

servo drive CMMT-AS-C5-11A-P3-MP-S1

Part number: 8143167

★ Core product range

FESTO



Data sheet

| Feature | Value |
|--|--|
| Mounting type | Mounting plate, bolted |
| Assembly position | Free convection Vertical |
| Product weight | 2,200 g |
| Display | LED green/yellow/red |
| Control elements | Optional: control unit CDSB |
| Conforms to standard | EN 61800-3 EN 61800-5-1 EN 61800-5-2 EN ISO 13849-1 |
| Based on the standard | EN 50581 EN 60204-1 EN 61508-1 EN 61508-2 EN 61508-3 EN 61508-4 EN 61508-5 EN 61508-6 EN 61508-7 EN 61800-2 EN 62061 |
| Authorization | RCM Mark TÜV c UL us - Listed (OL) |
| KC mark | KC-EMV |
| CE symbol (see declaration of conformity) | according to EU-EMV guideline according to EU machines guideline in accordance with EU RoHS directive |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC To UK instructions for machines To UK RoHS instructions |
| Certificate issuing department | TÜV Rh. UK 01/205U/5640.01/23 TÜV Rhld 01/205/5640.01/23 UL E331130 |
| Storage temperature | -25 ... 55 °C |
| Ambient temperature | 0 ... 50 °C |
| Note on ambient temperature | Power must be reduced by 3%/°C at ambient temperatures above 40°C. |
| UL ambient temperature | 0 ... 40 °C |
| Relative air humidity | 5 - 90 % non-condensing |
| Max. installation height | 2,000 m |
| Note on max. installation height | From 1000 m, power reduction by 1% per 100 m |
| Protection class | IP20 |
| Safety class | I |
| Overvoltage category | III |
| Degree of contamination | 2 |

| Feature | Value |
|--|---|
| Surge strength | 6 kV |
| Materials note | Conforms to RoHS |
| PWIS conformity | VDMA24364 zone III |
| Nominal operating voltage, phases | Three-phase |
| Nominal operating voltage, AC | 400 V |
| Permissible voltage fluctuation | +/- 10 % |
| Input voltage range AC | 200 ... 480 V |
| Line frequency | 48 ... 62 Hz |
| Nominal current, load supply | 6 A |
| Peak current, load supply | 18 A |
| Active PFC | No |
| Mains filter | Integrated |
| System voltage to EN 61800-5-1 | 300 V |
| Max. short circuit protection of the mains | 10 kA |
| Mains types | TN IT |
| Nominal voltage, load supply DC | 560 V |
| Permissible range, load supply | ± 10 % |
| Max. intermediate circuit voltage, DC | 800 V |
| Braking resistor, integrated | 130 Ohm |
| Braking resistance pulse power | 5 kVA |
| Pulse energy for braking resistor | 850 Ws |
| Nominal power braking resistor (IEC) | 58 W |
| Braking resistor, external | 80 ... 130 Ohm |
| Max. continuous output of the external braking resistor (IEC) | 1,200 W |
| Nominal DC voltage, logic power supply | 24 V |
| Permissible range, logic voltage | ± 20 % |
| Current consumption, logic power supply without clamping brake | 0.5 A |
| Current consumption for logic supply with locking brake | 1.8 A |
| Max. current consumption for logic supply, holding brake and I/O | 2.5 A |
| Output voltage range AC | 3x (0 – Input) V |
| Effective nominal current per phase | 5 A |
| Effective peak current per phase | 15 A |
| Max. peak current duration | 2 s |
| Nominal controller power | 2,500 VA |
| Peak power | 7,500 VA |
| Output frequency | 0 ... 599 Hz |
| Max. length of motor cable without external mains filter | 50 m |
| Max. output current of holding brake | 1.3 A |
| Max. voltage drop from logic supply to brake output | 1 V |
| Number of inputs for motor temperature sensor | 1 |
| Controller operating mode | Cascade controller P position controller PI speed controller PI current regulator for F or M Profile operation with record and direct mode Interpolated mode via fieldbus Synchronised operating modes Homing Setting-up Autotuning |
| Operating mode | Field-oriented closed-loop control Position resolution 24 bit/U Sampling rate 16 kHz PWM at 8 or 16 KHz Vector modulation with 3rd harmonic Real-time data acquisition 2x Input-Capture (x, v, F) 2x Output-Trigger (x, v, F) 2x position encoder input 1x SYNC interface for encoder emulation or encoder input |

| Feature | Value |
|---|--|
| Ethernet interface, function | Parameterisation and commissioning |
| Ethernet interface, protocol | TCP/IP |
| Fieldbus interface, protocol | EtherCAT EtherNet/IP Modbus/TCP PROFINET IRT PROFINET RT |
| Fieldbus coupling | EtherCAT EtherNet/IP Modbus/TCP PROFINET |
| Communications profile | CiA402 CoE (CANopen over EtherCAT) EoE (Ethernet over EtherCAT) FoE (File over EtherCAT) PROFIdrive DriveProfile |
| Process interface | AC1: Adj.-Speed Drives AC3: Drive w. Positioning Func AC4: Synchr. Servo Application Adjustable speed drives Drives with positioning function I/O mode for 256 position sets Interpolated Mode CSP Interpolated Mode CST Interpolated Mode CSV |
| Fieldbus interface, transmission rate | 100 Mbit/s |
| Fieldbus interface, type of connection | 2x socket |
| Fieldbus interface, connection technology | RJ45 |
| Encoder interface, function | BiSS-C ENDAT 2.1 encoder ENDAT 2.2 encoder Hiperface encoder Incremental encoder Nikon SIN/COS encoder |
| Encoder interface 2, function | Incremental encoder SIN/COS encoder |
| Synchronisation interface, function | Encoder emulation A/B/Z Encoder input A/B/Z |
| Encoder interface output, characteristics | 1 MHz maximum output frequency max. 16384 ppr |
| Encoder interface input, characteristics | 1 MHz maximum output frequency max. 16384 ppr |
| Number of digital logic inputs | 12 |
| Input circuit logic | PNP (positive-switching) |
| Logic input characteristics | Freely configurable to a given extent Safety inputs in some cases Not electrically isolated |
| Specification, logic input | Based on IEC 61131-2, type 3 |
| Logic input working range | -3 ... 30 V |
| Number of high-speed logic inputs | 2 |
| Time resolution of high-speed logic inputs | 1 µs |
| Number of 24 V DC digital logic outputs | 6 |
| Switching logic, outputs | PNP (positive-switching) |
| Digital logic output characteristics | Freely configurable to a given extent Not electrically isolated Diagnostics outputs in some cases |
| Max. current, digital logic outputs | 20 mA |
| Number of high-speed switching outputs | 2 |
| Time resolution of high-speed switching outputs | 1 µs |

| Feature | Value |
|--|---|
| Number of floating switching outputs | 1 |
| Max. current of the floating switching outputs | 50 mA |
| Number of analog set point inputs | 1 |
| Set point input characteristics | Differential inputs Can be configured for speed in RPM Configurable for current/force |
| Set point input working range | ± 10 V |
| Operating range Analog inputs | ± 10 V |
| Set point input impedance | 70 kOhm |
| Safety function | Safe brake control (SBC) Safe torque off (STO) Safe stop 1 (SS1) |
| Safety Integrity Level (SIL) | Safe brake control (SBC) / SIL 3 / SILCL 3 Safe torque off (STO)/SIL 3/SILCL 3 |
| Performance level (PL) | Safe brake control (SBC) / category 3, Performance Level e Safe Torque off (STO)/Category 4, Performance Level e |
| Diagnostic coverage | 97 % |
| SFF Safe Failure Fraction | 99 % |
| Hardware fault tolerance | 1 |
| Number of safe 2-pin inputs | 2 |
| Number of diagnostic outputs | 2 |