Hybrid Control System αSTEP

AZ Series

AC Input EtherNet/IP™ Compatible Driver

AZ Series AC input drivers now offer 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.

Motor Control over the Network

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

- Motor Control from the Network
  - Set and run operating data
  - Set various parameters
  - Check alarm details

- Simple Wiring
  - Wiring to the master device is consolidated into a single EtherNet/IP communication cable
  - Reduces wiring errors and labor time

● 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.

● AZ Series Catalog
Please see our separate catalog for the AZ Series products or visit our website.
System Configuration

AZ Series Standard Type Motor with EtherNet/IP Compatible Driver

System configuration example using EtherNet/IP communications or I/O control, with EtherNet/IP compatible AZ Series driver. Motor, driver, and a set of connection cables (required). Standard or flexible connection cables in many lengths are available.

Motor, driver, and a set of connection cables (required). Standard or flexible connection cables in many lengths are available.

AC Power Supply

MEXE02 Support Software

Driver

Connection Cable Sets

For Electromagnetic Brake

For Encoder

For Motor

Cables for I/O Signals

When controlling with I/O

Note

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

Product Number

AZD - C EP

1 Driver Type AZD: AZ Series Driver
2 Power Supply Input A: Single-Phase 100-120 VAC
B: Single-Phase/Three-Phase 200-240 VAC
3 Network Type EP: EtherNet/IP

Product Line

<table>
<thead>
<tr>
<th>Power Supply Input</th>
<th>Product Name</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Phase 100-120 VAC</td>
<td>AZD-AEP</td>
<td>$656.00</td>
</tr>
<tr>
<td>Single-Phase/Three-Phase 200-240 VAC</td>
<td>AZD-CEP</td>
<td>$656.00</td>
</tr>
</tbody>
</table>

Included

<table>
<thead>
<tr>
<th>Connector</th>
<th>Operating Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CN4 Connector (1 pc.)</td>
<td>1 Copy</td>
</tr>
<tr>
<td>• CN7 Connector (1 pc.)</td>
<td></td>
</tr>
<tr>
<td>• Connector Wiring Lever (1 pc.)</td>
<td></td>
</tr>
</tbody>
</table>
■ Specifications

Communications 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**: UCM, Connection

IP Address Setting Method
- **IP address setting switch, Parameter, DHCP**

Network Topologies
- **Star, Linear bus, Ring (Device Level Ring)**

Driver Specifications

<table>
<thead>
<tr>
<th>Driver Product Name</th>
<th>AZD-AEP</th>
<th>AZD-CEP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Voltage</strong></td>
<td>Single-Phase 100-120 VAC</td>
<td>- - 15 to +6% 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>Single-Phase 200-240 VAC</td>
<td>- - 15 to +6% 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>Three-Phase 200-240 VAC</td>
<td>- - 15 to +6% 50/60 Hz</td>
</tr>
<tr>
<td><strong>Input Current</strong></td>
<td>Single-Phase</td>
<td>AZM46: 2.7 A</td>
</tr>
<tr>
<td></td>
<td>AZM69: 5.4 A</td>
<td>AZM98: 5.5 A</td>
</tr>
<tr>
<td></td>
<td>DGM85: 2.7 A</td>
<td>DGM130: 3.8 A</td>
</tr>
<tr>
<td></td>
<td>LM2: 3.8 A</td>
<td>LM4: 3.8 A</td>
</tr>
<tr>
<td><strong>Main Power Supply</strong></td>
<td>Three-Phase</td>
<td>AZM46: 1.7 A</td>
</tr>
<tr>
<td></td>
<td>AZM69: 3.3 A</td>
<td>AZM98: 3.3 A</td>
</tr>
<tr>
<td></td>
<td>DGM85: 1.7 A</td>
<td>DGM130: 2.3 A</td>
</tr>
<tr>
<td></td>
<td>LM2: 2.3 A</td>
<td>LM4: 2.3 A</td>
</tr>
<tr>
<td><strong>Control Power Supply</strong></td>
<td><strong>Control Voltage</strong></td>
<td>24 VDC ±5%</td>
</tr>
<tr>
<td></td>
<td><strong>Control Current</strong></td>
<td>0.25 A (0.5 A)</td>
</tr>
</tbody>
</table>

- **Pulse Input**: 2 points, Photocoupler
- **Maximum input pulse frequency**: 500 kHz (50% duty)
- **Scanner provides line driver output**: 1 MHz (50% duty)
- **Scanner provides open collector output**: 250 kHz (50% duty)

- **Interface**: 6 points, Photocoupler
- **Pulse Output**: 2 points, Line driver
- **Control Output**: 6 points, Photocoupler/Open collector
- **Power Shut Down Signal Input**: 2 points, Photocoupler
- **Power Shut Down Monitor Output**: 1 point, Photocoupler/Open collector
- **Filed Network**: EtherNet/IP

General Specifications

- **Degree of Protection**: IP10
- **Operating Environment**: Ambient Temperature: 0 to +55°C (+32 to +131°F) (non-freezing)
  - Humidity: 85% or less (non-condensing)
  - Altitude: Up to 1000 m (3300 ft.) above sea level
  - Atmosphere: No corrosive gas or dust. The product should not be exposed directly to water, oil or other liquids.

- **Storage Conditions**: Ambient Temperature: -25 to +70°C (-13 to +158°F) (non-freezing)
  - Humidity: 85% or less (non-condensing)
  - Altitude: Up to 3000 m (10000 ft.) 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 1.5kVAC 50/60 Hz
  - Between the encoder connector and the main power supply terminal 1.8kVAC 50/60 Hz
  - Between the input signal terminal and the main power supply terminal 1.8kVAC 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 (7.87 × 7.87 in.) and 2 mm (0.08 in.) of thickness

- **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 (in.)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Mass kg (lb.)</th>
<th>2D CAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZD-AEP, AZD-CEP</td>
<td>0.68 (1.50)</td>
<td>B1504</td>
</tr>
</tbody>
</table>

- **Driver**
- **2D & 3D CAD**

EtherNet/IP™ is a trademark of ODVA, Inc.