

## PRODUCT DATASHEET

# ES-SD-C21-S004-V003

## Industrial Motion Controller

Medium Power Servo Drives | Medium-Power Servo Drive Series - ES-SD-C21-S004

### Product Overview

Industrial Motion Controller with logic Supply Voltage No separate logic-supply input V DC, peak Output Current A / 22.98 A and communication Protocol EtherCAT; CoE CiA 402.

### Key Specifications

| PARAMETER                     | VALUE                                                         | UNIT |
|-------------------------------|---------------------------------------------------------------|------|
| Logic Supply Voltage          | No separate logic-supply input                                | V DC |
| Peak Output Current           | A / 22.98                                                     | A    |
| Communication Protocol        | EtherCAT; CoE CiA 402                                         |      |
| Weight                        | kg / 1.89                                                     | kg   |
| Cooling Method                | Forced-air cooling                                            |      |
| Braking Resistor              | Integrated braking resistor, 50 $\Omega$ , 80 W limited power |      |
| Rated Output Power            | W / 2000                                                      | W    |
| Servo Drive AC Supply Voltage | 3-phase 380-415 VAC $\pm 10\%$ , 50/60 Hz $\pm 3$ Hz          |      |
| Atmospheric Pressure          | 86-106 kPa                                                    |      |

## Technical Specifications

| PARAMETER                        | SPECIFICATION                                                                                                         | UNIT |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------|------|
| ELECTRICAL                       |                                                                                                                       |      |
| Logic Supply Voltage             | No separate logic-supply input                                                                                        | V DC |
| Peak Output Current              | A / 22.98                                                                                                             | A    |
| Braking Resistor                 | Integrated braking resistor, 50 $\Omega$ , 80 W limited power                                                         |      |
| Servo Drive AC Supply Voltage    | 3-phase 380–415 VAC $\pm 10\%$ , 50/60 Hz $\pm 3$ Hz                                                                  |      |
| Protection Functions             | Overvoltage, undervoltage, motor I <sup>2</sup> T overtemperature, short-circuit and drive overtemperature protection |      |
| Rated Output Power               | W / 2000                                                                                                              | W    |
| Overvoltage Alarm Voltage        | 710 $\pm$ 5                                                                                                           | V DC |
| Undervoltage Alarm Voltage       | 400 $\pm$ 5                                                                                                           | V DC |
| Braking Absorption Voltage       | 680 $\pm$ 5                                                                                                           | V DC |
| MECHANICAL                       |                                                                                                                       |      |
| Weight                           | kg / 1.89                                                                                                             | kg   |
| INTERFACES                       |                                                                                                                       |      |
| Communication Protocol           | EtherCAT; CoE CiA 402                                                                                                 |      |
| Position-loop sampling frequency | 8                                                                                                                     | kHz  |

## Technical Specifications

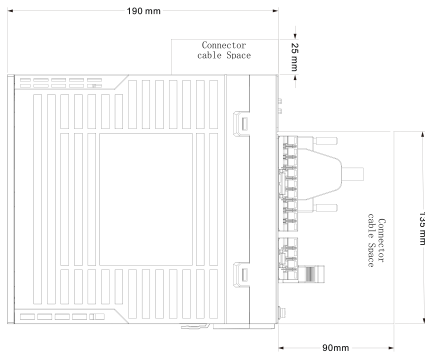
| PARAMETER                       | SPECIFICATION                                                   | UNIT |
|---------------------------------|-----------------------------------------------------------------|------|
| INTERFACES                      |                                                                 |      |
| Speed-loop sampling frequency   | 16                                                              | kHz  |
| Current-loop sampling frequency | 16                                                              | kHz  |
| ENVIRONMENTAL                   |                                                                 |      |
| Cooling Method                  | Forced-air cooling                                              |      |
| Atmospheric Pressure            | 86-106 kPa                                                      |      |
| Operating Temperature           | -10-40 °C nominal; 40-55 °C with 3% per °C derating above 40 °C |      |
| Relative humidity               | 90%RH maximum; non-condensing                                   |      |
| Storage Temperature             | -30 °C-+70 °C; non-freezing                                     |      |
| SAFETY                          |                                                                 |      |
| STO Support                     | No / false                                                      |      |
| ADDITIONAL SPECIFICATIONS       |                                                                 |      |
| Continuous output current       | 8.6                                                             | A    |
| Protection rating               | IP20 enclosure; connection terminals IP00                       |      |
| Supply voltage                  | 3-phase 380-415 VAC $\pm 10\%$ , 50/60 Hz $\pm 3$ Hz            |      |

# Dimensional & Integration Overview

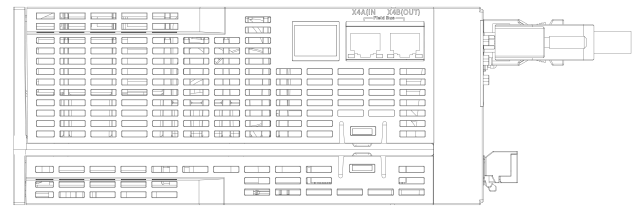
## Mechanical Overview

| PARAMETER | VALUE     | UNIT |
|-----------|-----------|------|
| Weight    | kg / 1.89 | kg   |

## Dimensional Drawings



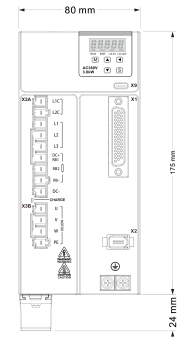
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Mechanical View 4

## 2D Drawing Dimensions & Callouts

| VIEW              | FIELD                                                      | VALUE                               |
|-------------------|------------------------------------------------------------|-------------------------------------|
| Mechanical View 1 | Main body length                                           | 190 mm                              |
| Mechanical View 3 | Horizontal center distance between top mounting holes      | 70 mm                               |
|                   | Mounting hole diameter                                     | Diameter 5.20 mm                    |
|                   | Vertical center distance between right-side mounting holes | 165 mm                              |
| Mechanical View 4 | Overall device width                                       | 80 mm overall width                 |
|                   | Run status indicator label                                 | RUN indicator label                 |
|                   | Error status indicator label                               | ERR indicator label                 |
|                   | Link/activity input and output indicators                  | L/A IN and L/A OUT indicator labels |
|                   | Key labels                                                 | M and S front-panel key labels      |
|                   | Voltage and power marking                                  | AC 380 V, 3.0 kW rating marking     |

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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.