

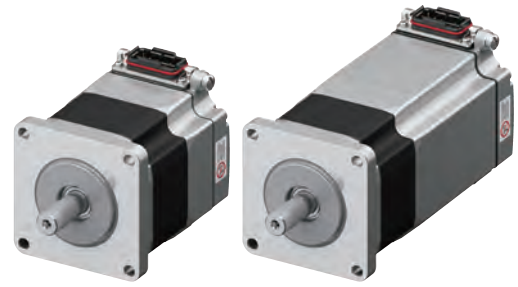
*α*STEP

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.



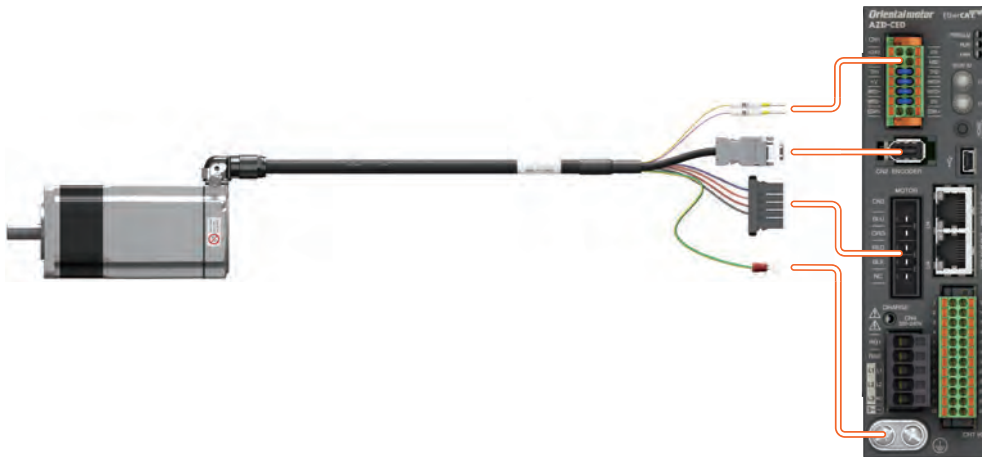
Standard Type

Standard Type with
Electromagnetic Brake

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.



Insert the connector

Turn down the lock lever

Connection complete

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.



Cable outlet in output shaft direction

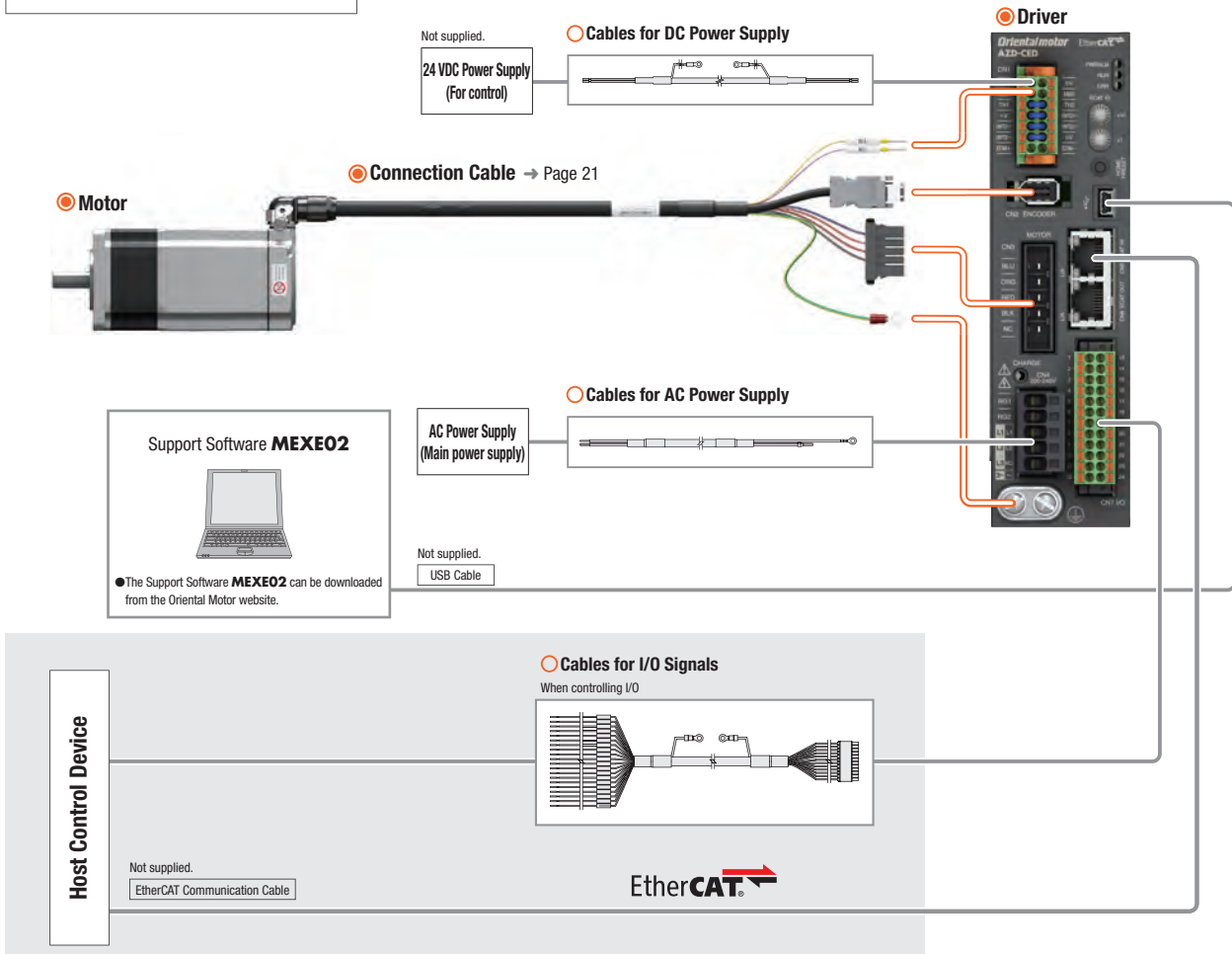
Cable outlet in vertical direction

Cable outlet opposite to output shaft direction

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



● Example of System Configuration

Motor	+	Driver	+	Connection Cable
AZM66MCH		AZD-CED		CCM010Z1BFF
511.00 €		572.00 €		63.00 €
○		○		○

● The system configuration shown above is an example. Other combinations are also available.

Product Number

Motor

Standard Type

AZM 6 6 A 0 C H

① ② ③ ④ ⑤ ⑥ ⑦

Connection Cables/Flexible Connection Cables

CCM 010 Z1 A F F

① ② ③ ④ ⑤ ⑥

①	Motor Type	AZM: AZ Series Motor
②	Motor Frame Size	4: 42 mm 6: 60 mm
③	Motor Case Length	
④	Output Shaft Type	A: Single Shaft M: Electromagnetic Brake Type
⑤	Additional Function	O: Round Shaft T: Key Shaft
⑥	Motor Type	C: AC Power Supply Input Specifications
⑦	Motor Connection Method	H: Connector Type

①		CCM: Cable
②	Length	010: 1 m, 020: 2 m , 030: 3 m, 050: 5 m, 070: 7 m, 100: 10 m
③	Applicable Model	Z1: AZ Series Connector Type
④	Description	A: AC Input For Motor / Encoder B: AC Input For Motor / Encoder / Electromagnetic Brake Type
⑤	Cable Outlet Direction*	F: Output Shaft Direction V: Vertical B: Opposite to Output Shaft Direction
⑥	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.



F: Output Shaft Direction



V: Vertical



B: Opposite to Output Shaft Direction

Product Line

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

Motor

Standard Type



Frame Size	Product Name	List Price
42 mm	AZM46ACH	290.00 €
	AZM46A0CH	290.00 €
	AZM48ACH	300.00 €
	AZM48A0CH	300.00 €
	AZM48A1CH	311.00 €
60 mm	AZM66ACH	338.00 €
	AZM66A0CH	338.00 €
	AZM66A1CH	348.00 €
	AZM69ACH	344.00 €
	AZM69A0CH	344.00 €
	AZM69A1CH	354.00 €

Standard Type with Electromagnetic Brake



Frame Size	Product Name	List Price
42 mm	AZM46MCH	424.00 €
	AZM46MOCH	424.00 €
60 mm	AZM66MCH	511.00 €
	AZM66MOCH	511.00 €
	AZM66M1CH	521.00 €
	AZM69MCH	517.00 €
	AZM69MOCH	517.00 €
	AZM69M1CH	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.

List of Combinations

Product Line	Type	Product Name
Motor	Standard Type	AZM46 CH , AZM48A CH AZM66 CH , AZM69 CH

+

Product Line	Type	Product Name
Driver	EtherCAT Drive Profile-compatible	AZD-AED, AZD-CED
	EtherNet/IP-compatible	AZD-AEP, AZD-CEP
	PROFINET-compatible	AZD-APN, AZD-CPN
	MECHATROLINK-III-compatible	AZD-AM3, AZD-CM3
	SSCNET III/H-compatible	AZD-AS3, AZD-CS3
	Built-in Controller Type	AZD-AD, AZD-CD
	Pulse Input Type with RS-485 Communication	AZD-AX, AZD-CX
Pulse Input Type	AZD-A, AZD-C	

+

Product Line	Type	Product Name
Connection Cables/Flexible Connection Cables	Connection Cable	For motor/encoder: CCM Z1A F For motor/encoder/electromagnetic brake: CCM Z1B F
	Flexible Connection Cable	For motor/encoder: CCM Z1A R For motor/encoder/electromagnetic brake: CCM Z1B R

● 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



Motor Product Name	Single Shaft	AZM46A □CH	AZM48A □CH	AZM66A □CH	AZM69A □CH	
	With Electromagnetic Brake	AZM46M □CH	—	AZM66M □CH	AZM69M □CH	
Driver Product Name	AZD-A□ AZD-C□					
Max. Holding Torque	Nm	0.3	0.77	1.2	2	
Holding Torque at Motor Standstill	Power ON	Nm	0.15	0.38	0.6	1
	Electromagnetic Brake	Nm	0.15	—	0.6	1
Rotor Inertia	J: kg·m ²	55×10^{-7} [71×10^{-7}]*	115×10^{-7}	370×10^{-7} [530×10^{-7}]*	740×10^{-7} [900×10^{-7}]*	
Resolution	1000 P/R	0.36°/Pulse				
Power Supply Input	Please check "Driver Specifications" on page 6 for the driver current specifications when combined with a motor.					
Control Power Supply						

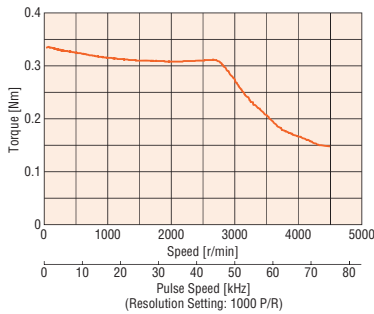
● Either a **0** (straight type) or **1** (key type) indicating the additional function is specified where the box □ is located in the product name. (**AZM46** is straight type only) For single shaft flat type motors, there is no number in the □ box.

A letter indicating the driver type is specified where the box ■ is located in the product name. Please check "List of Combinations" on page 4 for driver product names.

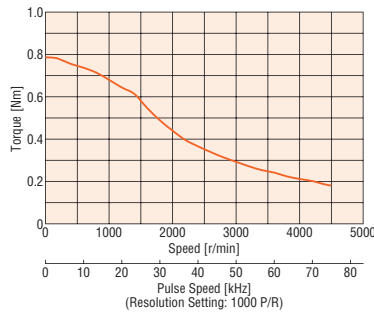
*The value inside the () represents the value when an electromagnetic brake motor is connected.

Speed – Torque Characteristics (Reference values)

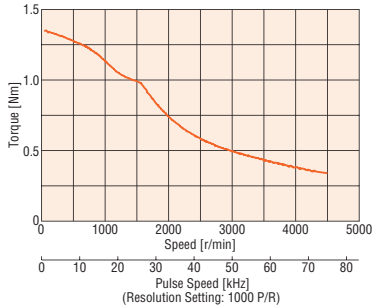
AZM46



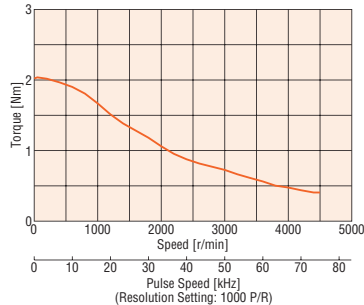
AZM48



AZM66



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

Driver Product Name		AZD-AED AZD-AEP AZD-APN AZD-AX AZD-A	AZD-CED AZD-CEP AZD-CPN AZD-CX AZD-C		
Main Power Supply	Input Voltage	Single-phase 100-120 VAC -15~+6% 50/60 Hz	Single-phase 200-240 VAC -15~+6% 50/60 Hz	Three-phase 200-240 VAC -15~+6% 50/60 Hz	
	Input Current	AZM46	2.7 A	1.7 A	1.0 A
		AZM48	2.7 A	1.6 A	1.0 A
		AZM66	3.8 A	2.3 A	1.4 A
AZM69		5.4 A	3.3 A	2.0 A	
Control Power Supply	Input Voltage	24 VDC±5%			
	Input Current	0.25 A (0.5 A)*			
Interface	Pulse Input	<ul style="list-style-type: none"> · 2 points, Photocoupler · Max. input pulse frequency Line driver: 1 MHz (at 50% duty) Open collector: 250 kHz (at 50% duty) 			
	Control Input	6 points, Photocoupler			
	Pulse Output	2 points, Line driver			
	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			

*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.

Driver Product Name		AZD-AM3 AZD-AS3	AZD-CM3 AZD-CS3		AZD-AD	AZD-CD		
Main Power Supply	Input Voltage	Single-phase 100-120 VAC -15~+6% 50/60 Hz	Single-phase 200-240 VAC -15~+6% 50/60 Hz	Three-phase 200-240 VAC -15~+6% 50/60 Hz	Single-phase 100-120 VAC -15~+6% 50/60 Hz	Single-phase 200-240 VAC -15~+6% 50/60 Hz	Three-phase 200-240 VAC -15~+6% 50/60 Hz	
	Input Current	AZM46	2.7 A	1.7 A	1.0 A	2.7 A	1.7 A	1.0 A
		AZM48	2.7 A	1.6 A	1.0 A	2.7 A	1.6 A	1.0 A
		AZM66	3.8 A	2.3 A	1.4 A	3.8 A	2.3 A	1.4 A
AZM69		5.4 A	3.3 A	2.0 A	5.4 A	3.3 A	2.0 A	
Control Power Supply	Input Voltage	24 VDC±5%						
	Input Current	0.25 A (0.5 A)*						
Interface	Control Input	4 points, Photocoupler			10 points, Photocoupler			
	Pulse Output	-			2 points, Line driver			
	Control Output	3 points, Photocoupler and Open collector			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						

*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	Driver	
			EtherCAT Drive Profile Compatible EtherNet/IP Compatible PROFINET Compatible Built-in Controller Type Pulse Input Type with RS-485 Communication	MECHATROLINK-III Compatible SSCNETIII/H Compatible Pulse Input Type
Thermal Class		130 (B) [UL Recognized 105 (A)]	—	
Insulation Resistance		100 MΩ or more when 500 VDC megger is applied between the following places: · Case – Motor windings · Case – Electromagnetic Brake Windings*1	100 MΩ or more when 500 VDC megger is applied between the following places: · PE Terminal – Power Supply Terminal · Encoder Connector – Power Supply Terminal · I/O Signal Terminal – Power Supply Terminal	
Dielectric Strength		Sufficient to withstand the following for 1 minute: · Case – Motor Winding 1.5 kVAC 50/60 Hz · Case – Electromagnetic Brake Windings*1 1.5 kVAC 50/60 Hz	Sufficient to withstand the following for 1 minute: · PE Terminal – Power Supply Terminal 1.5 kVAC 50/60 Hz · Encoder Connector – Power Supply Terminal 1.8 kVAC 50/60 Hz · I/O Signal Terminal – Power Supply Terminal 1.8 kVAC 50/60 Hz	
Operating Environment (In Operation)	Ambient Temperature	0 to +40°C (+32 to +104°F) (Non-Freezing)*2	0 to +55°C (+32 to +131°F) (Non-Freezing)*3	
	Ambient Humidity	85% or less (Non-Condensing)		
	Altitude	Max. of 1000 m (3300 ft.) above sea level		
	Surrounding Atmosphere	No corrosive gas or dust. No water or oil.		
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°)			
Shaft Runout	0.05 T.I.R. (mm)*4	—		
Concentricity of Installing Pilot to the Shaft	0.075 T.I.R. (mm)*4	—		
Perpendicularity of Installation Surface to the Shaft	0.075 T.I.R. (mm)*4	—		
Multiple Rotation Detection Range in Non-Conduction State	±900 Revolutions (1800 Revolutions)			

*1 Electromagnetic brake type only.

*2 Based on Oriental Motor's measurement conditions.

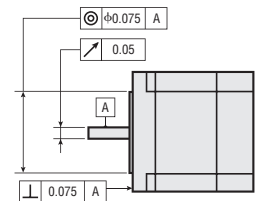
*3 When a heat sink of a capacity at least equivalent to an aluminum plate with a size of 200×200 mm, 2 mm thick is installed.

*4 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

Product Name	AZM46	AZM66	AZM69
Type	Power Off Activated Type		
Power Supply Voltage	24 VDC ±5%		
Power Supply Current A	0.08	0.25	0.25
Time Rating	Continuous		

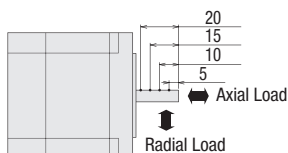
Permissible Radial Load and Permissible Axial Load

Unit: [N]

Type	Motor Frame Size [mm]	Product Name	Permissible Radial Load					Permissible Axial Load
			Distance from Shaft End mm					
			0	5	10	15	20	
Standard Type	42	AZM46	35	44	58	85	—	15
		AZM48	30	35	44	58	85	
	60	AZM66, AZM69	90	100	130	180	270	30

Radial Load and Axial Load

Distance from Shaft End mm



Dimensions Unit = mm

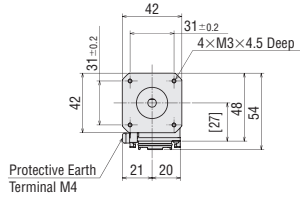
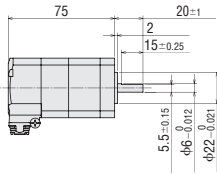
● Motor

◇ Standard Type

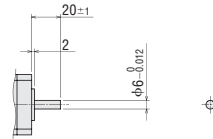
Frame Size 42 mm

Shaft Type	Product Name	Mass [kg]
Single Shaft Flat Type	AZM46ACH	0.4
Straight Type	AZM46AOCH	

Single Shaft Flat Type

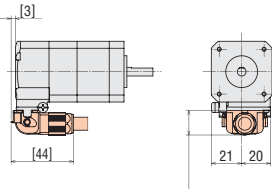


Straight Type

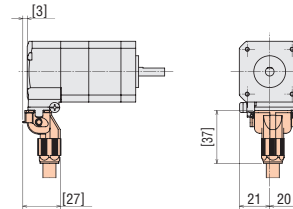


● With Connection Cable Attached

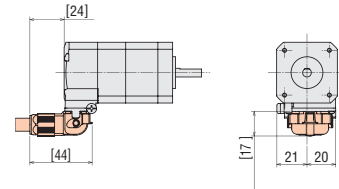
Cable Drawn in the Same Direction As the Output Shaft



Cable Drawn Vertically

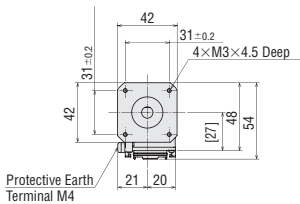
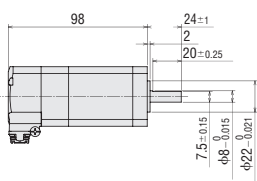


Cable Drawn in the Opposite Direction of the Output Shaft

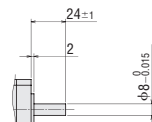


Shaft Type	Product Name	Mass [kg]
Single Shaft Flat Type	AZM48ACH	0.63
Straight Type	AZM48AOCH	
Key Shaft Type	AZM48A1CH	

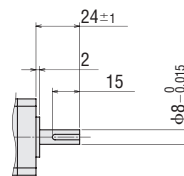
Single Shaft Flat Type



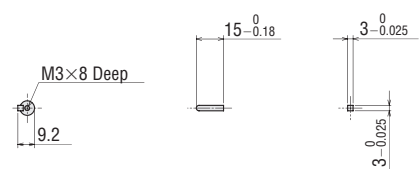
Straight Type



Key Shaft Type

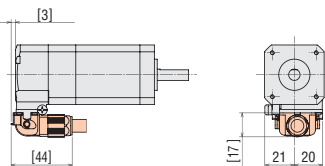


Parallel Key (Included)

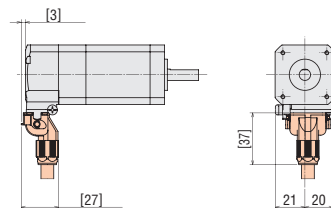


● With Connection Cable Attached

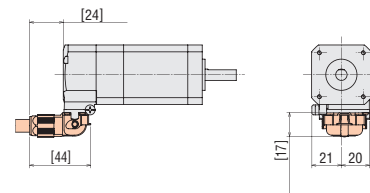
Cable Drawn in the Same Direction As the Output Shaft



Cable Drawn Vertically



Cable Drawn in the Opposite Direction of the Output Shaft

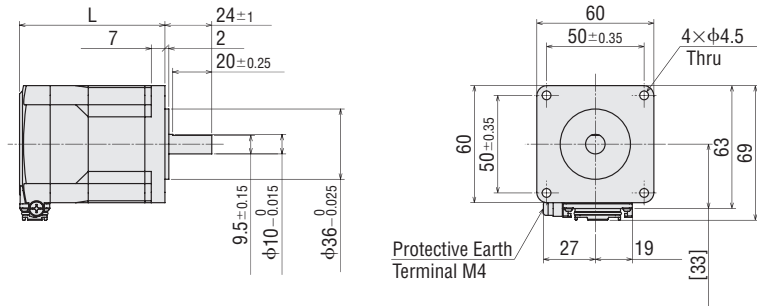


● The color in the dimensions indicates the connection cable that is sold separately.

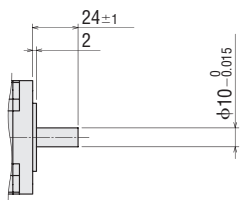
Frame Size 60 mm

Shaft Type	Product Name	L	Mass [kg]
Single Shaft Flat Type	AZM66ACH	74.5	0.84
Straight Type	AZM66A0CH		
Key Type	AZM66A1CH	100	1.3
Single Shaft Flat Type	AZM69ACH		
Straight Type	AZM69A0CH		
Key Type	AZM69A1CH		

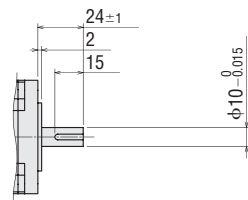
Single Shaft Flat Type



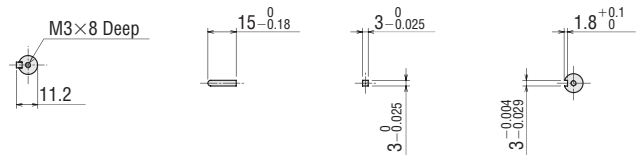
Straight Type



Key Type

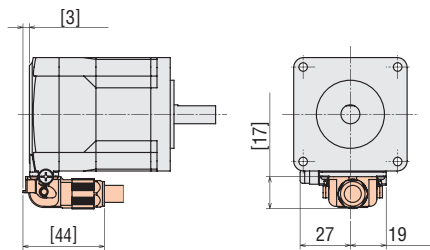


Parallel Key (Included)

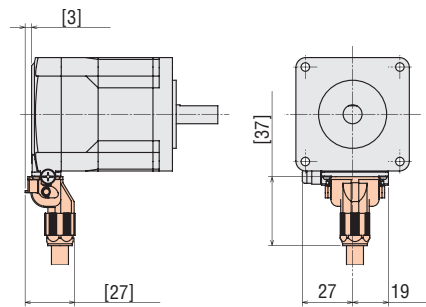


● With Connection Cable Attached

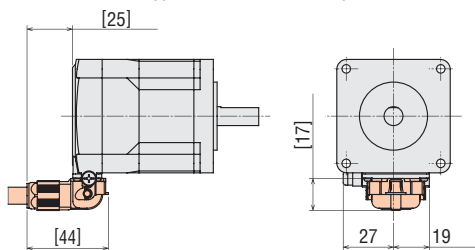
Cable Drawn in the Same Direction As the Output Shaft



Cable Drawn Vertically



Cable Drawn in the Opposite Direction of the Output Shaft

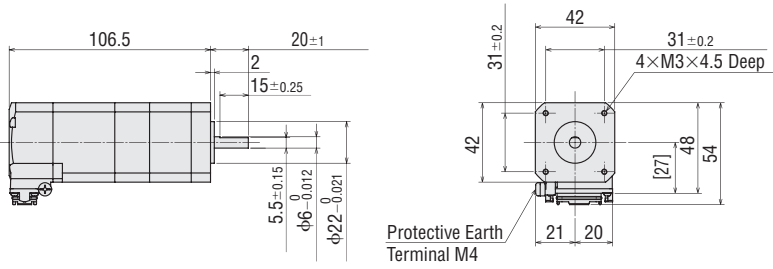


● The color in the dimensions indicates the connection cable that is sold separately.

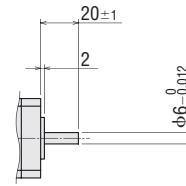
◇ Standard Type with Electromagnetic Brake
 Frame Size 42 mm

Shaft Type	Product Name	Mass [kg]
Single Shaft Flat Type	AZM46MCH	0.54
Straight Type	AZM46MOCH	

Single Shaft Flat Type

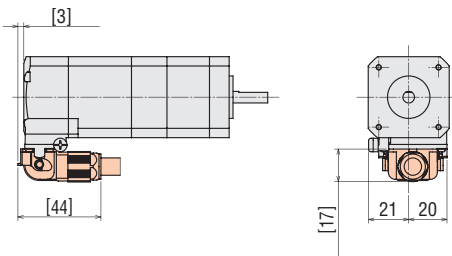


Straight Type

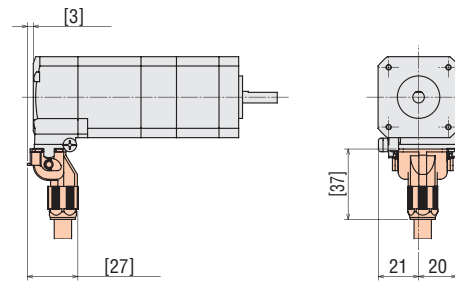


● With Connection Cable Attached

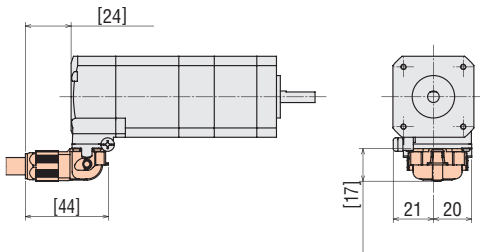
Cable Drawn in the Same Direction As the Output Shaft



Cable Drawn Vertically



Cable Drawn in the Opposite Direction of the Output Shaft

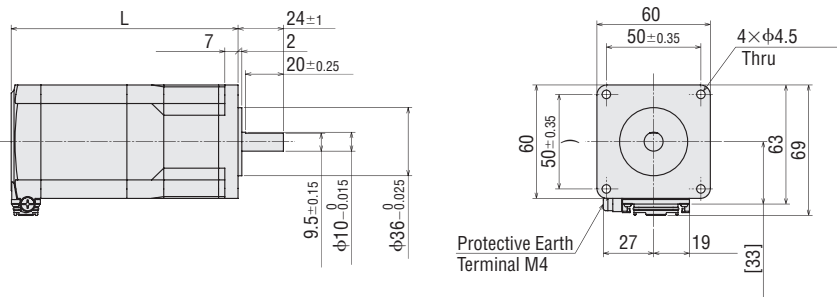


● The color in the dimensions indicates the connection cable that is sold separately.

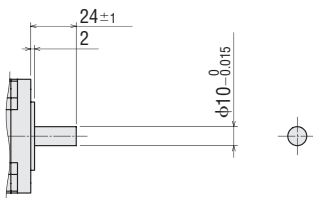
Frame Size 60 mm

Shaft Type	Product Name	L	Mass [kg]
Single Shaft Flat Type	AZM66MCH	120	1.2
Straight Type	AZM66M0CH		
Key Type	AZM66M1CH		
Single Shaft Flat Type	AZM69MCH	145.5	1.7
Straight Type	AZM69M0CH		
Key Type	AZM69M1CH		

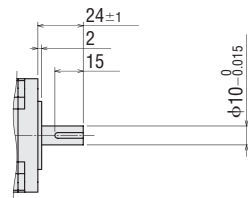
Single Shaft Flat Type



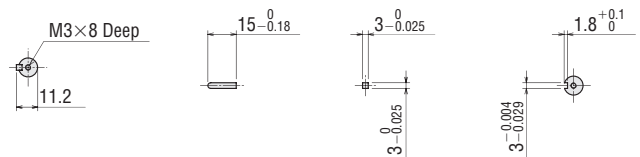
Straight Type



Key Type

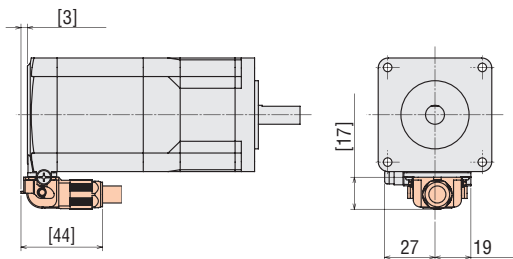


Parallel Key (Included)

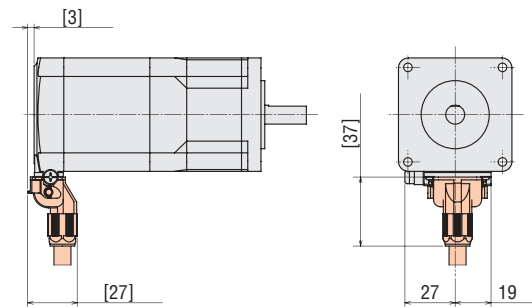


● With Connection Cable Attached

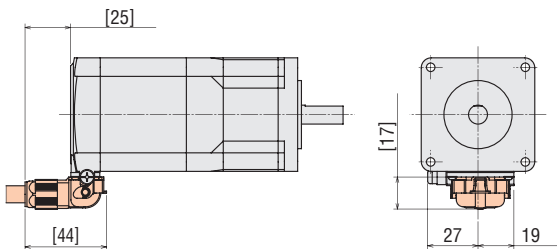
Cable Drawn in the Same Direction As the Output Shaft



Cable Drawn Vertically



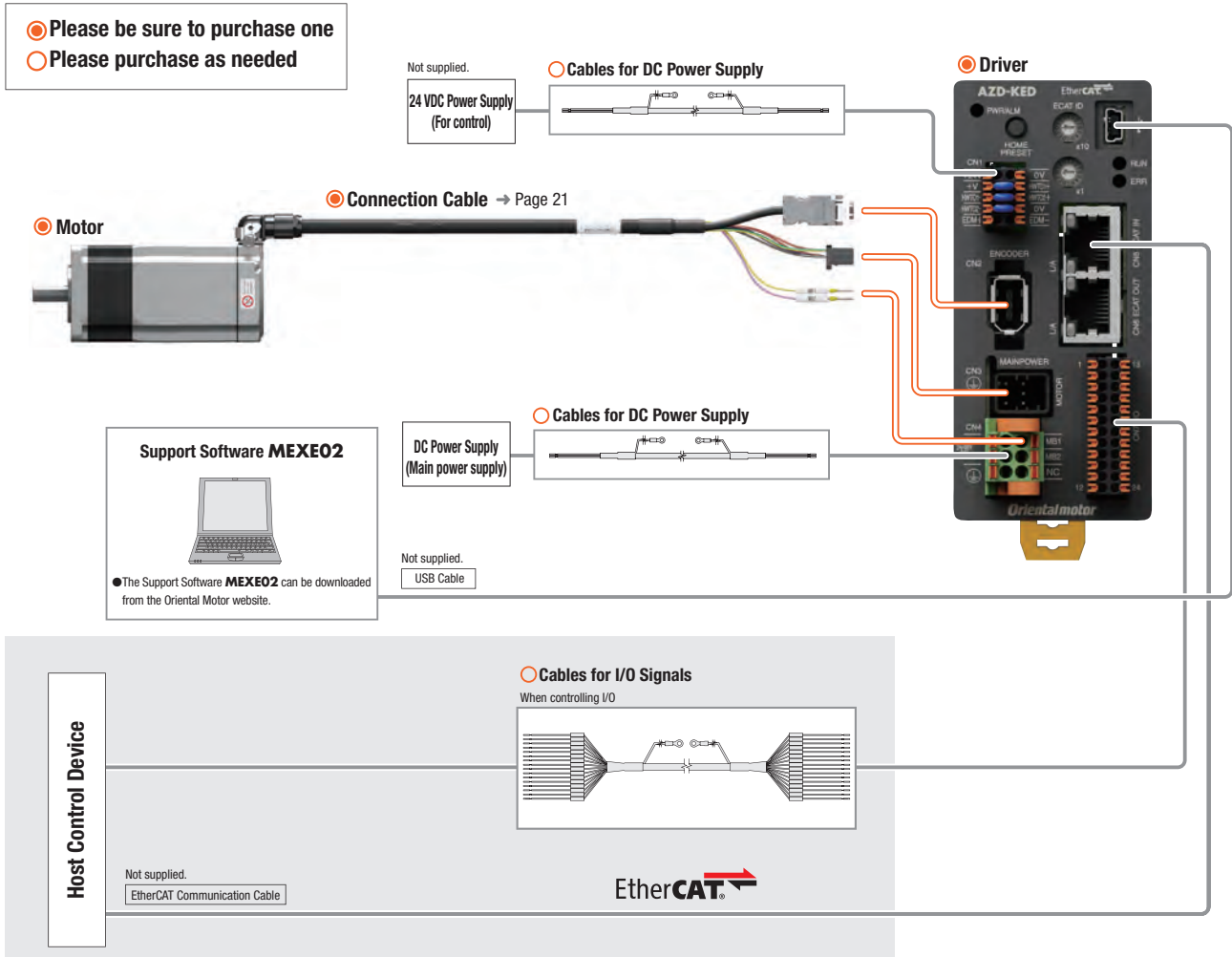
Cable Drawn in the Opposite Direction of the Output Shaft



● 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.



Example of System Configuration

Motor		Driver		Cables
AZM66MKH	+	AZD-KED	+	Connection Cable Cable Outlet Direction Output Shaft Side (1 m)
511.00 €		572.00 €		CCM010Z1DFF
○		○		63.00 €

● 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

① ② ③ ④ ⑤ ⑥ ⑦

Connection Cables/Flexible Connection Cables

CCM 010 Z1 C F F

① ② ③ ④ ⑤ ⑥

①	Motor Type	AZM: AZ Series Motor
②	Motor Frame Size	4: 42 mm 6: 60 mm
③	Motor Case Length	
④	Output Shaft Type	A: Single Shaft M: Electromagnetic Brake Type
⑤	Additional Function*	0: Round Shaft 1: Key Shaft
⑥	Motor Type	K: DC Input Type
⑦	Motor Connection Method	H: Connector Type

*If there isn't a number for an additional function, it is a single shaft flat.

①		CCM: Cable
②	Length	005: 0.5 m, 010: 1 m, 020: 2 m, 030: 3 m, 050: 5 m, 070: 7 m, 100: 10 m
③	Applicable Model	Z1: AZ Series Connector Type
④	Description	C: DC Input Motor / Encoder D: DC Input Motor / Encoder / Electromagnetic Brake Type
⑤	Cable Outlet Direction*	F: Output Shaft Direction V: Vertical B: Opposite to Output Shaft Direction
⑥	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.



F: Output Shaft Direction



V: Vertical



B: Opposite to Output Shaft Direction

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



Frame Size	Product Name	List Price
42 mm	AZM46MKH	424.00 €
	AZM46M0KH	424.00 €
60 mm	AZM66MKH	511.00 €
	AZM66M0KH	511.00 €
	AZM66M1KH	521.00 €
	AZM69MKH	517.00 €
	AZM69M0KH	517.00 €
	AZM69M1KH	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.

List of Combinations

Product Line	Type	Product Name
Motor	Standard Type	AZM46 KH , AZM48A KH AZM66 KH , AZM69 KH

+

Product Line	Type	Product Name
Driver	EtherCAT Drive Profile-compatible	AZD-KED
	EtherNet/IP-compatible	AZD-KEP
	PROFINET-compatible	AZD-KPN
	Built-in Controller Type	AZD-KD
	Pulse Input Type with RS-485 Communication	AZD-KX
	Pulse Input Type	AZD-K

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

+

Product Line	Type	Product Name
Connection Cables/Flexible Connection Cables	Connection Cable	For motor/encoder: CCM Z1C F For motor/encoder/electromagnetic brake: CC Z1D F
	Flexible Connection Cable	For motor/encoder: CCM Z1C R For motor/encoder/electromagnetic brake: CC Z1D R

● 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



Motor Product Name	Single Shaft With Electromagnetic Brake	AZM46A□KH AZM46M□KH	AZM48A□KH -	AZM66A□KH AZM66M□KH	AZM69A□KH AZM69M□KH	
Driver Product Name		AZD-K				
Max. Holding Torque	Nm	0.3	0.72	1	2	
Holding Torque at Motor Standstill	Power ON	Nm	0.15	0.36	0.5	1
	Electromagnetic Brake	Nm	0.15	-	0.5	1
Rotor Inertia	J: kg·m ²	55×10^{-7} [71×10^{-7}]*1	115×10^{-7}	370×10^{-7} [530×10^{-7}]*1	740×10^{-7} [900×10^{-7}]*1	
Resolution	1000 P/R	0.36°/Pulse				
Power Supply Input		Please check "Driver Specifications" on page 16 for the driver current specifications when combined with a motor.				
Control Power Supply*2						

● Either a **0** (straight type) or **1** (key type) indicating the additional function is specified where the box □ is located in the product name. (**AZM46** is straight type only) For single shaft flat type motors, there is no number in the □ box.

A letter indicating the driver type is specified where the box ■ is located in the product name. Please check "List of Combinations" on page 14 for driver product names.

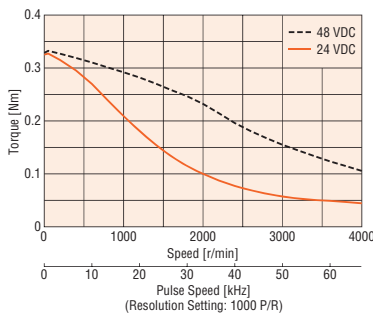
● When the motor is operated from 48 VDC input, as a reference, use an inertial load 10 times the rotor inertial ratio or less and twice the safety factor or more when calculating the acceleration torque. (Except for **AZM46**)

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

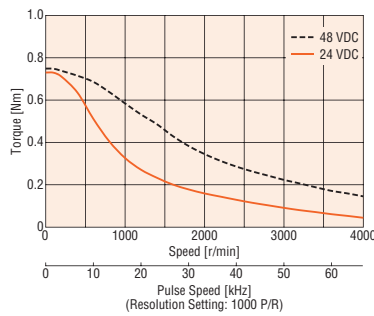
*2 Except for **AZD-KD**, **AZD-KX**, and **AZD-K**

Speed – Torque Characteristics (Reference values)

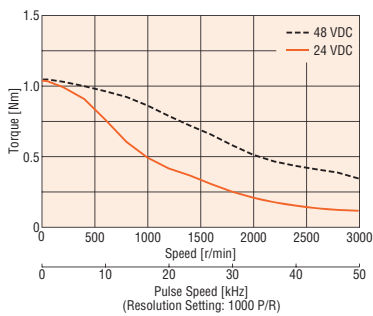
AZM46



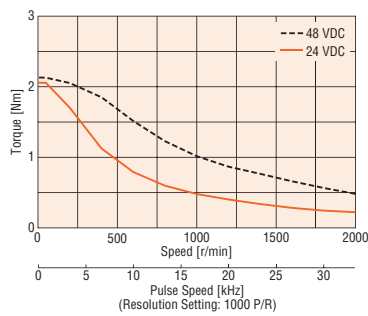
AZM48



AZM66



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

Driver Product Name		AZD-KED AZD-KEP AZD-KPN	AZD-KX AZD-K	AZD-KD
Main Power Supply	Input Voltage	· 24 VDC±5% · 48 VDC±5%		
	Input Current	AZM46	1.5 A	1.72 A (1.8 A)* ¹
		AZM48	2.1 A	2.2 A
		AZM66	3.3 A	3.55 A (3.8 A)* ¹
AZM69	3.1 A	3.45 A (3.7 A)* ¹		
Control Power Supply	Input Voltage	24 VDC±5%		
	Input Current	0.15 A (0.4 A)* ²		
Interface	Pulse Input	· 2 points, Photocoupler · Maximum Input Pulse Frequency Line driver: 1 MHz (at 50% duty) Open collector: 250 kHz (at 50% duty)		—
	Control Input	6 points, Photocoupler		10 points, Photocoupler
	Pulse Output	2 points, Line driver		
	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

	Motor	Driver
Thermal Class	130 (B) [UL Recognized 105 (A)]	—
Insulation Resistance	100 MΩ or more when 500 VDC megger is applied between the following places: · Case – Motor windings · Case – Electromagnetic Brake Windings* ¹	100 MΩ or more when 500 VDC megger is applied between the following places: · PE Terminal – Power Supply Terminal
Dielectric Strength	Sufficient to withstand the following for 1 minute: · Case – Motor Winding 1.0 kVAC 50/60 Hz · Case – Electromagnetic Brake Windings* ¹ 1.0 kVAC 50/60 Hz	—
Operating Environment (In Operation)	Ambient Temperature	0 to +40°C (+32 to +104°F) (Non-Freezing)
	Ambient Humidity	85% or less (Non-Condensing)
	Altitude	Max. of 1000 m (3300 ft.) above sea level
	Surrounding Atmosphere	No corrosive gas or dust. No water or oil.
Degree of Protection	When connecting the connection cable IP66 (excluding the mounting surface and connector on the driver side of the connection cable)	IP10
Stop Position Accuracy	AZM46, AZM48: ±4 arcmin (±0.067°)	AZM66, AZM69: ±3 arcmin (±0.05°)
Shaft Runout	0.05 T.I.R. (mm)* ²	—
Concentricity of Installing Pilot to the Shaft	0.075 T.I.R. (mm)* ²	—
Perpendicularity of Installation Surface to the Shaft	0.075 T.I.R. (mm)* ²	—
Multiple Rotation Detection Range in Non-Conduction State	±900 Revolutions (1800 Revolutions)	

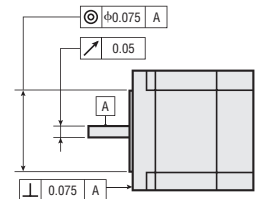
*1 Electromagnetic brake type only.

*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

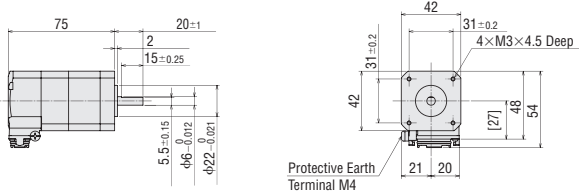
● Motor

◇ Standard Type

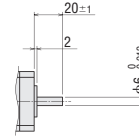
Frame Size 42 mm

Shaft Type	Product Name	Mass [kg]
Single Shaft Flat Type	AZM46AKH	0.4
Straight Type	AZM46AOKH	

Single Shaft Flat Type



Straight Type

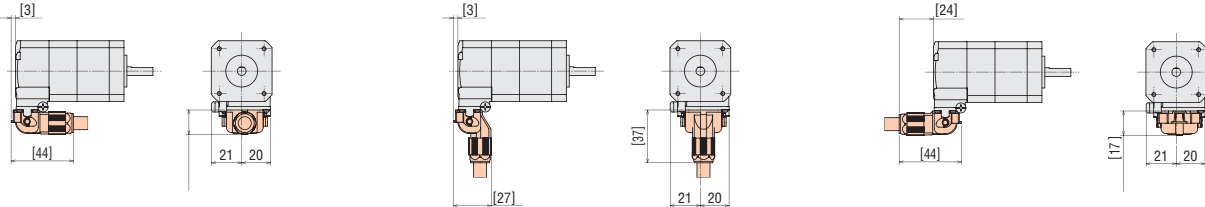


● With Connection Cable Attached

Cable Drawn in the Same Direction As the Output Shaft

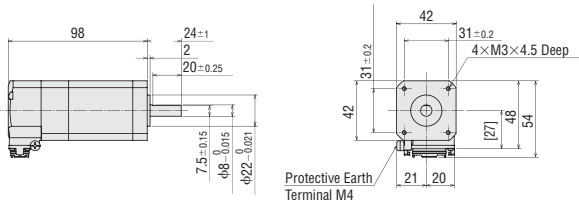
Cable Drawn Vertically

Cable Drawn in the Opposite Direction of the Output Shaft

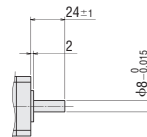


Shaft Type	Product Name	Mass [kg]
Single Shaft Flat Type	AZM48AKH	0.63
Straight Type	AZM48AOKH	
Key Type	AZM48A1KH	

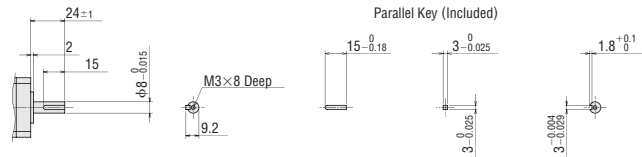
Single Shaft Flat Type



Straight Type



Key Type

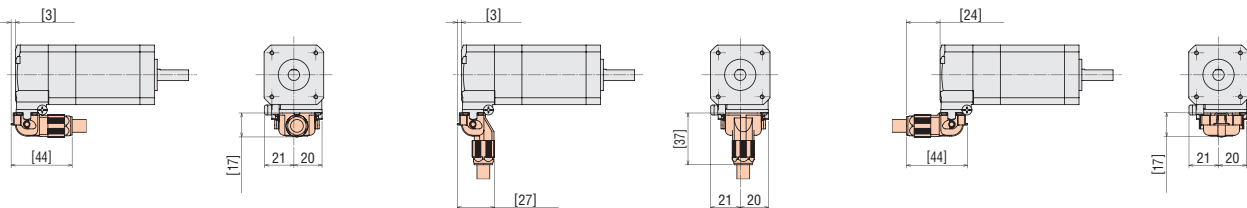


● With Connection Cable Attached

Cable Drawn in the Same Direction As the Output Shaft

Cable Drawn Vertically

Cable Drawn in the Opposite Direction of the Output Shaft

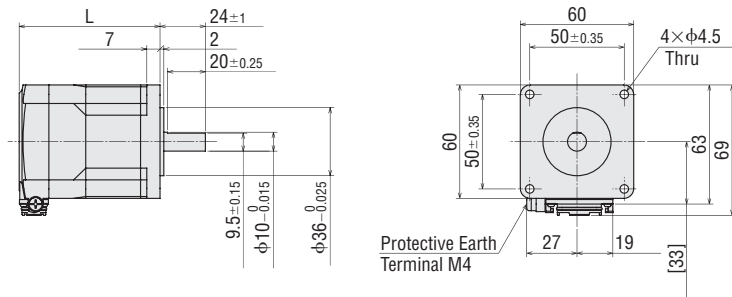


● The color in the dimensions indicates the connection cable that is sold separately.

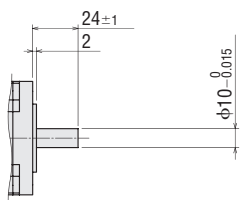
Frame Size 60 mm

Shaft Type	Product Name	L	Mass [kg]
Single Shaft Flat Type	AZM66AKH	74.5	0.84
Straight Type	AZM66A0KH		
Key Type	AZM66A1KH		
Single Shaft Flat Type	AZM69AKH	100	1.3
Straight Type	AZM69A0KH		
Key Type	AZM69A1KH		

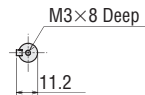
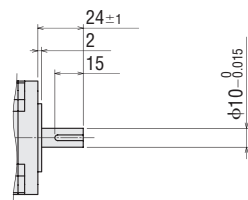
Single Shaft Flat Type



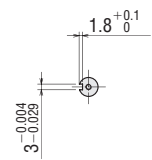
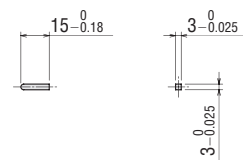
Straight Type



Key Type

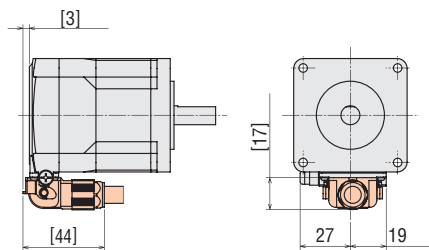


Parallel Key (Included)

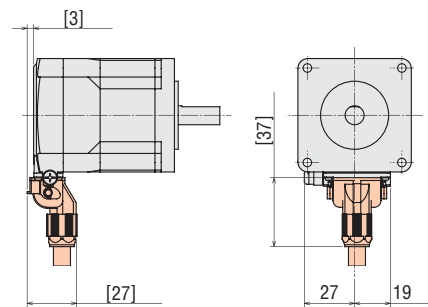


● With Connection Cable Attached

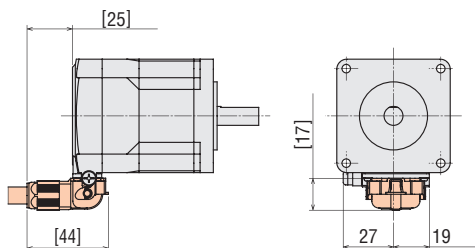
Cable Drawn in the Same Direction As the Output Shaft



Cable Drawn Vertically



Cable Drawn in the Opposite Direction of the Output Shaft

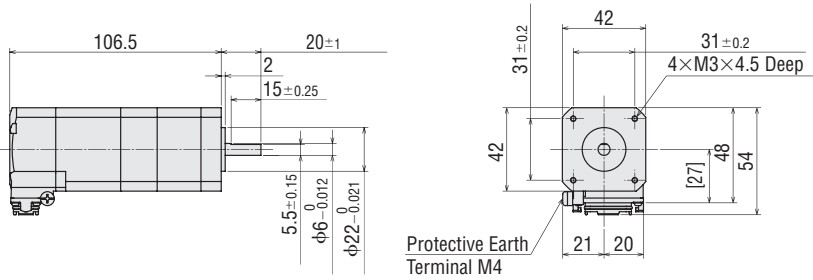


● The color in the dimensions indicates the connection cable that is sold separately.

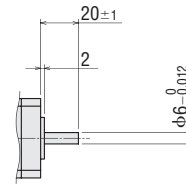
◇ Standard Type with Electromagnetic Brake
Frame Size 42 mm

Shaft Type	Product Name	Mass [kg]
Single Shaft Flat Type	AZM46MKH	0.54
Straight Type	AZM46MOKH	

Single Shaft Flat Type

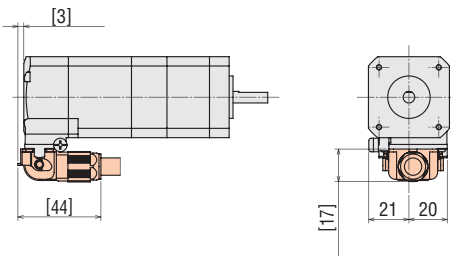


Straight Type

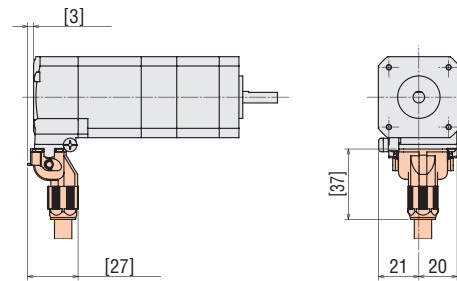


● With Connection Cable Attached

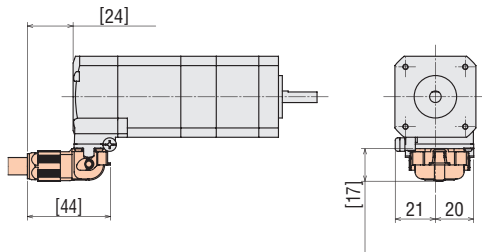
Cable Drawn in the Same Direction As the Output Shaft



Cable Drawn Vertically



Cable Drawn in the Opposite Direction of the Output Shaft

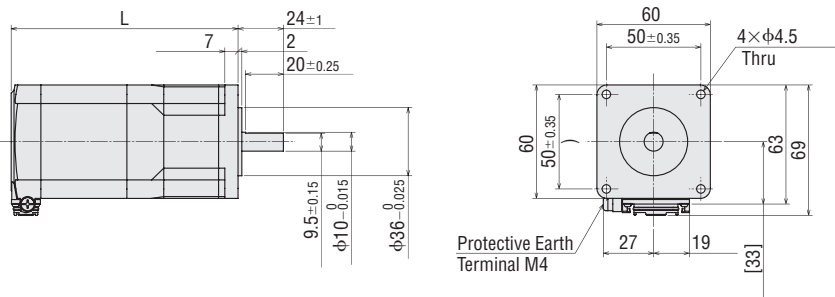


● The  color in the dimensions indicates the connection cable that is sold separately.

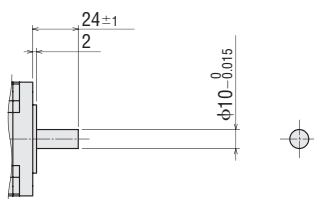
Frame Size 60 mm

Shaft Type	Product Name	L	Mass [kg]
Single Shaft Flat Type	AZM66MKH	120	1.2
Straight Type	AZM66M0KH		
Key Type	AZM66M1KH		
Single Shaft Flat Type	AZM69MKH	145.5	1.7
Straight Type	AZM69M0KH		
Key Type	AZM69M1KH		

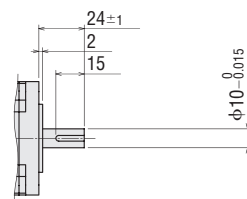
Single Shaft Flat Type



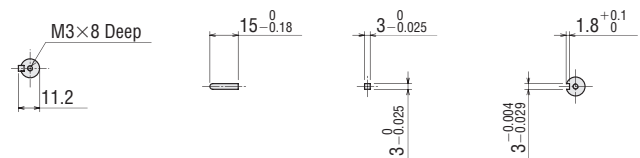
Straight Type



Key Type

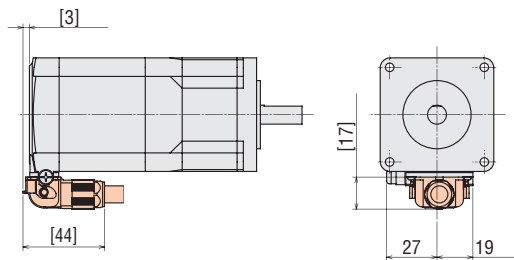


Parallel Key (Included)

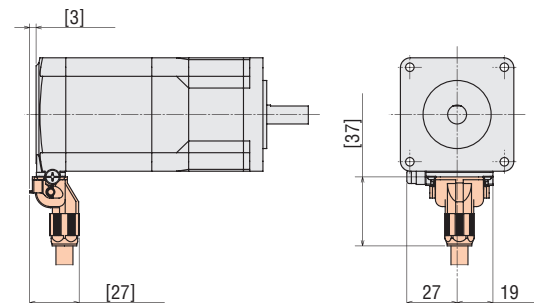


● With Connection Cable Attached

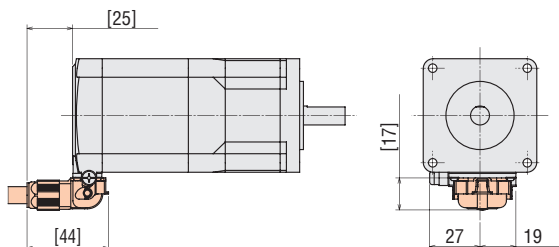
Cable Drawn in the Same Direction As the Output Shaft



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.

Cables

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.



Cable Outlet Direction
Output Shaft Side



Cable Outlet Direction
Vertical



Cable Outlet Direction
Opposite Side of Output Shaft

Product Line

◇ Connection cable

[For AC Input]

● For Motor/Encoder



Cable Outlet Direction	Length L [m]	Product Name	List Price
Output Shaft Direction	1	CCM010Z1AFF	51.00 €
	2	CCM020Z1AFF	61.00 €
	3	CCM030Z1AFF	72.00 €
	5	CCM050Z1AFF	111.00 €
	7	CCM070Z1AFF	133.00 €
	10	CCM100Z1AFF	168.00 €
Vertical	1	CCM010Z1AVF	51.00 €
	2	CCM020Z1AVF	61.00 €
	3	CCM030Z1AVF	72.00 €
	5	CCM050Z1AVF	111.00 €
	7	CCM070Z1AVF	133.00 €
	10	CCM100Z1AVF	168.00 €
Opposite to Output Shaft Direction	1	CCM010Z1ABF	51.00 €
	2	CCM020Z1ABF	61.00 €
	3	CCM030Z1ABF	72.00 €
	5	CCM050Z1ABF	111.00 €
	7	CCM070Z1ABF	133.00 €
	10	CCM100Z1ABF	168.00 €

● For Motor/Encoder/Type with Electromagnetic Brake



Cable Outlet Direction	Length L [m]	Product Name	List Price
Output Shaft Direction	1	CCM010Z1BFF	63.00 €
	2	CCM020Z1BFF	76.00 €
	3	CCM030Z1BFF	88.00 €
	5	CCM050Z1BFF	132.00 €
	7	CCM070Z1BFF	159.00 €
	10	CCM100Z1BFF	199.00 €
Vertical	1	CCM010Z1BVF	63.00 €
	2	CCM020Z1BVF	76.00 €
	3	CCM030Z1BVF	88.00 €
	5	CCM050Z1BVF	132.00 €
	7	CCM070Z1BVF	159.00 €
	10	CCM100Z1BVF	199.00 €
Opposite to Output Shaft Direction	1	CCM010Z1BBF	63.00 €
	2	CCM020Z1BBF	76.00 €
	3	CCM030Z1BBF	88.00 €
	5	CCM050Z1BBF	132.00 €
	7	CCM070Z1BBF	159.00 €
	10	CCM100Z1BBF	199.00 €

[For DC Input]

● For Motor/Encoder



Cable Outlet Direction	Length L [m]	Product Name	List Price
Output Shaft Direction	0.5	CCM005Z1CFF	51.00 €
	1	CCM010Z1CFF	51.00 €
	2	CCM020Z1CFF	61.00 €
	3	CCM030Z1CFF	72.00 €
	5	CCM050Z1CFF	111.00 €
	7	CCM070Z1CFF	133.00 €
Vertical	0.5	CCM005Z1CVF	51.00 €
	1	CCM010Z1CVF	51.00 €
	2	CCM020Z1CVF	61.00 €
	3	CCM030Z1CVF	72.00 €
	5	CCM050Z1CVF	111.00 €
	7	CCM070Z1CVF	133.00 €
Opposite to Output Shaft Direction	0.5	CCM005Z1CBF	51.00 €
	1	CCM010Z1CBF	51.00 €
	2	CCM020Z1CBF	61.00 €
	3	CCM030Z1CBF	72.00 €
	5	CCM050Z1CBF	111.00 €
	7	CCM070Z1CBF	133.00 €
10	CCM100Z1CBF	168.00 €	

● For Motor/Encoder/Type with Electromagnetic Brake



Cable Outlet Direction	Length L [m]	Product Name	List Price
Output Shaft Direction	0.5	CCM005Z1DFF	63.00 €
	1	CCM010Z1DFF	63.00 €
	2	CCM020Z1DFF	76.00 €
	3	CCM030Z1DFF	88.00 €
	5	CCM050Z1DFF	132.00 €
	7	CCM070Z1DFF	159.00 €
Vertical	0.5	CCM005Z1DVF	63.00 €
	1	CCM010Z1DVF	63.00 €
	2	CCM020Z1DVF	76.00 €
	3	CCM030Z1DVF	88.00 €
	5	CCM050Z1DVF	132.00 €
	7	CCM070Z1DVF	159.00 €
Opposite to Output Shaft Direction	0.5	CCM005Z1DBF	63.00 €
	1	CCM010Z1DBF	63.00 €
	2	CCM020Z1DBF	76.00 €
	3	CCM030Z1DBF	88.00 €
	5	CCM050Z1DBF	132.00 €
	7	CCM070Z1DBF	159.00 €
10	CCM100Z1DBF	199.00 €	

◇ Flexible Connection Cable

[For AC Input]

● For Motor/Encoder



Cable Outlet Direction	Length L [m]	Product Name	List Price
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



Cable Outlet Direction	Length L [m]	Product Name	List Price
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]

● For Motor/Encoder



Cable Outlet Direction	Length L [m]	Product Name	List Price
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



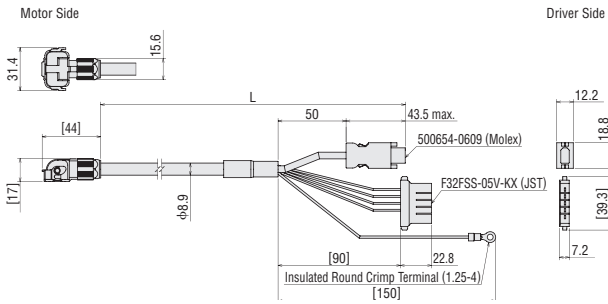
Cable Outlet Direction	Length L [m]	Product Name	List Price
Output Shaft Direction	0.5	CCM005Z1DFR	114.00 €
	1	CCM010Z1DFR	114.00 €
	2	CCM020Z1DFR	133.00 €
	3	CCM030Z1DFR	146.00 €
	5	CCM050Z1DFR	180.00 €
	7	CCM070Z1DFR	222.00 €
	10	CCM100Z1DFR	280.00 €
Vertical	0.5	CCM005Z1DVR	114.00 €
	1	CCM010Z1DVR	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 €

● Dimensions Unit = mm

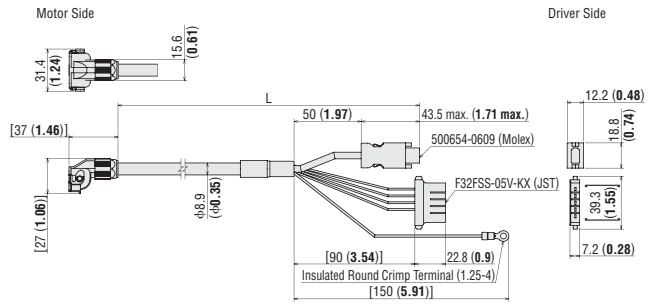
[For AC Input]

● For Motor/Encoder

- Cable drawn on output shaft direction, Cable drawn on opposite to output shaft direction

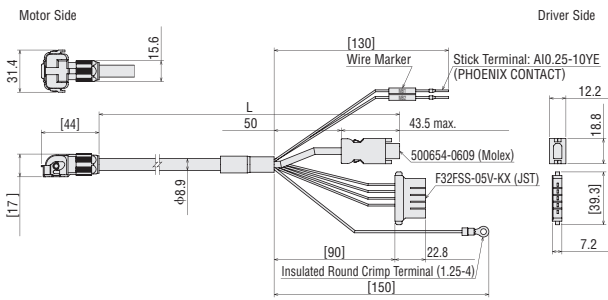


- Cable drawn vertically

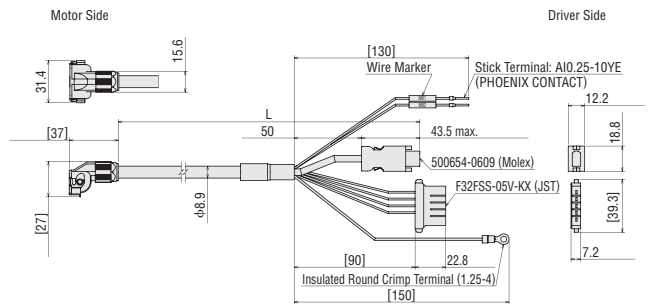


● For Motor/Encoder/Type with Electromagnetic Brake

- Cable drawn on output shaft direction, Cable drawn on opposite to output shaft direction



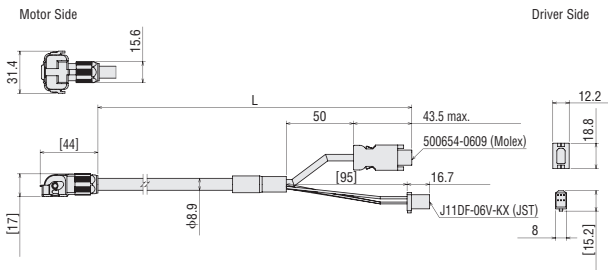
- Cable drawn vertically



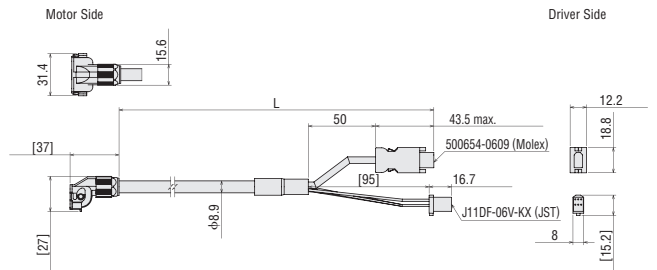
[For DC Input]

● For Motor/Encoder

- Cable drawn on output shaft direction, Cable drawn on opposite to output shaft direction

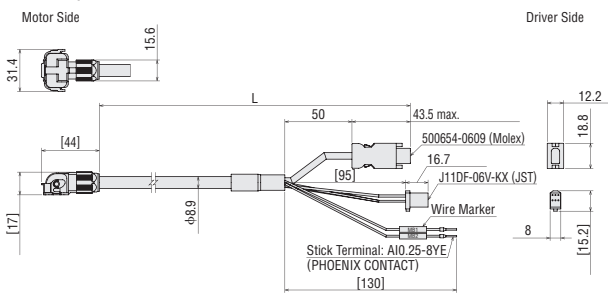


- Cable drawn vertically

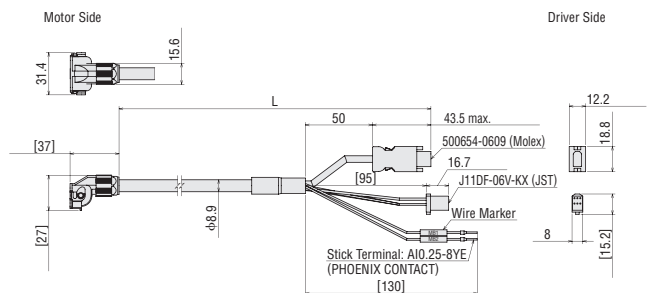


● For Motor/Encoder/Type with Electromagnetic Brake

- Cable drawn on output shaft direction, Cable drawn on opposite to output shaft direction



- Cable drawn vertically



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 April 2023.

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