

ACS SERVO DRIVE / CONTROLLER & SERVO MOTORS

The ACS is an extremely easy-to-use servo drive/controller and motor developed specifically to be used with electric actuators. Mounted, configured and tested as a complete motion system when ordered with any Tolomatic electric actuator. The ACS can be controlled with simple digital I/O, analog input or robust industrial ethernet.

ACS



ETHERNET (OPTION)

Protocols:
• EtherNet/IP • Modbus TCP

DIGITAL I/O

- 8 Digital Inputs
- 4 Digital Outputs
- 24 VDC Opto-Isolated
- Sourcing or Sinking
- Configurable Inputs

ANALOG I/O

- 0-10 VDC or 4-20mA
- 1 Analog Input
- 1 Analog Output (optional)

MOTOR POWER

Servo Drive

- 10-60VDC Servo Motors
- 10 A Continuous / 20 A Peak

FEEDBACK

- For Digital Encoder

BRAKE OUTPUT

- Active high/low

LED INDICATORS

- Motor Power & Fault indicators

COM PORT

- USB Com Port

ACS POWER

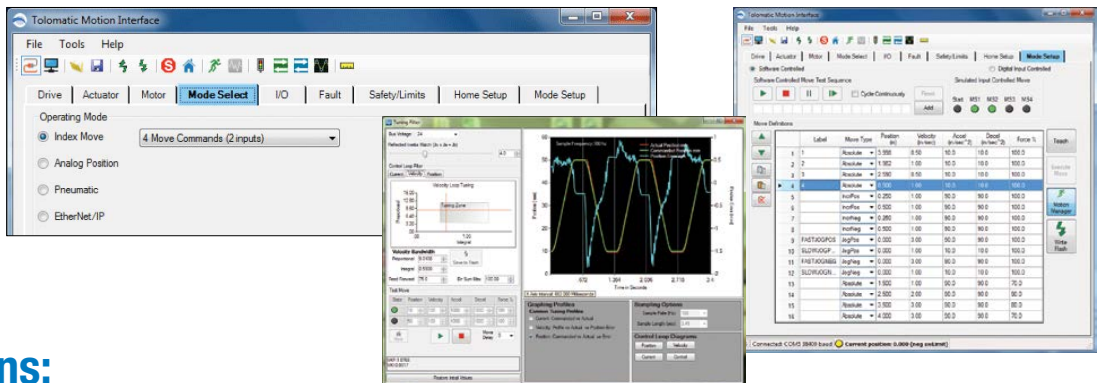
- 10-60VDC
- 10 - 60 VDC Keep-alive Power
- 24 VDC Brake Power

RS485 COM PORT

- Modbus RTU (Base Model)

Easy to Use Operating Modes & Configuration Software

- **OPERATING MODES**
- Index position via digital I/O
- Pneumatic Logic
- Analog Position
- Ethernet
 - EtherNet/IP
 - Modbus TCP
- Supports rotary actuator: position and velocity moves



The software interface includes a 'Mode Select' tab with options for Index Move, Analog Position, Pneumatic, and EtherNet/IP. It also features a 'Move Definitions' table and a 'Velocity Profile' graph.

Label	Move Type	Position (in/rev)	Velocity (in/rev/s)	Accel (in/rev/s ²)	Decel (in/rev/s ²)	Rate %
1	Rotate	1.000	10.00	100.0	100.0	100.0
2	Rotate	1.000	10.00	100.0	100.0	100.0
3	Rotate	1.000	10.00	100.0	100.0	100.0
4	Rotate	1.000	10.00	100.0	100.0	100.0
5	Rotate	1.000	10.00	100.0	100.0	100.0
6	Rotate	1.000	10.00	100.0	100.0	100.0
7	Rotate	1.000	10.00	100.0	100.0	100.0
8	Rotate	1.000	10.00	100.0	100.0	100.0
9	FASTSTOP	Single	10.000	10.00	100.0	100.0
10	FASTSTOP	Single	10.000	10.00	100.0	100.0
11	FASTSTOP	Single	10.000	10.00	100.0	100.0
12	SLOWSTOP	Single	10.000	10.00	100.0	100.0
13	Rotate	1.000	10.00	100.0	100.0	75.0
14	Rotate	1.000	10.00	100.0	100.0	75.0
15	Rotate	1.000	10.00	100.0	100.0	75.0
16	Rotate	1.000	10.00	100.0	100.0	75.0

Available Options:

- Cables**
3m, 5m or 10m lengths
- Planetary Gearboxes**
Available ratios - 3:1, 5:1, 10:1
- Power Supply**
48VDC; 5 Amp or 10 Amp

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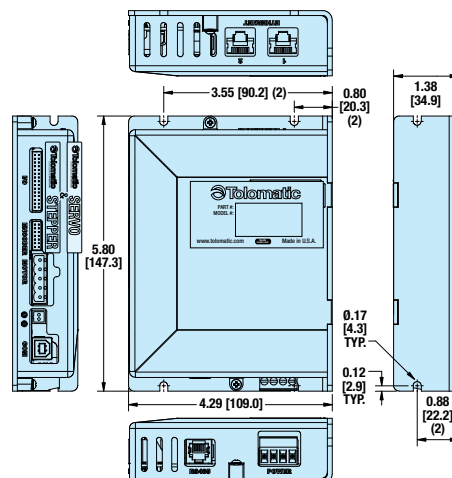
Drive Specifications

DRIVE POWER	
Current - Continuous (Max)	10A
Current - Peak (Max)	20A
Voltage Nominal	10V - 60V
Over Voltage	65V
Under Voltage	9V
Absolute Maximum Voltage	70V
Logic Current Draw (24V)	200 mA

OPERATING CONDITIONS	
Ambient Temperature	25°C Nominal
Operating Temperature	0 - 40°C
Storage Temperature	0-70°C
Humidity	0 - 90% non-condensing
Weight	0.27 kg

See ACS Hardware and Installation Guide (Servo #3604-4181) for more details.

ACS Dimensions



Motor Specifications

Servo Motors	Units	NEMA 23			NEMA 34	
		AMV2C1A1	AMV2C2A1	AMV2C3A1	AMV2D1A1	AMV2D2A1
Continuous Torque	N-m	0.30	0.50	0.81	0.68	1.12
Peak Torque	N-m	0.59	1.00	1.73	1.36	2.23
Resistance	Ohms	0.23	0.205	0.616	0.25	0.208
Inductance	mH	0.244	0.305	0.915	0.325	0.399
Torque Constant (Kt)	N-m/A	0.034	0.058	0.100	0.078	0.129
Back EMF Constant (Ke)	V/kRPM	3.570	6.06	10.5	8.190	13.5
Max. Continuous Current	Amps	10	10	9.32	10	10
Max. RPM	RPM	6,000	6,000	6,000	5,000	5,000
Rotor Inertia	kg-mm ²	7.02	14.05	14.05	70.53	148.37
Motor Weight	kg	0.63	0.93	0.93	1.41	2.09
Motor Poles		8				
Max Case Temp		85°C				
Encoder		Differential 500 lines/rev (2000 counts per rev)				



See ACS brochure (#3600-4185) for dimensions and more details.



3D CAD available at www.tolomatic.com
Always use configured CAD solid model to determine critical dimensions



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