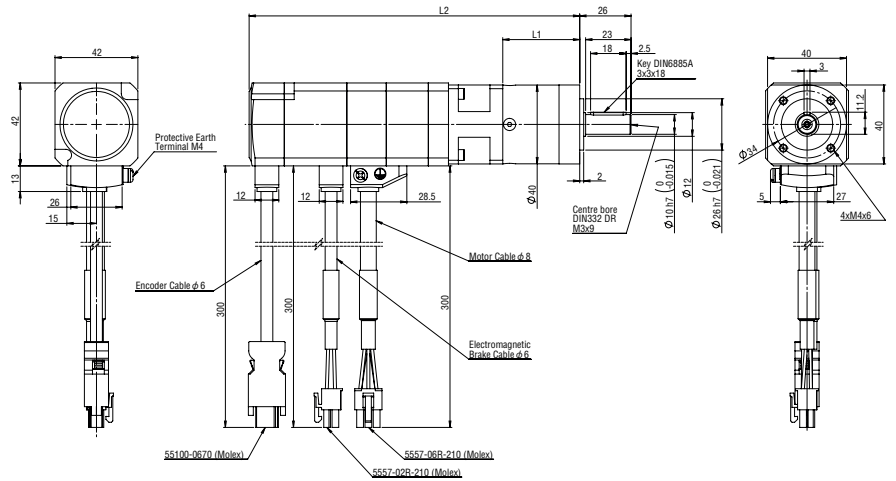
| Ratio | L1 | L2 | Mass [kg] |
|--------|----|-------|-----------|
| 5, 10 | 39 | 138.5 | 0.79 |
| 20, 40 | 52 | 151.5 | 0.89 |



◇ AZM46MC-PLE40

◇ AZM46MK-PLE40

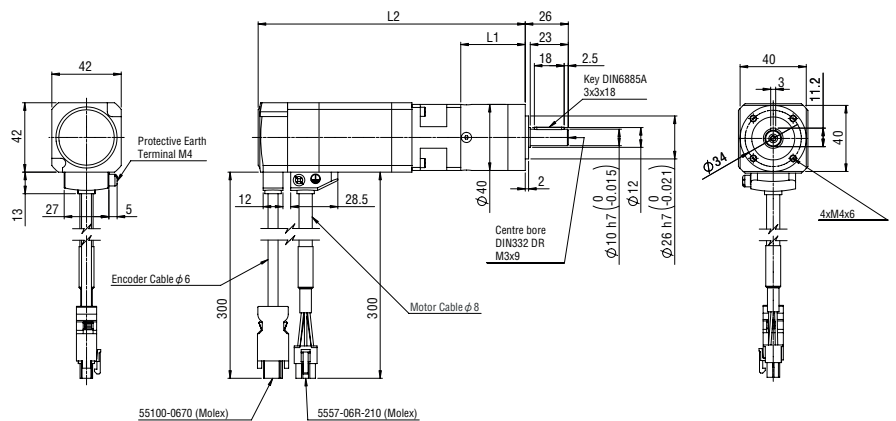
| Ratio | L1 | L2 | Mass [kg] |
|--------|----|-------|-----------|
| 5, 10 | 39 | 169.5 | 0.96 |
| 20, 40 | 52 | 182.5 | 1.06 |



◇ AZM48AC-PLE40

◇ AZM48AK-PLE40

| Ratio | L1 | L2 | Mass [kg] |
|--------|----|-------|-----------|
| 5, 10 | 39 | 161.5 | 1.03 |
| 20, 40 | 52 | 174.5 | 1.13 |

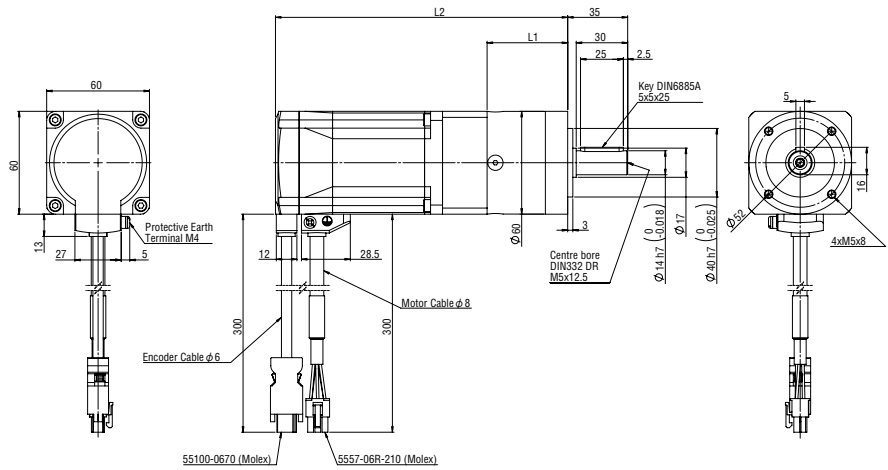


3D data available on the website: <http://www.orientalmotor.eu>
Or please ask the OM Customer Center: info@orientalmotor.eu

◇ **AZM69AC-PLE60**

◇ **AZM69AK-PLE60**

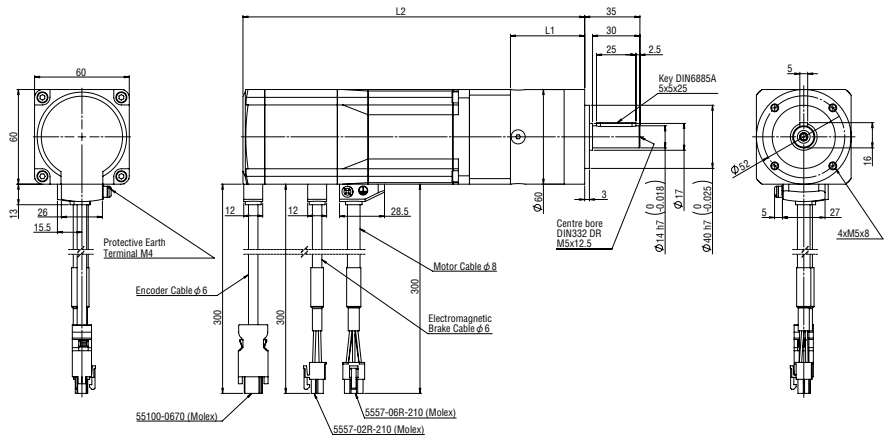
| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 47 | 170.5 | 2.3 |
| 20, 40 | 59.5 | 183 | 2.5 |



◇ **AZM69MC-PLE60**

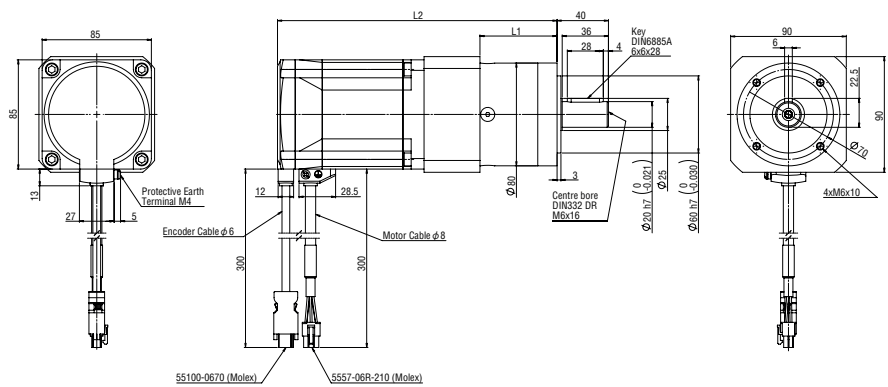
◇ **AZM69MK-PLE60**

| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 47 | 216.5 | 2.7 |
| 20, 40 | 59.5 | 229 | 2.9 |



◇ **AZM911AC-PLE80**

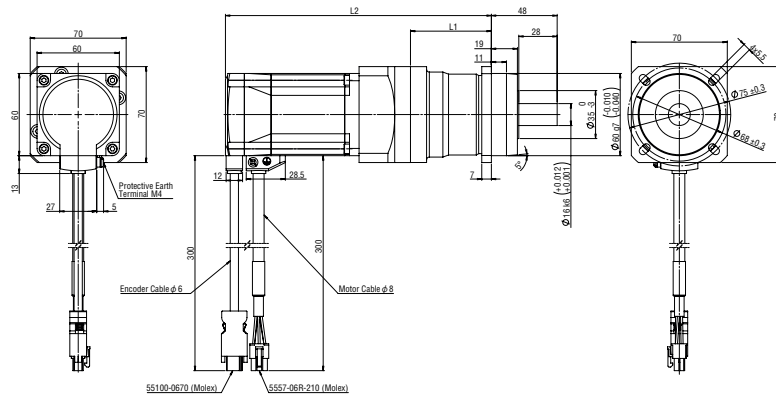
| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 60 | 217.5 | 5.1 |
| 20, 40 | 77.5 | 235 | 5.6 |



● PLN Geared Type

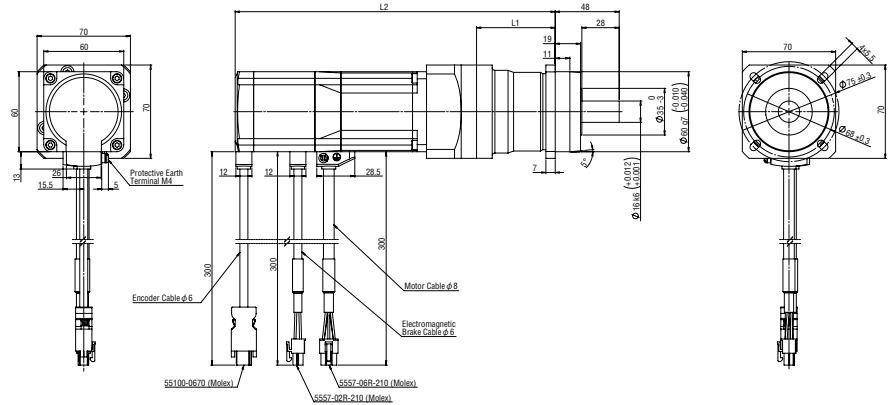
◇ AZM69AC-PLN70

| Ratio | L1 | L2 | Mass [kg] |
|--------|----|-----|-----------|
| 5, 10 | 59 | 194 | 3.4 |
| 20, 40 | 88 | 223 | 3.9 |



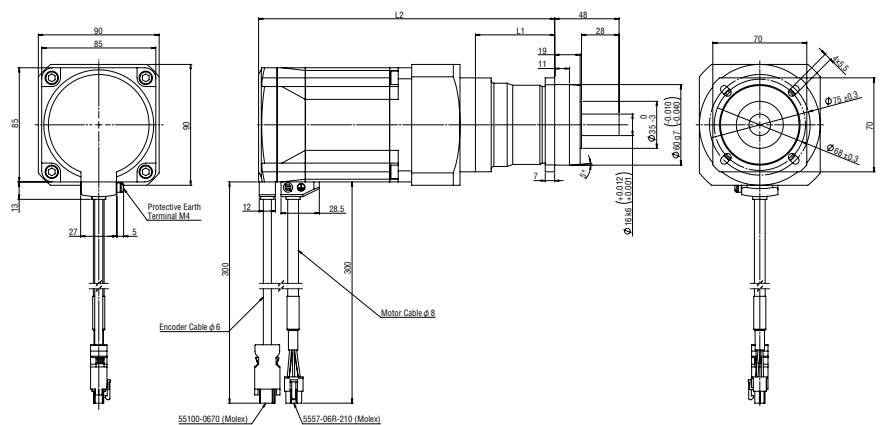
◇ AZM69MC-PLN70

| Ratio | L1 | L2 | Mass [kg] |
|--------|----|-----|-----------|
| 5, 10 | 59 | 240 | 3.8 |
| 20, 40 | 88 | 269 | 4.3 |



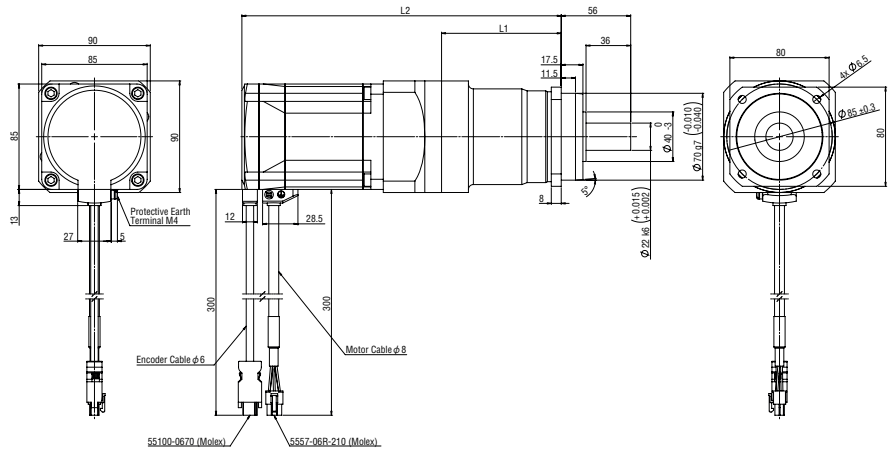
◇ AZM911AC-PLN70

| Ratio | L1 | L2 | Mass [kg] |
|-------|----|-------|-----------|
| 5, 10 | 59 | 220.5 | 5.1 |
| 20 | 88 | 249.5 | 5.6 |



◇ **AZM911AC-PLN90-40**

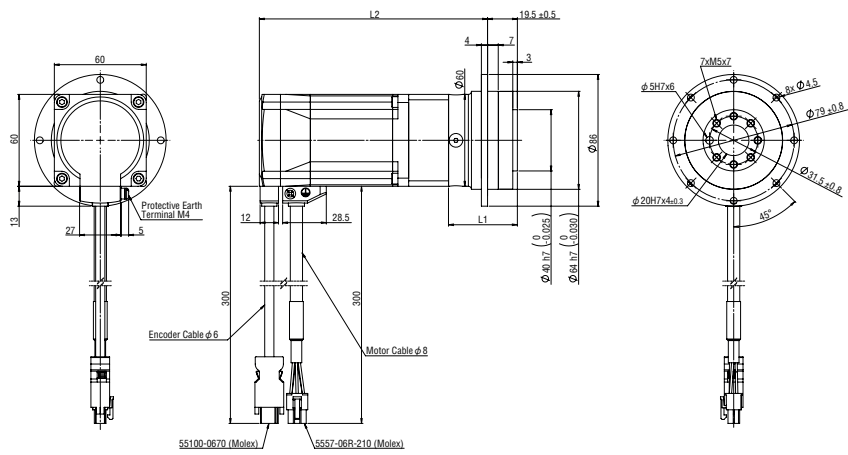
| Ratio | L1 | L2 | Mass [kg] |
|-------|------|-------|-----------|
| 40 | 96.5 | 257.5 | 7.3 |



● **PLFE Geared Type**

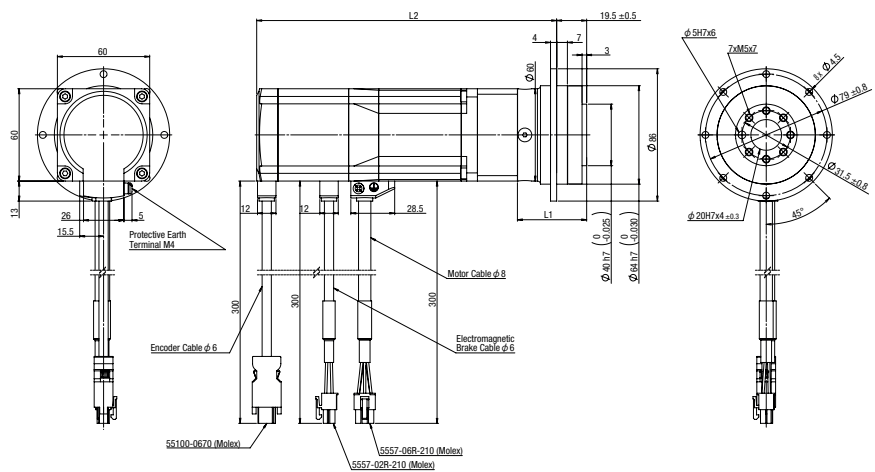
◇ **AZM69AC-PLFE64**

| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 45 | 149 | 2.5 |
| 20, 40 | 57.5 | 161.5 | 2.9 |



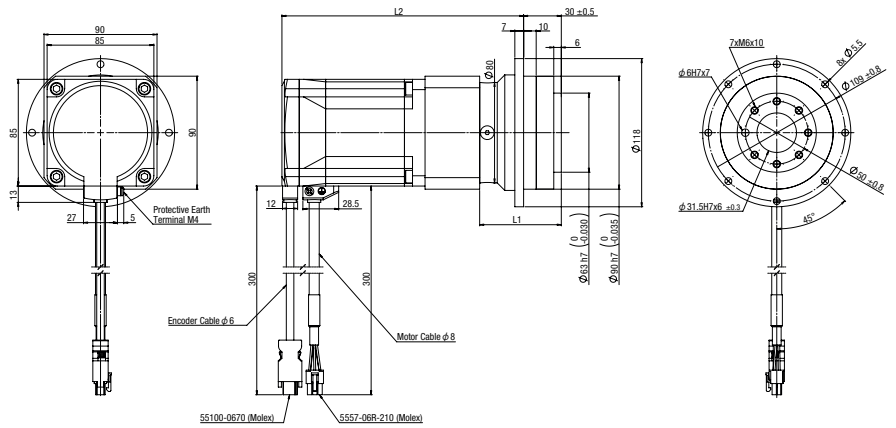
◇ **AZM69MC-PLFE64**

| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 45 | 195 | 2.9 |
| 20, 40 | 57.5 | 207.5 | 3.3 |



◇ **AZM911AC-PLFE90**

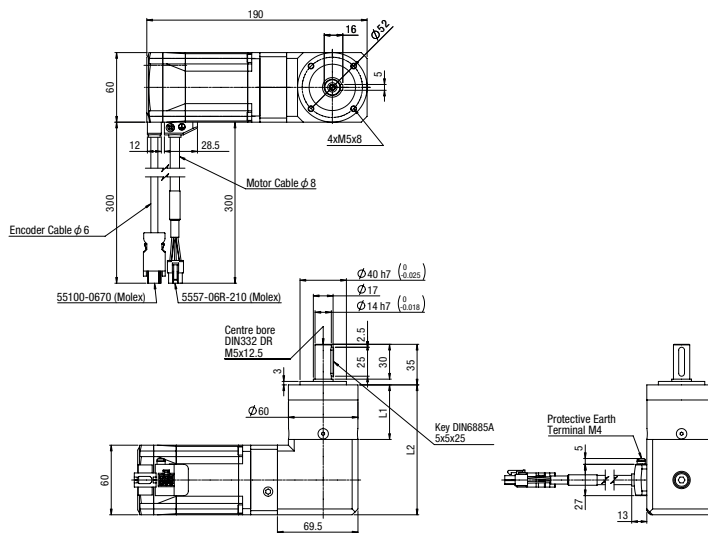
| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 65 | 192.5 | 5.9 |
| 20, 40 | 82.5 | 210 | 6.3 |



● **WPLE Geared Type**

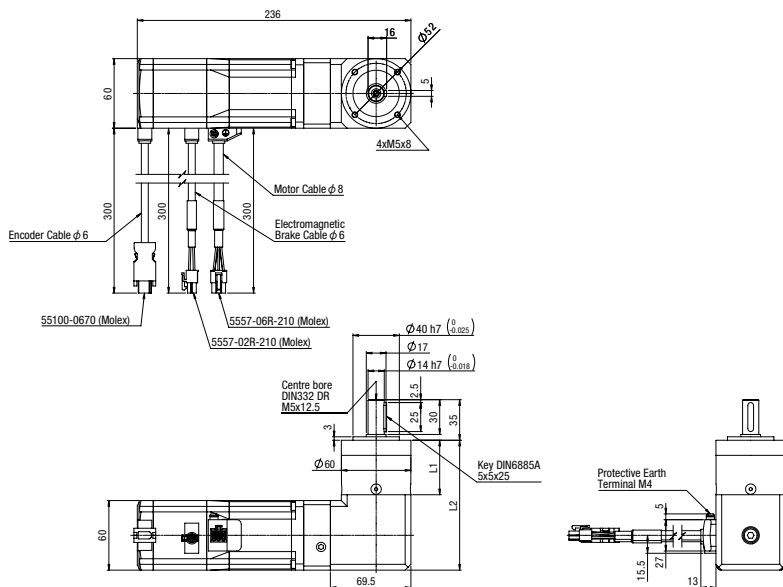
◇ **AZM69AC-WPLE60**
AZM69AK-WPLE60

| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 47 | 112 | 3,1 |
| 20, 40 | 59,5 | 124,5 | 3,3 |



◇ **AZM69MC-WPLE60**
AZM69MK-WPLE60

| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 47 | 112 | 3,5 |
| 20, 40 | 59,5 | 124,5 | 3,7 |



Note

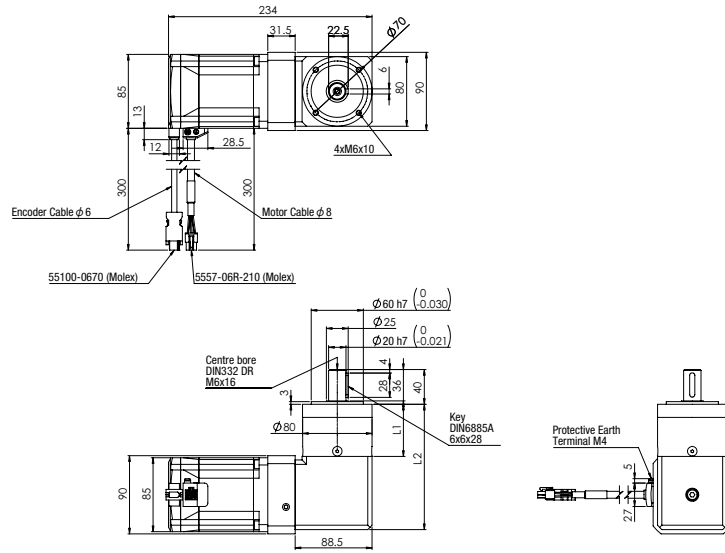
This Dimension shows cable direction "D (Down)"



3D data available on the website: <http://www.orientalmotor.eu>
Or please ask the OM Customer Center: info@orientalmotor.de

◇ **AZM911AC-WPLE80**

| Ratio | L1 | L2 | Mass [kg] |
|--------|------|-------|-----------|
| 5, 10 | 60 | 144 | 7 |
| 20, 40 | 77,5 | 161,5 | 7,5 |



Note

This Dimension shows cable direction "-D (Down)"



3D data available on the website: <http://www.orientalmotor.eu>
Or please ask the OM Customer Center: info@orientalmotor.de

AZ Series mini Driver

DC Input



EtherCAT

The αSTEP AZ Series now includes a mini driver option.
Compatible with battery power operation for use in a wider range of applications.

Product Name

AZD - K R 2 D

- ① ② ③ ④ ⑤

| | | |
|---|--------------------|---|
| ① | Driver Type | AZD: AZ Series |
| ② | Power Supply Input | K: 24/48 VDC |
| ③ | Driver Figure | R: Compact |
| ④ | Reference Number | |
| ⑤ | Type | D: Built-in Controller X: Pulse Input with RS-485 Communication ED: With EtherCAT interface EP: With Ethernet/IP interface PN: With PROFINET interface |

Product Line

With EtherCAT interface

| |
|-----------------|
| Product Name |
| AZD-KRED |



With PROFINET interface

| |
|-----------------|
| Product Name |
| AZD-KRPN |



Pulse Input with RS-485 Communication

| |
|----------------|
| Product Name |
| AZD-KRX |



With Ethernet/IP interface

| |
|-----------------|
| Product Name |
| AZD-KREP |



Built-in Controller

| |
|-----------------|
| Product Name |
| AZD-KR2D |



List of Combinations

| Product | Type | Product Name |
|---------|------------------------|---|
| Motor | Standard Type | AZM14AK, AZM15AK AZM24AK, AZM26AK AZM46 <input type="checkbox"/> K <input type="checkbox"/> AZM48A <input type="checkbox"/> K <input type="checkbox"/> AZM66 <input type="checkbox"/> K <input type="checkbox"/> AZM69 <input type="checkbox"/> K <input type="checkbox"/> |
| | TS Geared Type | AZM46 <input type="checkbox"/> K-TS <input type="checkbox"/> <input type="checkbox"/> AZM66 <input type="checkbox"/> K-TS <input type="checkbox"/> <input type="checkbox"/> |
| | FC Geared Type | AZM46 <input type="checkbox"/> K-FC <input type="checkbox"/> <input type="checkbox"/> A AZM66 <input type="checkbox"/> K-FC <input type="checkbox"/> <input type="checkbox"/> A |
| | PS Geared Type | AZM24AK-PS <input type="checkbox"/> AZM46 <input type="checkbox"/> K-PS <input type="checkbox"/> AZM66 <input type="checkbox"/> K-PS <input type="checkbox"/> |
| | HPG Geared Type | AZM46 <input type="checkbox"/> K-HP <input type="checkbox"/> <input type="checkbox"/> AZM66 <input type="checkbox"/> K-HP <input type="checkbox"/> <input type="checkbox"/> |
| | Harmonic Geared Type | AZM24AK-HS <input type="checkbox"/> AZM46 <input type="checkbox"/> K-HS <input type="checkbox"/> AZM66 <input type="checkbox"/> K-HS <input type="checkbox"/> |

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| Product | Type | Product Name |
|---------|--|-----------------|
| Driver | EtherCAT Drive Profile-Compatible | AZD-KRED |
| | EtherNet/IP | AZD-KREP |
| | PROFINET | AZD-KRPN |
| | RS-485 Communication Type | AZD-KR2D |
| | Pulse Input Type with RS-485 Communication | AZD-KRX |

+

| Product | Type | Product Name |
|--|---------------------------------------|---|
| Connection Cable / Flexible Connection Cable | For AZM14, AZM15, AZM24, AZM26 | Connection Cable CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2AAF Flexible Connection Cable CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2AAR |
| | For AZM46, AZM48, AZM66, AZM69 | Connection Cable For Motor / Encoder: CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ABF For Motor / Encoder / Electromagnetic Brake: CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ACF |
| | | Flexible Connection Cable For Motor / Encoder: CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ABR For Motor / Encoder / Electromagnetic Brake: CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ACR |

● A code or a number indicating either one of the followings is entered where the box is located within the product name.

: Output Shaft Shape : Additional Function : Motor Cable Type : Gear Ratio : Cable Outlet Direction : Output Shaft Type : Cable Length

Accessories (Sold separately)

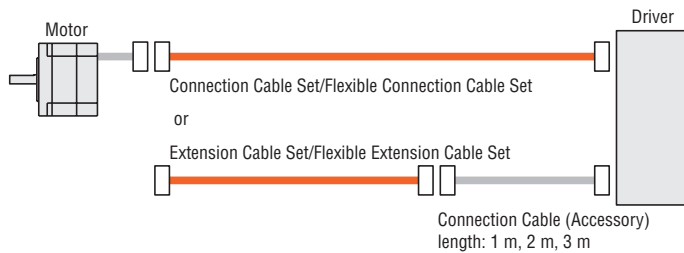
Connection Cable Sets, Flexible Connection Cable Sets Extension Cable Sets, Flexible Extension Cable Sets

In the **AZ** series, there are products with cable for connecting between motor and driver (1 m, 2 m, 3 m) as well as those to which such cable is not attached. When using the motor and driver more than 3 m apart, choose the connection cable set or extension cable set.

The extension cable maximum extension length is 20 m (including attached cable).

For the standard motor, the cable for motor cable and the cable for encoder make up the set. Whereas for the magnetic brake-attached motor, the cable for motor, the cable for encoder and the cable for magnetic brake make up the set.

If the cable becomes bent, use the flexible connection cable set or flexible extension cable set.



Notes

- Cables for motor and magnetic brake from the motor cannot be connected directly to the driver. When connecting to the driver, use the optional (sold separately) connection cable or the connection cable attached to the product (only for types with a connection cable attached).

RS-485 Communication Cable

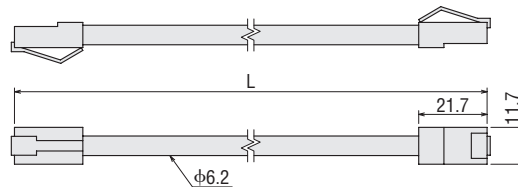
The cable is to link drivers when the driver is being operated under multi-axis mode, it also connects the network converter and driver.



Product Line

| Product Name | Applicable Product | Length L [m] |
|------------------|--|--------------|
| CC001-RS4 | DC Power Supply Input Driver | 0.1 |
| CC002-RS4 | AC Power Supply Input Driver DC Power Supply Input Driver | 0.25 |

Dimensions (Unit = mm)



Generic Cable for Input/Output Signals

This is a convenient multi-core cable for connecting the driver and upper level controller.

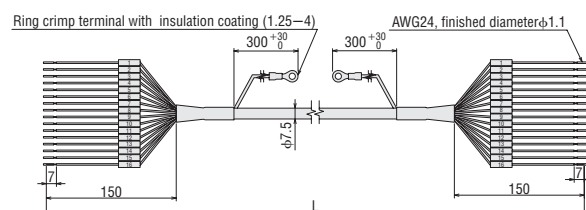
Choose the necessary cable in accordance with the number of connecting I/O signals.



Product Line

| Lead wire No. of cores | Cable Length | | | |
|------------------------|--------------------|--------------------|--------------------|--------------------|
| | 0.5 m | 1 m | 1.5 m | 2 m |
| 6 | CC06D005B-1 | CC06D010B-1 | CC06D015B-1 | CC06D020B-1 |
| 10 | CC10D005B-1 | CC10D010B-1 | CC10D015B-1 | CC10D020B-1 |
| 12 | CC12D005B-1 | CC12D010B-1 | CC12D015B-1 | CC12D020B-1 |
| 16 | CC16D005B-1 | CC16D010B-1 | CC16D015B-1 | CC16D020B-1 |

Dimensions (Unit = mm)



- The outline drawing is of 16 cores.

Data Setting Software MEXE02

From the computer, it is not only possible to set and edit driving data and the various parameters, but also to monitor the waveforms of teaching, I/O and driving speed.

The data setting software is available for download from our website.

Furthermore, the data setting software is distributed on a CD-ROM.

For details, ask from our website or inquire at your nearest branch or sales office.

Operating Environment

Computer

| | |
|----------------------|--|
| Recommended CPU*1 | Intel Core Processor 2 GHz or more (The OS must be supported.) |
| Display | high resolution video adapter and monitor, XGA (1024x768) or more. |
| Recommended Memory*1 | 32 bit (x86) version: 1 GB or more 64 bit (x64) version: 2 GB or more |
| Hard Disk*2 | Available disk space of 60 MB or more |
| USB Port | USB 2.0 1 port |

*1 The OS operating conditions need to be satisfied.

*2 Microsoft .NET Framework 4 Client Profile is required to use MEXE02. If it is not already installed, it will be installed automatically, in which case up to 1.5 GB of additional space is required.

● Windows and Windows Vista are registered trademarks of Microsoft Corporation in the United States and other countries. Pentium is a trademark of Intel Corporation.

● Please refer to our website for the latest update of operating environment.

Notes

● The required volume of memory or hard disk may vary depending on the system environment.

Operating Systems (OS)

Both the 32-bit (x86) and 64 bit (x64) editions are supported.

- Microsoft Windows XP Service Pack 3*
- Microsoft Windows Vista Service Pack 2
- Microsoft Windows 7 Service Pack 1
- Microsoft Windows 8
- Microsoft Windows 8.1
- Microsoft Windows 10

*This works with Service Pack 2 when using 64 bit (x64) edition.




Connection between Computer and Driver

Use the following specifications for the USB cable.

| | |
|---------------|---|
| Specification | USB 2.0 (full speed) |
| Cable | Length: 3 m (or less) Format: A-mini-B |

Actuator Lineup

We offer a lineup of actuators with the built-in AZ Series.

| Series Name | Features | Main Specification |
|--|--|--|
| αSTEP AZ Series Equipped Motorized Slider EZS Series AC power DC power  | <ul style="list-style-type: none"> • Compact with high rigidity. • Simple dust-proof structure. • Clean room support (ISO standard clean level class 3) | <ul style="list-style-type: none"> • Stroke: 50–850 mm • High speed: 800 mm/s • Maximum transportable mass: 60 kg (horizontal), 30 kg (vertical) |
| αSTEP AZ Series Equipped Motorized Slider EAC Series AC power DC power  | <ul style="list-style-type: none"> • Possible to drive at high speeds from light loads to heavy loads. • Can drive stably even at low speeds (1.25 mm/s). • Compact with high rigidity. • High thrust. | <ul style="list-style-type: none"> • Stroke: 50–300 mm • High speed: 600 mm/s • Maximum transportable mass: 60 kg (horizontal), 30 kg (vertical) |
| Hollow Rotary Actuator DG II Series Frame Size 85 mm, 130 mm, 200 mm AC power  | <ul style="list-style-type: none"> • As this is a hollow output table, wiring, such as cables and air tubes etc. is simple. • Possible to directly attach tables and arms. | <ul style="list-style-type: none"> • Maximum permissible torque: 50 Nm • Maximum permissible moment: 100 Nm • Maximum permissible axial load: 4000 Nm |

Orientalmotor

These products are manufactured at plants certified with the international standards **ISO 9001** (for quality assurance) and **ISO 14001** for systems of environmental management).

Specifications are subject to change without notice. This catalogue was published in January 2024.

ORIENTAL MOTOR (EUROPA) GmbH

European Headquarters
Schiebsstraße 44
40549 Düsseldorf, Germany
Tel: 0211 5206700 Fax: 0211 52067099

Spanish Office
C/Caléndula 93 - Ed. E - Miniparc III
28109 El Soto de La Moraleja,
Alcobendas (Madrid), Spain
Tel: +34 918 266 565

ORIENTAL MOTOR (UK) LTD.

UK Headquarters
Unit 5, Faraday Office Park,
Rankine Road, Basingstoke,
Hampshire RG24 8AH, U.K.
Tel: +44 1256 347090 Fax: +44 1256 347099

ORIENTAL MOTOR SWITZERLAND AG

Switzerland Headquarters
Badenerstrasse 13
5200 Brugg AG, Switzerland
Tel: +41 56 560 50 45 Fax: +41 56 560 50 47

ORIENTAL MOTOR ITALIA s.r.l.

Italy Headquarters
Via XXV Aprile 5
20016 Pero (MI), Italy
Tel: +39 2 93906346 Fax: +39 2 93906348

ORIENTAL MOTOR (FRANCE) SARL

France Headquarters
56, Rue des Hautes Pâtures
92000 Nanterre, France
Tel: +33 1 47 86 97 50 Fax: +33 1 47 82 45 16

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

WWW.ORIENTALMOTOR.EU

EN | DE | UK | IT | FR | ES

AZ Series

With Neugart Gearheads



α STEP AZ Series is a motor equipped with a Battery-Free Absolute Mechanical Sensor [ABZO Sensor]. One cable, IP66 rated locking connector enables a simple direct connection between the motor and the driver. Network compatible drivers make easier connection with various master control system. The product can now help improve productivity and reduce costs with better connection with network connection.

One Cable Solution



Hybrid Stepper Servo α STEP AZ Series

EtherNet/IP EtherCAT 

- External Sensors Not Requires
- Motor and Gearhead are Pre-assembled 
- Degree of Protection (Motors): IP66
- Network Direct Connection Drivers with functional safety* 

PLC with Fieldbus Master



Available soon in the EPLAN data portal.

*STO (Safe Torque OFF) Function. Only available for AC power supply.

AZ Series

With Neugart Gearheads

Product Line

◇ PLE Geared (AC Power Supply input)

| Frame Size | Product Name |
|------------|--------------------------|
| 42 mm | AZM46ACH-PLE40-5 |
| | AZM46ACH-PLE40-10 |
| | AZM46ACH-PLE40-20 |
| | AZM46ACH-PLE40-40 |
| | AZM48ACH-PLE40-5 |
| | AZM48ACH-PLE40-10 |
| | AZM48ACH-PLE40-20 |
| 60 mm | AZM69ACH-PLE60-5 |
| | AZM69ACH-PLE60-10 |
| | AZM69ACH-PLE60-20 |
| | AZM69ACH-PLE60-40 |

◇ PLE Geared (AC Power Supply input) with Electromagnetic Brake

| Frame Size | Product Name |
|------------|--------------------------|
| 42 mm | AZM46MCH-PLE40-5 |
| | AZM46MCH-PLE40-10 |
| | AZM46MCH-PLE40-20 |
| | AZM46MCH-PLE40-40 |
| 60 mm | AZM69MCH-PLE60-5 |
| | AZM69MCH-PLE60-10 |
| | AZM69MCH-PLE60-20 |
| | AZM69MCH-PLE60-40 |

◇ PLE Geared (DC Power Supply input)

| Frame Size | Product Name |
|------------|--------------------------|
| 42 mm | AZM46AKH-PLE40-5 |
| | AZM46AKH-PLE40-10 |
| | AZM46AKH-PLE40-20 |
| | AZM46AKH-PLE40-40 |
| | AZM48AKH-PLE40-5 |
| | AZM48AKH-PLE40-10 |
| | AZM48AKH-PLE40-20 |
| 60 mm | AZM69AKH-PLE60-5 |
| | AZM69AKH-PLE60-10 |
| | AZM69AKH-PLE60-20 |
| | AZM69AKH-PLE60-40 |

◇ PLE Geared (DC Power Supply input) with Electromagnetic Brake

| Frame Size | Product Name |
|------------|--------------------------|
| 42 mm | AZM46MKH-PLE40-5 |
| | AZM46MKH-PLE40-10 |
| | AZM46MKH-PLE40-20 |
| | AZM46MKH-PLE40-40 |
| 60 mm | AZM69MKH-PLE60-5 |
| | AZM69MKH-PLE60-10 |
| | AZM69MKH-PLE60-20 |
| | AZM69MKH-PLE60-40 |

Here are some application examples

- Wafer transfer in semiconductor manufacturing equipment
- Transfer of electronic components in electronic component manufacturing equipment
- Focusing cameras in inspection equipment
- Driving drug dispensing devices and analysis equipment
- Driving SCARA robots, Cartesian robots, and other robots
- Precision stage driving, used in electron microscopes and other devices



3D CAD

3D data is available on the website:
<https://www.orientalmotor-support.eu>