



ACCURET+ 100 Position Controllers

Data sheet with firmware 5.x

Feature set: STD and PRO

CONTROLLERS		UNIT	EA+P2M-100-2.5/5A	EA+P2M-100-05/10A	EA+P2M-100-07/15A
Number of axes		-	2		
Current range	Continuous current (per axis)	Arms	2.5	5	7
	Max. overload current (per axis)	Arms	5	10	15
Power input	DC voltage	VDC	24 - 100		
	Max. current	Arms	15		
Control input	DC voltage	VDC	24 ($\pm 10\%$)		
	Max. current at 24 VDC	A	Typ. 1.3 / Max. 2.5		
PWM frequency		kHz	20		
Weight (without / with optional board slot)		kg	1 / 1.15		

CONTROL FEATURES		UNIT	Feature set: STD and PRO		
General	Motion profile and command management sampling time	μ s	100		
	Current loop sampling time	μ s	50		
	Position loop sampling time	μ s	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)		
	EnDat 2.2	-	Max. 6.25 Mbps		
	Digital EnDat 3	-	Single- / Multi-DOF at 25 Mbps		
	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 filtering 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 throughput.
Identification & Simulation 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, stretch...).
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.

