ETEL

ACCURET+ 300 Position Controllers

Data sheet with firmware 5.x

Feature set: STD and PRO

Version 1.1

EA+P2M-300-xxxxxA controller
EA+SOM-300-10/40A power supply
Firmware ver.: 5.x
Feature set: STD and PRO

ACCURET+ 300

CONTROLLERS		UNIT	EA+P2M-300-4/7.5A	EA+P2M-300-07/15A	EA+P2M-300-10/20A
Number of axes		-	2		
Current range	Continuous current (per axis)	Arms	4	7	10
	Max. overload current (per axis)	Arms	7.5	15	20
Power input	DC voltage	VDC	96 - 340		
	Max. current	Arms	15		
Control input	DC voltage	VDC	24 (±10 %)		
	Max. current at 24 VDC	A	Typ. 1.3 / Max. 2.5		
PWM frequency		kHz	20		
Weight (without / with optional board slot)		kg	1.4 / 1.6		

POWER SUPPLY		UNIT	EA+S0M-300-10/40A
Power input	AC voltage (1-phase)	VAC	100 - 240 (50 / 60 Hz)
	Max. AC current	A	13
	Max. inrush current	Apeak	15 at 240 VAC
	Max. continuous power	kW	2.4 (at 240 V input) or 1kW (at 100 V input)
Control input	DC voltage	VDC	24 ± 10 %
	Max. current	A	10
Power output	DC voltage	VDC	140 - 340
	Max. continuous current	Arms	10 (limited by max. AC input current)
	Max. pulse current	A	40
Control output	DC voltage	VDC	24 ± 10 %
	Max. continuous current	A	9.5

CONTROL FEATURES		UNIT	Feature set: STD and PRO
General	Motion profile and command management sampling time	µs	100
	Current loop sampling time	µs	50
	Position loop sampling time	µs	50
	Motion profiles	-	5th order S-Curve (for more profiles, refer to the Operation&Software Manual)
Standard interfaces	USB 2.0 (for setting only)	-	Full speed (12 Mbps), type-C
	ETEL real-time bus	-	TRANSNET at 1000 Mbps
	Ethernet	-	100 / 1000 Mbps
Position encoder interfaces	Analog 1 Vpp	-	Max. 2 MHz input (interpolation factor: 16384 for STD and 65536 for PRO)
	Digital EnDat 2.2	-	Max. 6.25 Mbps
	Digital EnDat 3	-	Single- / Multi-DOF at 25 Mbps
	Digital TTL	-	Max. 40 MHz input frequency
	Home / limit switch	-	TTL signal (EHS / L1 & ELS / L2)
Embedded GPIOs (common to both axes)	Standard digital inputs	-	8x (24 V)
	Standard digital outputs	-	4x (24 V)
	Selectable fast digital I/Os (FIOs)	-	Up to 10 (5 V)
	Analog input (shared with FIOs)	-	Up to 2 (0 - 5 V, 12 bits)
Software / programmability	COMET commissioning software	-	For setting / monitoring (for software compatibility, refer to the COMET manual)
	EDI (ETEL Device Interface)	-	API libraries (for software compatibility, refer to the EDI manual)
	Firmware update	-	via USB, Ethernet or TRANSNET

ADVANCED FEATURES	STD	PRO	
HDR (High Dynamic Range)	✗	✓	Advanced functionality to highly improves position jitter performance.
Decoupled gantry control	✓	✓	Dedicated algorithm to improve gantry platforms controlability and performance.
Flight recorder	✓	✓	Event recording feature for easier trouble shooting in case of error/crash.
EnDat 3 Single- / Multi-DOF	✓	✓	Ability to read Multi-DOF feedback devices. Up to 3 positions per axis (typ. XYRz).
5th order trajectory profile with filters	✓	✓	Trajectories incl. SNAP and fitlering ability to limit vibrations and reduce settling.
Functional safety - STO	✓	✓	Safe Torque Off (STO): SIL3, Cat. 3, PLd.
Fast triggers (1D and 2D)	✓	✓	Fast triggers based on real & mapped position with less than 30 ns reaction time.
Force control	✓	✓	Precise force control with or without force sensor. Zero stop time for best troughput.
Identification & Simluation tools	✓	✓	Advanced frequency analysis and simulation tools when combined with COMET.
Advanced feedforward	✓	✓	Feature to identify and compensate known disturbances e.g. friction and cogging.
Embedded programming	✓	✓	Two parallel real-time threads for users programming inside position controller.
Measured position enhancement	✓	✓	Calibration models on measured position (e.g. scale map, stage map, strech…).
Dual encoder feedback	✓	✓	Optimized management of dual position feedback on a single axis.
RTV (Real Time Values)	✓	✓	Max. 16 channels of real time data per axis for upper level motion management.

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EA+SOM-300-10/40A power supply
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ACCURET+ 300

Protective earth
USB communication with PC
Ethernet communication with PC or TRANSNET input
Encoder for motor 1
Encoder for motor 2
Motor 1
Shielding bracket
TRANSNET output
GPIOs for motor 1
Optional board slot
GPIOs for motor 2
Motor 2

49.5
74.5
49.5
217
132(*)

Unit: [mm]

(*): 37 mm must be added if ETEL cooling unit is used

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