

# POWERVERTER & DD SERIES IP65 RUGGEDISED CONVERTERS

## HARSH ENVIRONMENTS

These products offer the same great electrical characteristics as our PowerVerter and DD Series, but are provided in "Ruggedised" casings for use in harsh environments. Using the well-known Ingress Protection System, the product range has been tested and subjected to demanding environmental conditions and awarded a rating of IP65. All Ruggedised PowerVerterers are enclosed in a durable aluminium extrusion. The low mass Surface Mount Technology components are also less prone to damage from vibration and shock, further increasing the reliability of the units.

## INNOVATIVE TECHNOLOGY

Utilising the same GORE-TEX® technology that is used in extreme outdoor clothing, the Ruggedised range is able to breathe freely, without compromising the water tight and dust tight seal. This free-flow of air ensures that the pressure remains equal inside and outside the unit thus allowing it to operate within a large temperature range and at varying altitudes safely.

## FAST INSTALLATION

All the products fit onto a "Click 'n' Fit" mounting clip which is fixed in three points allowing it to be mounted on uneven surfaces. It is easy to fit the clip into awkward places, then simply click the unit into position.

## ANTI-VIBRATION

As well as being dust and water tight to IP65, the units are vibration resistant. They have an anti-vibration cable gland fitted into a hexagonal recess to prevent unwanted knocks from loosening it, so they can be fitted into rugged environments care-free.



## ADDITIONAL FEATURES

The RU range has the same features as the standard PV & DD range, but in addition, they also offer the following benefits:

- Dust, water and impact resistant to IP65.
- Breathable vent to prevent unwanted build up of pressure.
- Anti-vibration cable gland.
- Supplied with 1m of cable as standard.

## PRODUCT VARIANTS

Many PowerVerter-RU and DD-RU Series products can be configured with alternative output voltages etc. for specialist applications. Please call our sales team to discuss your requirements.



# CHOOSE YOUR RU SERIES PRODUCT

Part Number	Power	Nominal Voltage	Dimensions	Weight
PV3s-RU	36W (3A) non-isolated	24Vdc input, 12Vdc output	86 x 91 x 52mm	325g
PV6s-RU	72W (6A) non-isolated	24Vdc input, 12Vdc output	108 x 91 x 52mm	370g
PV12s-RU	144W (12A) non-isolated	24Vdc input, 12Vdc output	146 x 91 x 52mm	505g
*PV18s-RU	216W (18A) non-isolated	24Vdc input, 12Vdc output	186 x 91 x 52mm	820g
*PV24s-RU	288W (24A) non-isolated	24Vdc input, 12Vdc output	186 x 91 x 52mm	835g
**PV50s-RU	600W (50A) non-isolated	24Vdc input, 12Vdc output	274 x 125 x 74mm	2340g
PV3i-RU	36W (3A) isolated	24Vdc input, 12Vdc output	108 x 91 x 52mm	390g
PV6i-RU	72W (6A) isolated	24Vdc input, 12Vdc output	146 x 91 x 52mm	510g
PV12i-RU	144W (12A) isolated	24Vdc input, 12Vdc output	186 x 91 x 52mm	690g
PV18i-RU	216W (18A) isolated	24Vdc input, 12Vdc output	236 x 91 x 52mm	1035g
PV24i-RU	288W (24A) isolated	24Vdc input, 12Vdc output	236 x 91 x 52mm	1050g
DDi 12-12 036-RU	36W (3A) isolated	12Vdc input, 12Vdc output	108 x 91 x 52mm	390g
DDi 12-12 072-RU	72W (6A) isolated	12Vdc input, 12Vdc output	146 x 91 x 52mm	505g
DDi 12-12 108-RU	108W (9A) isolated	12Vdc input, 12Vdc output	186 x 91 x 52mm	835g
DDi 24-24 072-RU	72W (3A) isolated	24Vdc input, 24Vdc output	146 x 91 x 52mm	540g
DDi 24-24 108-RU	108W (4.5A) isolated	24Vdc input, 24Vdc output	186 x 91 x 52mm	640g
DDi 24-24 168-RU	168W (7A) isolated	24Vdc input, 24Vdc output	236 x 91 x 52mm	880g
DD 12-24 072-RU	72W (3A) non-isolated	12Vdc input, 24Vdc output	108 x 91 x 52mm	400g
*DD 12-24 168-RU	168W (7A) non-isolated	12Vdc input, 24Vdc output	186 x 91 x 52mm	740g
*DD 12-24 240-RU	240W (10A) non-isolated	12Vdc input, 24Vdc output	236 x 91 x 52mm	920g
**DD 12-24 400-RU	400W (16A) non-isolated	12Vdc input, 24Vdc output	221 x 125 x 74mm	2080g
**DD 12-24 600-RU	600W (25A) non-isolated	12Vdc input, 24Vdc output	274 x 125 x 74mm	2340g
DD 48-12 072-RU	72W (6A) non-isolated	48Vdc input, 12Vdc output	108 x 91 x 52mm	360g
DD 48-12 108-RU	108W (9A) non-isolated	48Vdc input, 12Vdc output	146 x 91 x 52mm	460g
DDi 48-12 036-RU	36W (3A) isolated	48Vdc input, 12Vdc output	108 x 91 x 52mm	390g
DDi 48-12 072-RU	72W (6A) isolated	48Vdc input, 12Vdc output	146 x 91 x 52mm	510g

*Other input and output voltage configurations are also available as special orders, please ask our sales team*

## TECHNICAL DATA

Input voltage range	12Vdc, 24Vdc +/- 30%, 48Vdc -30% +25%
Output voltage	13.6Vdc or 27.2Vdc +15% -20% at extremes of temperature, load, input tolerance etc.
Intermittent output power	Continuous rating +25%, taken for maximum of 2 minutes followed by 8 minutes rest
Transient voltage protection	Meets ISO7637-2 International standard for 24Vdc commercial vehicles
Electrostatic voltage protection	Meets ISO10605, ISO14982, >8kV contact, 15kV discharge
Output noise	<50mV pk-pk (100mV on 24V units) at continuous load. Meets CISPR25 and VDE0879-3
Off load current (quiescent current)	<15mA (PowerVerter), <15mA (DD Series exc. 12-24), <100mA (DD Series 12-24 units)
Power conversion efficiency	Typically: 90% for non-isolated units, 85% for isolated units ** 95%
Isolation	>400Vrms between input , output and case, on isolated products only
Operating temperature	-25°C to +30°C de rate output current linearly from +30°C to 0A at +80°C
Storage temperature	-25°C to +100°C
Operating humidity	100%
Casework	Anodised aluminium, glass filled polycarbonate, dust water and impact resistance to IP65
Connections	4 core cable, *4 wires (1m in length) stripped and tinned for individual connection
Voltage drop in 1m supplied cable	60mV per amp @ 25°C on units with output current < 18A 10mV per amp @ 25°C on units with output current ≥ 18A
Output indicator	Green LED adjacent to cable gland
Mounting method	Click 'n' fit mounting clip, fitted separately using three hole fixture **4 hole cradle
Safe area protection:	
Over current	Limited by current sensing circuit
Over heat	Limited by temperature sensing circuit
Transients	Protected by filters and rugged component selection
Catastrophic protection	Protected by internal input and output fuses
Approvals	2014/30/EU The general EMC directive Regulation 10 The automotive directive 93/68/EEC The CE marking directive
Markings	CE and E (automotive) marked