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NEW
PRODUCTS

α STEP

AZ Series

EtherNet/IP™ Compatible Driver

AZ Series drivers now include EtherNet/IP communications for a battery-free, absolute mechanical sensor motor and driver solution.

For use with all Oriental Motor **AZ** Series motors and linear & rotary actuators equipped with the **AZ** Series.



AC Input

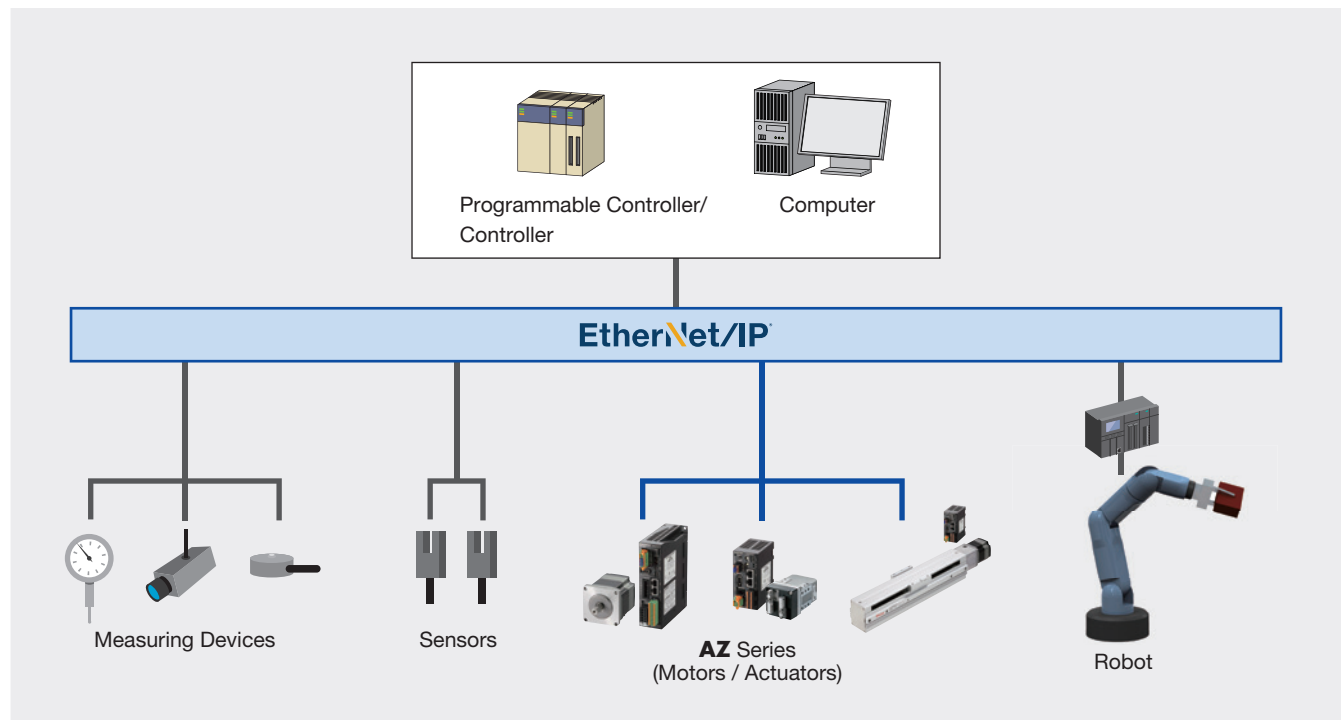


DC Input

EtherNet/IP

EtherNet/IP Communications

The **AZ** Series of motors can be easily added to an existing EtherNet/IP network.



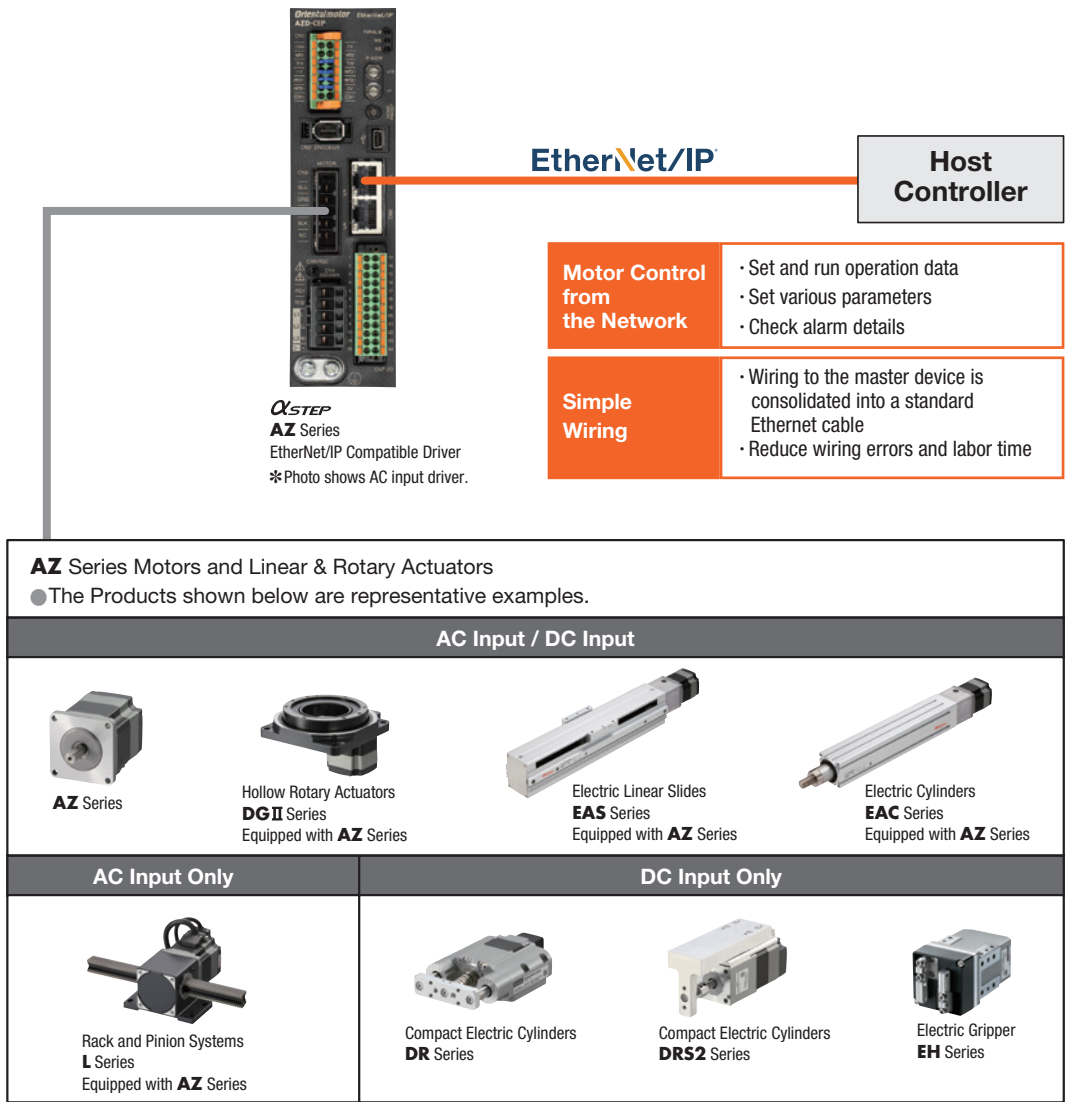
● AZ Series Catalog

Please see our separate catalog for the **AZ** Series products or visit our website.



AZ Series Family of Motion Control with EtherNet/IP

Easily control the **AZ** Series by directly connecting to the EtherNet/IP master device using a standard Ethernet cable. This allows for quick and simple wiring.



● EDS File

An EDS file has been prepared to allow EtherNet/IP compatible products to be used more easily. The EDS file can be downloaded from the Oriental Motor website.

System configuration example of I/O control with EtherNet/IP compatible **AZ** Series driver using EtherNet/IP communications.



AZD	- C	EP
①	②	③

CN1 Connector (1 pc.)	1 Copy
CN7 Connector (1 pc.)	
Connector Wiring Lever (1 pc.)	

Power Supply Input	Product Name
Single-Phase 100-120 VAC	AZD-AEP
Single-Phase 200-240 VAC	AZD-CEP

Connector	Operating Manual
CN4 Connector (1 pc.)	1 Copy
CN1 Connector (1 pc.)	
CN7 Connector (1 pc.)	
Connector Wiring Lever (1 pc.)	

Specifications

Communication Specifications

Communications Standards		EtherNet/IP Communication (Conforms with CT16)
Vendor ID		187: Oriental Motor Company
Device Type		43: Generic Device
Transmission Rate		10/100 Mbps (Autonegotiation)
Communication Mode		Full duplex/Half duplex (Autonegotiation)
Cable Specifications		Shielded twisted-pair (STP) cable Straight-through/Crossover cable, Category 5e or higher
Number of Occupied Bytes	Output (Scanner → Driver)	40 bytes
	Input (Driver → Scanner)	56 bytes
Implicit Communication	Number of Connections	2
	Connection Type	Exclusive Owner, Input Only
	Communication Cycle (RPI)	1 to 3200 ms
	Connection Type (Scanner → Driver)	Point-to-Point
	Connection Type (Driver → Scanner)	Point-to-Point, Multicast
	Data Trigger	Cyclic
Explicit Communication	Number of Connections	6
	Connection Type	UCMM, Connection
IP Address Setting Method		IP address setting switch, Parameter, DHCP
Network Topologies		Star, Linear bus, Ring (Device Level Ring)

Driver Specifications



Driver Product Name			AZD-AEP	AZD-CEP
Main Power Supply	Input Voltage		Single-Phase 100-120 VAC -15 to +6% 50/60 Hz	Single-Phase 200-240 VAC -15 to +6% 50/60 Hz
	Input Current* ¹	Single-Phase	AZM46: 2.7 A, AZM48: 2.7 A, AZM66: 3.8 A, AZM69: 5.4 A, AZM98: 5.5 A, AZM911: 6.4 A, DGB85: 2.7 A, DGM85: 2.7 A, DGM130: 3.8 A, DGM200: 6.4 A, LM2: 3.8 A, LM4: 3.8 A	AZM46: 1.7 A, AZM48: 1.6 A, AZM66: 2.3 A, AZM69: 3.3 A, AZM98: 3.3 A, AZM911: 3.9 A, DGB85: 1.7 A, DGM85: 1.7 A, DGM130: 2.3 A, DGM200: 3.9 A, LM2: 2.3 A, LM4: 2.3 A
Control Power Supply	Input Voltage		24 VDC ±5%* ²	
	Input Current		0.25 A (0.5 A)* ³	
Interface	Pulse Input		2 inputs, Photocoupler Maximum input pulse frequency Scanner provides line driver output: 1 MHz (50% duty) Scanner provides open collector output: 250 kHz (50% duty)	
	Control Input		6 inputs, Photocoupler	
	Pulse Output		2 outputs, Line driver	
	Control Output		6 outputs, Photocoupler/Open collector	
	Power Shut Down Signal Input		2 inputs, Photocoupler	
	Power Shut Down Monitor Output		1 output, Photocoupler/Open collector	
	Field Network		EtherNet/IP	

*¹ Varies according to the motor it is combined with.

*² If an electromagnetic brake motor is used, value is 24 VDC ± 4% when the distance between the motor and driver is extended to 20 m using an Oriental Motor cable.

*³ The value inside the () represents the value for an electromagnetic brake motor. For the **AZM46** it is 0.33 A.

General Specifications

Degree of Protection	IP10
Operating Environment	Ambient Temperature: 0 to +55°C (non-freezing)*
	Humidity: 85% or less (non-condensing)
	Altitude: Up to 1000 m above sea level
	Atmosphere: No corrosive gas or dust. The product should not be exposed directly to water, oil or other liquids.
Storage Conditions Shipping Conditions	Ambient Temperature: -25 to +70°C (non-freezing)
	Humidity: 85% or less (non-condensing) Altitude: Up to 3000 m above sea level Atmosphere: No corrosive gas or dust. The product should not be exposed directly to water, oil or other liquids.
Insulation Resistance	When a 500 VDC megger is applied to the following locations, resistance is 100 MΩ or higher. · Between the protective earth terminal and the main power supply terminal · Between the encoder connector and the main power supply terminal · Between the input signal terminal and the main power supply terminal
Dielectric Strength	No abnormalities are observed when the specified voltages are applied for 1 minute to the following locations. · Between the protective earth terminal and the main power supply terminal 1.5 kVAC 50/60 Hz · Between the encoder connector and the main power supply terminal 1.8 kVAC 50/60 Hz · Between the input signal terminal and the main power supply terminal 1.8 kVAC 50/60 Hz

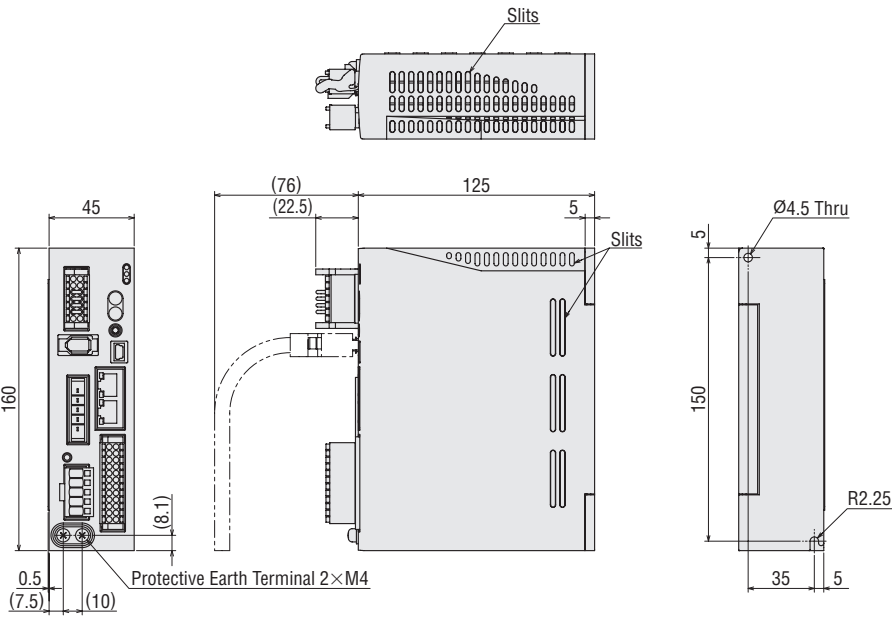
* When a heat sink is installed that is equivalent to an aluminum plate with a size of at least 200×200 mm and 2 mm of thickness

Notes

- When measuring insulation resistance or testing dielectric strength, please disconnect the motor and driver.
- Also, do not perform these tests on the absolute sensor component of the motor.

Dimensions Unit: mm

Product Name	Mass [kg]
AZD-AEP, AZD-CEP	0.68

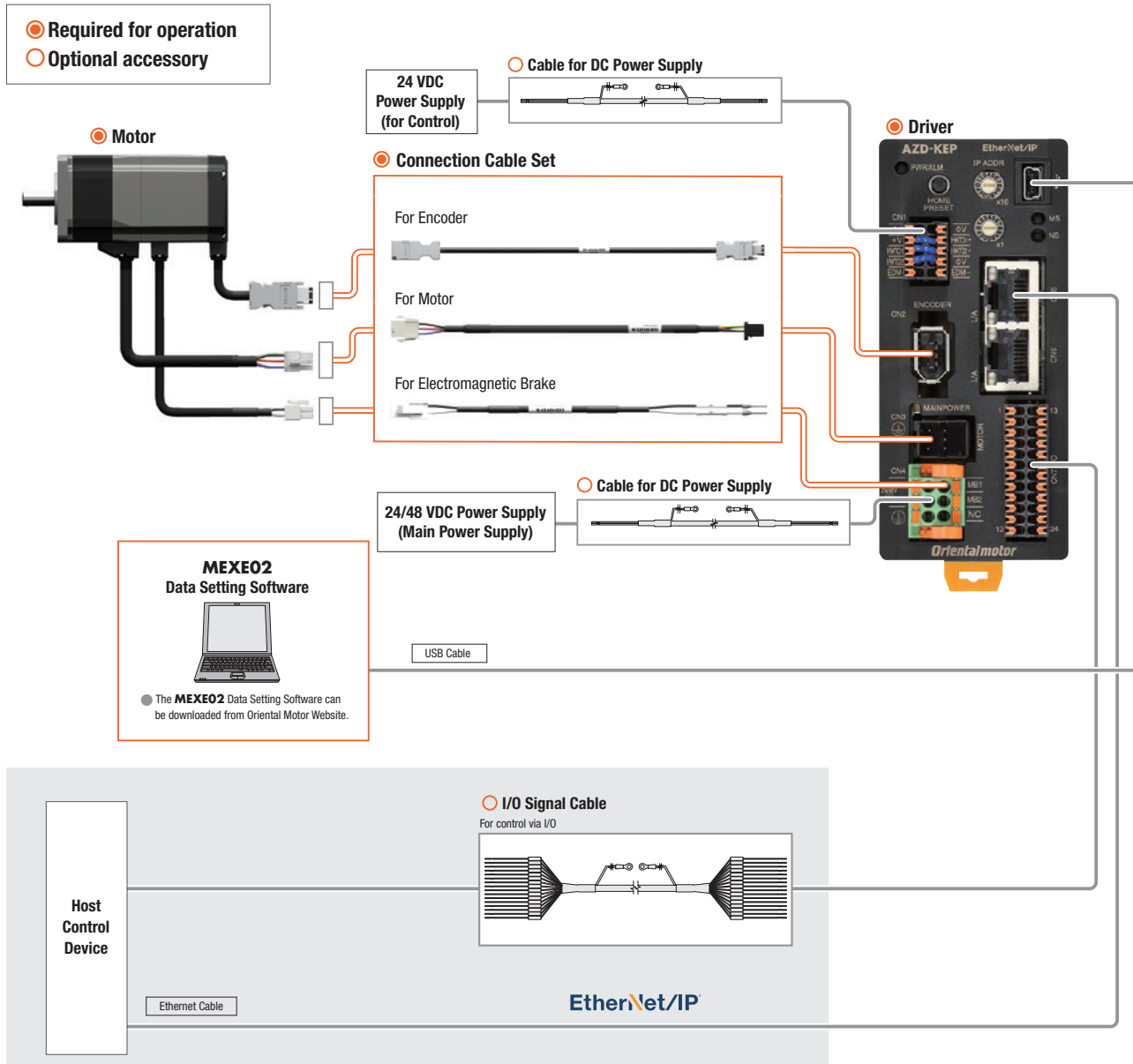


- Included
- Main Power Supply/Connector for Regeneration Unit (CN4)
Connector: 05JFAT-SAXGDK-H5.0 (J.S.T.)
Connector Wiring Lever
 - 24 VDC Power Supply Input/Electromagnetic Brake Connection/Regeneration Unit Thermal Input/Connector for Power Interruption Signal Input/Output (CN1)
Connector: DFMC1,5/7-ST-3,5-LR (Phoenix Contact)
 - I/O Signal Connector (CN7)
Connector: DFMC1,5/12-ST-3,5 (Phoenix Contact)

System Configuration

●AZ Series with EtherNet/IP Compatible Driver

System configuration example of I/O control with EtherNet/IP compatible **AZ** Series driver using EtherNet/IP communications. Motor, driver, and a connection cable set/flexible connection cable set are ordered separately.



Note

● The motor cable and electromagnetic brake cable from the motor cannot be connected directly to the driver. When connecting to a driver, use a connection cable.

Product Name

AZD - K EP

③

①	Driver Type	AZD: AZ Series Driver
②	Power Supply Input	K: 24/48 VDC
③	Network Type	EP: EtherNet/IP

Product Line

Power Supply Input	Product Name
24/48 VDC	AZD-KEP

Included

Connector	Operating Manual
CN4 Connector (1 pc.)	1 Copy
CN1 Connector (1 pc.)	
CN7 Connector (1 pc.)	

Specifications

Communication Specifications

Communication Protocol	EtherNet/IP (Complies with CT16)	
Vendor ID	187: Oriental Motor Company	
Device Type	43: Generic Device	
Baud Rate	10/100 Mbps (Auto-negotiation)	
Communication Mode	Full duplex/Half duplex (Auto-negotiation)	
Cable Specifications	Shielded twisted-pair wire (STP) cable Straight/Cross, Category 5e or higher	
Number of Occupied Bytes	Output (Scanner → Driver)	40 bytes
	Input (Driver → Scanner)	56 bytes
Implicit Communication	Number of Supported Connections	2
	Connection Type	Exclusive Owner, Listen Only, Input Only
	Communication Cycle (RPI)	1 to 3200 ms
	Connection Type (Scanner → Driver)	Point-to-Point
	Connection Type (Driver → Scanner)	Point-to-Point, Multicast
	Data Trigger	Cyclic
Explicit Communication	Number of Supported Connections	6
	Connection Type	UCMM, Connection
IP Address Setting Method	IP address setting switch, Parameter, DHCP	
Supported Topologies	Star, Linear, Ring (Device Level Ring)	

Driver Specifications



Driver Product Name		AZD-KEP
Main Power Supply	Input Voltage	24 VDC ±5% 48 VDC ±5%
	Input Current*1	AZM14: 0.4 A, AZM15: 0.5 A, AZM24: 1.6 A, AZM26: 1.5 A, AZM46: 1.5 A, AZM48: 2.1 A, AZM66: 3.3 A, AZM69: 3.1 A, DGM60: 1.6 A, DGB85: 1.5 A, DGM85: 1.5 A, DGM130: 3.3 A, DR28: 1.3 A, DRSM42: 1.5 A, EH4: 1.6 A
Control Power Supply	Input Voltage	24 VDC ±5%*2
	Input Current	0.15 A (0.4 A)*3
Interface	Pulse Input	2 inputs, Photocoupler Maximum input pulse frequency Scanner provides line driver output: 1MHz (50% duty) Scanner provides open collector output: 250kHz (50% duty)
	Control Input	6 inputs, Photocoupler
	Pulse Output	2 outputs, Line driver
	Control Output	6 outputs, Photocoupler/Open collector
	Power Shut Down Signal Input	2 inputs, Photocoupler
	Power Shut Down Monitor Output	1 output, Photocoupler/Open collector
	Field Network	EtherNet/IP

*1 Varies according to the motor it is combined with.

*2 If an electromagnetic brake motor is used, value is 24 VDC ± 4% when the distance between the motor and driver is extended to 20 m using an Oriental Motor cable.

*3 The value inside the () represents the value for a motor with an electromagnetic brake. For the **AZM46** it is 0.23 A.

General Specifications

Degree of Protection	IP10
Operating Environment	Ambient Temperature: 0 to +50°C (non-freezing) Humidity: 85% or less (non-condensing) Altitude: Up to 1000 m above sea level Atmosphere: No corrosive gas or dust. The product should not be exposed directly to water, oil or other liquids.
Storage Conditions Shipping Conditions	Ambient Temperature: -25 to +70°C (non-freezing) Humidity: 85% or less (non-condensing) Altitude: Up to 3000 m above sea level Atmosphere: No corrosive gas or dust. The product should not be exposed directly to water, oil or other liquids.
Insulation Resistance	When a 500 VDC megger is applied to the following locations, resistance is 100 MΩ or higher. · Between the protective earth terminal and the main power supply terminal

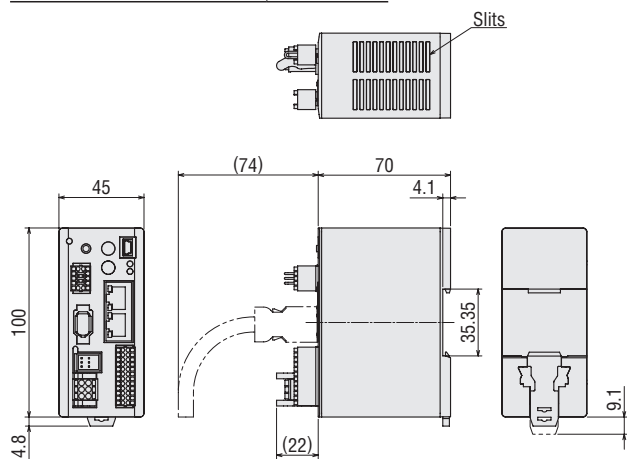
Note

● When measuring insulation resistance or testing dielectric strength, please disconnect the motor and driver.

● Also, do not perform these tests on the absolute sensor component of the motor.

■ Dimensions Unit: mm

Product Name	Mass [kg]
AZD-KEP	0.18



● Included

Main Power Supply Connector (CN4)

Connector: DFMC1,5/3-ST-3,5-LR (Phoenix Contact)

Control Power Supply Connector (CN1)

Connector: DFMC0,5/5-ST-2,54 (Phoenix Contact)

I/O Signal Connector (CN7)

Connector: DFMC0,5/12-ST-2,54 (Phoenix Contact)

EtherNet/IP™ is a trademark of ODVA (Open DeviceNet Vendor Association).

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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 February 2024. Printed in Germany.

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