

Certifications

	Listed to UL508C and CAN/CSA-C22.2 No. 14-05 (does not apply to 21G drives with enclosure code "P").
	In conformity with the following European Directives: EMC Directive (2004/108/EC) Low Voltage Directive (2006/95/EC) Standards applied: EN 61800-3:2004 EN 61800-5-1:2007
	TÜV Rheinland Certification applies to 20-750-S and 20-750-S1 Safety Options when installed in drive. Standards applied: EN 61800-3:2004 EN 61800-5-1:2007 EN ISO 13849-1:2008 EN ISO 13849-2:2003 EN 61800-5-2:2007 EN 61508 PARTS 1-7:2000 EN 62061:2005 EN 60204-1:2006
	Australian Communications and Media Authority In conformity with the following: Radiocommunications Act: 1992 Radiocommunications Standard: 2008 Radiocommunications Labelling Notice: 2008 Standards applied: EN 61800-3:2004
EPRI/SEMI F47	Electric Power Research Institute Certified compliant with the following standards: SEMI F47 IEC 61000-4-34
GOST-R	Russian GOST-R Certificate no. POCC US.ME92.H00040

Environmental Specifications

Category	Specification																				
Altitude:																					
Based on Load:	See Derating Guidelines on pages 11...19.																				
Based on Voltage:	<table><tr><th>System & Ground Configuration</th><th>Overvoltage Category⁽¹⁾</th><th>Voltage</th><th>Altitude Limit⁽²⁾</th></tr><tr><td>Center Grounded (Y Neutral)</td><td>II (2)</td><td>Up to 480V AC</td><td>9000 m above sea level⁽³⁾</td></tr><tr><td>w/Solid Ground</td><td>III (3)</td><td>Up to 480V AC</td><td>4800 m above sea level</td></tr><tr><td>Ungrounded, Impedance</td><td>II (2)</td><td>Up to 480V AC</td><td>4800 m above sea level</td></tr><tr><td>Grounded, or Corner Grounded</td><td>III (3)</td><td>Up to 480V AC</td><td>2000 m above sea level</td></tr></table> Notes: Based on EN61800-5-1 (Electro-thermal Safety Standard for drives) ⁽¹⁾ Overvoltage Categories: Category II (Isolation Transformer Level) - Typically two levels of isolation or protection from outdoor power lines. Category III (Most Common) Distribution Level Inside a Building - Typically one level of isolation or protection from outdoor power lines. ⁽²⁾ Excluding failure from cosmic radiation. Cosmic radiation will increase rate of IGBT malfunction at altitudes greater than 3000 m above sea level. Concrete walls and ceilings or concrete walls and large bottles of water overhead are examples of ways to shield against cosmic radiation. ⁽³⁾ Drive is limited to a maximum of 4800 m thermally. Refer to the Ambient Temperature/Load Derating Guidelines starting on page 11.	System & Ground Configuration	Overvoltage Category ⁽¹⁾	Voltage	Altitude Limit ⁽²⁾	Center Grounded (Y Neutral)	II (2)	Up to 480V AC	9000 m above sea level ⁽³⁾	w/Solid Ground	III (3)	Up to 480V AC	4800 m above sea level	Ungrounded, Impedance	II (2)	Up to 480V AC	4800 m above sea level	Grounded, or Corner Grounded	III (3)	Up to 480V AC	2000 m above sea level
System & Ground Configuration	Overvoltage Category ⁽¹⁾	Voltage	Altitude Limit ⁽²⁾																		
Center Grounded (Y Neutral)	II (2)	Up to 480V AC	9000 m above sea level ⁽³⁾																		
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Grounded, or Corner Grounded	III (3)	Up to 480V AC	2000 m above sea level																		

Feedback Options

Description	Cat. No.
Incremental Encoder	20-750-ENC-1 ⁽²⁾
Dual Incremental Encoder	20-750-DENC-1 ⁽²⁾
Universal Feedback (includes Stegmann, Heidenhain, SSI, Biss, Incremental) ⁽¹⁾	20-750-UFB-1

⁽¹⁾ PowerFlex 755 only.

⁽²⁾ Homing and registration functions are not supported when using this device with Integrated Motion. To use these functions, the Universal Feedback Board (20-750-UFB-1) must be used.

I/O Option Kits

Description	Cat. No.
24V DC I/O with 2 Analog In, 2 Analog Out, 6 Digital In and 2 Relay Outputs	20-750-2262C-2R
115V AC I/O with 2 Analog In, 2 Analog Out, 6 Digital In and 2 Relay Outputs	20-750-2262D-2R
24V DC I/O with 2 Analog In, 2 Analog Out, 6 Digital In, 3 Digital Out, 1 Relay & 2 Transistor Outputs	20-750-2263C-1R2T

Safety Options

The PowerFlex 750-Series is available with two Safety options:

- Safe Torque-Off
- Safe Speed Monitor

Safe Torque-Off is ideal for safety related applications requiring removal of rotational power to the motor without shutting down the drive. Safe Torque-Off functionality offers the benefit of quick start-up after a demand on the safety system and helps reduce wear from repetitive start-up and provides safety ratings up to and including SIL CL3, PLe, and Category 3.

In applications where the speed needs to be controlled and monitored, the Safe-Speed Monitor option combines Safe Torque-Off capability with integrated safety relay functionality and the Safe-Speed Control technology in one hardware option to provide safety ratings up to and including SIL CL3, PLe, and Category 4.

With the Safe Speed Monitor option you can safely monitor and control the speed of your application which allows operators to perform process or maintenance work without stopping the machine.

Description	Cat. No.
Safe Torque-Off	20-750-S
Safe Speed Monitor ⁽¹⁾	20-750-S1

⁽¹⁾ Requires the Dual Incremental Encoder option or Universal Feedback Option.

Specifications - Safety Options

	Safe-Torque -Off	Safe Speed Monitor
Standards:	IEC/EN60204-1, ISO13489-1, IEC 61508, IEC 61800-5-2	IEC/EN60204-1, ISO12100, IEC 61508, IEC 61800-5-2
Safety Category:	Cat. 3 and PL(e) per EN ISO 13849-1; SIL CL3 per IEC 61508 and EN 62061	Cat. 4 and PL(e) per EN ISO 13849-1; SIL CL3 per IEC 61508 and EN 62061
Power Supply (user I/O):	24V DC $\pm 10\%$, 0.8...1.1 x rated voltage ⁽³⁾ PELV or SELV	
Power Consumption:	4.4 W	36 W
Safety Enable (SE+, SE-):	24V DC, 22 mA, short-circuit protected	—
Safety Power (SP+, SP-):	24V DC, 35 mA, short-circuit protected	—
SLS Outputs (68, 78):	—	24V DC, 50mA, short-circuit protected
SS Outputs (34, 44):	—	24V DC, 50 mA, short-circuit protected
Door Control Outputs (51, 52):	—	24V DC, short-circuit protected, 0.75 A bipolar (Power to Release/Power to Lock) configuration. 20 mA, cascading (2Ch Source) configuration.
Pulse Outputs (S11, S21):	—	24V DC, 50 mA, short-circuit protected
Pulse Inputs (S12, S22, S32, S42, S52, S62, S72, S82, X32, X42):	—	5 mA per input, max
Input ON Voltage, Minimum:	24V DC $\pm 10\%$, 21.6...26.4V DC	15V
Input OFF Voltage, Maximum:	5V	5V
Input OFF Current, Maximum:	2.5 mA @ 5V DC	2 mA
Input-to-Output Response Time (SS_In, SLS_In, DM_In, ESM_In, LM_In):	—	20 ms
Overspeed Response Time:	—	User-configurable
Inputs (S34):	—	5 mA per input, max
Conductor Size ⁽¹⁾ :	0.3...0.8 mm ² (28...18 AWG)	0.25...2.5 mm ² (24...14 AWG)
Strip Length:	10 mm (0.39 in.)	6 mm (0.25 in.)
Terminal Screw Torque	—	0.2...0.25 N•m (1.8...2.2 lb•in)
Certification ⁽²⁾		
c-UL-us	UL Listed, certified for US and Canada.	
CE	European Union 2004/108/EC EMC Directive, and EU 2006/42/EC Machinery Directive EN 61800-3; categories C2 and C3 EN 62061; EM Immunity EN ISO 13849-1 EN ISO 13849-2 EN 61800-5-1 EN 61800-5-2 EN 61508 Parts 1-7	
C-Tick	Australian Radiocommunications Act, compliant with: EN 61800-3; categories C2 and C3	
TÜV	TÜV Certified for Functional Safety: up to SIL CL3, according to EN 61800-5-2, EN 61508, and EN 62061; up to Performance Level PL(e) and Category 3, according to EN ISO 13849-1; when used as described.	TÜV Certified for Functional Safety: up to SIL CL3, according to EN 61800-5-2, EN 61508, and EN 62061; up to Performance Level PL(e) and Category 4, according to EN ISO 13849-1; when used as described.

⁽¹⁾ Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

⁽²⁾ When product is marked.

⁽³⁾ Safety outputs need additional fuse for reverse voltage protection of the control circuit. Install a 6 A slow-blow or 10 A fast-acting fuse.