

OPTIFILTER

User Guide

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The manufacturer accepts no liability for any consequences resulting from inappropriate, negligent or incorrect installation. The contents of this User Guide are believed to be correct at the time of printing. In the interests of a commitment to a policy of continuous improvement, the manufacturer reserves the right to change the specification of the product or its performance or the contents of the User Guide without notice.

SAFETY

This filter is specifically designed to be used with the Optidrive variable speed drive product and is intended for professional incorporation into complete equipment or systems. If installed incorrectly it may present a safety hazard. The Optidrive uses high voltages and currents, carries a high level of stored electrical energy, and is used to control mechanical plant that may cause injury. Close attention is required to system design and electrical installation to avoid hazards in either normal operation or in the event of equipment malfunction.

System design, installation, commissioning and maintenance must be carried out only by personnel who have the necessary training and experience. They must read carefully this safety information and the instructions in this Guide and follow all information regarding transport, storage, installation and use of the Optifilter, including the specified environmental limitations.

Please read the IMPORTANT SAFETY INFORMATION below, and all Warning and Caution boxes elsewhere.

SAFETY NOTICES

WARNING is given where there is a hazard that could lead to injury or death of personnel. **CAUTION** is given where there is a hazard that could lead to damage to equipment.

It is the responsibility of the installer to ensure that the equipment or system into which the product is incorporated complies with the EMC legislation of the country of use. Within the European Union, equipment into which this product is incorporated must comply with 89/336/EEC, Electromagnetic Compatibility.

WARNING

Within the European Union, all machinery in which this product is used must comply with the Directive 89/392/EEC, Safety of Machinery. In particular, the equipment should comply with EN60204-1.

WARRANTY

All Invertek Drives Ltd (IDL) products carry a 2-year warranty, valid from the date of manufacture. This date is clearly visible on the rating label.

Complete Warranty Terms and Conditions are available upon request from your nearest Moeller representative.

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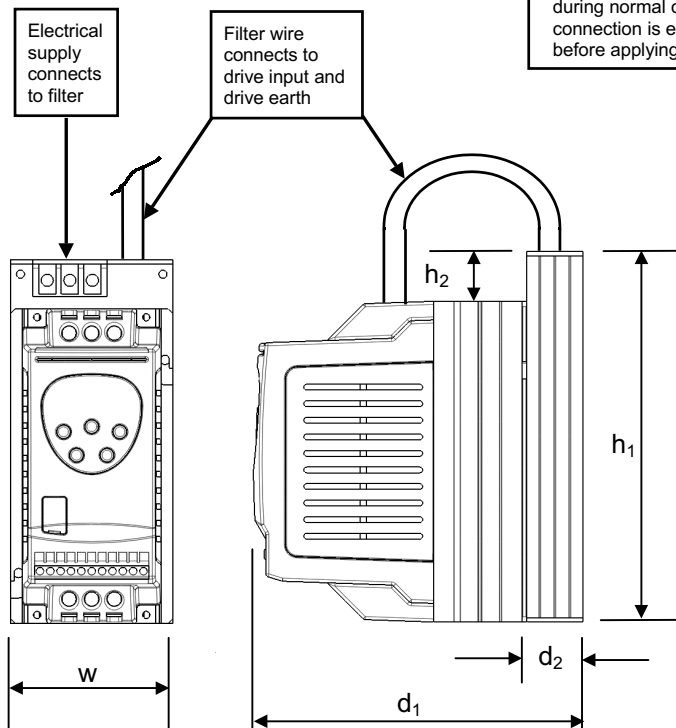
MECHANICAL AND ELECTRICAL INSTALLATION

CAUTION

- Carefully inspect the Optifilter before installation to ensure it is undamaged.
- Store the Optifilter in its box until wanted. Storage should be clean and dry. Temperature range -40°C to $+60^{\circ}\text{C}$.
- Install the Optifilter on a flat, vertical, flame-resistant vibration-free mounting within an IP54 or equivalent enclosure (EN60529).
- Flammable material should not be placed close to the filter.
- Wherever control cabling is close to power cabling, maintain a minimum separation of 100 mm and arrange crossings at 90°

WARNING

- Optifilters should be installed only by qualified electrical persons and in accordance with local and national regulations and codes of practice.
- Electric shock hazard!** Disconnect and **ISOLATE** the Optidrive before attempting any work on it. High voltages are present at the terminals and within the drive for up to 10 minutes after disconnection of the electrical supply.
- Where the electrical supply to the drive is through a plug and socket connector, do not disconnect until 10 minutes have elapsed after turning off the supply.
- These filters contain capacitors that are connected between phase and earth; a leakage current will flow during normal operation, therefore a good earth connection is essential and must be connected before applying power to the filter.



CONFORMITY with STANDARDS

- CE-marked for Low Voltage Directive.
- IEC 664-1 Insulation Coordination within Low Voltage Systems.
- UL 840 Insulation coordination for electrical equipment.
- EN50081-2 EMC Generic Emissions Standard, Industrial Level.
- EN50082-2 EMC Generic Immunity Standard, Industrial Level.
- Enclosure ingress protection, EN60529 IP20, NEMA 250.
- Flammability rating according to UL 94.

G O Jones
G O Jones, Technical Director

EASY START UP

- Optifilter is designed to slide on to the back of the Optidrive heatsink creating a simple integrated assembly.
- Fixing holes for the combined assembly are the same as for the standalone drive; longer screws are provided.
- The electrical supply connects to the filter; connection of the supply earth to the filter earth is essential.
- The filter wire (see diagram above) connects to the drive input and drive earth points as per the label on the wire.
- ✦ When screened motor cable is used and connected as per the Optidrive manual employing good wiring practice, the integrated Optifilter and Optidrive assembly meets the European standard for EMC for motor - drive cable lengths defined in the table below.

Size		1	1	2	2	3
Optifilter model reference	OD- xxxx-MEL	F1121	F1341	F2121	F2341	F3341
Supply voltage	+/- 10%	220-240	220-480	220-240	220-480	220-480
Phases		1	3	1	3	3
Output current (max)	A	10	6	16	30	30
Earth leakage	mA	<1.6	<30	<1.6	<30	<30
Dimensions	W	90	90	105	105	105
	H1	200	200	300	300	300
	H2	30	30	20	20	20
	D1	175	175	225	225	225
	D2	45	45	50	50	50
Weight (filter only)	kg	0.5	0.5	0.9	0.9	0.9
Weight (filter + drive)	kg	1.6	1.6	3.7	3.7	6.5
Compliance with Conducted Emissions standards ✚						
EN 50081-1 (Domestic): motor-drive cable length						
Drive Fsw (P-17) =8kHz	m	10	3	5	5	5
Drive Fsw (P-17) =16kHz	m	5	3	5	5	5
Drive Fsw (P-17) =32kHz	m	5	3	5	5	5
EN50081-2 (industrial): motor-drive cable length						
Drive Fsw (P-17) =8kHz	m	40	10	35	35	30
Drive Fsw (P-17) =16kHz	m	30	10	30	30	30
Drive Fsw (P-17) =32kHz	m	25	8	25	25	25
Compliance with Radiated Emissions standards ✚ All Optidrives comply with EN 50081-1 with or without filter						
For use with following Optidrives	OD- xxxxxx-MEL	120037 120055 120075 120150	140075 140150	220110 220150 220220	240075 240110 240150 240220 240300 240400	340550 340750 341100 341500