

OLR

Three Phase Air Core VFD Output Reactor

Applications

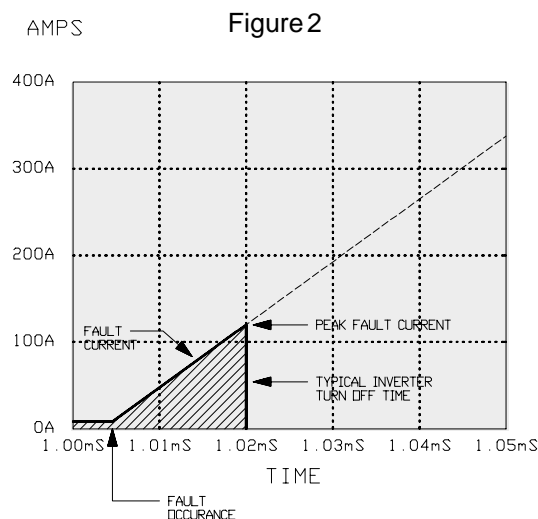
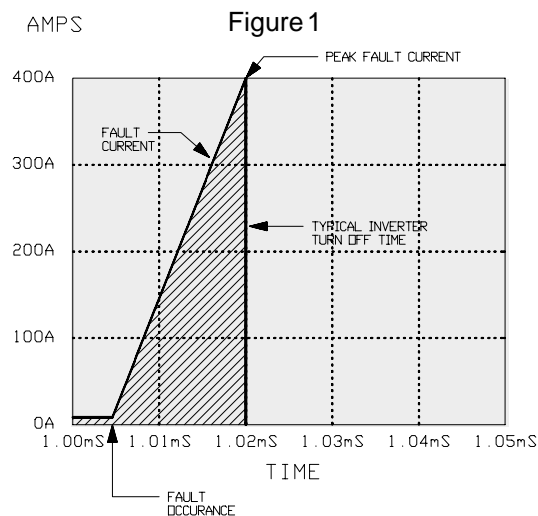
The Drivecon "OLR" series air core output reactors are intended for use as an output line filter in applications where IGBT or Bipolar AC-PWM variable frequency drives are operating motors that have potential to fail due to short circuit or ground faults. Some applications include oil wells, pump stations, outdoor installations, areas of high humidity and waste water handling.

Before OLR

In the event of a motor failure due to short-circuit or ground fault, inverter switching devices are subjected to high stress due to the high instantaneous current (See figure 1) that will be delivered by the inverter. Resulting in the expensive replacement of IGBT's or bi-polar transistors and sometimes DC bus fuses. This can easily translate into costly system downtime and expensive repairs. All of which can be avoided with the use of OLR line reactors.

After OLR

Series impedance limits the magnitude of the short circuit current to a safe level, insuring detection and safe inverter shutdown. (See figure 2). However, the installation of standard iron core style line reactors or inductors in applications like these are not recommended. The inductance of an iron core reactor decreases as the fault current increases. This is caused by magnetic saturation of the iron core. An air core reactor cannot saturate. Therefore, regardless of how high the instantaneous current climbs to, the OLR can continue to deliver constant inductance, allowing the inverter to safely shut down before damage occurs. Prior to OLR, air core installation was expensive and made difficult by the stray magnetic fields associated with standard air core designs. The OLR's efficient edgewound, toroidal shape contains the magnetic fields while, at the same time, reduces eddy current losses. This makes the reactor highly efficient and makes packaging simple and convenient.



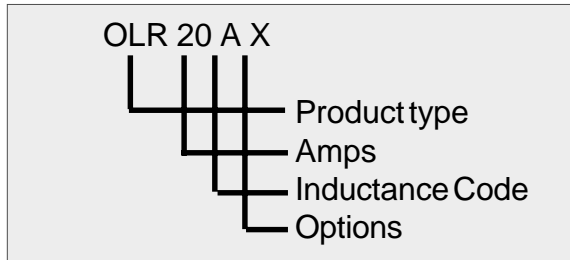
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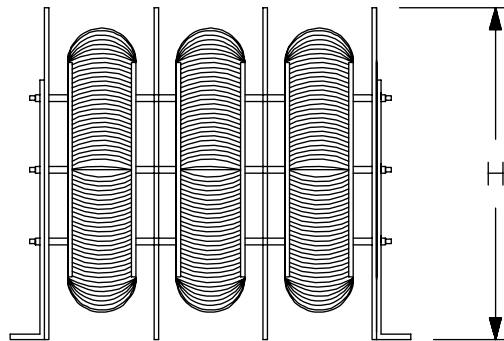
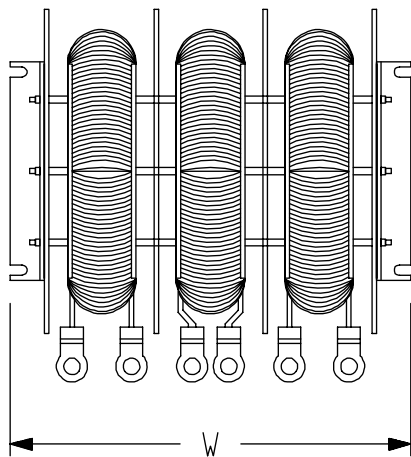
Application and Sizing Information

Air core reactors are current rated devices. In order to size them correctly, know the full load amperage of the motor(or motors). IGBT-based drives require 30uH for protection; bipolar drives require 100uH.

Part Number Coding

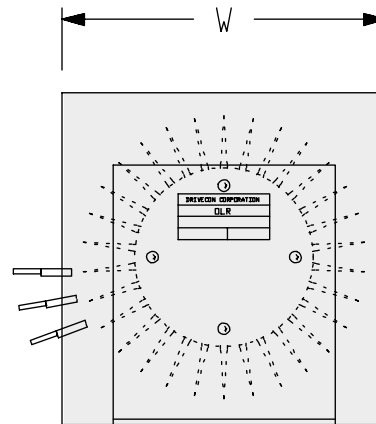


Physical Outline (Horizontal configuration)



Low current models:
Front mounted terminal studs. (Not shown)

High current models:
Connection lugs. Insulate bare end once connected.
(Depicted at left)



Filter Products

Specifications

30uH OLR for IGBT type drives.

Part Number	Heat loss (Watts)	Inductance (uH)	Continuous current (A)	Height (in.)	Width (in.)	Depth (in.)
OLR4A	13	30	4	6.75	8.75	8
OLR6A	18	30	6	6.75	8.75	8
OLR8A	21	30	8	6.75	8.75	8
OLR12A	47	30	12	6.75	8.75	8
OLR16A	55	30	16	6.75	8.75	8
OLR25A	67	30	25	10	12.25	10
OLR35A	108	30	35	10	12.25	10
OLR45A	147	30	45	10	12.25	10
OLR55A	114	30	55	11	16	11.25
OLR80A	278	30	80	10	16	9
OLR110A	373	30	110	10	16	10
OLR130A	576	30	130	11	16	10
OLR160A	570	30	160	11	17	11
OLR200A	926	30	200	12	17	11
OLR250A	1080	30	250	13	17	12
OLR300A	1323	30	300	14	17	13
OLR360A	1731	30	360	15	17	14
OLR420A	2382	30	420	18	20	17
OLR480A	2382	30	480	18	20	17

100uH OLR For Bi-Polar Type Drives

Part Number	Heat loss (Watts)	Inductance (uH)	Continuous current (A)	Height (in.)	Width (in.)	Depth (in.)
OLR4B	27	100	4	8	9.06	8.5
OLR6B	38	100	6	8	10.5	9.5
OLR8B	52	100	8	8	10.5	9.5
OLR12B	87	100	12	8	10.5	9.5
OLR16B	127	100	16	8	10.5	9.5
OLR25B	166	100	25	12	14.5	11
OLR35B	239	100	35	12	14.75	12
OLR45B	396	100	45	12	14.75	12
OLR55B	241	100	55	13	16.06	13.75
OLR80B	509	100	80	12	16	12
OLR110B	704	100	110	14	16	13
OLR130B	823	100	130	15	17	14
OLR160B	1268	100	160	16	17	15
OLR200B	1583	100	200	18	20	17
OLR250B	2474	100	250	18	18	17
OLR300B	3027	100	300	18	18	18
OLR360B	3891	100	360	18	21	18
OLR420B	5711	100	420	22	24	21
OLR480B	5711	100	480	22	24	21

OLR Three Phase Air Core VFD Output Reactor

Product Specifications:

Environment:	0-50°C well ventilated, dry, free from vibration.
Warranty:	1 year from date of purchase.
Enclosure:	Open, chassis mount, NEMA1 enclosure optional.
Windings:	All insulated copper wire.
Terminations:	Ring lug or compression lug.

Options: (Add to last digit of part number)

-	1	NEMA1 enclosure (consult factory for size)
-	X	Special epoxy overcoat
-	C	Colored overcoat
-	T	Special terminations

Other power filtering products available from Drivecon:

*	KLR	Input line reactors.
*	RFI	RFI/EMI noise filters.
*	OLF	Output line lowpass filter for IGBT.
*	HTF	Harmonic trap filter.
*	KVF-CC	Line R-C/MOV surge suppression.

For additional information on this product or any other drive protection products, please contact Drivecon.

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