

## PRODUCT DATASHEET

# ES-SD-C01-S007-V004

## 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 48 A peak and continuous Output Current Without Auxiliary Heatsink 12 Arms.

### Key Specifications

| PARAMETER                                            | VALUE                              | UNIT |
|------------------------------------------------------|------------------------------------|------|
| Logic Supply Voltage                                 | 24                                 | V DC |
| Peak Output Current                                  | 48 A peak                          |      |
| Continuous Output Current Without Auxiliary Heatsink | 12 Arms                            |      |
| Communication Protocol                               | RS485; Modbus RTU; CANopen; Pulse  |      |
| Control Method                                       | RS485, CANopen and pulse           |      |
| Protection Class                                     | IP20; X5 power terminal is IP00    |      |
| Weight                                               | 0.405                              | kg   |
| Digital I/O                                          | 3 digital inputs; 1 digital output |      |
| Analog Input Count                                   | 1                                  |      |

## Technical Specifications

| PARAMETER                                            | SPECIFICATION                                                                                                    | UNIT |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------|
| <b>PERFORMANCE</b>                                   |                                                                                                                  |      |
| Continuous Output Current Without Auxiliary Heatsink | 12 Arms                                                                                                          |      |
| Supported Motor Power Range                          | 200 to +2000                                                                                                     | W    |
| <b>ELECTRICAL</b>                                    |                                                                                                                  |      |
| Logic Supply Voltage                                 | 24                                                                                                               | V DC |
| Peak Output Current                                  | 48 A peak                                                                                                        |      |
| Braking Absorption Voltage                           | 63 ±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 ±2 V VDC / 70                                                                                                 | V DC |
| Undervoltage Alarm Voltage                           | 16 ±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 |
| Logic Power Loss                                     | 2500                                                                                                             | mW   |
| Protection Functions                                 | Overvoltage; Undervoltage; Motor overtemperature (I <sup>2</sup> T); Short circuit; Drive overtemperature        |      |
| Logic Supply Voltage Range                           | 18 to +30                                                                                                        | V DC |
| <b>MECHANICAL</b>                                    |                                                                                                                  |      |
| Weight                                               | 0.405                                                                                                            | kg   |
| <b>INTERFACES</b>                                    |                                                                                                                  |      |
| Communication Protocol                               | RS485; Modbus RTU; CANopen; Pulse                                                                                |      |
| Control Method                                       | RS485, CANopen and pulse                                                                                         |      |

## Technical Specifications

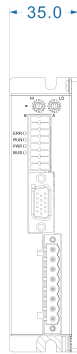
| PARAMETER                        | SPECIFICATION                                 | UNIT |
|----------------------------------|-----------------------------------------------|------|
| INTERFACES                       |                                               |      |
| Digital I/O                      | 3 digital inputs; 1 digital output            |      |
| Gantry Synchronization Supported | Yes / 1                                       |      |
| USB Debug Interface              | Yes / 1                                       |      |
| Digital Output Count             | 1                                             |      |
| High-Speed Digital Input Count   | 2                                             |      |
| Analog Input Count               | 1                                             |      |
| 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

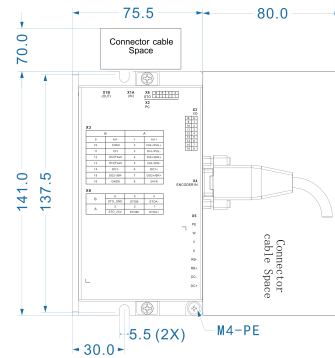
### Mechanical Overview

| PARAMETER | VALUE | UNIT |
|-----------|-------|------|
| Weight    | 0.405 | kg   |

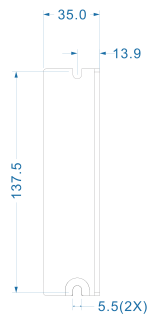
### Dimensional Drawings



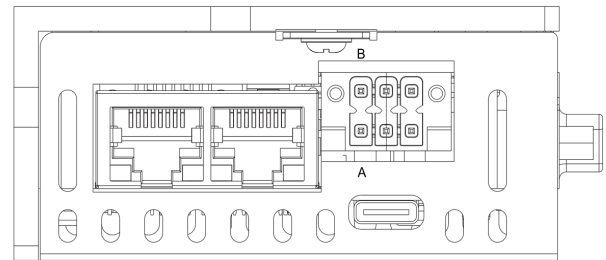
Mechanical View 1



Mechanical View 2


Hole position  
for fixation

Mechanical View 3



Mechanical View 4

## 2D Drawing Dimensions & Callouts

| VIEW              | FIELD                            | VALUE               |
|-------------------|----------------------------------|---------------------|
| Mechanical View 1 | Overall width                    | 35.0 mm             |
|                   | Error indicator LED              | ERR LED             |
|                   | Run indicator LED                | RUN LED             |
|                   | Power indicator LED              | PWR LED             |
|                   | Bus indicator LED                | BUS LED             |
| Mechanical View 2 | Upper mounting zone width        | 75.5 mm             |
|                   | Right mounting zone width        | 80.0 mm             |
|                   | Top edge height                  | 70.0 mm             |
|                   | Overall height                   | 141.0 mm            |
|                   | Panel height                     | 137.5 mm            |
|                   | Mounting hole horizontal spacing | 30.0 mm             |
|                   | Mounting hole diameter           | Ø5.5 mm, 2 places   |
|                   | Ground screw thread              | M4 PE ground thread |
| Mechanical View 3 | Overall Width                    | 35.0 mm             |
|                   | Slot Width                       | 13.9 mm             |
|                   | Overall Height                   | 137.5 mm            |
|                   | Fixation Hole Position Dimension | 5.5 mm (2 places)   |

## 2D Drawing Dimensions & Callouts

| VIEW              | FIELD | VALUE   |
|-------------------|-------|---------|
| Mechanical View 4 |       | Datum B |
|                   |       | Datum A |

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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.