

## PRODUCT DATASHEET

# ES-SD-C01-S007-V011

## Industrial Motion Controller

24 60 V Low Voltage Micro Servo Drives | 24-60 V Compact Servo Drive Series - ES-SD-C01-S007

### Product Overview

Industrial Motion Controller with logic Supply Voltage 24 V DC, peak Output Current 160 A peak and continuous Output Current Without Auxiliary Heatsink 35 Arms.

### Key Specifications

| PARAMETER                                            | VALUE                              | UNIT |
|------------------------------------------------------|------------------------------------|------|
| Logic Supply Voltage                                 | 24                                 | V DC |
| Peak Output Current                                  | 160 A peak                         |      |
| Continuous Output Current Without Auxiliary Heatsink | 35 Arms                            |      |
| Communication Protocol                               | EtherCAT; CoE CiA 402; Pulse       |      |
| Control Method                                       | EtherCAT and pulse                 |      |
| Protection Class                                     | IP20; X5 power terminal is IP00    |      |
| Weight                                               | 0.867                              | kg   |
| Digital I/O                                          | 3 digital inputs; 1 digital output |      |
| Analog Input Count                                   | 1                                  |      |

## Technical Specifications

| PARAMETER                                            | SPECIFICATION                                                                                                    | UNIT |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------|
| PERFORMANCE                                          |                                                                                                                  |      |
| Continuous Output Current Without Auxiliary Heatsink | 35 Arms                                                                                                          |      |
| Supported Motor Power Range                          | 200 to +2000                                                                                                     | W    |
| ELECTRICAL                                           |                                                                                                                  |      |
| Logic Supply Voltage                                 | 24                                                                                                               | V DC |
| Peak Output Current                                  | 160 A peak                                                                                                       |      |
| Braking Absorption Voltage                           | 63 $\pm$ 2 V VDC / 63                                                                                            | V DC |
| Braking Resistor                                     | External braking resistor supported when required by the duty cycle, particularly for rapid start/stop operation |      |
| External Braking Resistor Required                   | Yes / 1                                                                                                          |      |
| Overvoltage Alarm Voltage                            | 70 $\pm$ 2 V VDC / 70                                                                                            | V DC |
| Undervoltage Alarm Voltage                           | 16 $\pm$ 2 V VDC / 16                                                                                            | V DC |
| Power-to-Logic Isolation Voltage                     | 500                                                                                                              | V DC |
| Logic Supply Current                                 | 500 mA plus brake-coil current                                                                                   |      |
| Servo Drive AC Supply Voltage                        | 24 to +60                                                                                                        | V DC |

## Technical Specifications

| PARAMETER                        | SPECIFICATION                                                                                     | UNIT |
|----------------------------------|---------------------------------------------------------------------------------------------------|------|
| ELECTRICAL                       |                                                                                                   |      |
| Logic Power Loss                 | 2500                                                                                              | mW   |
| Protection Functions             | Overvoltage; Undervoltage; Motor overtemperature ( $I^2T$ ); Short circuit; Drive overtemperature |      |
| Logic Supply Voltage Range       | 18 to +30                                                                                         | V DC |
| MECHANICAL                       |                                                                                                   |      |
| Weight                           | 0.867                                                                                             | kg   |
| INTERFACES                       |                                                                                                   |      |
| Communication Protocol           | EtherCAT; CoE CiA 402; Pulse                                                                      |      |
| Control Method                   | EtherCAT and pulse                                                                                |      |
| Digital I/O                      | 3 digital inputs; 1 digital output                                                                |      |
| Gantry Synchronization Supported | No / false                                                                                        |      |
| USB Debug Interface              | Yes / 1                                                                                           |      |
| Digital Output Count             | 1                                                                                                 |      |
| High-Speed Digital Input Count   | 2                                                                                                 |      |
| Analog Input Count               | 1                                                                                                 |      |

## Technical Specifications

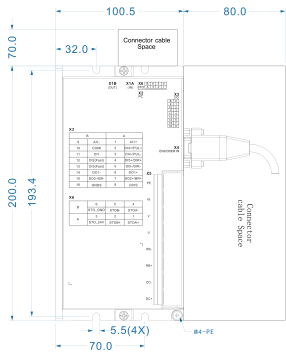
| PARAMETER                        | SPECIFICATION                                 | UNIT |
|----------------------------------|-----------------------------------------------|------|
| INTERFACES                       |                                               |      |
| Digital Input Count              | 3                                             |      |
| Analog Input Range               | -10 to +10                                    | V    |
| Analog Input Resolution          | 12 bit                                        |      |
| Node Address Switch Resolution   | 16 bit                                        |      |
| Pulse Input Voltage              | 12 to +24                                     | V DC |
| Feedback Signal Support          | Tamagawa serial protocol; Incremental encoder |      |
| Pulse Input Maximum Frequency    | 500                                           | kHz  |
| Pulse Input Count                | 2                                             |      |
| Brake Output Count               | 1                                             |      |
| Node Address Rotary Switch Count | 2                                             |      |
| Brake Output Current             | 1                                             | A    |
| ENVIRONMENTAL                    |                                               |      |
| Protection Class                 | IP20; X5 power terminal is IP00               |      |

# Dimensional & Integration Overview

## Mechanical Overview

| PARAMETER | VALUE | UNIT |
|-----------|-------|------|
| Weight    | 0.867 | kg   |

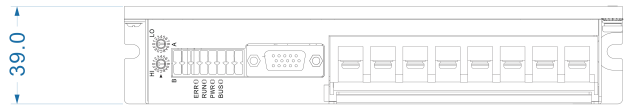
## Dimensional Drawings



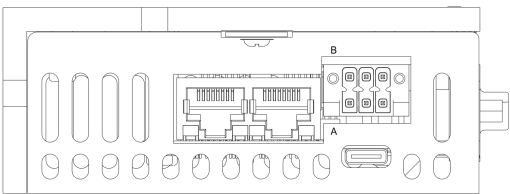
Mechanical View 1



Mechanical View 3



Mechanical View 2



Mechanical View 4

## 2D Drawing Dimensions & Callouts

| VIEW              | FIELD                           | VALUE                                                   |
|-------------------|---------------------------------|---------------------------------------------------------|
| Mechanical View 1 | Overall length                  | 100.5 mm                                                |
|                   | Right section length            | 80.0 mm                                                 |
|                   | Overall height                  | 200.0 mm                                                |
|                   | Main body height                | 193.4 mm                                                |
|                   | Top section height              | 70.0 mm                                                 |
|                   | Left section width              | 32.0 mm                                                 |
|                   | Bottom width                    | 70.0 mm                                                 |
|                   | Mounting hole diameter          | Φ5.5 mm, 4 places                                       |
|                   | Grounding screw hole            | M4 thread, PE grounding                                 |
|                   | Connector cable clearance space | Reserved space for connector cables and terminal wiring |
| Mechanical View 2 | Overall width/depth dimension   | 39.0 mm                                                 |
| Mechanical View 3 | Horizontal fixing hole position |                                                         |
|                   | Horizontal fixing hole offset   | 18.0 mm                                                 |
|                   | Vertical fixing hole position   | 193.0 mm                                                |
|                   | Fixing slot width quantity      | 5.5 mm, 2 places                                        |
|                   | View description                | Hole position for fixation                              |

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**01** Specifications are subject to change without notice. Verify the current product configuration before final design release.

**02** 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.