

## 16.3 EMC Filters

### EMI / RFI POWER LINE FILTERS

THE ES RANGE OF POWER LINE FILTERS FPM (Footprint) AND FV SERIES, HAVE BEEN SPECIFICALLY DESIGNED WITH HIGH FREQUENCY ES INVERTERS. THE USE OF ES FILTERS, WITH THE INSTALLATION ADVICE OVERLEAF HELP ENSURE TROUBLE FREE USE ALONG SIDE SENSITIVE DEVICES AND COMPLIANCE TO CONDUCTED EMISSION AND IMMUNITY STANDARDS EN61800-3.



### CAUTION

IN CASE OF LEAKAGE CURRENT, A PROTECTIVE DEVICE IS USED ON POWER SUPPLY, THAT COULD BE DAMAGED WHEN POWERING ON/OFF THE DEVICE. TO AVOID THIS, THE SENSE CURRENT OF THE PROTECTIVE DEVICE SHOULD BE LARGER THAN THE VALUE OF THE LEAKAGE CURRENT. SEE TABLE BELOW.

### RECOMMENDED INSTALLATION INSTRUCTIONS

To conform to the EMC directive, it is necessary that these instructions be followed as closely as possible. Follow the usual safety procedures when working with electrical equipment. All electrical connections to the filter, inverter and motor must be made by a qualified electrical technician.

- 1-) Check the filter rating label to ensure that the current, voltage rating and part number are correct.
- 2-) For best results the filter should be fitted as closely as possible to the incoming mains supply of the wiring enclosure, usually directly after the enclosures circuit breaker or supply switch.
- 3-) The back panel of the wiring cabinet of board should be prepared for the mounting dimensions of the filter. Care should be taken to remove any paint etc... from the mounting holes and face area of the panel to ensure the best possible earth connection of the filter.
- 4-) Mount the filter securely.
- 5-) Connect the mains supply to the filter terminals marked LINE, connect any earth cables to the earth stud provided. Connect the filter terminals marked LOAD to the mains input of the inverter using short lengths of appropriate gauge cable.
- 6-) Connect the motor and fit the ferrite core ( output ferrite ring ) as close to the inverter as possible. Armoured or screened cable should be used with the 3 phase conductors only threaded twice through the center of the ferrite core. The earth conductor should be securely earthed at both inverter and motor ends. The screen should be connected to the enclosure body via and earthed cable gland.
- 7-) Connect any control cables as instructed in the inverter instructions manual.

**IT IS IMPORTANT THAT ALL LEAD LENGTHS ARE KEPT AS SHORT AS POSSIBLE AND THAT INCOMING MAINS AND OUTGOING MOTOR CABLES ARE KEPT WELL SEPARATED.**

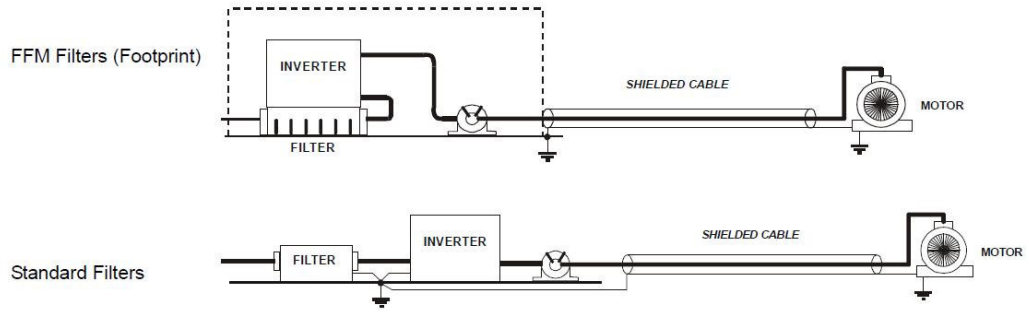


SINUS M series / FFM Filters (Footprint)										
INVERTER	POWER	CODE	CURRENT	VOLTAGE	LEAKAGE CURRENT	DIMENSIONS L W H	MOUNTING Y X	WEIGHT	MOUNT	OUTPUT FERRITE
					NOM. MAX.					
SINUS 0001 2S/T	0.4kW	AC1710101*	5A	200+480VAC	0.5mA 27mA	175x76.5x40	161x53	1.2kg	M4	AC1810302
SINUS 0002 2S/T	1.1kW									
SINUS 0003 2S/T	1.8kW	AC1710201*	12A	200+480VAC	0.5mA 27mA	176.5x107.5x40	162.5x84	1.3kg	M4	AC1810302
SINUS 0005 2S/T	3kW	AC1710202*	20A	200+480VAC	0.5mA 27mA	176.5x147.5x45	162.5x124	1.8kg	M4	AC1810302
SINUS 0007 2S/T	4.5kW									
SINUS 0011 2S/T	5.5kW	AC1710300*	30A	200+480VAC	0.5mA 27mA	266x185.5x60	252x162	2kg	M4	AC1810302
SINUS 0014 2S/T	9.2kW	AC1710500*	50A	200+480VAC	0.5mA 27mA	270x189.5x60	252x162	2.5kg	M4	AC1810402
SINUS 0017 2S/T	11kW	Not available								
SINUS 0020 2S/T	15kW									
SINUS 0025 2S/T	18kW									
SINUS 0030 2S/T	22kW									
SINUS 0001 4T	0.4kW	AC1710101*	5A	200+480VAC	0.5mA 27mA	175x76.5x40	161x53	1.2kg	M4	AC1810302
SINUS 0002 4T	0.9kW									
SINUS 0003 4T	1.5kW	AC1710104*	6A	200+480VAC	0.5mA 27mA	176.5x107.5x40	162.5x84	1.2kg	M4	AC1810302
SINUS 0005 4T	2.2kW	AC1710200*	11A	200+480VAC	0.5mA 27mA	176.5x147.5x45	162.5x124	1.5kg	M4	AC1810302
SINUS 0007 4T	4.5kW									
SINUS 0011 4T	5.5kW	AC1710300*	30A	200+480VAC	0.5mA 27mA	266x185.5x60	252x162	2kg	M4	AC1810402
SINUS 0014 4T	7.5kW									
SINUS 0017 4T	11kW	AC1710510*	51A	200+480VAC	0.5mA 27mA	368x258.5x65	354x217	2.5kg	M6	AC1810402
SINUS 0020 4T	15kW									
SINUS 0025 4T	18kW	AC1710600*	60A	200+480VAC	0.5mA 27mA	460x288x65	446x246	2.8kg	M8	AC1810402
SINUS 0030 4T	22kW	AC1710700*	70A	200+480VAC	0.5mA 27mA	460x288x65	446x246	2.8kg	M8	AC1810402



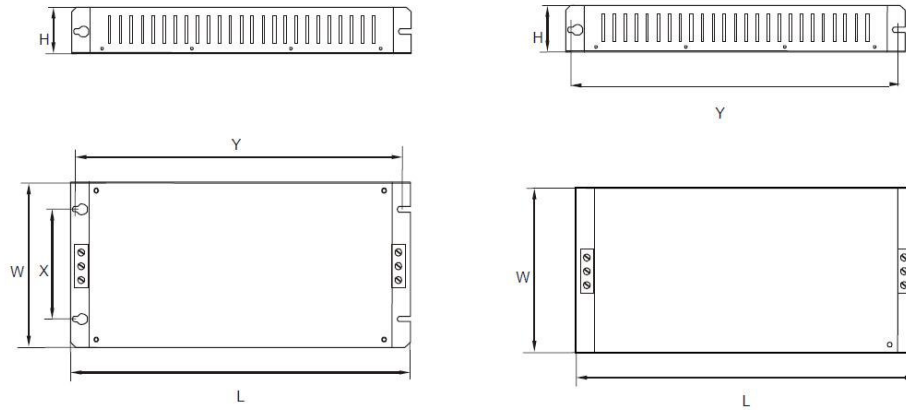
SINUS M series / Standard Filters										
INVERTER	POWER	CODE	CURRENT	VOLTAGE	LEAKAGE CURRENT	DIMENSIONS L W H	MOUNTING Y	WEIGHT	MOUNT	OUTPUT FERRITE
					NOM. MAX.					
SINUS 0017 2S/T	11kW	AC1711000*	100A	250VAC	0,5mA 27mA	420x200x130	408x166	13,8 kg	-	AC1810603
SINUS 0020 2S/T	15kW									
SINUS 0025 2S/T	18kW	AC1711100*	120A	250VAC	0,5mA 27mA	420x200x130	408x166	13,8 kg	-	AC1810603
SINUS 0030 2S/T	22kW									

\* Domestic and industrial environment EN50081-1 (B class) → EN61000-6-3:02



FFM Filters (Footprint)

Standard Filters



Output ferrite ring

