



IMPULSE®•G+ *Mini*

Adjustable Frequency / Vector Crane Controls

EMC Guidelines Compliance Addendum



MAGNETEK

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Preface and Safety

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Trademarks are the property of their respective owners.

DANGER, WARNING, CAUTION, and NOTE Statements

DANGER, *WARNING*, *CAUTION*, and *NOTE* statements are used throughout this manual to emphasize important and critical information. You must read these statements to help ensure safety and to prevent product damage. The statements are defined below.



DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTE: A *NOTE* statement is used to notify installation, operation, programming, or maintenance information that is important, but not hazard-related.

Disclaimer of Warranty

Magnetek, hereafter referred to as Company, assumes no responsibility for improper programming of a drive by untrained personnel. A drive should only be programmed by a trained technician who has read and understand the contents of this manual. Improper programming of a drive can lead to unexpected, undesirable, or unsafe operation or performance of the drive. This may result in damage to equipment or personal injury. Company shall not be liable for economic loss, property damage, or other consequential damages or physical injury sustained by the purchaser or by any third party as a result of such programming. Company neither assumes nor authorizes any other person to assume for Company any other liability in connection with the sale or use of this product.



WARNING

Improper programming of a drive can lead to unexpected, undesirable, or unsafe operation or performance of the drive.

Service Information

For questions regarding service or technical information contact:

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Magnetek, Inc. has additional satellite locations for Canada, United States, and United Kingdom. For more information, please visit www.columbusmckinnon.com/magnetek.

Electromagnetic Compatibility (EMC) Guidelines Compliance



Figure 1: CE Mark

The CE mark indicates compliance with European safety and environmental regulations. It is required for engaging in business and commerce in Europe.

European standards include the Machinery Directive for machine manufacturers, the Low Voltage Directive for electronics manufacturers, and the EMC guidelines for controlling noise.

This drive displays the CE mark based on the EMC guidelines and the Low Voltage Directive.

- Low Voltage Directive: 2014/35/EU

Devices used in combination with this drive must also be CE certified and display the CE mark. When using drives displaying the CE mark in combination with other devices, it is ultimately the responsibility of the user to ensure compliance with CE standards. After setting up the device, verify that conditions meet European standards.

EMC Guidelines Compliance

This drive is tested according to European standards IEC/EN 61800-3:2004/A1:2012 and it complies with the EMC directive 2014/30/EU.

Since the device is intended exclusively for commercial applications, it is not subject to the requirements of the EN 61000-3-2 standard for the emission of harmonic current emissions.

In a residential environment, this device may cause high-frequency interference, which requires interference suppression. If the device is used in this environment, make sure that an EMC expert carries out the installation and commissioning.

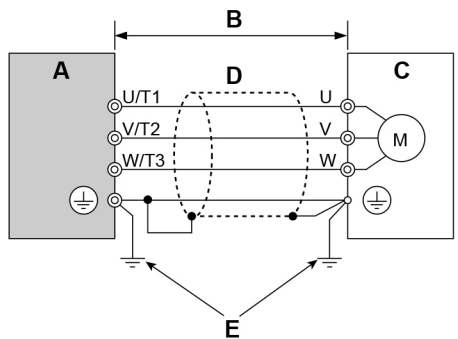
EMC Filter Installation

The following conditions must be met to ensure continued compliance with guidelines. Refer to EMC Filters on page 7 for EMC filter selection.

Installation Method

Verify the following installation conditions to ensure that other devices and machinery used in combination with this drive also comply with EMC guidelines.

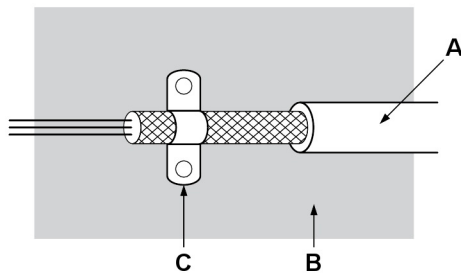
1. Install an EMC noise filter to the input side specified by Magnetek for compliance with European standards.
2. Place the drive and EMC noise filter in the same enclosure.
3. Use braided shield cable for the drive and motor wiring, or run the wiring through a metal conduit.
4. Keep wiring as short as possible. Ground the shield on both the drive side and the motor side.



- A – Drive
- B – 20 m max cable length between drive and motor
- C – Motor
- D – Metal conduit
- E – Ground wire should be as short as possible.

Figure 2: Installation Method

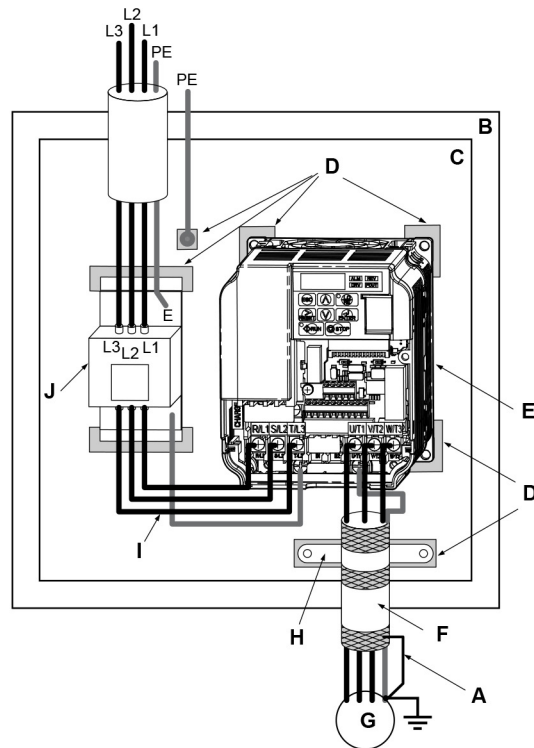
5. Ground the largest possible surface area of the shield to the metal conduit when using braided shield cable. Magnetek recommends using a cable clamp.



- A – Braided shield cable
- B – Metal panel
- C – Cable clamp (conductive)

Figure 3: Ground Area

Three-Phase 230/460 V Class



- | | |
|---|---|
| A – Ground the cable shield | F – Motor cable (braided shield cable, max. 20 m) |
| B – Enclosure panel | G – Motor |
| C – Metal plate | H – Cable clamp |
| D – Grounding surface (remove any paint or sealant) | I – Wiring distance as short as possible |
| E – Drive | J – EMC noise filter |

Figure 4: EMC Filter and Drive Installation for CE Compliance (Three-Phase 230/460 V Class)

EMC Filters

Install the drive with the EMC filters listed in Tables 1 and 2 to comply with the EN61800-3, Category C1 requirements.

Table 1: IEC/EN61800-3 Category C1 Filters - Three-Phase 230 V Class

Drive Model (□□□□-G+M)	Filter Data (Manufacturer: Schaffner)						
	Type	Rated Current (A)	Weight (lb) (kg)	Dimensions [W x L x H] (in) [W x L x H] (mm)	Mounting Dimensions Y x X (in) Y x X (mm)	Drive Mounting Screw A	Filter Mounting Screw
2001	FS23637-8-07	7.3	0.88 0.4	2.8 x 6.7 x 1.6 71 x 169 x 40	2.0 x 6.1 51 x 156	M4	M5
2003	FS23637-8-07	7.3	0.88 0.4	2.8 x 6.7 x 1.6 71 x 169 x 40	2.0 x 6.1 51 x 156	M4	M5
2005	FS23637-8-07	7.3	0.88 0.4	2.8 x 6.7 x 1.6 71 x 169 x 40	2.0 x 6.1 51 x 156	M4	M5
2008	FS23637-14-07	14	1.28 0.6	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
2011	FS23637-14-07	14	1.28 0.6	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
2017	FS23637-24-07	24	1.98 0.9	5.7 x 6.9 x 2.0 144 x 174 x 50	4.7 x 6.3 120 x 161	M4	M5
2025*	FS23637-52-07	52	4.41 2.0	5.4 x 12.0 x 2.2 137 x 304 x 56	3.9 x 11.4 100 x 289	M5	M5
2033*	FS23637-52-07	52	4.41 2.0	5.4 x 12.0 x 2.2 137 x 304 x 56	3.9 x 11.4 100 x 289	M5	M5
2047*	FS23637-68-07	68	5.73 2.6	6.9 x 13.4 x 2.6 175 x 340 x 65	5.1 x 12.8 130 x 325	M5	M6
2060*	FS23637-80-07	80	6.83 3.1	8.3 x 15.5 x 2.6 212 x 393 x 65	6.6 x 14.9 167 x 378	M6	M8

* EMC filters for models 2025 through 2060 are in compliance with IEC/EN 61800-3, Category 2. All other models comply with Category 1.

Table 2: IEC/EN 61800-3 Category C1 Filters - Three-Phase 460 V Class

Filter Data (Manufacturer: Schaffner)							
Drive Model (□□□□-G+M)	Type	Rated Current (A)	Weight (lb) (kg)	Dimensions [W x L x H] (in) [W x L x H] (mm)	Mounting Dimensions Y x X (in) Y x X (mm)	Drive Mounting Screw A	Filter Mounting Screw
4001	FS23639-5-07	5	1.10 0.5	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
4002	FS23639-5-07	5	1.10 0.5	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
4003	FS23639-5-07	5	1.10 0.5	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
4004	FS23639-10-07	10	1.54 0.7	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
4005	FS23639-10-07	10	1.54 0.7	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
4007	FS23639-10-07	10	1.54 0.7	4.4 x 6.7 x 1.8 111 x 169 x 45	3.6 x 6.1 91 x 156	M4	M5
4009	FS23639-15-07	15	1.98 0.9	5.7 x 6.9 x 2.0 144 x 174 x 50	4.7 x 6.3 120 x 161	M4	M5
4014	FS23639-30-07	30	4.0 1.8	5.4 x 12.0 x 2.2 137 x 304 x 56	3.9 x 11.4 100 x 289	M5	M5
4018	FS23639-30-07	30	4.0 1.8	5.4 x 12.0 x 2.2 137 x 304 x 56	3.9 x 11.4 100 x 289	M5	M5
4024	FS23639-50-07	50	6.0 2.7	6.9 x 13.4 x 2.6 175 x 340 x 65	5.1 x 12.8 130 x 325	M5	M6
4031	FS23639-50-07	50	6.0 2.7	6.9 x 13.4 x 2.6 175 x 340 x 65	5.1 x 12.8 130 x 325	M5	M6

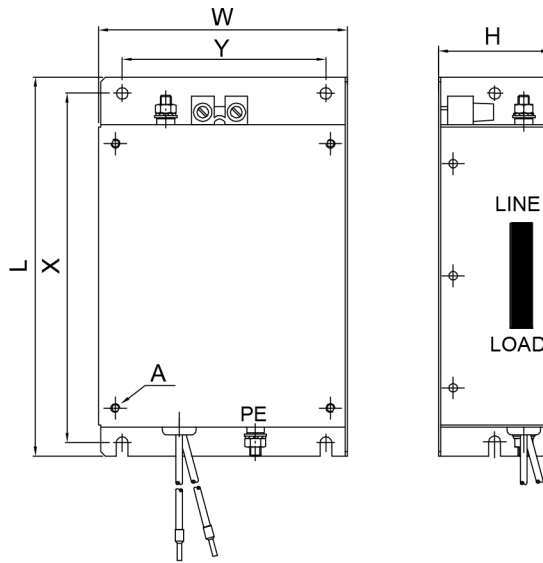


Figure 5: EMC Filter Dimensions

DC Link Chokes for EN 61000-3-2 Compliance

Table 3: DC Link Chokes for Harmonic Reduction

Drive Model (□□□□-G+M)	DC Link Chokes Rating
2003	5.4 A, 8 mH
2005	
4002	3.2 A, 28 mH
4003	

NOTE: DC link chokes are not required for other models to comply with EMC.

