# **Defender Range**

## With Automatic Voltage Regulation





The **Defender Range** uses Automatic Voltage Regulation (AVR) to minimise the effects of fluctuations in input voltage, protecting your valuable equipment from power line disturbances.

To protect your valued equipment against damaging surges, the Defender has been designed to incorporate the best surge protection in its class.

The stylish LCD display, user replacable, hot swappable batteries and Australian sockets makes the Defender the complete package at this level.

## **Features**

## **Surge Protection**

 Offering the best protection in its class, the Defender protects against damaging surges

## Informative LCD display

Modern, stylish LCD display indicates voltage in/out, amount of load and remaining capacity

## **Microprocessor control**

• Excellent Microprocessor control guarantees high

## **Buck and Boost AVR for Voltage Stabilization**

 The AVR automatically bucks/boosts unstable fluctuating utility voltages, bringing them within 10% of nominal voltage range and thereby protecting valuable equipment.

## **Applications include:**

- Home office applications
- Workstations
- Security applications
- Point of sale equipment
- NAS Drives

#### **Hot Swappable batteries**

Batteries are easily hot swappable and user replaceable, extending the service life of your UPS

## **Silent Operation (no fans)**

Power Shield Engineers have designed the Defender range to run cool without fans. This makes it the perfect complement to Audio Visual

#### **Auto restart when AC recovers**

After an extended power outage the UPS will turn back on and resume equipment functionality once power has returned

#### Off-mode Charging

The plugged in UPS will continue to charge internal batteries whether the unit is on or off

#### **Cold start function**

• The UPS can turn on equipment when it is off, simply by connecting equipment and turning the UPS on. This is excellent when you need to power equipment for a short time

## **USB** communication with sophisticated **NetGuard software**

The free, downloadable NetGuard software provides complete power monitoring. Parameters such as input/ output voltage, battery capacity and load level are easily viewed. It also ensures a safe and orderly shutdown in the event of a prolonged outage.



Model Number PSD650 PSD1200 PSD1600 Capacity 650VA / 390W 1200VA / 720W 1600VA / 960W Topology Ine Interative  NPUT  Voltage 240Vac (Nominal) Voltage 377 - 290Vac Frequency Range 377 - 290Vac Frequency Range Acquired Frequency Acquired Freq	MODEL	DEFENDER 650	DEFENDER 1200	DEFENDER 1600
Depology   Line Interative   Depology   Line Interative   Depology   Depolo	Model Number	PSD650	PSD1200	PSD1600
Depology   Line Interative   Depology   Line Interative   Depology   Depol	Capacity	650VA / 390W	1200VA / 720W	1600VA / 960W
Voltage   240Vac (Nominal)   Voltage   240Vac (Nominal)   Voltage   3240Vac (Nominal)   Voltage   3240Vac (Nominal)   Voltage   3240Vac ± 5Hz (auto sensing)   Voltage   3240Vac ± 10%   Voltage   Voltag	· ·	Line Interative		
Voltage Range				
Solidard	/oltage	240Vac (Nominal)		
DUIPUT   DUIPUT   Voltage   240Vac ± 10%   Frequency   AC mode tracks utility   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz ± Hz   Frequency Range (Batt. Mode)   50Hz or 60Hz   50	/oltage Range	177-290Vac		
Dutput Voltage	Frequency Range	50/60Hz ± 5Hz (auto sensing)		
Frequency Range (Batt. Mode)  Freque	DUTPUT			
Soft and S	Output Voltage	240Vac ± 10%		
Transfer Time 6ms (Typical) Waveform (Batt. Mode) Simulated Sine Wave Australian Outlets - UPS & Surge Protection 2 3 Australian Outlets - Surge Protection 0 0 3 BATTERY Battery Type & Number 12V / 9AH (x1) 12V / 7AH (x2) 12V / 9AH (x2) Pypical Recharge Time 6hours recover to 90% capacity Backup Time (50% Load) 6 min. 13 min. 10 min.  PROTECTION Full Protection Overload, discharge, thermal, short circuit and overcharge protection Surge Protection 312 Joules / 6500Amps 936 Joules / 19500Amps  COMMUNICATIONS & MANAGEMENT Interface USB interface USB interface OCCUPATION ACC Mode, Battery Mode, Low Battery (Batt. Mode), Fault, Overload Audible Alarm Battery Mode, Low Battery (Batt. Mode), Fault, Overload Audible Alarm Battery Mode, Low Battery (Batt. Mode), Fault, Overload PhytysicaL Dimension L x W x H (mm) 323 x 97 x 144 393 x 146 x 202  Net Weight (kgs) 5.2 11.5 11.9  Deparating Environment  Temperature 0-40°C Humidity 0-90% RH (non-condensing) Noise Level Less than 5dBA @ 1 meter (no fan)  COMPLIANCE Safety/EMC (A-tick PSD650) EN62040-1-12003, IEC60950-1:2001, EN62040-22006	Frequency	AC mode tracks utility		
Waveform (Batt. Mode)   Simulated Sine Wave	Frequency Range (Batt. Mode)	50Hz or 60Hz ±1Hz		
Australian Outlets - UPS & Surge Protection 2 Australian Outlets - Surge Protection 0 3 Australian Outlets - Surge Protection 0 3 BATTERY Battery Type & Number 12V / 9AH (x1) 12V / 7AH (x2) 12V / 9AH (x2) Typical Recharge Time 12V / 9AH (x1) 13 min. 10 min. PROTECTION Full Protection Overload, discharge, thermal, short circuit and overcharge protection Surge Protection 312Joules / 6500Amps 936Joules / 19500Amps  COMMUNICATIONS & MANAGEMENT Interface USB interface Software NetGuard® supports - Windows®, Linux, Unix and Mac (Free Download) Audible Alarm AC Mode, Battery Mode, Low Battery (Batt. Mode), Fault, Overload Audible Alarm Battery Mode, Low Battery (Batt. Mode), Fault, Overload PHYSICAL Dimension L x W x H (mm) 323 x 97 x 144 393 x 146 x 202 Net Weight (kgs) 5.2 11.5 11.9  OPERATING ENVIRONMENT Fengerature 0-40°C Humidity 0-90% RH (non-condensing) Noise Level Less than 5dBA @ 1 meter (no fan)  COMPLIANCE Safety/EMC (A-tick PSD650) EN62040-1-1 2003, IEC60950-1 : 2001, EN62040-2 2006	Transfer Time	6ms (Typical)		
Australian Outlets - Surge Protection 0 3  BATTERY  Battery Type & Number 12V / 9AH (x1) 12V / 7AH (x2) 12V / 9AH (x2)  Typical Recharge Time 6 hours recover to 90% capacity  Backup Time (50% Load) 6 min. 13 min. 10 min.  PROTECTION  Full Protection Overload, discharge, thermal, short circuit and overcharge protection  Surge Protection 312 Joules / 6500Amps 936 Joules / 19500Amps  COMMUNICATIONS & MANAGEMENT  Interface USB interface  Software NetGuard® supports - Windows®, Linux, Unix and Mac (Free Download)  LCD Alarm AC Mode, Battery Mode, Low Battery (Batt. Mode), Fault, Overload  Audible Alarm Battery Mode, Low Battery (Batt. Mode), Fault, Overload  PRYSICAL  Dimension L x W x H (mm) 323 x 97 x 144 393 x 146 x 202  Net Weight (kgs) 5.2 11.5 11.9  POPERATING ENVIRONMENT  Temperature 0-40°C  Humidity 0-90% RH (non-condensing)  Noise Level Less than 5dBA @ 1 meter (no fan)  COMPLIANCE  Safety/EMC (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	Waveform (Batt. Mode)	Simulated Sine Wave		
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Battery Type & Number  12V / 9AH (x1)  12V / 7AH (x2)  12V / 9AH (x2)  10 min.  10 min. 10 min. 10 min. 10 min. 1	Australian Outlets - Surge Protection	0	3	
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NetGuard® supports - Windows®, Linux, Unix and Mac (Free Download)  ACD Alarm  AC Mode, Battery Mode, Low Battery (Batt. Mode), Fault, Overload  Audible Alarm  Battery Mode, Low Battery (Batt. Mode), Fault, Overload  PHYSICAL  Dimension L x W x H (mm)  323 x 97 x 144  393 x 146 x 202  Net Weight (kgs)  5.2  11.5  11.9  PERATING ENVIRONMENT  Temperature  0-40°C  Humidity  0-90% RH (non-condensing)  Noise Level  Less than 5dBA @ 1 meter (no fan)  COMPLIANCE  Safety/EMC  (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	COMMUNICATIONS & MANAGEMENT			
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Audible Alarm  Battery Mode, Low Battery (Batt. Mode), Fault, Overload  PHYSICAL  Dimension L x W x H (mm)  323 x 97 x 144  393 x 146 x 202  Net Weight (kgs)  5.2  11.5  11.9  DEFRATING ENVIRONMENT  Temperature  0-40°C  Humidity  0-90% RH (non-condensing)  Noise Level  Less than 5dBA @ 1 meter (no fan)  COMPLIANCE  Safety/EMC  (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	Software	NetGuard® supports - Windows®, Linux, Unix and Mac (Free Download)		
PHYSICAL         323 x 97 x 144         393 x 146 x 202           Net Weight (kgs)         5.2         11.5         11.9           DEFECTING ENVIRONMENT           Temperature         0-40°C           Humidity         0-90% RH (non-condensing)           Noise Level         Less than 5dBA @ 1 meter (no fan)           COMPLIANCE           Safety/EMC         (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	LCD Alarm	AC Mode, Battery Mode, Low Battery (Batt. Mode), Fault, Overload		
Dimension L x W x H (mm)       323 x 97 x 144       393 x 146 x 202         Net Weight (kgs)       5.2       11.5       11.9         OPERATING ENVIRONMENT         Temperature       0-40°C         Humidity       0-90% RH (non-condensing)         Noise Level       Less than 5dBA @ 1 meter (no fan)         COMPLIANCE         Safety/EMC       (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	Audible Alarm	Battery Mode, Low Battery (Batt. Mode), Fault, Overload		
Net Weight (kgs)         5.2         11.5         11.9           OPERATING ENVIRONMENT           Temperature         0-40°C	PHYSICAL			
Temperature 0-40°C Humidity 0-90% RH (non-condensing) Noise Level Less than 5dBA @ 1 meter (no fan)  COMPLIANCE Safety/EMC (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	Dimension L x W x H (mm)	323 x 97 x 144	393 x 14	6 x 202
Temperature 0-40°C Humidity 0-90% RH (non-condensing) Noise Level Less than 5dBA @ 1 meter (no fan)  COMPLIANCE Safety/EMC (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	 Net Weight (kgs)	5.2	11.5	11.9
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Noise Level         Less than 5dBA @ 1 meter (no fan)           COMPLIANCE         (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	Humidity	0-90% RH (non-condensing)		
Safety/EMC (A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006	Noise Level	Less than 5dBA @ 1 meter (no fan)		
·	COMPLIANCE			
RoHS Directive 2011/65/EU	Safety/EMC	(A-tick PSD650) EN62040-1 -1 2003, IEC60950-1 : 2001, EN62040-2 2006		
	RoHS	Directive 2011/65/EU		

<sup>\*</sup> Specifications are subject to change without prior notice.
\* UPS output capacity is calculated at PF = 0.7.

## **LCD DISPLAY**















- 1. Input voltage
- 2. Output voltage
- 3. AC mode indicator
- 4. Battery mode indicator
- 5. Load level indicator, flashing indicates overload
- 6. Battery capacity indicator, flashing indicates low battery level

#### **REAR VIEW**





PSD650

PSD1200, PSD1600



