

# Orientalmotor

# $\alpha$ STEP AZ Series mini Driver

DC Input

Modular Automation Products



The  $\alpha$ STEP **AZ Series** now includes a **mini driver** option.  
Compatible with battery power operation for use in a wider range of applications.

EtherCAT  
Drive Profile-Compatible  
EtherCAT



**AZD-KRED**

EtherNet/IP™  
EtherNet/IP



**AZD-KREP**

PROFINET  
PROFINET



**AZD-KRPN**

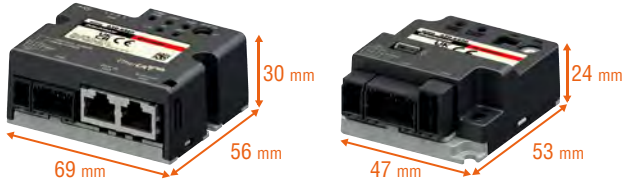
RS-485 Communication Type  
Modbus (RTU)



**AZD-KR2D**

# The mini Driver Allows for Smaller and More

## Compact Design to Fit in Small Spaces



**AZD-KRED**  
**AZD-KREP**  
**AZD-KRPN**

**AZD-KR2D**

## Installation Space is Minimized

No DIN rail required. Can be installed directly to equipment with 2 screws.



**AZD-KRED**  
**AZD-KREP**  
**AZD-KRPN**



**AZD-KR2D**

## Light Weight Design Reduces Load on Equipment

56 g



**AZD-KR2D**

Approx. 60 g



1 medium egg

\*The mass is 110 g except for **AZD-KR2D**.

Example: When mounted inside AMR/AGV.



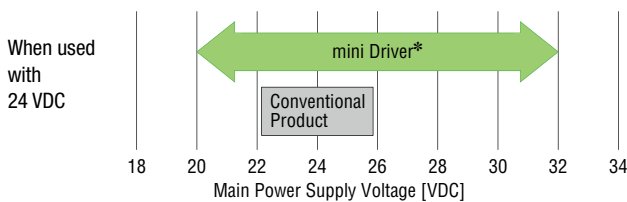
Reduce overall equipment mass  
Reduce Power Consumption for Drive Wheels

→ See use examples (Page 4)

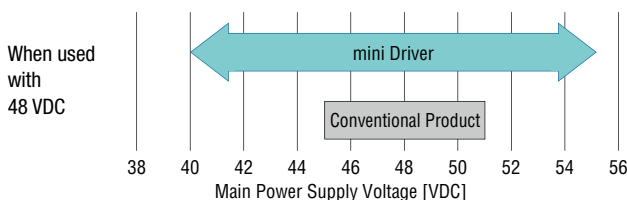
## Compatible with Battery Power

Accepts a wide power supply voltage range for battery powered operation. Supports 24 VDC and 48 VDC.

● Operable Voltage Range

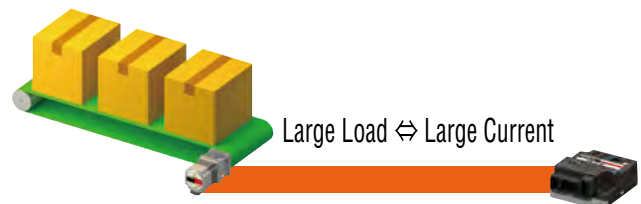


\* For a motor with an electromagnetic brake, the range is 22.8 to 32 VDC



## Energy Savings through Optimised Current Control

The servo emulation mode optimises the current provided to the motor to match the load conditions.



Example: When mounted inside AMR/AGV.



Reduce Power Consumption  
Increase Battery Life

→ See use examples (Page 4)

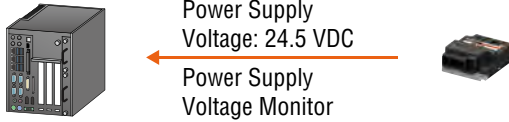
# Power-Efficient Devices

## What Are Modular Automation Products?

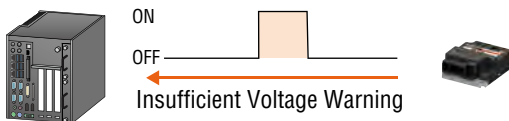
Modular Automation Products are a group of products that share the common features of being battery-powered, compact and lightweight. Optimised for use with self-propelled devices and mobile equipment, they contribute to the realisation of flexible automation lines and mobile automation.

## Power Supply Voltage Monitoring

It is possible to monitor the driver power supply voltage from the host controller.



If the driver power supply voltage drops below a pre-set threshold a signal is output.



When mounted inside the self-propelled devices

Avoid Stoppages Due to Insufficient Battery

→ See use examples (Page 4)

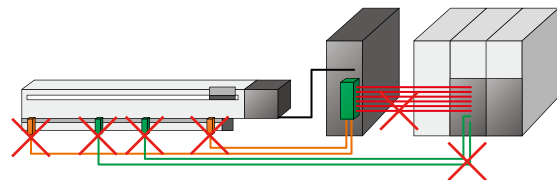


## No External Sensors Required

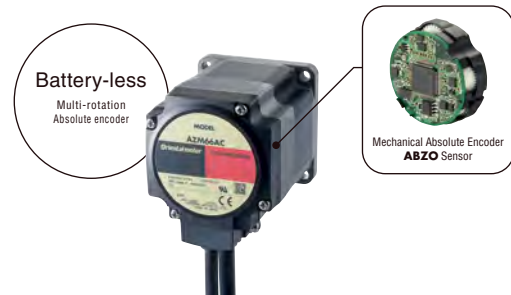
With the **AZ** Series, external sensors and associated wiring are not required.

Example of Wiring when Using External Sensors.

The **AZ** Series eliminates the need for these external sensors and wires shown in green and red.

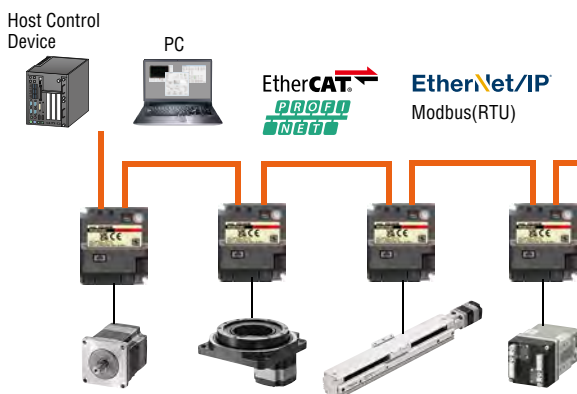


High positioning accuracy can be achieved by using the mechanical battery-free absolute sensor (**ABZO** Sensor).



## FA Network Compatible

Direct control over the network is possible. This contributes to centralised equipment management and simplified wiring.



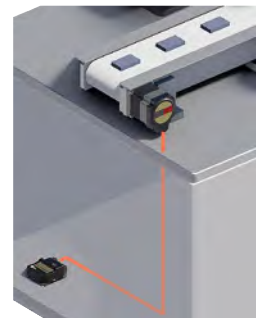
\*The **AZD-KRED** passes the official EtherCAT conformance test.

\*The **AZD-KR2D** is also compatible with CC-Link and MECHATROLINK control when used with a network converter (gateway).

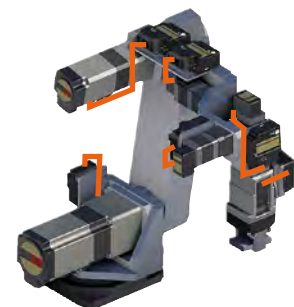
## Up to 10 m Connection Cable Extension

Connection cables can be selected to suit the installation environment, with lengths of 0.5 m, 1 m, 3 m, 5 m, 10 m available.

When the motor and driver are far apart, 3 m, 5 m and 10 m cables are recommended.



When the motor and driver are close, 0.5 m and 1 m cables are recommended.



\*Flexible connection cables in the same lengths are also available.

# Example A: Incorporation into Self-propelled Devices

## Equipment Problem Battery operation time must be maximised.

The equipment's overall power consumption can be reduced by lowering the equipment's overall mass, and by reducing the motor's running current when large amounts of torque aren't required.



## With the $\alpha$ STEPAZ Series mini Driver...

### Lightweight Design Reduces Load on Equipment

By reducing the overall equipment mass, the power consumption for the drive wheels can be reduced.



### Energy Savings through Optimised Current Control

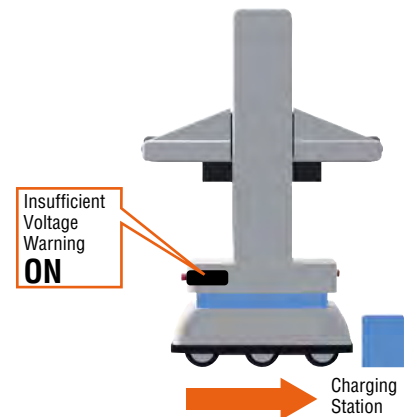
The current supplied to the motor is optimised to suit the load (also called servo emulation mode), thus reducing power consumption. This allows for a reduction in the number of times the battery must be charged.



When the load is light, the current supplied to the motor is automatically reduced.

### Power Supply Voltage Monitoring

The power supply voltage can be monitored using the monitoring function, and the battery recharged at the appropriate time.

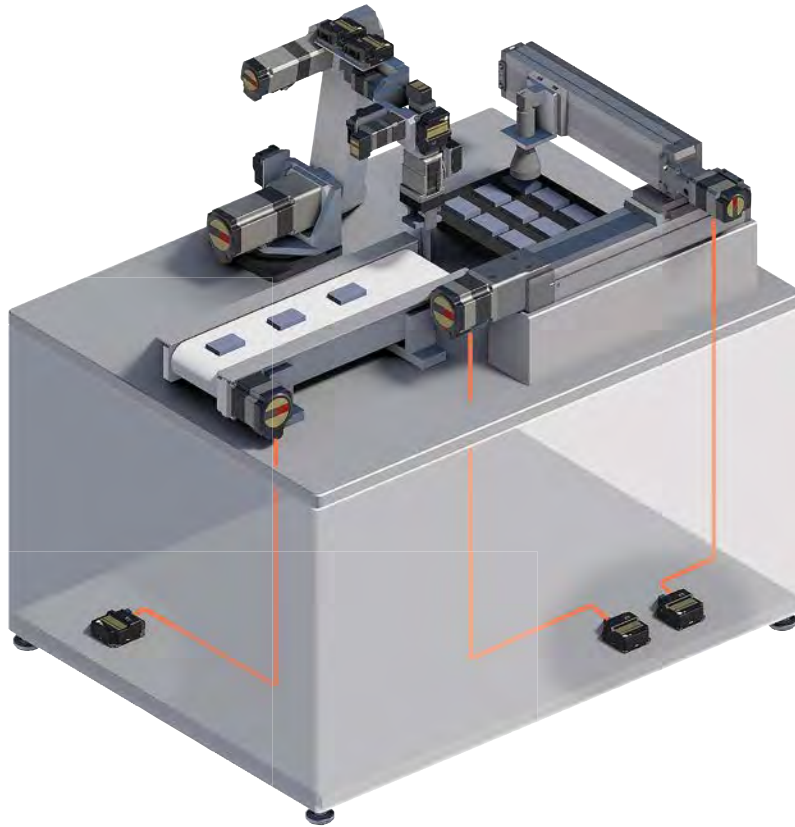




# Example B: Installation in Stationary Equipment

**Equipment Problem** Install the driver and control systems in separate locations to reduce overall equipment size.

Install the mini drivers in the empty enclosure space, or install the mini drivers alongside the work allowing for a smaller control cabinet design.



## The $\alpha$ STEPAZ Series mini Driver Provides

### Compact Design To Fit in Small Spaces

Volume is greatly reduced in comparison to a box-type DC driver.



**AZD-KD**

Size  
Reduced  
More Than  
60%!



**AZD-KR2D**

### No External Sensors Required

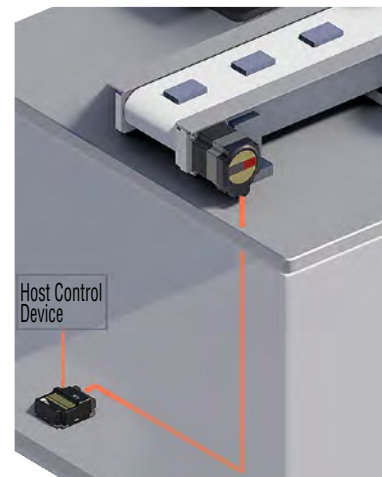
No external sensor or related wiring is necessary. Because there are no external sensors and wiring, the size and weight of the equipment can be reduced. Additionally, the work time for wiring can be reduced.

### FA Network Compatible

Common Network Protocols are available to support the host controller, reduce the burden of programming and support quicker installation time.

### Up to 10 m Connection Cable Extension

The length of the cable between the motor and driver can be selected to suit the installation environment. Extensions of up to 10 m are available.



## Applicable Series

The **AZ** Series Mini Driver DC Power Input can be used in combination with the following motors and linear & rotary actuators.

### Motors

- **AZ** Series DC Power Input

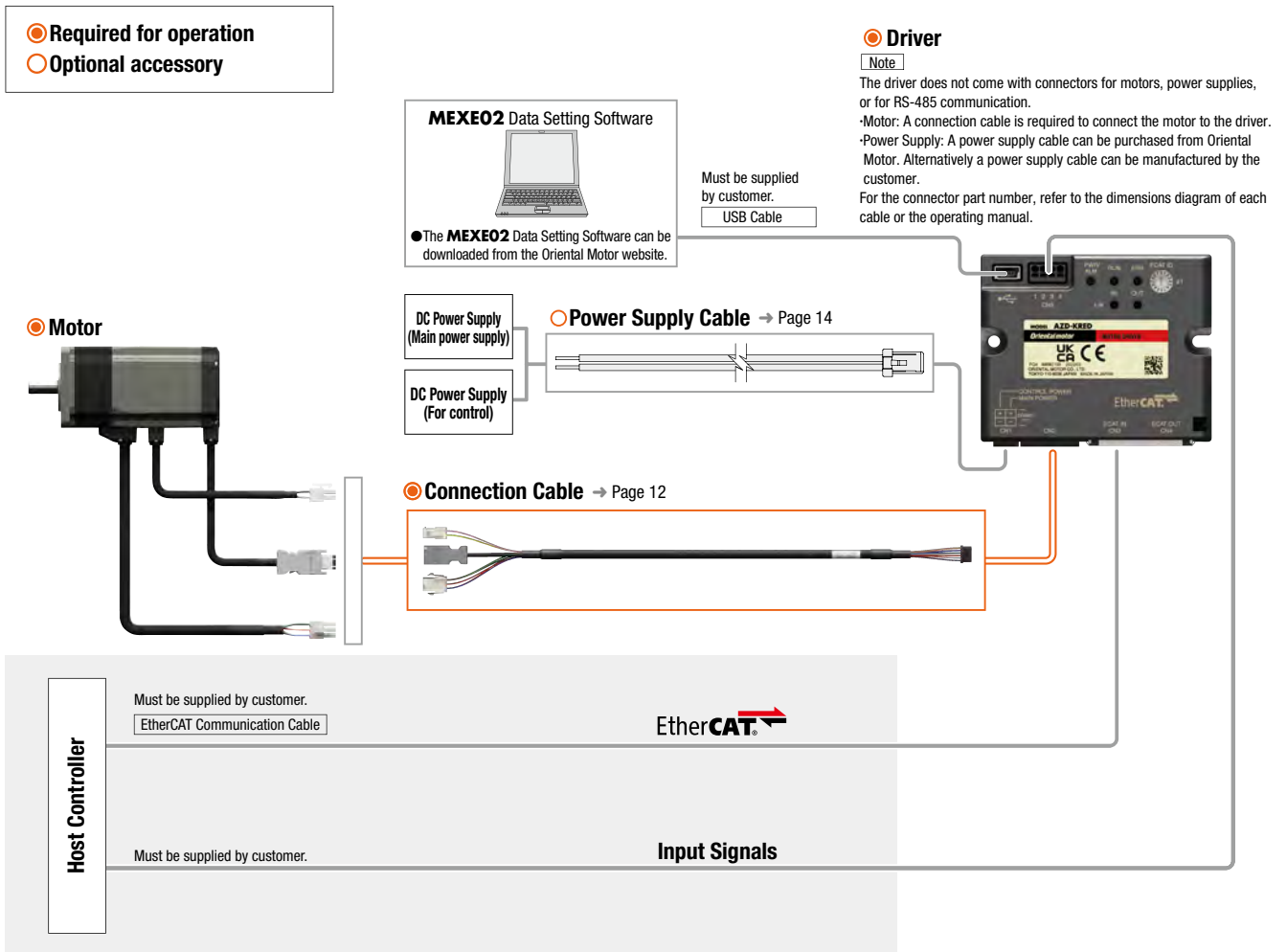
### Electric Linear & Rotary Actuators

- Electric Linear Slides **EZS** Series DC Power Input / **EAS** Series DC Power Input **AZ** Series Equipped
- Electric Cylinders **EAC** Series DC Power Input **AZ** Series Equipped
- Compact Electric Cylinders **DR** Series / **DRS2** Series **AZ** Series Equipped
- Electric Grippers **EH** Series **AZ** Series Equipped
- Hollow Rotary Actuators **DGI** Series DC Power Input **AZ** Series Equipped
- Rack and Pinion System **L** Series DC Power Input **AZ** Series Equipped

● For applicable motor and electric linear & rotary actuator combinations, please see the Oriental Motor website or refer to each product series brochure.

## System Configuration

● **AZ** Series Standard Type Electromagnetic-Brake Motor Combined with EtherCAT Drive Profile Compatible Mini Driver  
Motors, drivers, and connection cables / flexible connection cables must be ordered separately.



● **AZ Series Standard Type Electromagnetic-Brake Motor Combined with RS-485 Communication Type Mini Driver**  
 Motors, drivers, and connection cables / flexible connection cables must be ordered separately.


- Required for operation
- Optional accessory

● **Driver**

[Note]

The driver does not come with connectors for motors, power supplies, or for RS-485 communication.  
 -Motor: A connection cable is required to connect the motor to the driver.  
 -Power Supply: A power supply cable can be purchased from Oriental Motor. Alternatively a power supply cable can be manufactured by the customer.  
 -RS-485 Communication: When connecting to a network converter, a cable is available from Oriental Motor. When connecting to a host controller, the cable must be supplied by the customer. For the connector part number, refer to the dimension diagrams of each cable or the operating manual.

**MEXE02 Data Setting Software**



● The MEXE02 Data Setting Software can be downloaded from the Oriental Motor website.

Must be supplied by customer.  
 USB Cable

● **Motor**



DC Power Supply (Main power supply)  
 DC Power Supply (For control)

○ **Power Supply Cable** → Page 14

● **Connection Cable** → Page 12



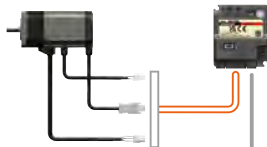
**Host Controller**

Must be supplied by customer.  
 RS-485 Communication Cable

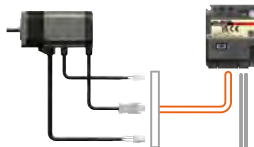
**Modbus (RTU)**



○ **RS-485 Communication Cable**



Must be supplied by customer.  
 RS-485 Communication Cable



Must be supplied by customer.  
 RS-485 Communication Cable

## Product Name

# AZD - K R 2 D

① ② ③ ④ ⑤

①	Driver Type	<b>AZD: AZ</b> Series Driver
②	Power Supply Input	<b>K:</b> 24 VDC/48 VDC
③	Driver Figure	<b>R:</b> Compact
④	Reference Number	
⑤	Type	<b>ED:</b> EtherCAT Drive Profile-Compatible <b>EP:</b> EtherNet/IP <b>PN:</b> PROFINET <b>D:</b> RS-485 Communication Type

## Product Line

### ● EtherCAT Drive Profile-Compatible

Product Name	List Price
<b>AZD-KRED</b>	440.00 €



### ● EtherNet/IP

Product Name	List Price
<b>AZD-KREP</b>	440.00 €



### ● PROFINET

Product Name	List Price
<b>AZD-KRPN</b>	440.00 €



### ● RS-485 Communication Type

Product Name	List Price
<b>AZD-KR2D</b>	341.00 €



## List of Combinations

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

+

Product	Type	Product Name
Driver	EtherCAT Drive Profile-Compatible	<b>AZD-KRED</b>
	EtherNet/IP Compatible	<b>AZD-KREP</b>
	PROFINET Compatible	<b>AZD-KRPN</b>
	RS-485 Communication Type	<b>AZD-KR2D</b>

+

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

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

### ● AZ Series Catalog

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





Driver Product Name		AZD-KRED AZD-KREP AZD-KRPN	AZD-KR2D
Main Power Supply	Rated Voltage	· 24 VDC±5% · 48 VDC±5%	
	Input Current*1	<b>AZM14:</b> 0.4A, <b>AZM15:</b> 0.5A, <b>AZM24:</b> 1.4A, <b>AZM26:</b> 1.4A <b>AZM46:</b> 1.6A, <b>AZM48:</b> 2.1A, <b>AZM66:</b> 3.7A, <b>AZM69:</b> 3.5A <b>DGM60:</b> 1.4A, <b>DGM85:</b> 1.6A, <b>DGM130:</b> 3.7A, <b>DGB85:</b> 1.6A, <b>DGB130:</b> 3.7A <b>DR20:</b> 0.4A, <b>DR28:</b> 1.3A, <b>DRSM42:</b> 1.5A, <b>DRSM60:</b> 2.6A <b>EH3:</b> 0.4A, <b>EH4:</b> 1.4A, <b>LM2:</b> 3.7A, <b>LM4:</b> 3.7A	
	Permissible Voltage Range	24 VDC Input: 20 VDC to 32 VDC (22.8 VDC to 32 VDC)*2 48 VDC Input: 40 VDC to 55 VDC	
Control Power Supply	Rated Voltage	· 24 VDC±5% · 48 VDC±5%	
	Input Current	0.15 A (0.4 A)*3	
	Permissible Voltage Range	24 VDC Input: 20 VDC to 32 VDC (22.8 VDC to 32 VDC)*2 48 VDC Input: 40 VDC to 55 VDC	
Interface	Control Input	24 VDC±10% 2 Points, Photocoupler	—
	Field Network	EtherCAT, EterNet/IP, PROFINET	RS-485 Communication

\*1 The value of the input current depends on the motor used in combination.

\*2 The values in parentheses ( ) indicate the specifications when connected to the electromagnetic brake motor.

\*3 The value in parentheses ( ) indicates the specification when connected to the electromagnetic brake motor. **AZM46** is 0.23 A.

## Driver Functions

### ● EtherCAT Drive Profile-Compatible

Driver Product Name		AZD-KRED
Remote I/O	Input	16 Points
	Output	16 Points
Operation Mode		Profile Position Mode (PP)
		Profile Velocity Mode (PV)
		Return-to-Home Mode (HM)
		Cyclic Synchronous Position Mode (CSP)
		Cyclic Synchronous Velocity Mode (CSV)
Function		Touch Probe (Position Latch) Function
Settings Tool		Support Software <b>MEXE02</b>
Coordinates Management Method		Battery-free Absolute System
Monitor/Information		As shown in the table below.
Alarm		○

### ● EtherNet/IP, PROFINET, RS-485 Communication Type

Driver Product Name		AZD-KREP AZD-KRPN	AZD-KR2D
Number of Positioning Data Sets		256 Points	
Remote I/O	Input	16 Points	
	Output	16 Points	
Setting Tool		Support Software <b>MEXE02</b>	
Coordinates Management Method		Battery-Free Absolute System	
Positioning Operation	Operation Method	Positioning Operation	○
		Positioning Push-Motion Operation*1	○
	Linked Operation	Independent Operation	○
		Sequential Operation	○
		Multi-Speed Operation (Continuous Sequential Operation)	○
Operation Control	Sequence Control	○	
	Event Jump Operation	○	
Speed Control Operation (Continuous Operation)		○	
Return-To-Home Operation	Return-To-Home Operation*2	○	
	High-Speed Return-to-Home Operation	○	
JOG Operation		○	
Monitor and Information	Waveform Monitoring		○
	Overload Detection		○
	Overheat Detection (Motor and driver)		○
	Position and Speed Information		○
	Temperature Detection (Motor and Driver)		○
	Motor Load Factor		○
Distance Traveled/Integrating Distance Traveled		○	
Alarm		○	

\*1 The push-motion operation cannot be operated with the geared motors and the Rotary Actuators **DGII** Series.

\*2 The return-to-home operation using direct I/O is not available.

## Communication Specifications

### ● EtherCAT

Communication Protocol	IEC 61158 Type12
Physical Layer/Protocol	100 BASE-TX (IEEE 802.3)
Baud Rate	100 Mbps
Communication Cycle	Free Run Mode: 1 ms min. SM2 Event Synchronous Mode: 1 ms min. DC Mode: 0.25 ms, 0.5 ms, 1 ms, 2 ms, 3 ms, 4 ms, 5 ms, 6 ms, 7 ms, 8 ms
Communication Port/ Connector	RJ45×2 (Shield-compatible) ECAT IN: EtherCAT Input ECAT OUT: EtherCAT Output
Topology	Daisy Chan (Max. 65,535 nodes)
Process Data	Variable PDO Mapping
Sync Manager	SM0: Mailbox Output SM1: Mailbox Input SM2: Process Data Output SM3: Process Data Input
Mailbox (CoE)	Emergency Message SDO Request SDO Response SDO Information
Synchronous Modes	Free Run Mode (Asynchronous) SM2 Event Synchronous Mode DC Mode (SYNC0 Event Synchronous)
Device Profile	IEC 61800-7 CiA402 Drive Profile

### ● EtherNet/IP

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
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)	

### ● PROFINET

Communication Protocol	PROFINET IO Version 2.4	
Vendor ID	0x33E: ORIENTAL MOTOR	
Transmission Rate	100 Mbps (autonegotiation)	
Communication Mode	Full duplex (autonegotiation)	
Cable Specifications	Shielded twisted pair (STP) cable Straight-Through/Crossover cable, Category 5e or higher is recommended	
Communication Connector	RJ45x2 (Shielded)	
Conformance Class	B	
RT/IRT	RT	
NetLoad Class	I	
Protocol to be supported	DC, LLDP, SNMP, MRP	
Number of occupied bytes	Output (Host Controller→Driver)	40 byte
	Input (Driver→Host Controller)	56 byte
Network Topology	Star, Tree, Line, Ring	

### ● RS-485 Communication

Protocol	Modbus RTU Mode	
Electrical Characteristics	EIA-485 Based, Straight Cable Use a shielded twisted pair cable (TIA/EIA-568B CAT5e or higher is recommended) and keep the total wiring distance including extension to 50 m or less.*	
Communication Mode	Half duplex, asynchronous communication (data: 8 bits, stop bit: 1 bit or 2 bits, parity: none, even, or odd)	
Transmission Rate	Select either from 9600 bps, 19200 bps, 38400 bps, 57600 bps, 115200 bps, or 230400 bps.	
Connection Units	Up to 31 drivers can be connected to a single programmable controller (master device).	

\*If the motor cable or power supply cable generates an undesirable amount of noise depending on the wiring or configuration, shield the cable or install a ferrite core.

## General Specifications

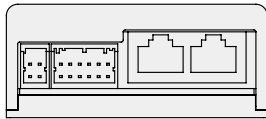
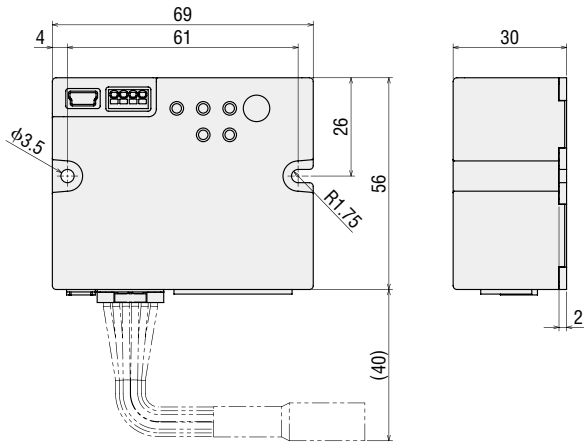
		<b>AZD-KRED AZD-KREP AZD-KRPN</b>	<b>AZD-KR2D</b>
Degree of Protection		IP20	IP10
Operating Environment	Ambient Temperature	0 to +50°C (Non-freezing)	
	Ambient Humidity	85% or less (Non-condensing)	
	Altitude	Up to 1000 m above sea level	
	Atmosphere	No corrosive gases or dust. The product should not be exposed to water, oil or other liquids.	
Storage Conditions	Ambient Temperature	-25 to +70°C (Non-freezing)	
Transportation Conditions	Ambient Humidity	85% or less (Non-condensing)	
	Altitude	Up to 3000 m above sea level	
	Atmosphere	No corrosive gases or dust. The product should not be exposed to water, oil or other liquids.	

### Note

- When measuring insulation resistance or performing dielectric strength test, disconnect the motor and driver.  
Also, do not perform these tests on the **ABZO** Sensor (Absolute Sensor) part of the motor.

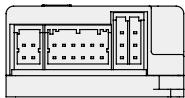
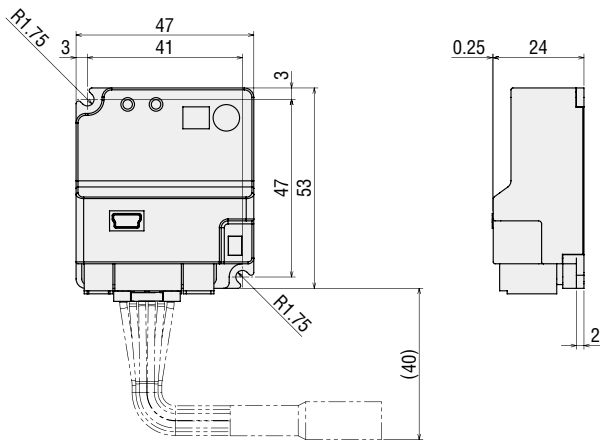
**Dimensions** Unit: mm

Type	Product Name	Mass [g]
EtherCAT Drive Profile-Compatible	<b>AZD-KRED</b>	110
EtherNet/IP Compatible	<b>AZD-KREP</b>	
PROFINET Compatible	<b>AZD-KRPN</b>	



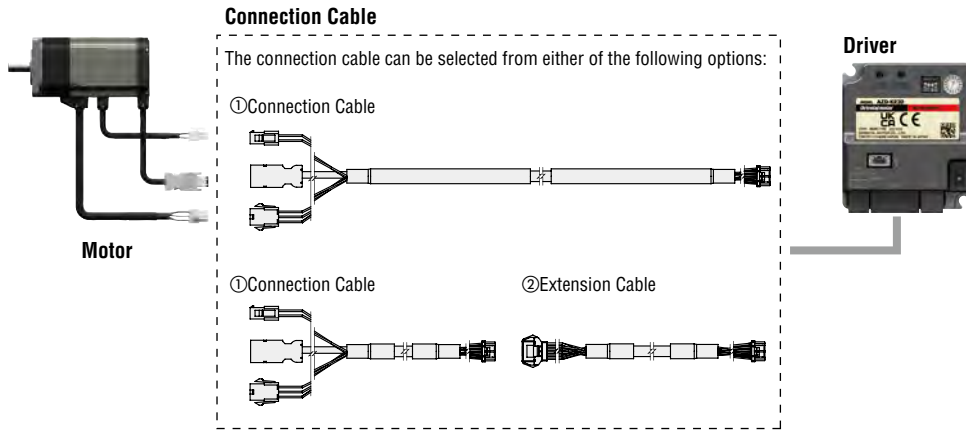
- Applicable Connector  
Power Connector (CN1)  
Connector Housing: 1-1827864-2 (TE Connectivity)  
Contact: 1827589-2 (TE Connectivity)

Type	Product Name	Mass [g]
RS-485 Communication Type	<b>AZD-KR2D</b>	56



- Applicable Connectors  
Power Connector (CN1)  
Connector Housing: 1-1827864-2 (TE Connectivity)  
Contact: 1827589-2 (TE Connectivity)  
RS-485 Communication Connector (CN3)  
Connector Housing: 1-1827579-1 (TE Connectivity)  
Contact: 1827588-2 (TE Connectivity)

## Connection Cables



### Note

- Up to 3 cables can be used to connect the motor and driver.
- The maximum distance between the motor and driver is 10 m.

## ① Connection Cables / Flexible Connection Cables

These cables are used to connect the motor and the driver. Use the flexible connection cable in applications where the cable is bent and flexed repeatedly.

### ● Product Line

For **AZM14, AZM15, AZM24, AZM26**

#### ◇ Connection Cables

##### ● For Motor / Encoder

Length L [m]	Product Name	List Price
0.5	<b>CCM005Z2AAF</b>	32.00 €
1	<b>CCM010Z2AAF</b>	32.00 €
3	<b>CCM030Z2AAF</b>	53.00 €
5	<b>CCM050Z2AAF</b>	92.00 €
10	<b>CCM100Z2AAF</b>	149.00 €



#### ◇ Flexible Connection Cables

##### ● For Motor / Encoder

Length L [m]	Product Name	List Price
0.5	<b>CCM005Z2AAR</b>	72.00 €
1	<b>CCM010Z2AAR</b>	72.00 €
3	<b>CCM030Z2AAR</b>	93.00 €
5	<b>CCM050Z2AAR</b>	119.00 €
10	<b>CCM100Z2AAR</b>	200.00 €



For **AZM46, AZM48, AZM66, AZM69**

#### ◇ Connection Cables

##### ● For Motor / Encoder

Length L [m]	Product Name	List Price
0.5	<b>CCM005Z2ABF</b>	32.00 €
1	<b>CCM010Z2ABF</b>	32.00 €
3	<b>CCM030Z2ABF</b>	53.00 €
5	<b>CCM050Z2ABF</b>	92.00 €
10	<b>CCM100Z2ABF</b>	149.00 €



##### ● For Motor / Encoder / Electromagnetic Brake

Length L [m]	Product Name	List Price
0.5	<b>CCM005Z2ACF</b>	44.00 €
1	<b>CCM010Z2ACF</b>	44.00 €
3	<b>CCM030Z2ACF</b>	69.00 €
5	<b>CCM050Z2ACF</b>	113.00 €
10	<b>CCM100Z2ACF</b>	180.00 €



#### ◇ Flexible Connection Cables

##### ● For Motor / Encoder

Length L [m]	Product Name	List Price
0.5	<b>CCM005Z2ABR</b>	72.00 €
1	<b>CCM010Z2ABR</b>	72.00 €
3	<b>CCM030Z2ABR</b>	93.00 €
5	<b>CCM050Z2ABR</b>	119.00 €
10	<b>CCM100Z2ABR</b>	200.00 €



##### ● For Motor / Encoder / Electromagnetic Brake

Length L [m]	Product Name	List Price
0.5	<b>CCM005Z2ACR</b>	95.00 €
1	<b>CCM010Z2ACR</b>	95.00 €
3	<b>CCM030Z2ACR</b>	127.00 €
5	<b>CCM050Z2ACR</b>	161.00 €
10	<b>CCM100Z2ACR</b>	261.00 €

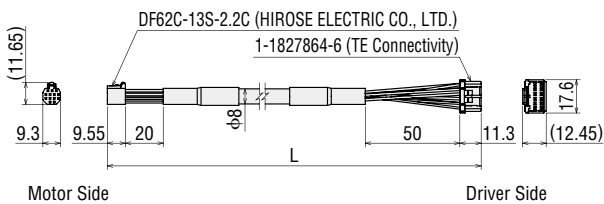




● Dimensions Unit: mm

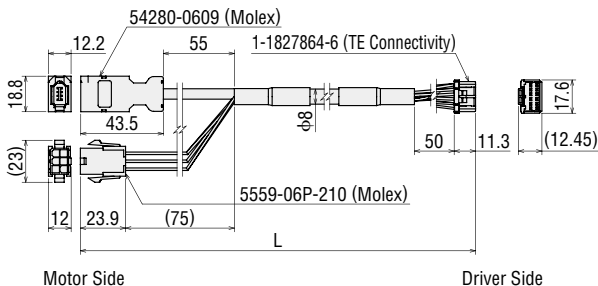
For **AZM14, AZM15, AZM24, AZM26**

● For Motor / Encoder

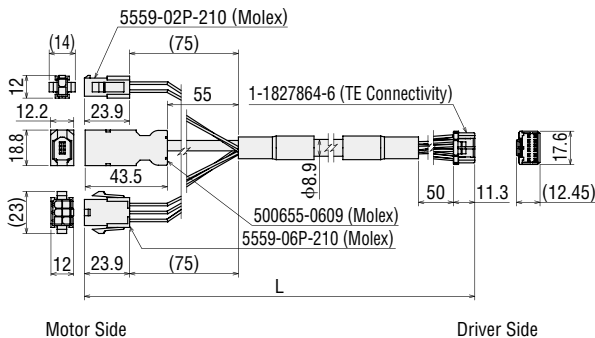


For **AZM46, AZM48, AZM66, AZM69**

● For Motor / Encoder



● For Motor / Encoder / Electromagnetic Brake



## ② Extension Cables / Flexible Extension Cables Driver Side

These are cables to provide an extension between the connection cable and the driver. When extending the connection, keep the overall cable length at 10 m or less.

Use the flexible extension cable in applications where the cable is bent and flexed repeatedly.

● Product Line

◇ Extension Cables

Length L [m]	Product Name	List Price
1	<b>CCM010Z2ADFT</b>	60.00 €
3	<b>CCM030Z2ADFT</b>	77.00 €
5	<b>CCM050Z2ADFT</b>	92.00 €

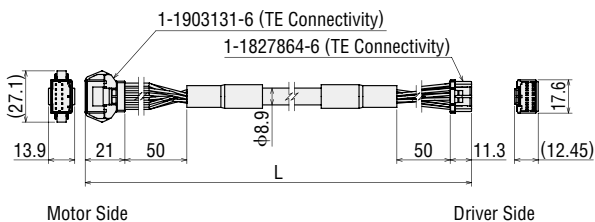


◇ Flexible Extension Cables

Length L [m]	Product Name	List Price
1	<b>CCM010Z2ADRT</b>	72.00 €
3	<b>CCM030Z2ADRT</b>	93.00 €
5	<b>CCM050Z2ADRT</b>	119.00 €

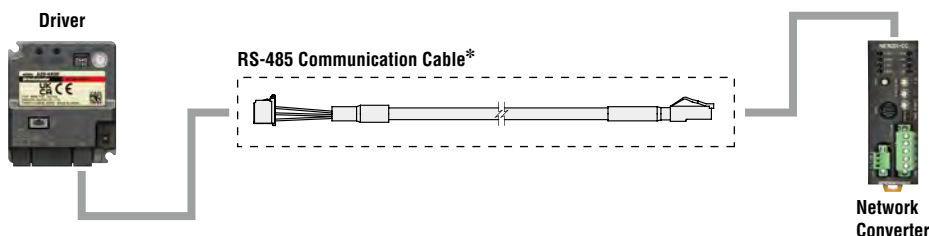


● Dimensions Unit: mm



## ■ RS-485 Communication Cables

These cables are used to connect the driver to a network converter or a robot controller **MRC01**.

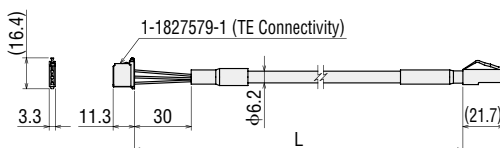


● Product Line

Product Name	Length L [m]	List Price
<b>CC02FLT6</b>	2	52.00 €
<b>CC05FLT6</b>	5	75.00 €



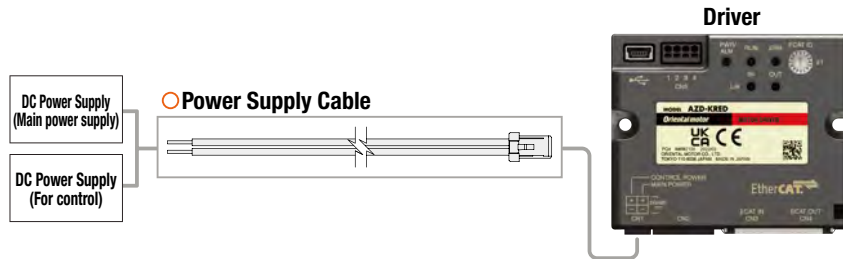
● Dimensions Unit: mm



\*This cable cannot be used to connect the drivers together.

## Power Supply Cable

These cables are used to connect the driver and the power supply. Connecting with the main power supply and control power supply is simple.

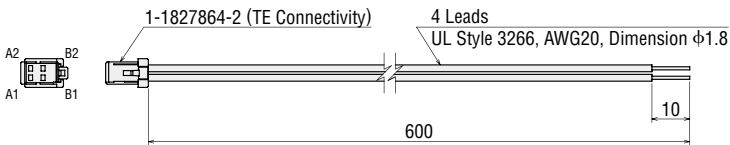


### Product Line

Product Name	List Price
<b>LCD06Z2AY</b>	15.00 €



### Dimensions Unit: mm



## Products Suitable for Modular Automation

This product line has been designed under the concept of being compact, lightweight, and able to be battery driven. Ideal for installation in transportation devices such as autonomous mobile robots and automated guided vehicles. These products contribute to the creation of an automation line that can be easily altered as desired, as well as achieving modular automation, both of which are expected to become key elements of production lines in the future.

### Brushless DC Motors

#### BLV-R Series

These are DC power input brushless motors that contribute to machine downsizing and weight reduction. Low-speed operation from 1 r/min can be performed. Operation by battery-drive is also possible.

- Output Power: 60 W, 100 W, 200 W, 400 W
- Speed Control Range: 1 to 4000 r/min
- Modbus (RTU) and CANopen Communications Compatible



# 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 October 2022.

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