

# ArmorStart™ Distributed Motor Controller

## Specifications

Electrical Ratings		UL/Nema	IEC
Power Circuit	Rated Operation Voltage	200V...480Y/277V	200...500V
	Rate Insulation Voltage	600V	600 V
	Rated Impulsed Voltage	6 kV	6 kV
	Dielectric Withstand	2200V AC	2500V AC
	Operating Frequency	50/60 Hz	50/60 Hz
	Utilization Category	N/A	AC-3
	Protection Against Shock	N/A	IP2X
	Rated Operating Current Max.		2.5 A 5.5 A 16 A
Short Circuit Protection	SCPD performance Type 2	0.5...2.5 A range 65 kA@480Y/277V	0.5...2.5 A range 65 kA
		1.1...5.5 A range 65 kA@480Y/277V	1.1...5.5 A range 65 kA
		3.2...16 A range 25 kA@480Y/277V	3.2...16 A range 25 kA
	SCPD List	Size per NEC Group Motor	—
Control Circuit	Rated Operation Voltage	24V DC A2 (should be grounded at voltage source)	
		120V AC A2 (should be grounded at voltage source)	
		240V AC A2 (should be grounded at voltage source)	
	Rate Insulation Voltage	250V	250V
	Rated Impulsed Voltage	—	4 kV
	Dielectric Withstand	1500V AC	2000V AC
	Overvoltage Category	—	III
	Operating Frequency	50/60 Hz	
	<b>Power Requirements</b>		
	24V DC Status Only		77 W pickup 1 W holding
	24V DC HOA/HOA Reversing		87 W pickup 11 W holding
	120V/240V AC Status Only		70 VA Pickup 9 VA Holding
	120V/240V AC HOA/HOA Reversing		80 VA Pickup 19 VA Holding
	Input Ratings	Rated Operation Voltage	24V DC
Input On-State Voltage Range		10...26V DC	
Input On-state Current		3.0 mA @ 10V DC	
		7.2 mA @ 24V DC	
Input Off-state Voltage Range		0...5V DC	
Input Off-state Current		<1.5 mA	
<b>Input Filter — Software Selectable</b>			
Off to On		Settable from 0...64 ms in 1 ms increments	
On to Off		Settable from 0...64 ms in 1 ms increments	
Input Compatibility		N/A	IEC 1+
Number of inputs		4	
<b>Sensor Source</b>			
Voltage Status Only		11...25V DC from DeviceNet	
Voltage with HOA or HOA reversing		24V DC ±15% from Control Voltage	
Current Available	50 mA MAX per Input, 200 mA Total		
Output Ratings	Rated Operation Voltage	240V AC / 30V DC	240V AC / 30V DC
	Rate Insulation Voltage	250V	250V
	Dielectric Withstand	1500V AC	2000V AC
	Operating Frequency	50/60 Hz	50/60 Hz
	Type of control circuit	Electromechanical Relay	
	Kind of Current	AC/DC	
	Conventional Thermal Current $I_{th}$	Total of both outputs ≤ 2 A	
	Type of Contacts	Normally Open (N.O.)	
	Number of Contacts	2	

<b>Environmental</b>	Operating Temperature Range	0...40°C (32...104°F)		
	Storage and Transportation temperature range	-25...85°C (-13...185°F)		
	Altitude	2000 m		
	Humidity	5...95% (non-condensing)		
	Pollution Degree	3		
	<b>Mechanical Resistance to Shock</b>			
	Operational	5 G		
	Non-Operational	10 G		
	<b>Resistance to Vibration</b>			
	Operational	5 G		
	Non-Operational	10 G		
	Control Power Terminal Cable Size	#22 AWG...#10 AWG	0.5 mm <sup>2</sup> ...6 mm <sup>2</sup>	
	Tightening Torque	5.6...6.8 lb-in	0.7 N-m	
	Line Power Terminal cable size	#22 AWG...#10 AWG	0.5 mm <sup>2</sup> ...6 mm <sup>2</sup>	
	Tightening Torque	5.6...6.8 lb-in	0.7 N-m	
	Ground Terminal cable size	#22 AWG...#10 AWG	0.5 mm <sup>2</sup> ...6 mm <sup>2</sup>	
	Tightening Torque	5.6...6.8 lb-in	0.7 N-m	
Enclosure Ratings	NEMA 4/12	IP67		
<b>Other Rating</b>	<b>EMC Emission levels</b>			
	Conducted Radio Frequency Emissions	Class A		
	Radiated Emissions	Class A		
	<b>EMC immunity levels</b>			
	Electrostatic Discharge	4 kV contact and 8 kV Air		
	Radio Frequency Electromagnetic Field	10 V/m		
	Fast Transient	2 kV		
	Surge Transient	1 kV (12) L-L, 2 kV (2) L-N (Earth)		
	<b>Overload Characteristics</b>			
	Overload Current Range	0.5...2.5 A		
		1.1...5.5 A		
		3.2...16 A		
	Trip Classes	10, 15, 20		
	Trip Rating	120% of FLC setting		
	Number of poles	3		
	<b>DeviceNet Specifications</b>			
	DeviceNet Supply Voltage Rating	Range 11...25V DC, 24V DC Nominal		
	DeviceNet Input Current	125 mA plus total of Input currents 325 mA Max at 24V DC Status Only		
		125 mA at 24V DCHOA/HOA Reversing		
	DeviceNet Input Current Surge	15 A for 250 μs		
	<b>DeviceNet Communications</b>			
Baud Rates	125, 250, 500 kbps			
Distance Maximum	500 m (1630 ft) @ 125 kbps			
	200 m (656 ft) @ 250 kbps			
	100 m (328 ft) @ 500 kbps			
Approvals	cULus (File No. 3125)			
	UL 508E EN/IEC 60947-4-1 CE Marked per Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC			