



EnerWAVE Filters

Product Details & Specifications



EnerWAVE Input Line (EWL) and Sinewave (EWS) Filter Specifications and Features

CanLIFT manufactures harmonic filter systems for the global markets and our advanced filtering solutions are available for all voltages and frequencies and can be tailored to address harmonic resonance issues that may be present on distribution systems. The two main products are the EnerWAVE Sinewave Filter for VFD power conditioning and the EnerWAVE IEEE519 compliant power conditioners.

EnerWAVE EWL & EWS Filter Specifications

• Voltage ratings	240, 480 and 600 V, 3 ph, 60 Hz 400 V, 3 ph, 50 Hz
• kVar ratings	3 to 270 kVar depending on voltage.
• Load types	3-phase diode bridge rectifier loads on AC drives
• Load power range	7.5 -900 Hp depending on voltage.
• Current ratings	200% of rated current for at least 3 minutes.
• SCCR	Standard rating is 10kA.
• Insertion Impedance	+/- 10% at full load current
• Capacitors	Oil filled high endurance design (no PCBs)
• Protective Features	Internal fuse protection for the harmonic filter circuit. Optional isolation contactor on IEEE519 Capacitors
• Frequency Response	EWS: 1800 - 4000 Hz (up to 8000Hz by request) EWL: Specify 50Hz or 60Hz Power Supply
• Cable terminations	Mechanical Lugs installed
• Pilot devices	NEMA 4 when applied
• Enclosure options	Open Frame, NEMA 1 or NEMA 3R enclosure
• Application	Indoor / Outdoor
• Material	12 gauge steel, optionally Stainless Steel for NEMA4X
• Finish	White Powder Coat
• Enclosure Penetration	Aluminum cable gland plate on enclosure
• Base frame	6" steel channel for floor mounted
• Lifting eye	Two / Four top mounted
• Max Ambient Temp	-10°C to 40°C or -10°C to 50°C
NEMA1/3R	Cold weather kit to extend low temperature operation to -45C
ARCTIC	Enclosure must be equipped with special cooling provisions for operation above this temperature.
• Max elevation	3,000 feet (1,000 meters) as standard.
• Max ambient temp	NEMA 3R (IP54) 50°C (122°F) – Enclosed Panel.
• Max storage temp	60°C (140°F)
• Max humidity	95%, non-condensing.

EnerWAVE EWL IEEE519 Filters

As power utilities continue to be pushed to the limits of supply capability, rising energy costs and decreasing power quality will continue to be an issue for consumers. Users continually search for ways to not only reduce energy costs, but also ensure their processes will continue to operate no matter the quality of the incoming power.

The EnerWAVE EWL Filter is a L+L-C passive filter that is connected in series with the input terminals of a variable speed drive or several drives that operate as a group that designed to reduce the harmonic currents drawn from the power source by variable speed drives. It is suitable for use with 3-phase diode bridge rectifier loads such as PWM and Six Step AC drives.

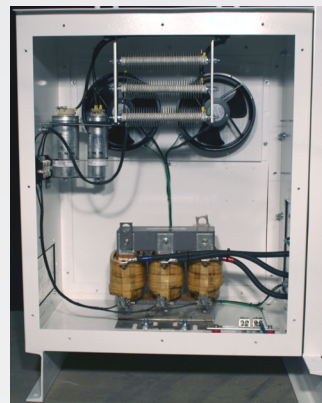


The filter is designed to provide a low impedance path for the major harmonic currents demanded by the drive. The filter is a stand-alone device that can be furnished in its own enclosure and mounted adjacent to the drive. It is also available on an open panel for mounting within an enclosure with the drive or other equipment.

EnerWAVE EWS Sinewave Filter

CanLIFT Filters use state of the art components to block the high frequency harmonics generated on the input and output of the VFD from travelling beyond the VFD output. With the harmonics removed, the VFD output resembles a true sinewave resulting in longer motor runlife and lower stress on the complete cabling system.

In the continuing search to improve energy efficiency, many commercial and industrial power systems are turning to the technology of PWM (pulse width modulated) output power supplies. The ability to convert standard utility power into variable-frequency, variable-voltage electrical power has led to more efficient and economical installations. One of the drawbacks of the use of equipment such as adjustable frequency drives and variable frequency/voltage power supplies is that the output of such PWM devices is a square wave form.



Many applications require a more sinusoidal output, thus ruling out these economical and efficient solutions. The EnerWAVE EWS Filter has been designed to be installed at the output terminals of PWM devices either in the VFD enclosure or as a stand alone enclosure. The EnerWAVE sinewave filter is a passive L-C-R filter that converts the PWM wave form to a near sinusoidal wave form, allowing sensitive applications to take advantage of the efficiencies and savings that PWM output power supplies offer.

About CanLIFT

CanLIFT is a Manufacturer and Systems Integrator of Variable Frequency Drive (VFD) systems for Oil Field and Industrial applications where environmental and operating conditions may be very adverse due to Harsh Terrain and High Temperatures (Desert), Water Deluge & Corrosion (Offshore/Jungle).

CanLIFT drives are designed for the toughest oil field and industrial environments. They are rugged and reliable, with a core VFD MTBF of 28 years. We have worked closely with our Customers to determine the actual Enduser requirements and combining this with our in-house experience, we have developed products for all forms of Artificial Lift with a proven line of custom NEMA1 and , NEMA 3R / 4 VFD. rated for -45degC Arctic, 40degC Standard or 50degC Desert Duty ratings dependent upon the final application.

For Electrical Submersible Pump (ESP), Progressive Cavity Pump (PCP), Horizontal Pumping Systems (HPS) and Sucker Rod (SRP) applications, the CanLIFT VFD family is an ideal choice, our systems are available for low voltage 380-480V with 50 or 60Hz configurations, the CanLIFT drive is also available at 600V and for low harmonic systems we offer filtered or our fully active IGBT regenerative drives.

EnerDRIVE Enclosures can optionally be fitted with input harmonic filters, output sinewave filters, bypass contactor systems, chart recorders, PLC control systems, redundant air conditioning systems, incoming and outgoing cable junction boxes, auxiliary power panels and virtually any other device the enduser wishes to have installed into a system that may be customized to meet your requirements.

CanLIFT skidded VFD systems are custom designed to meet field requirements and may be up to 40ft long with step-down and step-up transformers pre-mounted and connected, single or multiple VFD's with optional direct on line bypasses, harmonic filters on input and output, advanced control systems, multiple redundant air conditioning systems, fire monitoring & protection and other such systems.

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