

Actuator Series Technical Product Specifications

TPS-A01000-001
Revision 05, 2026-07

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	ACT065	ACT080	ACT090	ACT110
DIMENSIONS				
Diameter	65 mm	80 mm	90 mm	110 mm
Length	84 mm	95 mm	101 mm	110 mm*
HD gear size equivalent	14	17	20	25
Gear ratio	100:1	100:1	100:1	120:1*
Maximum weight	700 g	1150 g	1600 g	2900 g*
POWER				
Operating voltage range	18 - 26 VDC, 24 VDC Nominal 42 - 50 VDC, 48 VDC Nominal			
Safe operating voltage range	16 - 55 VDC			
Current passthrough	10 A	15 A	20 A	25 A
PERFORMANCE				
Range of motion	+/- 360 deg			
Absolute joint position encoder resolution	0.0014 deg*		0.00017 deg*	
Joint position sensor accuracy	≤0.0153 deg*		≤0.007 deg*	
Maximum torque	36 Nm	70 Nm	107 Nm	217 Nm*
Nominal torque	12 Nm	32 Nm	55 Nm	110 Nm*
Maximum velocity @ 48 VDC	60 RPM	45 RPM	30 RPM	30 RPM
Torque sensor	Redundant			
Torque sensor accuracy (+/- maximum torque)	<1.5% of maximum torque*			
Torque sensor accuracy (+/- 2x maximum torque)	<10% of maximum torque*			
Torque sensor repeatability	<1% of maximum torque*			
Torque sensor off-axis sensitivity (crosstalk)	<2% of maximum torque*			
Torque sensor safe overload	300% of maximum torque*			
Internal operating temperature range	5 - 65 °C			
Operating pressure range	70 - 106 kPa			
Operating humidity (non-condensing)	10 - 95% @ 20 °C 20 - 50% @ 40 °C			
Transportation and storage temperature	-29 - 70 °C			
SAFETY				
Architecture	Redundant processing and sensors architecture			
Minimum Braking Torque	100% of maximum torque			
Safety Stopping Functions	Safe Torque Off, Safe Stop 1, Safe Stop 2			
Safety Monitoring Functions	Safe Operating Stop, Safely-limited Velocity/Torque, Safe Brake Test			
Standards	IEC-60601 and IEC-62304			
COMMUNICATION				
Communication frequency	1 or 4 kHz			
Communication protocol	EtherCAT® / FSoE®* CiA 402 Drive Profile Safety Drive Profile (ETG.6100)			
Modes of operation	csp, csv, cst			

All specifications are based on design estimations. Specifications with an asterisk (*) are requirements or based on extrapolations from current designs, but no design estimation is available yet.

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