

## ACS STEPPER DRIVE / CONTROLLER & STEPPER MOTORS

The ACS is an extremely easy-to-use stepper 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)

**FEEDBACK**

- For Digital Encoder

**MOTOR POWER**

Stepper Drive  
• 10-52 VDC Stepper Motors

**BRAKE OUTPUT**

- Active high/low

**LED INDICATORS**

- Motor Power & Fault indicators

**COM PORT**

- USB Com Port

**ACS POWER**

- 10-52 VDC
- 10 - 52 VDC Keep-alive Power
- 24 VDC Brake Power

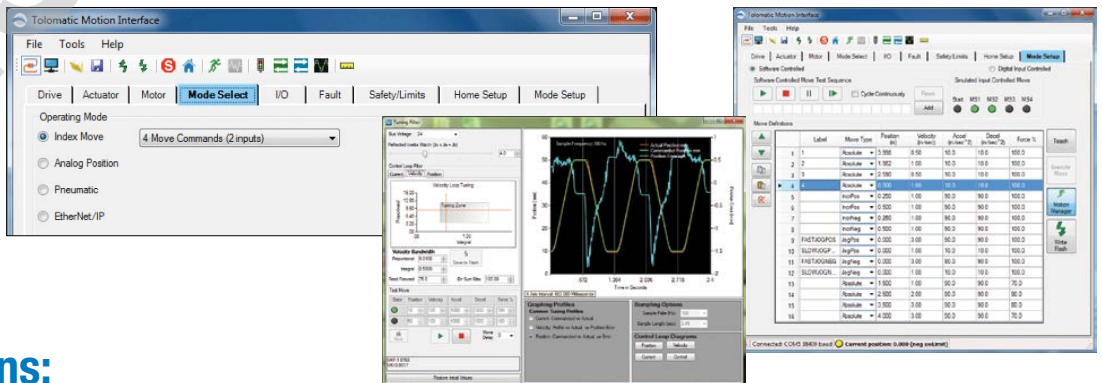
**RS485 COM PORT**

- Modbus RTU (Base Model)

**ACS Stepper Drive/Controllers are DISCONTINUED. Replacements are not available. Use this document for reference only.**

## 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



### 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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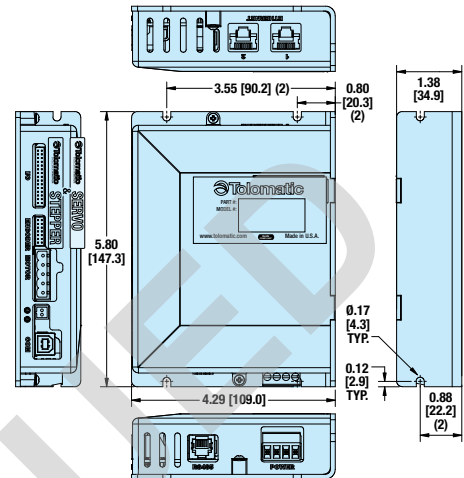
# ACS

## Drive Specifications

DRIVE POWER	
Current - Max	10 Amps
Voltage Nominal	10 - 52V
Over Voltage	55V
Under Voltage	9V
Absolute Maximum Voltage	60V
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

## Dimensions



See ACS Hardware and Installation Guide (Stepper #3604-4183) for more details.

## Motor Specifications

		NEMA 11	NEMA 17	NEMA 23		NEMA 34	
		AMS1A1	AMS1B1	AMS1C1	AMS1C2	AMS1D1	AMS1D2
<b>Resistance</b>	Ohms	3.5	2.4	1.5	0.39	0.138	0.188
<b>Inductance</b>	mH	2.3	4.5	3.7	1.53	1.13	2
<b>Rated Current</b>	Amps-Peak/ Phase	1	1.5	2	5	10	10
<b>Max. Torque</b>	N-m	0.21	0.59	0.85	1.51	2.75	6.0
<b>Maximum RPM</b>		1800	2000	1200	2000	2000	1850
<b>Degree per Step</b>		1.8°	1.8°	1.8°	1.8°	1.8°	1.8°
<b>Rotor Inertia</b>	kg-mm <sup>2</sup>	1.76	8.19	21.95	38.92	94.82	159.78
<b>Motor Weight</b>	kg	0.20	0.36	0.55	1.00	1.60	2.70
<b>Motor Type</b>		Bipolar Stepper, 1.8° per Step					
<b>Encoder</b>		Differential; 500 line/rev (2000 count post quad)/rev					



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



3D CAD available at [www.tolomatic.com](http://www.tolomatic.com)  
Always use configured CAD solid model to determine critical dimensions



MADE IN U.S.A.

# Tolomatic™

EXCELLENCE IN MOTION

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV  
= ISO 9001 =  
Certified site: Hamel, MN

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