

## Ranges Covered

<b>Inverters</b>	<b>200V Single Phase</b>	<b>200V Three Phase</b>	<b>400V Three Phase</b>
L100	0.2 to 2.2kW		0.4 to 7.5kW
SJ100	0.2 to 2.2kW		0.4 to 7.5kW
L300P			11 to 55kW
SJ300			0.75 to 55kW

Footprint and Block RFI filters for

**HITACHI**

L100, SJ100, L300P and SJ300 motor inverters

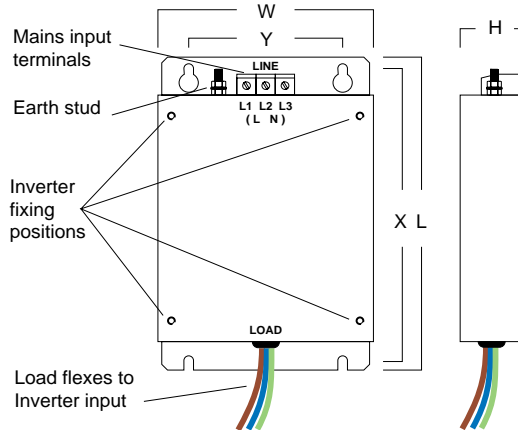


# FP-100



- The **FP-100** range, especially for Hitachi L100 and SJ100 Series inverters.
- Help to ensure EMC compliance of machinery and installations using L100 and SJ100 drives.
- Footprint filters mount between the inverter and the panel, saving valuable space inside wiring cabinets.
- All filters are designed and manufactured to UL requirements and are CE marked.

## Footprint Type Dimensions



Applied L100 Inverter	Applied SJ100 Inverter	Filter Part No	Rated Current	Max Rated Voltage	Leakage current Nom / Max	External L x W x H (mm)	Mount Dims X x Y (mm)	Inverter Fixing	EMC Tested	UL
L100 002 NFE L100 004 NFE	SJ100 002 NFE SJ100 004 NFE SJ100 005 NFE	FP 1007 100	6A	1ph, 250V	3.5mA	156 x 83 x 30	146 x 60	2 x M4	✓	✓
L100 005 NFE L100 007 NFE	SJ100 007 NFE SJ100 011 NFE	FP 1012 100	10A	1ph, 250V	3.5mA	166 x 114 x 30	156 x 80	4 x M4	✓	✓
L100 011 NFE L100 015 NFE L100 022 NFE	SJ100 015 NFE SJ100 022 NFE	FP 1024 100	23A	1ph, 250V	3.5mA	220 x 146 x 35	210 x 100	4 x M5	✓	✓
L100 004 HFE L100 007 HFE L100 015 HFE	SJ100 004 HFE SJ100 007 HFE SJ100 015 HFE SJ100 022 HFE	FP 3007 100	6A	3ph, 480V	0.5 / 14mA	166 x 114 x 35	156 x 80	4 x M4	✓	●
L100 022 HFE L100 030 HFE L100 040 HFE	SJ100 030 HFE SJ100 040 HFE	FP 3012 100	12A	3ph, 480V	0.5 / 14mA	220 x 146 x 35	210 x 100	4 x M5	✓	●
L100 055 HFE L100 075 HFE	SJ100 055 HFE SJ100 075 HFE	FP 3022 100	22A	3ph, 480V	0.5 / 38mA	305 x 186 x 50	289 x 140	4 x M6	✓	●

UL Approval Status - ✓ Complete, ● Pending

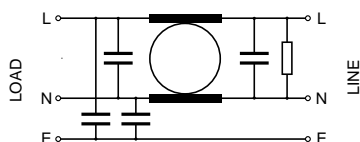
## Earth Leakage Measurements

In single phase applications, the earth leakage current is present all of the time.

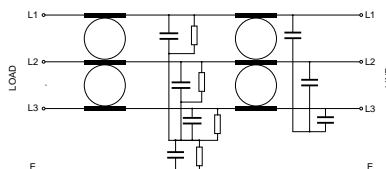
For three phase applications under normal conditions with the three phases balanced, earth leakage currents are extremely small - the max values stated are worst possible values such as would occur momentarily during switch on or failure of one or two phases.

## Typical Circuit Schematics

### Single Phase



### Three Phase

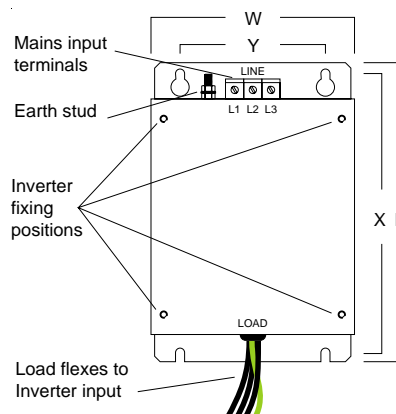


# FP-300 RF-300

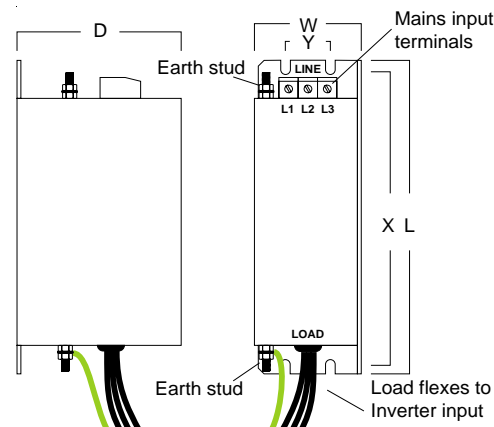


- The **FP-300** and **RF-300** ranges, especially for Hitachi L300P and SJ300 Series inverters.
- Help to ensure EMC compliance of machinery and installations using L300P and SJ300 drives.
- Footprint filters mount between the inverter and the panel, saving valuable space inside wiring cabinets. Block filters mount beside the inverter.
- All filters are designed and manufactured to UL requirements and are CE marked.

## FP Footprint Type Dimensions



## RF Block Type Dimensions



Applied L300P Inverter	Applied SJ300 Inverter	Filter Part No	Rated Current	Max Rated Voltage	Leakage current Nom / Max	External L x W x H (mm)	Mount Dims X x Y (mm)	Inverter Fixing	EMC Tested	UL
-	SJ300-007HFE SJ300-015HFE SJ300-022HFE SJ300-040HFE SJ300-055HFE	FP 3016-300	16A	3ph, 480V	0.5 / 40mA	305 x 152 x 45	290 x 110	4 x M5	✓	●
L300P-110HFE L300P-150HFE	SJ300-075HFE SJ300-110HFE	FP 3040-300	40A	3ph, 480V	0.5 / 40mA	315 x 213 x 53	156 x 80	4 x M6	✓	●
L300P-185HFE L300P-220HFE L300P-300HFE	SJ300-150HFE SJ300-185HFE SJ300-220HFE	FP 3077-300	77A	3ph, 480V	0.5 / 42mA	459 x 253 x 60	444 x 210	4 x M6	✓	●
L300P-370HFE	SJ300-300HFE	RF 3092-300	92A	3ph, 480V	0.5 / 42mA	400 x 105 x 195	384 x 65	-	✓	●
L300P-450HFE L300P-550HFE	SJ300-370HFE SJ300-450HFE SJ300-550HFE	RF 3150-300	150A	3ph, 480V	0.5 / 40mA	479 x 110 x 240	464 x 80	-	✓	●

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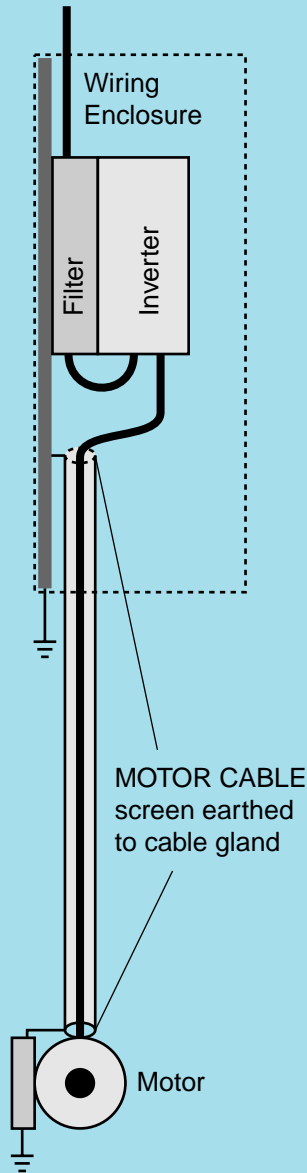
## Design and Test Criteria

Generally with motor drive systems the emission levels are greatly affected by the length of the cable between the drive itself and the motor - longer cables will cause considerably higher emissions.

These inverter / filter combinations have been designed and tested to achieve compliance to :-

EN 55022:1994, Class B for use in domestic / light industrial environments (equivalent to the RF emissions tests of Power Drive Standard EN 61800-3:1996 for drives with <25A input current) when fitted with up to 25m motor output cable and to EN 55011:1991 Group 1, Class A for use in industrial environments (equivalent to the RF emissions tests of Power Drive Standard EN 61800-3:1996 for drives with >25A input current) when fitted with up to 50m motor output cable.

## UL approval documentation and EMC Test Certificates from Independent Test House



### Filter Installation Notes

To conform to EMC directives, it is essential that good wiring practice is observed and that all installation recommendations are followed.

- ◆ The usual safety procedures when working with electrical equipment must be followed and all electrical connections to the filter, inverter & motor must be made by a qualified electrical technician.
- ◆ Filters 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.
- ◆ Care should be taken to remove any paint etc. from filter and inverter mounting holes and face area of the panel to ensure the best possible earthing of the units.
- ◆ All lead lengths should be kept as short as possible and incoming mains, outgoing motor cables and control cables should be kept well separated. Cable earth screens should only be stripped back as far as necessary to make connections - screens should be securely earth bonded to the wiring panel.

DUE TO CONTINUAL PRODUCT DEVELOPMENT, SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



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