

# MERLIN EXTREME DUTY INVERTER/ CHARGERS [ 2000W - 3500W ]

Merlin's Extreme Duty Combination Inverter/ Chargers are designed for critical use applications where absolute reliability and outstanding performance is required to ensure mission success.

Providing a pure-sinewave output with <5% THD with robust output electronics means that this unit may be safely used with the most sensitive of electrical loads, yet also be able to handle high inrush current for inductive items. This unit is perfect for off-grid, paramedic, out-side broadcast, surveillance and emergency back-up power applications.

The internal charger uses the same principles as our Extreme Duty Battery Chargers to ensure maximum life and performance from both lead-acid and lithium-ion battery technologies.

These units also features PowerBoost mode which allows the unit to assist low power generators and shore-supplies to run electrical loads. It works like this:

Say, a 1kW generator is plugged into your vehicle. You are running a computer from your AC ring main and the Merlin Combi is in charger mode. Because the powerful charger in the Merlin Combi is too large for the generator, the unit has derated the charger so that it pulls less current and prevents overload. You then switch on 1500w power tool. Instantaneously, the Merlin Combi stops charging, switches to invert mode, and parallels with the incoming generator power. 1000w comes from the generator, 500w from the inverter. When the power tool is switched off, the Merlin Combi reverts back to charge mode and replenishes the battery. All the time your computer worked seamlessly and didn't receive fluctuating power.

- **AC PowerBoost function**  
allows you to operate larger electrical systems from smaller generators and shore-supplies; saving money, space and weight.
- **AC Input Current Limit function**  
which limits the maximum current consumed from the AC input source by the Combi in charger mode.
- **Robust industrial design**  
with emphasis on reliability and performance.
- **Advanced protection**  
against high/low battery voltage, high temperature, overload, short circuit, high ripple voltage, and low AC input voltage.
- **Super fast AC transfer switch**  
against high/low battery voltage, high temperature, overload, short circuit, high ripple voltage, and low AC input voltage.
- **Easy control from remote panel**  
made capable by the TBSLink port that allows you to connect a remote control or to a Windows device.
- **Highly configurable**  
16A alarm relay outputs and unique trigger inputs that can convert external trigger commands into a number of status changes.



PART #	30-2010	30-2014	30-2012	30-2016
<b>RATING</b>	<b>2000W, 12V, 80A</b>	<b>3000W, 12V, 120A</b>	<b>2500W, 24V, 50A</b>	<b>3500W, 24V, 70A</b>
<b>AC OUTPUT</b>				
AC OUTPUT POWER (CONTINUOUS)	1800W	2600W	2000W	2800W
AC OUTPUT POWER (10 MINS)	2100W	3200W	2500W	3800W
AC OUTPUT POWER (SURGE)	4000W	5000W	5500W	6500W
AC OUTPUT VOLTAGE/FREQUENCY	230Vac ± 2% / 50HZ	230Vac ± 2% / 50HZ	230Vac ± 2% / 50HZ	230Vac ± 2% / 50HZ
AC OUTPUT WAVEFORM	TRUE SINEWAVE	TRUE SINEWAVE	TRUE SINEWAVE	TRUE SINEWAVE
PEAK EFFICIENCY	92%	92%	93%	93%
<b>DC INPUT</b>				
VOLTAGE (NOMINAL)	12VDC	12VDC	24VDC	24VDC
OPERATION RANGE	10.0 - 16.5VDC	10.0 - 16.5VDC	20.0 - 33.0VDC	20.0 - 33.0VDC
CURRENT (NO LOAD, ASB)	<20W [3.5W]	<20W [3.5W]	<20W [4W]	<20W [4W]
<b>BATTERY CHARGER</b>				
AC INPUT VOLTAGE	185 - 270VAC	185 - 270VAC	185 - 270VAC	185 - 270VAC
CHARGER CURRENT	80A	120A	50A	70A
STANDARD CHARGE VOLTAGE:				
BULK AT 25	14.3V	14.3V	28.6V	28.6V
FLOAT AT 25	13.3V	13.3V	26.6V	26.6V
<b>AC TRANSFER SWITCH</b>				
TRANSFER TIME (TO MAINS)	0MS	0MS	0MS	0MS
TRANSFER TIME (TO INVERTER)	<5MS	<5MS	<5MS	<5MS
TRANSFER RELAY RATING	30ARMS	30ARMS	30ARMS	30ARMS
<b>TEMPERATURE</b>				
OPERATING TEMP. RANGE	-20°C to+ 50°C	-20°C to+ 50°C	-20°C to+ 50°C	-20°C to+ 50°C
STORAGE TEMP. RANGE	-40°C to+ 80°C	-40°C to+ 80°C	-40°C to+ 80°C	-40°C to+ 80°C
<b>PROTECTION</b>				
HIGH/LOW BATTERY VOLTAGE	YES	YES	YES	YES
HIGH TEMPERATURE	YES	YES	YES	YES
OVERLOAD	YES	YES	YES	YES
SHORT CIRCUIT	YES	YES	YES	YES
HIGH RIPPLE VOLTAGE	YES	YES	YES	YES
LOW AC INPUT VOLTAGE	YES	YES	YES	YES
<b>ENCLOSURE</b>				
DC INPUT CONNECTIONS	M10 BOLT TERMINALS	M10 BOLT TERMINALS	M10 BOLT TERMINALS	M10 BOLT TERMINALS
AC OUTPUT CONNECTIONS	SCREW TERMINALS	SCREW TERMINALS	SCREW TERMINALS	SCREW TERMINALS
DIMENSIONS (MM)	370 X 431 X 132	370 X 431 X 132	370 X 431 X 132	370 X 431 X 132
WEIGHT (KG)	18.5	18.5	19	19
PROTECTION CLASS	IP21	IP21	IP21	IP21
STANDARDS	CE MARKED MEETING EMC DIRECTIVE 2014/30/EU a LVD 2014/35/EU COMPLYING WITH EN60335-1, EN60335-2-29 AND ROHS 2011/65/EU			