



## User Manual

### IEXT.. /IEHR..

#### 70- 150 Watt DC-DC Converter





◆ 24 Month Warranty



- Isolated input- output
- Reverse polarity protection
- Short circuit protection
- Output over voltage protection (IEXT)
- Input transient/surge suppression
- Constant current limit for charging (IEXT)
- Optional output decoupling diode for parallel redundancy
- External trim pot for output voltage adjustment
- Complies with EMI standards CISPR22:1985 & AS/NZS3548:1992
- Designed for industrial use

**SPECIFICATIONS** All specifications are typical at nominal input, full load and at 20°C unless otherwise stated.

#### ELECTRICAL

<b>DC Input</b>	<ul style="list-style-type: none"> <li>• LV: 11-16V</li> <li>• MV: 21-60V</li> <li>• HV: 60-132V</li> </ul>
<b>Protection - input</b>	Input fuse
• <b>output</b>	<b>IEXT:</b> <i>Overload:</i> constant current limit <i>Short circuit:</i> shutdown to zero output (reset by power off) <b>IEHR:</b> Hiccup current limit on overload or short circuit
<b>Reverse Polarity</b>	<b>IEXT/LV &amp; IEHR:</b> input fuse <b>IEXT/MV &amp; IEXT/HV:</b> not polarity sensitive
<b>Transient Protection</b>	Varistor across input to limit supply transients (voltage spikes)
<b>Isolation</b>	1KV DC input - output / earth
<b>Efficiency</b>	<b>LV:</b> 72-80%, <b>MV:</b> 80-87%, <b>HV:</b> 85-87%
<b>Overvoltage Protection (IEXT only)</b>	Operates at 25% above nominal output voltage (converter shuts down - reset by power off)
<b>Soft Start</b>	1 second typical
<b>Output Power</b>	<b>IEXT:</b> 70W continuous <b>IEHR:</b> 150W continuous
<b>Output Voltages</b>	Refer to model table - other voltages available, please ask our sales staff
<b>Voltage Adj. Range</b>	Approx. ±10%, refer to model table
<b>Line Regulation</b>	< 0.5% over input range
<b>Load Regulation</b>	< 0.7% open circuit to full load
<b>Ripple</b>	Typically 1% Peak-Peak
<b>EMC</b>	To CISPR22
<b>Operating temperature</b>	0 to 40°C; linearly derate to 50% output at 50°C

#### PHYSICAL

<b>Connections - In/Out</b>	<b>IEXT:</b> Plug-in screw terminal block <b>IEHR:</b> 'Barrier' type screw terminal
<b>Enclosure</b>	<b>Base:</b> anodised aluminium <b>Cover:</b> black powder coated mild steel
<b>Indicators</b>	Green LED for <b>Power On</b>
<b>Weight</b>	<b>IEXT:</b> 450g <b>IEHR:</b> 1.25Kg
<b>Mounting</b>	<b>IEXT:</b> M5 Ø holes 164 x 46 mm, and/or: M3 threaded inserts 164 x 66 mm <b>IEHR:</b> To flat surface with brackets supplied, M4 Ø holes. Side mounting centres 140 x 78 mm, End mounting centres 216 x 78 mm

#### OPTIONS

<b>Parallel Redundancy</b>	Output decoupling diode plus <b>DC OK</b> alarm (Relay contacts rated 1A, 50VDC/32VAC) Add suffix - <b>P</b>
<b>Rack mount</b>	Converter fitted into 19" x 2U subrack Add : <b>+RM2U</b> For rack mount with parallel redundancy Add: <b>+P2UXR</b> or <b>+P2UHR</b>
<b>DIN Rail Mount</b>	Using DIN rail clips, code <b>DINKIT</b>
<b>Fork Hoist Use</b>	Add input resistor, input range 40-60V. Add option <b>+FORKHOIST</b>
<b>Low Temperature</b>	Operation to -20°C, add suffix <b>-LT</b>
<b>Conformal Coating</b>	For harsh environments, add option: <b>+CONFORMAL COATING</b>
<b>Battery Charging</b> * Please specify output voltage on ordering	The <b>IEXT</b> has a constant output current limit and is suitable for battery charging. The <b>IEHR</b> does not have a constant current limit but may be used for float charging lead acid batteries for some applications.
<b>Undervoltage lockout</b>	Available on <b>IEXT/LV</b> models, Lockout at 10.2V, auto reset at 12.4V, add suffix <b>-UV</b>

# 70-150W Isolated DC-DC Converter

# IEXT & IEHR

IEXT - 70 Watt				
MODELS	DC Input	DC Output		
	Voltage Range	Voltage * <sup>1</sup>	Amps	Voltage Range
IEXT/LV-05* <sup>2</sup> ,	11-16	5	10	4.5 - 5.5
IEXT/LV-12	11-16	13.8	5.0	11 - 14
IEXT/LV-18	11-16	18	3.8	16 - 20
IEXT/LV-24	11-16	24	2.9	22-28
IEXT/LV-48	11-16	48	1.5	43-55.2
IEXT/MV-08	21 - 60	8	6.5	7 - 9.5
IEXT/MV-12	21 - 60	13.8	5.0	11 - 14
IEXT/MV-18	21 - 60	18	3.8	16.6 - 20.3
IEXT/MV-24	21 - 60	24	3.0	22-28
IEXT/MV-48	21 - 60	48	1.5	43-55.2
IEXT/HV-12	60 - 132	13.8	5.0	11-14
IEXT/HV-24	60 - 132	24	3.0	22-28
IEXT/HV-48	60 - 132	48	1.5	43-55.2

\*1 Factory set output unless otherwise requested. All models may be set for float charging lead acid batteries.

**110VDC** output, 140W models available, please ask our sales office for more details.

**12-60 Watt** dual output models available, minimum order quantity may apply, refer to product code **IEXTD...**

\*2 No overvoltage protection

IEHR - 150 Watt				
MODELS	DC Input	DC Output		
	Voltage Range	Voltage * <sup>1</sup>	Amps	Voltage Range
IEHR/LV-12	10.5-16	13.8	11.2	11-14
IEHR/LV-24	10.5-16	24	6.2	22-28
IEHR/LV-36	10.5-16	36	4.2	32-41.4
IEHR/LV-48	10.5-16	48	3.2	43-55.2
IEHR/MV-09	21-60	9	16	8-10
IEHR/MV-12	21-60	13.8	11.2	11-14
IEHR/MV-19	21-60	19	7.9	17-21
IEHR/MV-21	21-60	21	7	19-23
IEHR/MV-24	21-60	24	6.2	22-28
IEHR/MV-36	21-60	36	4	32-41
IEHR/MV-48	21-60	48	3.2	43-55.2
IEHR/HV-12	60 - 132	13.8	11.2	11-14
IEHR/HV-24	60 - 132	24	6.2	22-28
IEHR/HV-36	60 - 132	36	4.2	32-41.4
IEHR/HV-48	60 - 132	48	3.2	43-55.2



**Dimensions: IEXT**  
180L x 76W x 35H

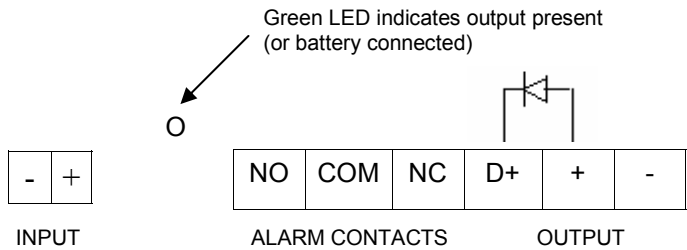


**Dimensions: IEHR**  
207L x 130W x 60H

### Important!

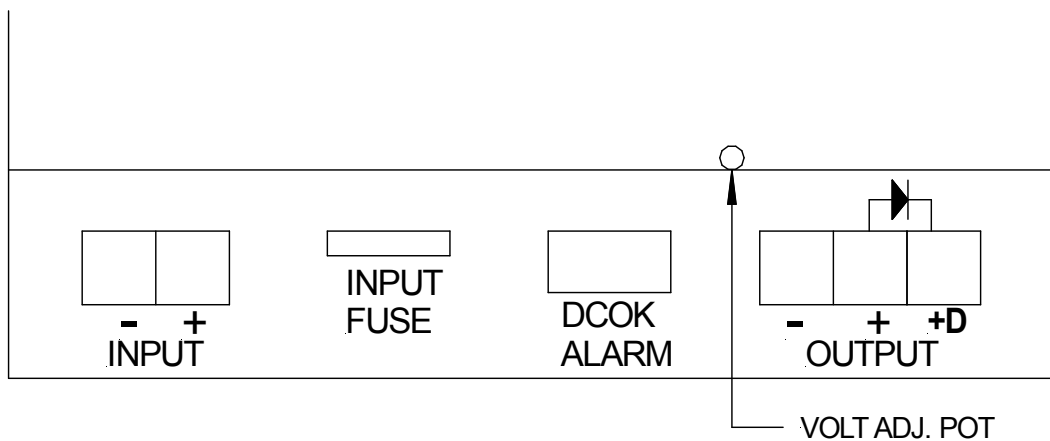
Always ensure polarity is correct when connecting DC converters. Install in a dry dust free environment with adequate ventilation for long service life.

### Terminal Layout for IEXT/



**NOTE:** Alarms and D+ (internal output diode) fitted only on "P" version

### Terminal Layout for IEHR/



DC OK alarm & +D output only on -P versions

### WARRANTY

Innovative Energies Ltd warrants its power supplies for 24 months (two years) from date of shipment against material and workmanship defects.

Innovative Energies' liability under this warranty is limited to the replacement or repair of the defective product as long as the product has not been damaged through misapplication, negligence, or unauthorized modification or repair.