

## PRODUCT DATASHEET

# ES-SD-C01-S007-V003

## 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 18 A peak and continuous Output Current Without Auxiliary Heatsink 5 Arms.

### Key Specifications

| PARAMETER                                            | VALUE                              | UNIT |
|------------------------------------------------------|------------------------------------|------|
| Logic Supply Voltage                                 | 24                                 | V DC |
| Peak Output Current                                  | 18 A peak                          |      |
| Continuous Output Current Without Auxiliary Heatsink | 5 Arms                             |      |
| Communication Protocol                               | Profinet; Pulse                    |      |
| Control Method                                       | Profinet 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 | 5 Arms                                                                                                           |      |
| Supported Motor Power Range                          | 200 to +2000                                                                                                     | W    |
| <b>ELECTRICAL</b>                                    |                                                                                                                  |      |
| Logic Supply Voltage                                 | 24                                                                                                               | V DC |
| Peak Output Current                                  | 18 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                           | 0.405                                                                                             | kg   |
| INTERFACES                       |                                                                                                   |      |
| Communication Protocol           | Profinet; Pulse                                                                                   |      |
| Control Method                   | Profinet 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

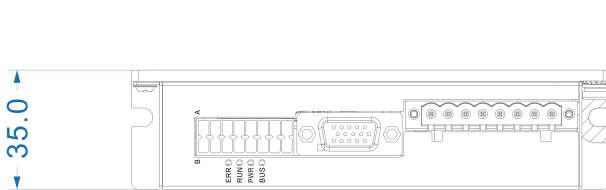
| PARAMETER                        | SPECIFICATION                                 | UNIT |
|----------------------------------|-----------------------------------------------|------|
| INTERFACES                       |                                               |      |
| Digital Input Count              | 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

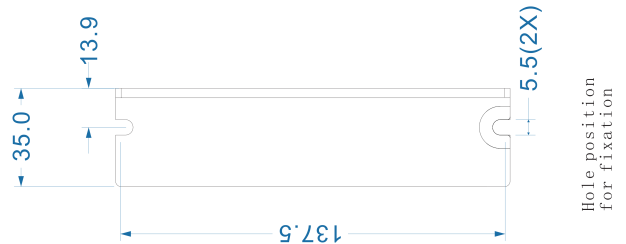
### Mechanical Overview

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

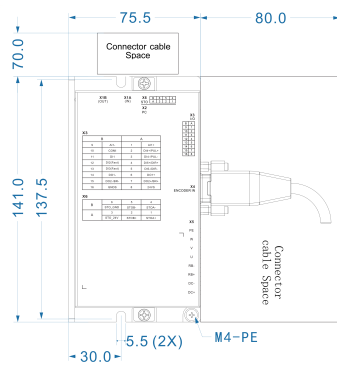
### Dimensional Drawings



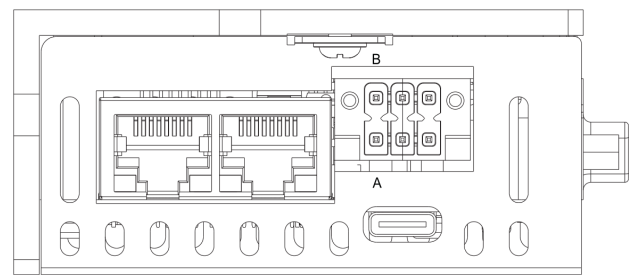
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

## 2D Drawing Dimensions & Callouts

| VIEW              | FIELD                                 | VALUE                           |
|-------------------|---------------------------------------|---------------------------------|
| Mechanical View 1 | Local vertical envelope dimension     | 35.0 mm                         |
| Mechanical View 2 | Fixing hole position offset dimension | 13.9 mm                         |
|                   | Fixing hole or slot size, 2 places    | 5.5 mm, 2X                      |
|                   | Overall width dimension               | 35.0 mm                         |
|                   | Fixing hole position note             | Hole position for fixation      |
|                   | Overall length dimension              | 137.5 mm                        |
| Mechanical View 3 | Width left section                    | 75.5 mm                         |
|                   | Width right section                   | 80.0 mm                         |
|                   | Height upper section                  | 70.0 mm                         |
|                   | Overall height                        | 141.0 mm                        |
|                   | Internal height                       | 137.5 mm                        |
|                   | Mounting hole spacing                 | 30.0 mm                         |
|                   | Mounting hole diameter                | Φ5.5 mm (2 places)              |
|                   | Grounding screw specification         | M4 PE grounding screw           |
| Mechanical View 4 | Interface or view label B             | Datum or connector area label B |
|                   | Interface or view label A             | Datum or connector area label 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.