

Orientalmotor

α STEP AZ Series mini Drivers

DC POWER INPUT

Modular Automation Products



Even Smaller Than Box-type Drivers

α STEP AZ Series now offers **mini-driver** options

Compatible with battery power operation for use in a broader range of applications

EtherCAT
Drive Profile Compatible
EtherCAT



AZD-KRED

EtherNet/IP™ Compatible
EtherNet/IP



AZD-KREP

PROFINET Compatible
PROFINET



AZD-KRPN

RS-485 Compatible
Modbus (RTU)



AZD-KR2D

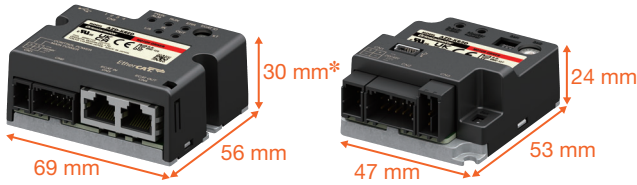
Pulse Train Input
Type with RS-485
Communication Type



AZD-KRX

Use Mini Drivers To Make Equipment Smaller

The Compact Design to Fit in Small Spaces



AZD-KRED **AZD-KREP**
AZD-KRPN **AZD-KRX**
*AZD-KRX 25 mm

AZD-KR2D

Minimized Mounting Spaces

No DIN rail is required. Mount directly to equipment with just two screws.



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

AZD-KR2D

The Lightweight Design Reduces the Load on Equipment

56 g

Approx. 60 g



1 medium-size egg

AZD-KR2D

The mass is 84 to 110g, except for **AZD-KR2D**.

When loading on self-propelled equipment



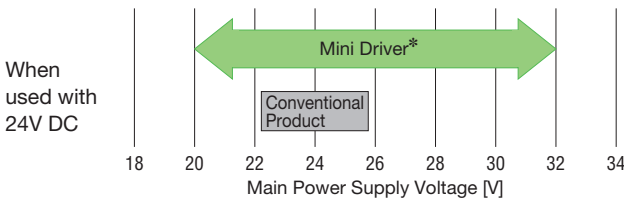
Reduces Overall Equipment Mass
Reduces Power Consumption for Drive Wheels

→ Go to application examples (page 4)

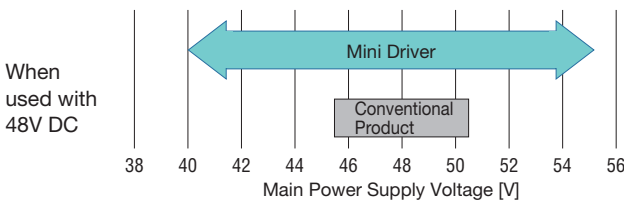
Battery Power Compatible

Accepts a broader power supply voltage range for battery-powered operation.
Compatible with 24V DC and 48V DC.

● Operable Voltage Range

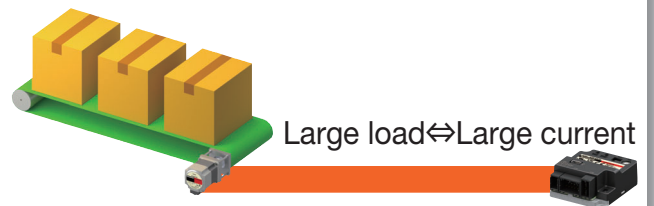


*For a motor with an electromagnetic brake, the range is 22.8 to 32 V DC.



Optimal Current Control for Energy Saving

A servo emulation mode is provided to optimize the current supplied to the motor to match the load conditions.



When loading on self-propelled equipment



Save Power Consumption and Extend Battery Life

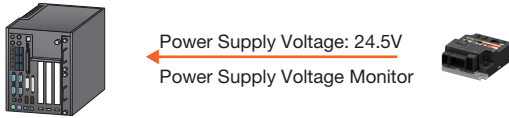
→ Go to application examples (page 4)

Standardization, Energy Saving

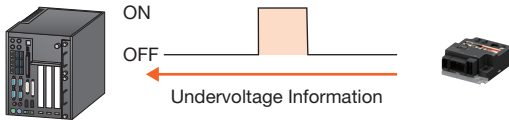
mobi What are mobile automation-compatible products?
 Product family in which the common concept is battery-powered, compact and lightweight. These are ideal for mounting on self-propelled and mobile equipment and contribute to realizing the free and flexible automation lines and mobile automation that will be increasingly required in the future.

Visualization of Power Supply Voltage

The driver's supply voltage can be monitored from a host control device.



A signal is output when the driver's supply voltage falls below a preset threshold.



When loading on self-propelled equipment

Avoid Stoppages due to Insufficient Battery

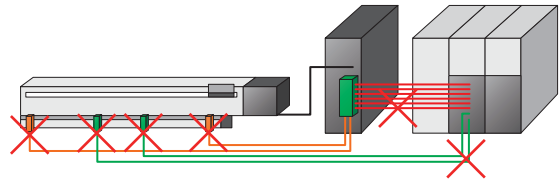


→ Go to application examples

No External Sensor Required

With the **AZ** series, there is no need for external sensors or any wiring associated with external sensors.

Wiring Image When Using an External Sensor



Mechanical batteryless absolute sensor (ABZO sensors) for high-precision positioning without external sensors.



Various Interfaces Compatible

It is compatible with all major industrial networks in use worldwide. Pulse train control is also available.

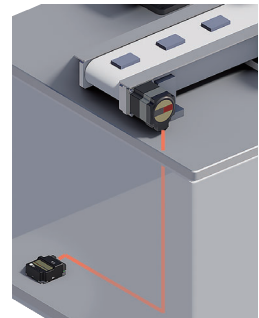
Interface	Driver Type (Driver-type Name)
EtherCAT	EtherCAT Drive Profile Compatible
EtherNet/IP	EtherNet/IP Compatible
PROFINET	PROFINET Compatible
Modbus (RTU)	RS-485 Communication Type
Pulse	Pulse Train Input Type With RS-485 Communication Type

- **AZD-KRED** has passed the official EtherCAT conformance test.
- **AZD-KR2D** can also be controlled via CC-Link and MECHATROLINK by using a network converter (gateway).

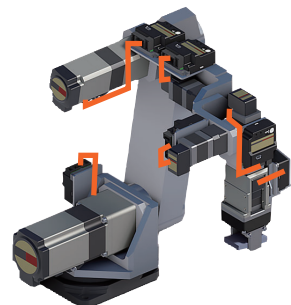
Extension of Connection Cable Max. 10m

The 0.5m, 1m, 3m, 5m, and 10m can be selected according to the installation environment.

If the distance between the motor and the driver is far, 3m, 5m, or 10m is recommended.



If the distance between the motor and the driver is close, 0.5m or 1m is recommended.

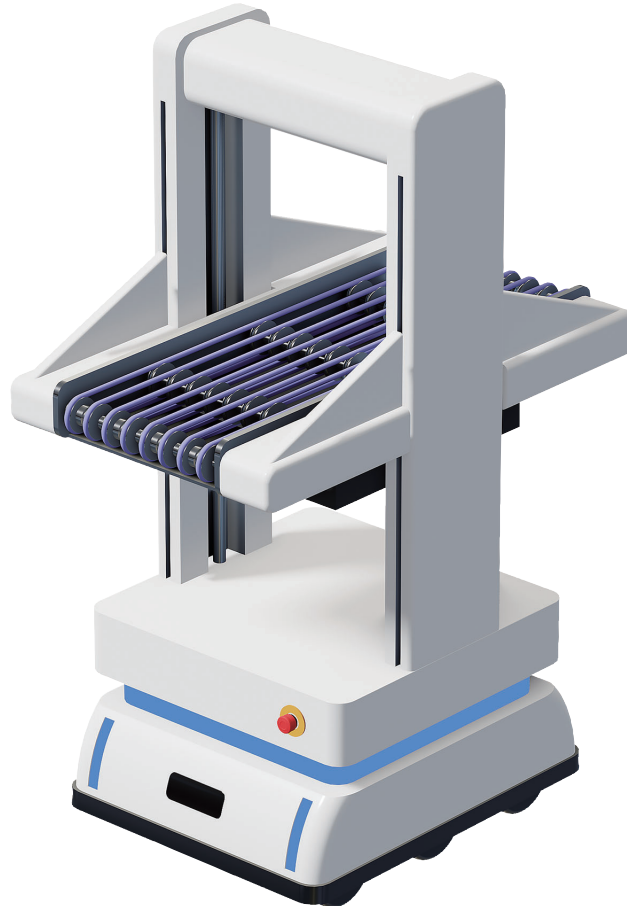


- Movable connection cables with the same length are also available.

Example A: When Incorporating into Self-propelled Equipment

Equipment Problem To Extend Battery Life As Much As Possible As Required.

Reducing the total mass of the equipment and the operating current of the motor when high torque is not required, can reduce the overall power consumption of the equipment.



The α STEPAZ Series Mini Drivers Provide...



Lightweight Design To Reduce Load On Equipment

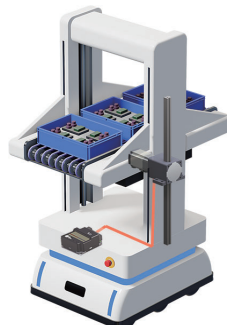
Reduce total equipment mass and the wheel driveshaft power consumption.



● The mass is 84 to 110g, except for **AZD-KR2D**.

Optimal Current Control for Energy Saving

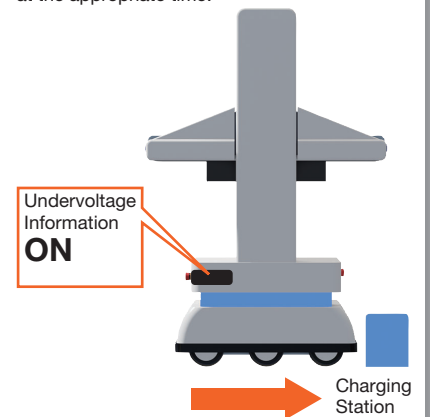
Optimized the current supply to the motor according to the load (servo emulation mode) to reduce power consumption. Reduce the number of times the battery needs to be recharged.



The current supplied to the motor is automatically lowered when the workpiece is light.

Visualisation of the Power Supply Voltage

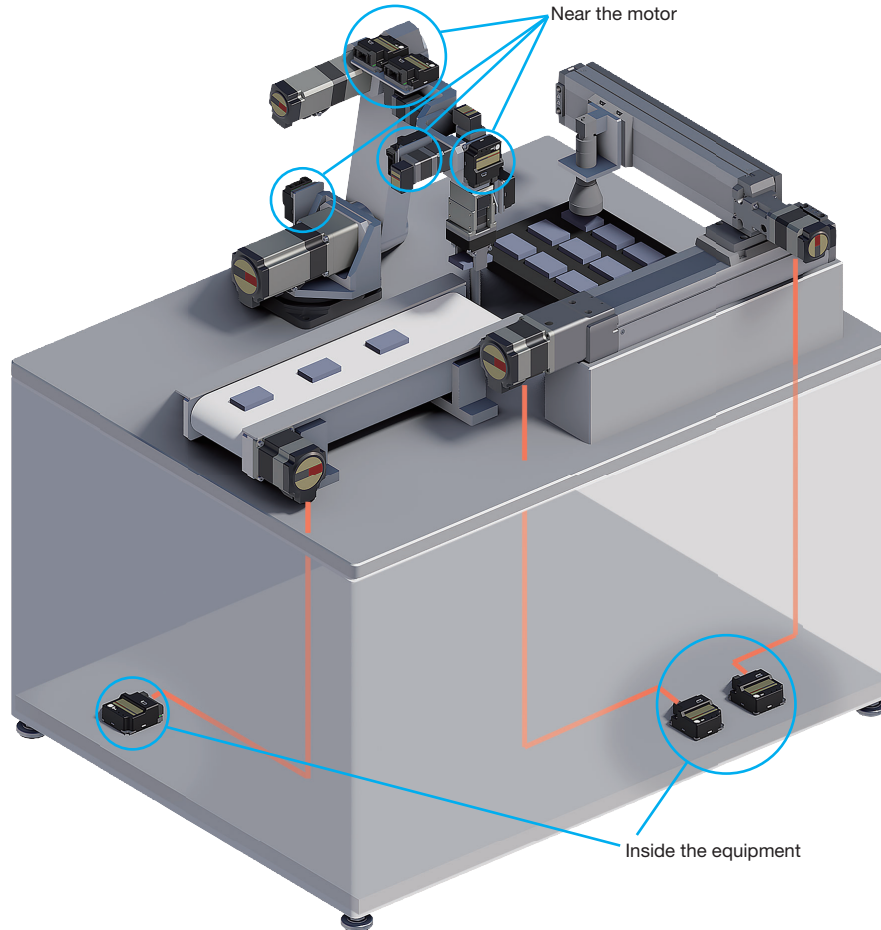
The monitor function monitors the power supply voltage and starts charging the battery at the appropriate time.



Example B: Installation in Stationary Equipment

Equipment Problem To install drivers and control systems decentralized and reduce the equipment's overall size as required.

When each driver is distributed in the available space in the enclosure, the control panel can be designed to be compact for the space needed to install the driver.



With the α STEP AZ Series Mini Drivers...

A Compact Design Ideal for Limited Spaces

It significantly reduced in volume compared to box-type DC drivers.



AZD-KD

60% or more size reduction



AZD-KR2D

No External Sensor Required

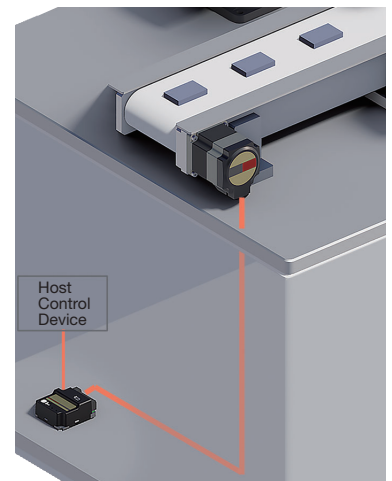
No external sensors or wiring related to external sensors are required. The elimination of external sensors and wiring contributes to downsizing and weight reduction. It also reduces the work time required for wiring.

FA Network Compatible

Wiring is reduced compared to pulse train input and general-purpose I/O input.

Extension of Connection Cable Max. 10m

The cable length between motors and drivers can be selected according to the installation environment. And, the length can be extended to a maximum 10 m.



Applicable Series

AZ series DC power input mini drivers can be used with the following motors and electric actuators.

Motors

- **AZ** Series DC Power Input

Electric Actuators

- **AZ** Series Equipped Electric Slider **EZS** Series DC Power Input/**EAS** Series DC Power Input.
- **AZ** Series Equipped Electric Cylinder **EAC** Series DC Power Input.
- **AZ** Series Equipped Compact Electric Cylinder **DR** Series/**DRS2** Series.
- **AZ** Series Equipped Electric Gripper **EH** Series.
- **AZ** Series Mounted Hollow Rotary Actuator **DGI** Series DC Power Input.
- **AZ** Series Rack and Pinion System **L** Series DC Power Input.

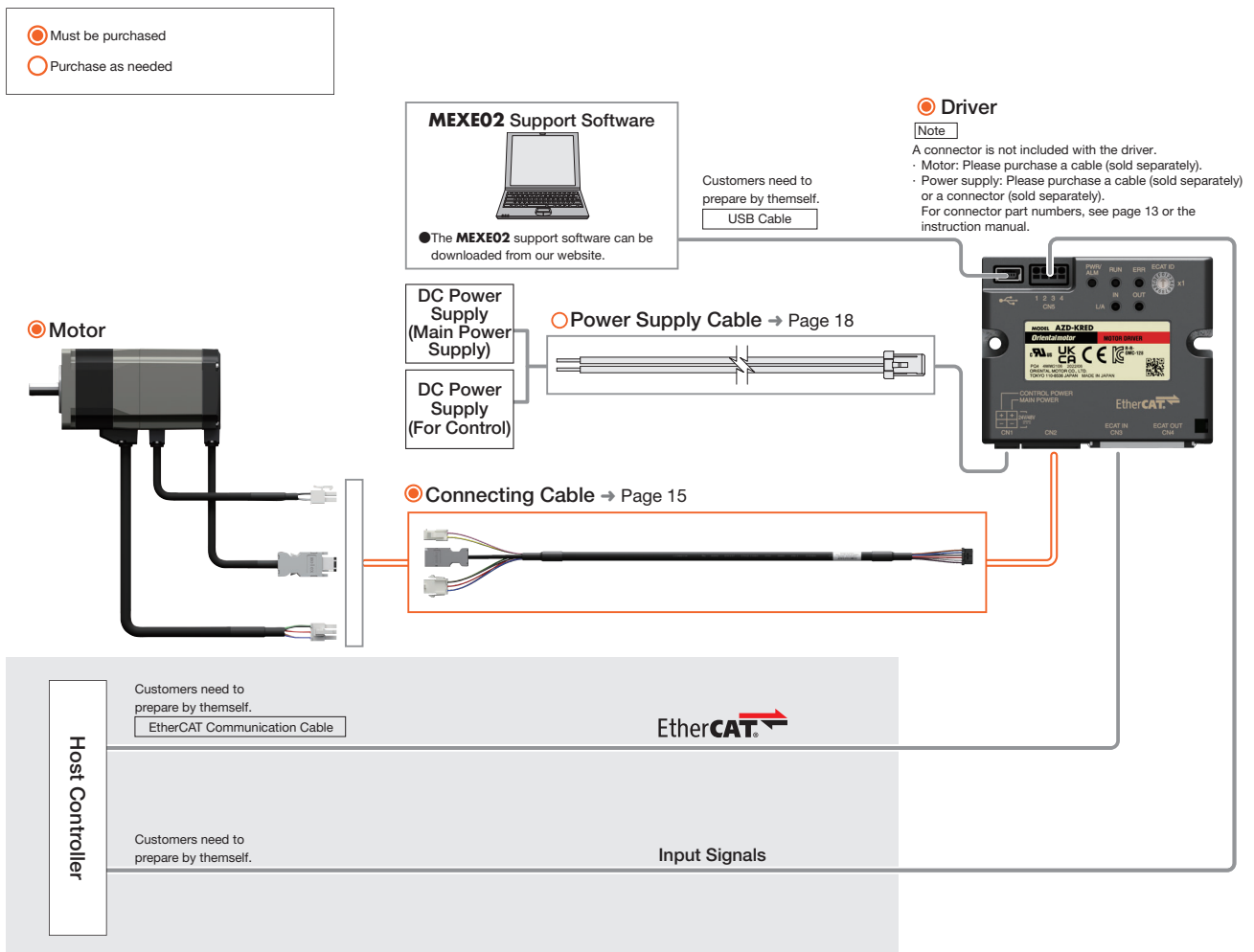
● For details on motor and electric actuator combinations, please visit our website or refer to the catalog of each series.

System Configurations

Standard- type Electromagnetic Brake Motors Combined with EtherCAT Drive Profile Mini-driver Network Support

This is configuration examples when using mini-drivers supporting EtherCAT drive profiles.

Please order motors, drivers, and connection cables/movable connection cables separately.



Standard- type Electromagnetic Brake Motors Combined with RS-485 Communication-type Mini-drivers

Motors, drivers, and connecting cable/movable cables have to be arranged separately.

- Must be purchased
- Purchase as needed

Driver

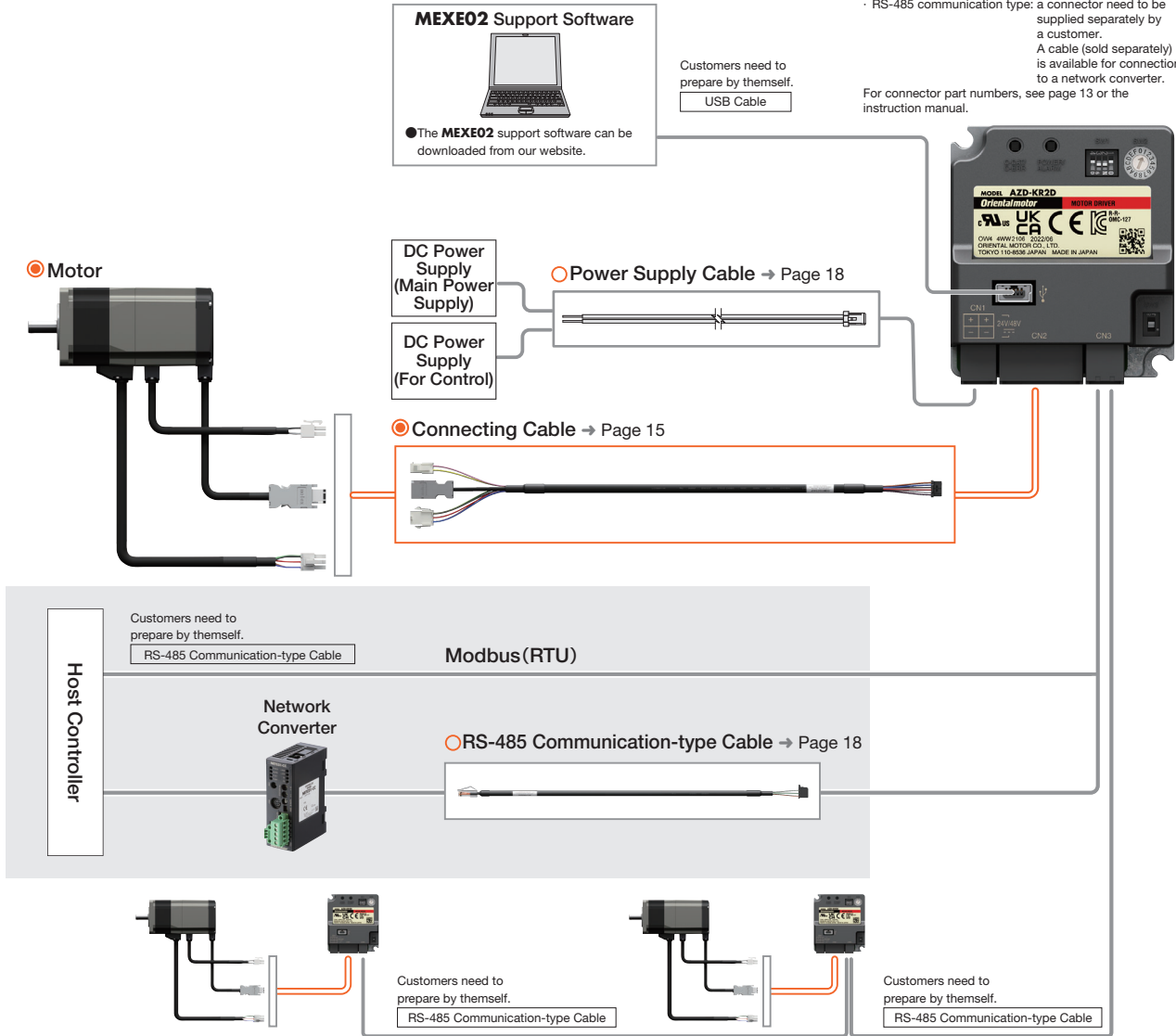
Note

The driver does not include a motor, power supply, or RS-485 communication-type connector.

- Motor: Please purchase a cable (sold separately).
- Power supply: Please purchase a cable (sold separately) or provide connectors yourself.
- RS-485 communication type: a connector need to be supplied separately by a customer.

A cable (sold separately) is available for connection to a network converter.

For connector part numbers, see page 13 or the instruction manual.

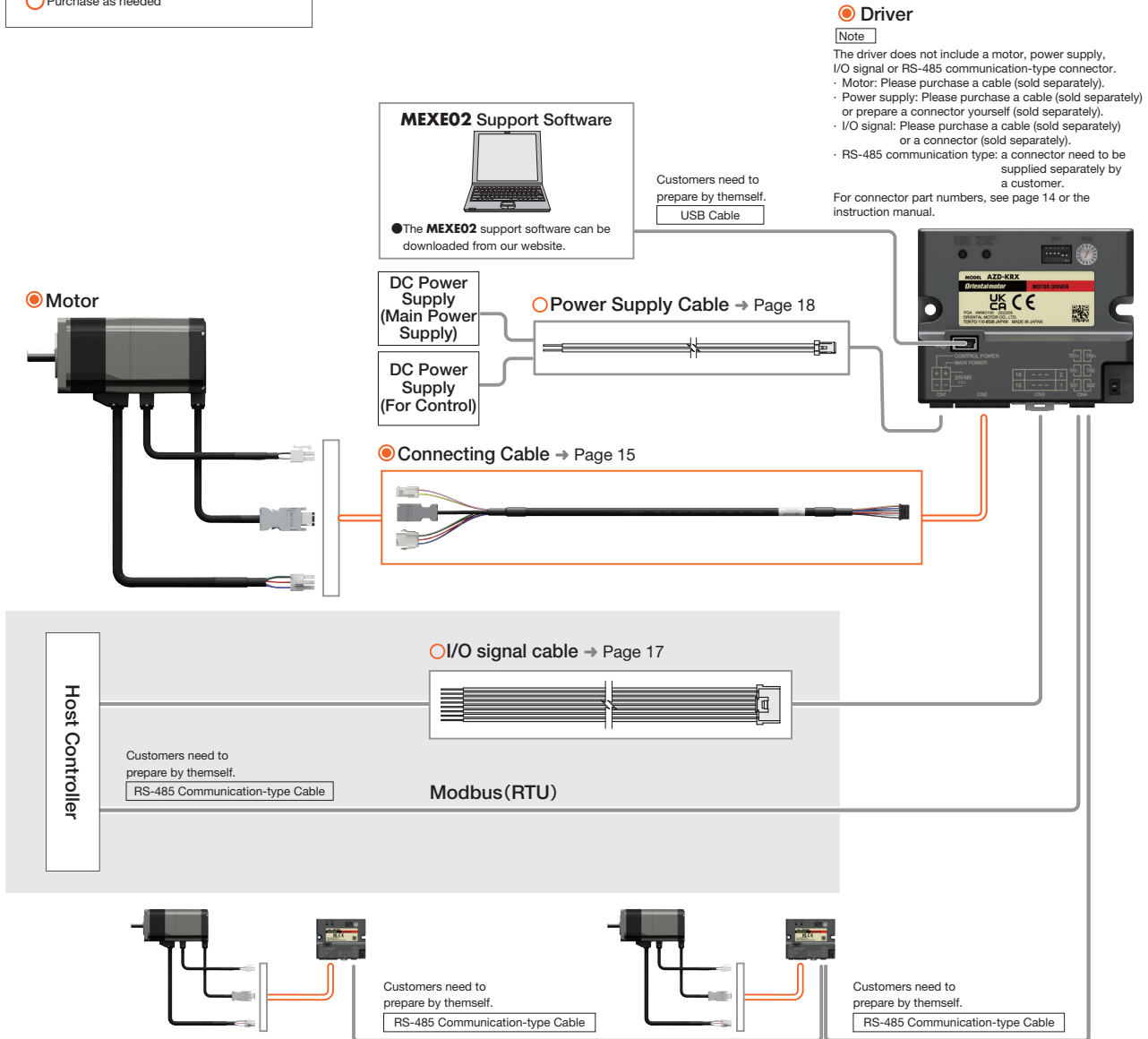


● Please visit our website for more information on network converters.
<https://www.orientalmotor.com.sg/>

● Standard-type Motors with Electromagnetic Brake and Pulse Train Input Type Combined with RS-485 Communication-type Mini-drivers

Motors, drivers, and connecting cable/movable cables have to be arranged separately.

- Must be purchased
- Purchase as needed



How to Read Product Names

AZD - K R 2 D

① ② ③ ④ ⑤

①	Shape	AZD : AZ Series Driver
②	Serial Number	K : DC24/48V
③	Type	R : Compact
④	Driver Type	
⑤	Power Supply Input	ED : EtherCAT Drive Profile compatible EP : EtherNet/IP compatible PN : PROFINET compatible D : RS-485 communication type X : Pulse train input type with RS-485 communication type

Product Type

● EtherCAT Drive Profile Compatible

Product name
AZD-KRED



● PROFINET Compatible

Product name
AZD-KRPN



● Pulse Train Input Type with RS-485 Communication Type

Product name
AZD-KRX



● EtherNet/IP Compatible

Product name
AZD-KREP



● RS-485 Communication Type

Product name
AZD-KR2D



List of Combinations

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

Product	Type	Product Name
Driver	EtherCAT Drive profile compatible	AZD-KRED
	EtherNet/IP compatible	AZD-KREP
	PROFINET compatible	AZD-KRPN
	RS-485 communication type	AZD-KR2D
	Pulse train input type with RS-485 communication	AZD-KRX

Product	Type	Product Name	
Connecting cable/Movable connecting cable	AZM14, AZM15, AZM24, AZM26	Connecting Cable	CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2AAF
		Movable Connection Cable	CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2AAR
	AZM46, AZM48, AZM66, AZM69	Connecting Cable	For motor/encoder : CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ABF For motor/encoder/electromagnetic brake : CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ACF
		Movable Connection Cable	For motor/encoder : CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ABR For motor/encoder/electromagnetic brake : CCM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Z2ACR

● Symbols in the product names may contain letters or numbers indicating the following types.

Output Shaft Shape Additional Function Motor Cable Shape Reduction Ratio Cable Pull-out Direction Output Shaft Type
 Cable Length

● AZ Series Catalog

- Specifications Of DC Power Input Motors
- Characteristics Of DC Power Input Motors
- Outline Drawing Of DC Power Input Motors



● For information on motors and electric actuators that can be combined, please visit our website or see the catalog for each series.

Driver Specifications



Driver Product Name		AZD-KRED	AZD-KREP	AZD-KRPN	AZD-KR2D	AZD-KRX
Main Power Supply	Rated Voltage	· DC24V±5% · DC48V±5%				
	Input current*1	AZM14 : 0.4A, AZM15 : 0.5A, AZM24 : 1.4A, AZM26 : 1.4A AZM46 : 1.6A, AZM48 : 2.1A, AZM66 : 3.7A, AZM69 : 3.5A DGM60 : 1.4A, DGM85 : 1.6A, DGM130 : 3.7A, DGB85 : 1.6A, DGB130 : 3.7A DR20 : 0.4A, DR28 : 1.3A, DRSM42 : 1.5A, DRSM60 : 2.6A EH3 : 0.4A, EH4 : 1.4A, LM2 : 3.7A, LM4 : 3.7A				
	Operable Voltage	24 VDC Input: 20 VDC~32 VDC (22.8 VDC3~2 VDC)*2 48 VDC Input: DC40~55V				
Control Power Supply	Rated Voltage	· DC24V±5% · DC48V±5%				
	Input current	0.15A (0.4A)*3				
	Operable Voltage	24 VDC Input: 20 VDC~32 VDC (22.8 VDC3~2 VDC)*2 DC48 V Input: DC40~55 V				
Interface	Pulse Input	-			· 2 Points, Optocoupler · Line driver: 1MHz (at 50% duty cycle) Open collector: 250kHz (at 50% duty cycle)	
	Control Input	DC20~32V 2 Points, Optocoupler			-	
	Control Output	-			DC4.5~32V 5 Points, Optocoupler Open Collector	
	Field Network	EtherCAT	EtherNet/IP	PROFINET	RS-485 Communication Type	RS-485 Communication Type

- *1 The values of the input current depends on the motor used in combination.
- *2 Values in parentheses () are those when a motor with an electromagnetic brake is connected.
- *3 Values in parentheses () are those when a motor with an electromagnetic brake is connected. **AZM46** is 0.23A.
- *4 Excluding pulse train input type with RS-485 communication type.

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)	
	Homing mode (HM)	
	Cyclic Synchronous Position Mode (CSP)	
	Cyclic Synchronous Velocity Mode (CSV)	
Function	Touch Probe (Position Latch) function	
Configuration Tool	MEXE02 Support Software	
Coordinate Management Method	Batteryless Absolute System	
Monitor/Information	Same as the table below	
Alarm	○	

EtherNet/IP Compatible, PROFINET Compatible, RS-485 Communication Type

Driver Product Name		AZD-KREP AZD-KRPN	AZD-KR2D	AZD-KRX	
Number of Positioning Data		256 Points		256 Points*1	
Remote I/O	Input	16 Points			
	Output	16 Points			
Configuration Tool		MEXE02 Support Software			
Coordinate Management Method		Batteryless Absolute System			
Operation	Type	Positioning Operation	○		
		Positioning push-motion oper*2	○		
	Positioning Operation	Connection Method	Event Jump Operation	○	
		Independent Operation	○		
	Sequence Control	Progressive Operation	○		
		Multi-speed Transmission (Shape Connection)	○		
		Loop Operation (Repetition)	○		
	Velocity Control Operation (Continuous Operation)		○		
	Origin Return Operation (Homing)	Homing Operation*3		○	
		High-speed Homing operation		○	
JOG Operation		○			
Monitor/Information	Waveform Monitor		○		
	Overload Detection		○		
	Overheat Detection (Motor & Driver)		○		
	Position/velocity Information		○		
	Temperature Detection (Motor & Driver)		○		
	Motor Load Factor		○		
Distance Traveled/Total Distance Traveled		○			
Alarm		○			

- *1 It can be used by configuring it with the **MEXE02** support software.
- *2 Push-motion operation is unavailable for geared motors and **DGII** series electric actuators.
- *3 Homing operation using direct I/O is unavailable for **AZD-KR2D**

Communication Specifications

● EtherCAT

Communication Protocol	IEC 61158 Type12
Physical Layer/Protocol	100 BASE-TX (IEEE 802.3)
Baud Rate	100 Mbps
Communication Port/	Free Run Mode: More Than 1 ms min. SM2 Event Synchronous Mode: More Than 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
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 Mode	Free Run Mode (Asynchronous) SM2 Event Synchronous Mode DC Mode (SYNC0 Event Synchronous)
Device Profile	IEC 61800-7 CiA402Drive Profile
Communications Standard	

● 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 Method	Full Duplex/Half Duplex (Auto-negotiation)	
Cable Specifications	Shielded twisted pair (STP) cable straight/cross, category 5e or better recommended	
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, Input Only
	Communication Cycle (RPI)	1~3200ms
	Connection Type (Scanner to Driver)	Point-to-Point
	Connection Type (Driver → Scanner)	Point-to-Point, Multicast
	Data Reflection Trigger	Cyclic
IP Address Setting Method	IP address setting switch, Parameter, DHCP	
Supported Topology	Star, Linear, Ring (Device Level Ring)	

● PROFINET

Communication Protocol	PROFINET IO Ver.2.4	
Vendor ID	0x33E: ORIENTAL MOTOR	
Transmission Rate	100 Mbps (Auto-negotiation)	
Communication Mode	Full Duplex (Auto-negotiation)	
Cable Specification	Shielded twisted pair (STP) cable straight/cross, category 5e or better recommended	
Communication Connector	RJ45×2 (Shielded)	
Conformance Class	B	
RT/IRT	RT	
NetLoad Class	I	
Supported Protocol	DCP, LLDP, SNMP, MRP	
Occupied Byte Number	Output (Host System → Driver)	40 Bytes
	Input (Driver → Host System)	56 Bytes
Supported Topology	Star, Tree, Line, Ring	

● RS-485 Communication

Protocol	Modbus RTU Mode
Electrical Characteristics	EIA-485 Compliant, Straight Cable Use Twisted Pair Cables (TIA/EIA-568B CAT5e or Higher Recommended) With a Total Extension Distance of up to 50 m.*
Communication Method	Half-duplex Communication, Start-stop Synchronization (Data: 8 Bits, Stop Bit: 1 Bit / 2 Bits, Parity: None / Even / Odd)
Transmission Rate	Select From 9600bps / 19200bps / 38400bps / 57600bps / 115200bps / 230400bps
Connection Type	Maximum for One Programmable Controller (Master Device)

* If motor or power supply cables generate problematic noises because of wiring or configuration, shield them or use ferrite cores.

General Specifications

		AZD-KRED, AZD-KREP AZD-KRPN, AZD-KRX	AZD-KR2D
Protection class		IP20	IP10
Operating Environment	Ambient Temperature	0 to +50°C (No Freezing)	
	Ambient Humidity	85% or less (No Condensation)	
	Altitude	Less than 1000m Above sea level	
	Atmosphere	No corrosive gas or dust. Do not expose to water, oil, etc. directly.	
Storage Environment	Ambient Temperature	-25 to +70 °C (No Freezing)	
	Ambient Humidity	85% or less (No Condensation)	
Transportation Environment	Altitude	Less Than 3,000 m Above sea level	
	Atmosphere	No corrosive gas or dust. Do not expose to water, oil, etc. directly.	

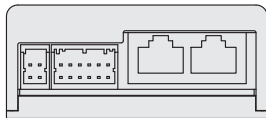
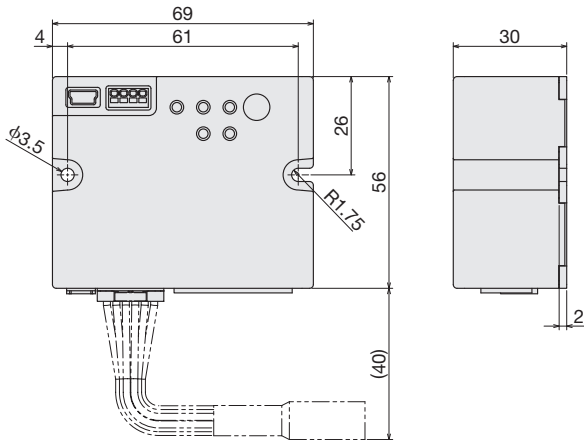
Note

- Please disconnect the motor and driver when performing insulation resistance or dielectric strength tests. Also, never perform these tests on the motor's ABZO sensor (Absolute Sensor) part.

Outline Drawing (Unit: mm)

2D & 3D CAD

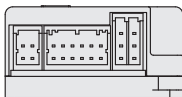
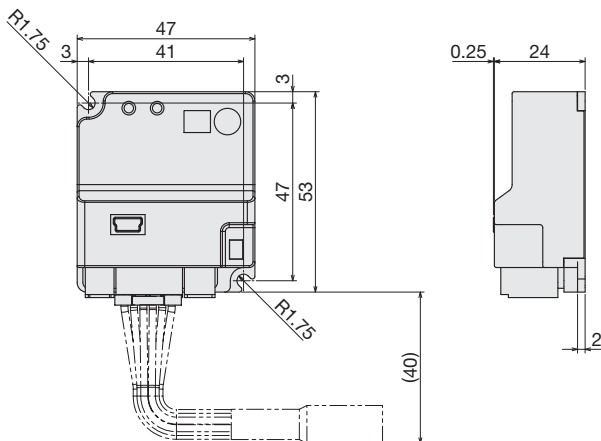
Type	Product Name	Mass kg	2D CAD
EtherCAT Drive Profile Compatible	AZD-KRED	0.11	B1541
EtherNet/IP Compatible	AZD-KREP		
PROFINET Compatible	AZD-KRPN		



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

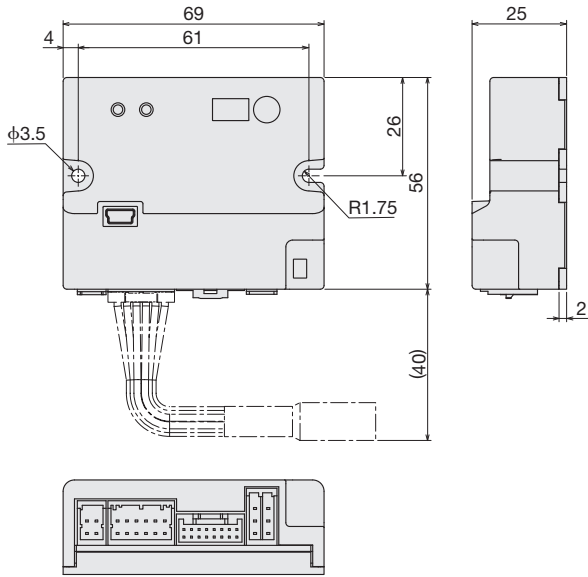
2D & 3D CAD

Type	Product Name	Mass g	2D CAD
RS-485 Communication Type	AZD-KR2D	56	B1538



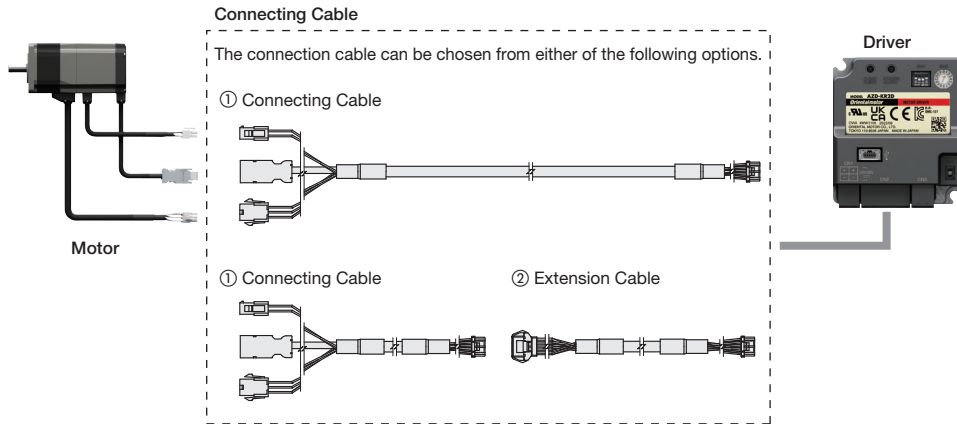
- Applicable Connector
Power Connector (CN1)
Connector Housing: 1-1827864-2 (TE Connectivity)
Contact: 1827589-2 (TE Connectivity)
RS-485 Communication-type Connector (CN3) Connector
Housing: 1-1827579-1 (TE Connectivity) Contact:
1827588-2 (TE Connectivity)

Type	Product Name	Mass g	2D CAD
Pulse Train Input Type with RS-485 Communication Type	AZD-KRX	84	B1549



- Applicable connectors
- Power Connector (CN1)
Connector Housing: 1-1827864-2 (TE Connectivity)
Contact: 1827589-2 (TE Connectivity)
- Input/Output Signal Connector (CN3)
Connector Housing: 501646-1600 (Molex) Contact: 501647-1100 (Molex)
- RS-485 Communication-type Connector (CN4)
Connector Housing: 1-1827579-1 (TE Connectivity)
Contact: 1827588-2 (TE Connectivity)

Connecting Cable



Note

- Up to three cables can connect the motor to the driver.
- The maximum extension distance between the motor and the driver is 10 m.

① Connecting Cable/Movable Connecting Cable

Connection cable between motor and driver. Use a movable connection cable if the cable is repeatedly bent and stretched.

● Type

[For **AZM14, AZM15, AZM24, AZM26**]

◇ Connecting Cable

● For Motor/Encoder

Length L (m)	Product Name
0.5	CCM005Z2AAF
1	CCM010Z2AAF
3	CCM030Z2AAF
5	CCM050Z2AAF
10	CCM100Z2AAF



◇ Movable Connecting Cable

● For Motor/Encoder

Length L (m)	Product Name
0.5	CCM005Z2AAR
1	CCM010Z2AAR
3	CCM030Z2AAR
5	CCM050Z2AAR
10	CCM100Z2AAR



[For **AZM46, AZM48, AZM66, AZM69**]

◇ Connecting Cable

● For Motor/Encoder

Length L (m)	Product Name
0.5	CCM005Z2ABF
1	CCM010Z2ABF
3	CCM030Z2ABF
5	CCM050Z2ABF
10	CCM100Z2ABF



● For Motor/Encoder/Electromagnetic Brake

Length L (m)	Product Name
0.5	CCM005Z2ACF
1	CCM010Z2ACF
3	CCM030Z2ACF
5	CCM050Z2ACF
10	CCM100Z2ACF



◇ Movable Connecting Cable

● For Motor/Encoder

Length L (m)	Product Name
0.5	CCM005Z2ABR
1	CCM010Z2ABR
3	CCM030Z2ABR
5	CCM050Z2ABR
10	CCM100Z2ABR



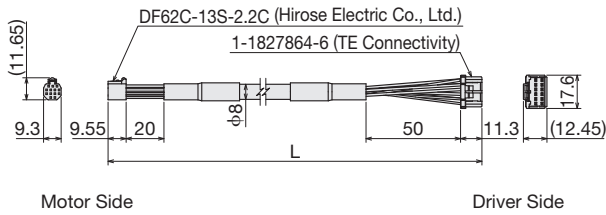
● For Motor/Encoder/Electromagnetic Brake

Length L (m)	Product Name
0.5	CCM005Z2ACR
1	CCM010Z2ACR
3	CCM030Z2ACR
5	CCM050Z2ACR
10	CCM100Z2ACR



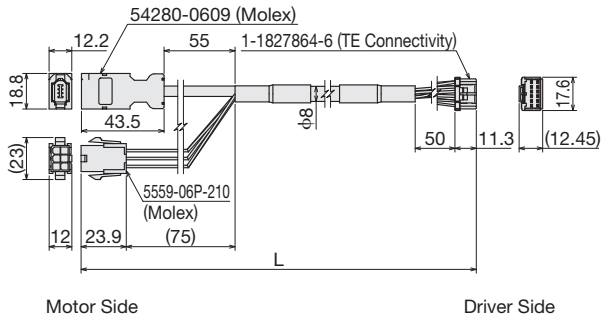
● Outline Drawing (Unit: mm)
[For **AZM14, AZM15, AZM24, AZM26**]

● For Motor/Encoder

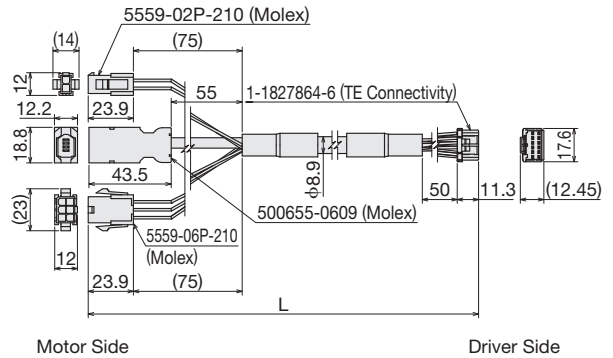


[For **AZM46, AZM48, AZM66, AZM69**]

● For Motor/Encoder



● For Motor/Encoder/Electromagnetic Brake



② Extension Cables/Movable Extension Cables Driver-side

These cables provide an extension between the connection cable and the driver. Keep the overall cable length at 10 m or less when extending the connection.

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

● Type

◇ Extension Cables

Length L (m)	Product Name
1	CCM010Z2ADFT
3	CCM030Z2ADFT
5	CCM050Z2ADFT

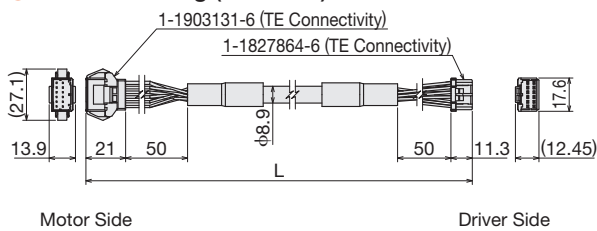


◇ Movable Extension Cables

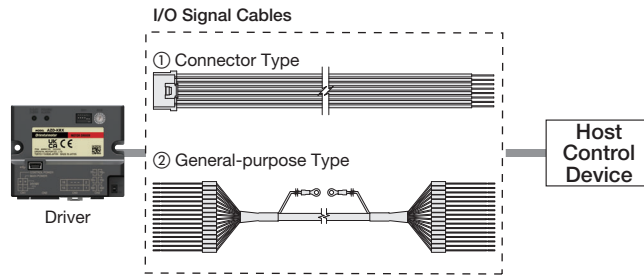
Length L (m)	Product Name
1	CCM010Z2ADRT
3	CCM030Z2ADRT
5	CCM050Z2ADRT



● Outline Drawing (Unit: mm)



I/O Signal Cables



① Connector Type

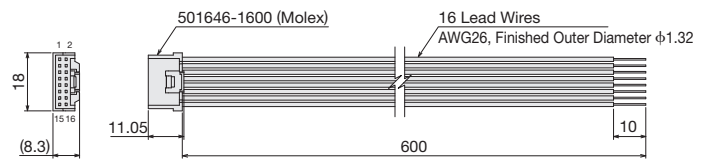
- One-sided Loose Wire



● Type

Product Name	Applicable Driver	Lead Wire Core Number	AWG
LCD06Z2BY	Pulse train input type with RS-485 communication type	16	26

● Outline Drawing (Unit: mm)



② General-purpose Type

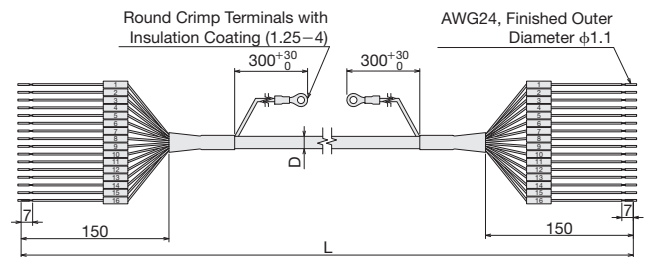
- Shield-type Cables
- Both-side Loose Wires
- Grounding Wire With Round Terminals for Easily Shielded Grounding
- The core number of lead wires can be selected according to the function used.



● Type

Product Name	Length L (m)	Lead Wire Core Number	Outer Diameter D (mm)	AWG
CC06D005B-1	0.5	6	$\phi 5.4$	24
CC06D010B-1	1			
CC06D015B-1	1.5			
CC06D020B-1	2			
CC10D005B-1	0.5	10	$\phi 6.7$	
CC10D010B-1	1			
CC10D015B-1	1.5			
CC10D020B-1	2			
CC12D005B-1	0.5	12	$\phi 7.5$	
CC12D010B-1	1			
CC12D015B-1	1.5			
CC12D020B-1	2			
CC16D005B-1	0.5	16	$\phi 7.5$	
CC16D010B-1	1			
CC16D015B-1	1.5			
CC16D020B-1	2			

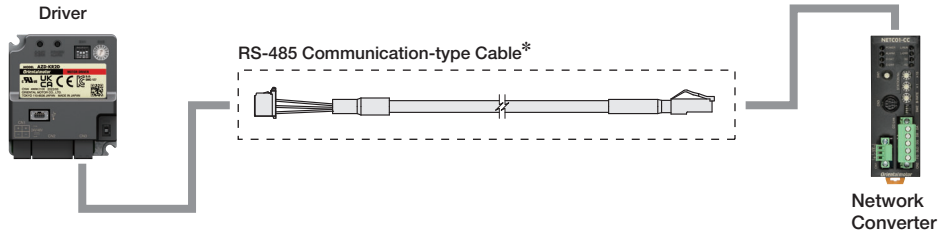
● Outline Drawing (Unit: mm)



- The figure shows 16 cores.

RS-485 Communication-type Cable

This cable connects the driver, network converter, and robot controller **MRC01**.

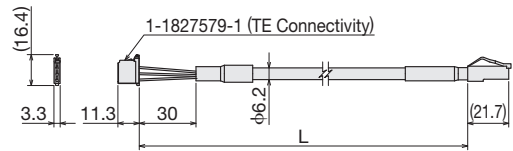


Type

Product Name	Length L (m)
CC02FLT6	2
CC05FLT6	5



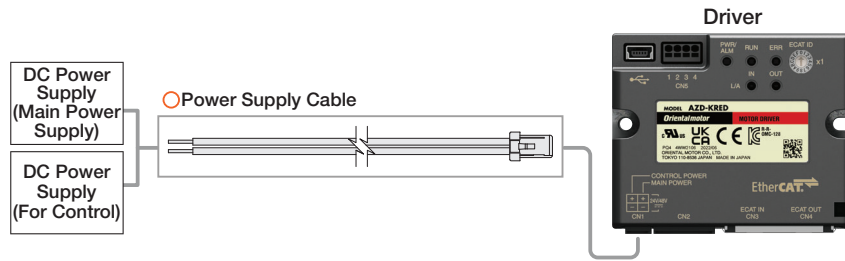
Outline Drawing (Unit: mm)



*Cannot be used for driver-to-driver connections.

Power Supply Cable

This cable connects the driver to the power supply. It allows easy connection of the main power supply and the control power supply.

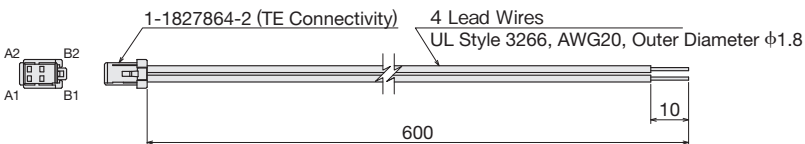


Type

Product Name
LCD06Z2AY



Outline Drawing (Unit: mm)



Modular Automation Suitable Product

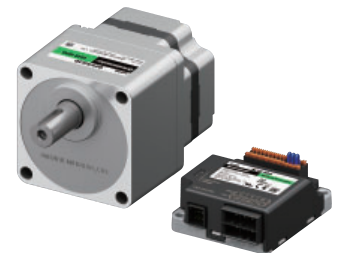
The common concept of this product group is battery-driven, compact size, and lightweight. They are ideal for installation in self-propelled and mobile equipment.

They will contribute to the realization of more flexible and mobile automation lines, which will be required more in the future.

Brushless Motor BLV Series R Type

It is a brushless motor with DC power input, received in further downsizing and weight reduction. A low-speed operation can be set from 1r/min. Operation by battery-driven is also compatible.

- Output: 100 W, 200 W
- Speed Control Range: 1 To 4000 r/min
- Modbus (RTU) And CANopen Communication Compatible



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