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

Part number: 8143167

General operating condition

Data sheet

Feature	Value
Type of mounting	Mounting plate, screwed on
Mounting position	Open convection Vertical
Product weight	2200 g
Display	Green/yellow/red LED
Control elements	Optional: Operator unit CDSB
Conforms to standard	EN 61800-3 EN 61800-5-1 EN 61800-5-2 EN ISO 13849-1
Based on norm	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
Certification	RCM compliance mark TÜV c UL us - Listed (OL)
KC characters	KC-EMV
CE marking (see declaration of conformity)	As per EU EMC directive as per EU machinery directive As per EU RoHS directive
UKCA marking (see declaration of conformity)	To UK instructions for machines To UK RoHS instructions
Certificate issuing authority	German Technical Control Board (TÜV) Rheinland UK Ltd. 01/205U/5640.01/23 TÜV Rheinland 01/205/5640.01/23 UL E331130
Storage temperature	-25 °C ... 55 °C
Ambient temperature	0 °C ... 50 °C
Note on ambient temperature	Above an ambient temperature of 40 °C, the power must be reduced by 3%/°C.
UL-ambient temperature	0 °C ... 50 °C
Relative air humidity	5 - 90% Non-condensating
Max. installation height	2000 m
Information on max. installation height	1% power reduction/100 m above 1000 m.

Feature	Value
Degree of protection	IP20
Protection class	I
Overvoltage category	III
Contamination level	2
Surge resistance	6 kV
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364 Zone III
Nominal operating voltage phases	Three-phase
Nominal operating voltage AC	400 V
Permissible voltage fluctuations	+/- 10%
Input voltage range AC	200 V ... 480 V
Mains frequency	48 Hz ... 62 Hz
Nominal current load supply	6 A
Peak current, load supply	18 A
Active PFC	No
Line filter	Integrated
System voltage to EN 61800-5-1	300 V
Max. short circuit protection of mains	10 kA
Mains types	TN IT
Nominal voltage, load supply DC	560 V
Load supply permissible range	±10%
Max. DC link voltage	800 V
Braking resistor, integrated	130 Ohm
Pulse power of braking resistor	5 kVA
Pulse energy for braking resistor	850 Ws
Braking resistor nominal power (IEC)	58 W
Braking resistor, external	80 Ohm ... 130 Ohm
Max. continuous output of the external braking resistor (IEC)	1200 W
Nominal voltage, logic supply DC	24 V
Permissible range of logic voltage	±20%
Max. current consumption for logic supply without clamping brake	0.5 A
Max. current consumption for logic supply with parking brake	1.8 A
Max. current consumption for logic supply with clamping brake and I/O	2.5 A
Output voltage range AC	3x (0 – Input) V
Nominal current per phase, effective	5 A
Peak current per phase, effective	15 A
Max. peak current duration	2 s
Controller nominal power	2500 VA
Peak power	7500 VA
Output frequency	0 Hz ... 599 Hz
Max. length of motor cable without ext. 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 control P position controller PI speed controller PI current controller for F or M Profile operation with block mode and direct mode Interpolating mode via fieldbus Synchronous operating modes Homing Setup mode Autotuning

Feature	Value
Mode of operation	Field-oriented control 24 bit/rev position resolution Sampling rate 16 kHz PWM with 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
Ethernet interface, function	Parameterization and commissioning
Ethernet interface, protocol	TCP/IP
Fieldbus interface, protocol	EtherCAT EtherNet/IP Modbus/TCP PROFINET IRT PROFINET RT
Fieldbus interface, function	Bus connection, incoming/forwarding EtherCAT slave PROFINET slave EtherNet/IP Slave
Fieldbus coupling	EtherCAT EtherNet/IP Modbus/TCP PROFINET
Communication profile	CiA402 CoE (CANopen over EtherCAT) EoE (Ethernet over EtherCAT) FoE (File over EtherCAT) PROFIdrive DriveProfile
Process interfacing	AC1: Adjustable-Speed Drives AC3: drives with positioning function AC4: Synchronous Servo Application Adjustable-Speed Drives Drives with positioning function I/O mode for 256 positioning records Interpolated mode CSP Interpolated mode CST Interpolated Mode CSV
Fieldbus interface, transmission rate	100 Mbit/s
Fieldbus interface, connection type	2x port
Fieldbus interface, connection technology	RJ45
Encoder interface, function	BiSS-C ENDAT 2.1 encoder ENDAT 2.2-sensor HIPERFACE encoder Incremental encoder Nikon SIN/COS encoder
Encoder interface 2, function	Incremental encoder SIN/COS encoder
Synchronization 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 switching logic	PNP (positive switching)
Characteristics of logic input	Freely configurable in some cases Safety inputs in some cases Not galvanically isolated
Logic input specification	Based on IEC 61131-2, type 3
Work range of logic input	-3 V ... 30 V

Feature	Value
Number of high-speed logic inputs	2
Time resolution of high-speed logic inputs	1 µs
Number of digital logic outputs 24 V DC	6
Switching logic at outputs	PNP (positive switching)
Characteristics of digital logic outputs	Freely configurable in some cases Not galvanically isolated Diagnostics outputs in some cases
Max. current of digital logic outputs	20 mA
Number of high-speed switching outputs	2
Time resolution of high-speed switching outputs	1 µs
Number of floating switching outputs	1
Max. current of the floating switching outputs	50 mA
Number of analog setpoint inputs	1
Characteristics of setpoint inputs	Differential inputs Configurable for speed Configurable for current/force
Work range of setpoint input	± 10 V
Operating range of analog inputs	± 10 V
Impedance of setpoint input	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
Safety sub-functions up to SIL3	Safe torque off Safe brake control
Performance Level (PL)	Safe brake control (SBC)/category 3, performance level e Safe torque off (STO)/category 4, performance level e
Safety sub-function up to PL e, Cat. 3	Safe brake control
Safety sub-function up to PL e, Cat. 3 4	Safe torque off
Diagnostic coverage	97 %
SFF safe failure fraction	99 %
Hardware fault tolerance	1
Number of safe 2-pin inputs	2
Number of diagnostic outputs	2