

## 1600 W Programmable DC Power Supply

MADE IN  
INDIA



### Technical Specifications

|                                   |                      | PS16-100 | PS20-80 | PS32-50 | PS40-40 | PS60-26 | PS80-20 | PS100-16 | PS120-13 | PS160-10 | PS300-5 | PS400-4 | PS600-2.67 | PS800-2 | PS1000-1.6 |
|-----------------------------------|----------------------|----------|---------|---------|---------|---------|---------|----------|----------|----------|---------|---------|------------|---------|------------|
| Output Voltage (V)                |                      | 16       | 20      | 32      | 40      | 60      | 80      | 100      | 120      | 160      | 300     | 400     | 600V       | 800     | 1000       |
| Output Current (A)                |                      | 100      | 80      | 50      | 40      | 26.67   | 20      | 16       | 13.33    | 10       | 5.33    | 4       | 2.67       | 2       | 1.6        |
| Rated Power (W)                   |                      | 1600     |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Efficiency at 230V, full load (%) |                      | 80       | 80      | 83      | 83      | 85      | 85      | 85       | 85       | 85       | 85      | 85      | 87         | 87      | 87         |
| Constant Voltage Mode             |                      |          |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Load regulation 0 ~ 100% (mV)     |                      | 2        | 2       | 4       | 4       | 4       | 4       | 4        | 4        | 6        | 6       | 6       | 10         | 10      | 10         |
| Line Regulation (mV)              |                      | 1        | 1       | 1       | 1       | 1       | 1       | 1        | 2        | 2        | 3       | 3       | 3          | 3       | 3          |
| Ripple                            | BW=300 kHz (mVrms)   | 5        | 5       | 5       | 5       | 5       | 7       | 8        | 8        | 10       | 15      | 15      | 20         | 30      | 50         |
|                                   | BW= 5Hz~1MHz (mVrms) | 8        | 8       | 8       | 8       | 8       | 8       | 8        | 12       | 15       | 18      | 18      | 25         | 40      | 60         |
|                                   | 20 MHz (mVpp)        | 30       | 30      | 30      | 40      | 40      | 45      | 75       | 75       | 78       | 80      | 80      | 85         | 90      | 120        |
| Constant Current Mode             |                      |          |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Load regulation 0 ~ 100% (mA)     |                      | 15       | 15      | 10      | 10      | 10      | 10      | 8        | 8        | 8        | 8       | 8       | 8          | 8       | 8          |
| Line Regulation (mA)              |                      | 2        | 2       | 2       | 2       | 2       | 2       | 2        | 2        | 2        | 2       | 2       | 2          | 2       | 2          |
| Ripple                            | BW=300 kHz (mArms)   | 35       | 35      | 35      | 30      | 28      | 25      | 22       | 20       | 20       | 12      | 12      | 5          | 5       | 4          |

|                                         |                      | PS16-100 | PS20-80                                                                                           | PS32-50 | PS40-40 | PS60-26 | PS80-20 | PS100-16 | PS120-13 | PS160-10 | PS300-5 | PS400-4 | PS600-2.67 | PS800-2 | PS1000-1.6 |
|-----------------------------------------|----------------------|----------|---------------------------------------------------------------------------------------------------|---------|---------|---------|---------|----------|----------|----------|---------|---------|------------|---------|------------|
| (at full load)                          | BW= 5Hz~1MHz (mArms) | 50       | 50                                                                                                | 50      | 40      | 35      | 30      | 27       | 25       | 20       | 15      | 12      | 8          | 6       | 5          |
|                                         | 20 MHz (mApp)        | 130      | 120                                                                                               | 120     | 100     | 90      | 80      | 70       | 60       | 60       | 50      | 40      | 30         | 25      | 22         |
| Remote sense drop (V)                   |                      | 1        | 1                                                                                                 | 2       | 2       | 2       | 2       | 2        | 2        | 2        | 2       | 3       | 5          | 5       | 5          |
| Programming Speed (into resistive load) |                      |          |                                                                                                   |         |         |         |         |          |          |          |         |         |            |         |            |
| Rise time (10% to 90%)                  | 100% load (ms)       | 12       | 15                                                                                                | 20      | 25      | 28      | 30      | 35       | 50       | 80       | 120     | 130     | 150        | 200     | 250        |
|                                         | 10% load (ms)        | 8        | 10                                                                                                | 18      | 20      | 25      | 25      | 30       | 40       | 70       | 110     | 120     | 130        | 180     | 220        |
| Fall time (90% to 10%)                  | 100% load (ms)       | 20       | 20                                                                                                | 22      | 22      | 25      | 35      | 50       | 80       | 100      | 180     | 190     | 200        | 220     | 250        |
|                                         | 10% load (ms)        | 200      | 210                                                                                               | 225     | 240     | 250     | 350     | 400      | 600      | 800      | 850     | 900     | 1000       | 1200    | 1500       |
|                                         | No Load (s)          | 1.2      | 1.2                                                                                               | 1.5     | 2.0     | 2.5     | 3.0     | 3.5      | 4.5      | 6        | 8       | 9       | 10         | 12      | 15         |
| Recovery Time                           |                      |          |                                                                                                   |         |         |         |         |          |          |          |         |         |            |         |            |
| Recovery within (mV)                    |                      | 80       | 80                                                                                                | 80      | 80      | 80      | 100     | 120      | 150      | 200      | 300     | 400     | 500        | 600     | 800        |
| Time @ 50 – 100 % load step (μs)        |                      | 100      | 100                                                                                               | 100     | 100     | 100     | 100     | 100      | 100      | 100      | 100     | 100     | 100        | 100     | 100        |
| Max deviation @ 230 V mains (V)         |                      | 0.15     | 0.15                                                                                              | 0.15    | 0.15    | 0.15    | 0.25    | 0.5      | 0.8      | 1.0      | 1.5     | 1.8     | 2.0        | 2.5     | 3.0        |
| Output Impedance (mΩ)                   | CV, 0-1kHz           | <1       | <1                                                                                                | <2      | <10     | <10     | <10     | <10      | <10      | <10      | <20     | <20     | <20        | <30     | <40        |
|                                         | CV, 1-100kHz         | <5       | <5                                                                                                | <10     | <30     | <30     | <30     | <30      | <30      | <30      | <60     | <60     | <60        | <80     | <100       |
| Temperature Coefficients                | CV & CC              |          | 80 ppm/°C (after warm up of 30 min and during 8 Hrs)                                              |         |         |         |         |          |          |          |         |         |            |         |            |
| Output Stability                        | CV & CC              |          | 100 ppm (after warm up of 30 min and during 8 Hrs)                                                |         |         |         |         |          |          |          |         |         |            |         |            |
| Analog Programming (Standard)           |                      |          |                                                                                                   |         |         |         |         |          |          |          |         |         |            |         |            |
| Progamring                              | Voltage              |          | 0 ~ 5 V/ 0 ~ 10V (User selectable), Accuracy: ± 0.5 % of Vrated, Input Impedance: 1 MΩ            |         |         |         |         |          |          |          |         |         |            |         |            |
|                                         | Current              |          | 0 ~ 5 V/ 0 ~ 10V (User selectable), Accuracy: ± 1 % of Irated, Input Impedance: 1 MΩ              |         |         |         |         |          |          |          |         |         |            |         |            |
| Monitoring                              | Voltage              |          | 0 ~ 5 V/ 0 ~ 10V (User selectable), Accuracy: ±1 % of Vrated, Output Impedance: <150 Ω / 4 mA max |         |         |         |         |          |          |          |         |         |            |         |            |
|                                         | Current              |          | 0 ~ 5 V/ 0 ~ 10V (User selectable), Accuracy: ±1 % of Irated, Output Impedance: <150 Ω / 4 mA max |         |         |         |         |          |          |          |         |         |            |         |            |
| Resistor Programming                    | Voltage              |          | 0 ~ 100%, 0~5/10 kΩ full scale (user selectable), Accuracy and Linearity: ± 1% of Vrated          |         |         |         |         |          |          |          |         |         |            |         |            |
|                                         | Current              |          | 0 ~ 100%, 0~5/10 kΩ full scale (user selectable), Accuracy and Linearity: ± 1% of Irated          |         |         |         |         |          |          |          |         |         |            |         |            |
| Isolated Analog Programming (Optional)  |                      |          |                                                                                                   |         |         |         |         |          |          |          |         |         |            |         |            |
| Programming                             | Voltage              |          | 0 ~ 10 V, Accuracy: ± 1 % of Vout rated, Input impedance: 1 MΩ                                    |         |         |         |         |          |          |          |         |         |            |         |            |
|                                         | Current              |          | 0 ~ 10 V, Accuracy: ± 1 % of lout rated, Input impedance: 1 MΩ                                    |         |         |         |         |          |          |          |         |         |            |         |            |
| Monitoring                              | Voltage              |          | 0 ~ 10 V, Accuracy : ±1 % of Vout rated, Output impedance: 150 Ω / 4 mA max                       |         |         |         |         |          |          |          |         |         |            |         |            |
|                                         | Current              |          | 0 ~ 10 V, Accuracy: ±1 % of lout rated, Output impedance: 150 Ω / 4 mA max                        |         |         |         |         |          |          |          |         |         |            |         |            |
| V reference                             |                      |          | 5.1 V ± 15 mV                                                                                     |         |         |         |         |          |          |          |         |         |            |         |            |



|                               |          | PS16-100                                                                                                                                                                                                                               | PS20-80 | PS32-50 | PS40-40 | PS60-26 | PS80-20 | PS100-16 | PS120-13 | PS160-10 | PS300-5 | PS400-4 | PS600-2.67 | PS800-2 | PS1000-1.6 |
|-------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|----------|----------|----------|---------|---------|------------|---------|------------|
| Hold up Time (ms)             |          | 20                                                                                                                                                                                                                                     |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Environment Conditions        |          |                                                                                                                                                                                                                                        |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Operating Temperature         |          | 0 ~ +50℃; with 100% load; derated 75% at 60℃                                                                                                                                                                                           |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Storage                       |          | -40 ~ + 85℃                                                                                                                                                                                                                            |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Humidity                      |          | 10 ~ 95% non condensing at 40℃, max. 75% non condensing at 50℃                                                                                                                                                                         |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Insulation                    |          | Insulation: Input to Output: 3750 V for 1 min, Input to case: 2500 Vdc, Output to case: 600 V, Insulation resistance: 100 MΩ at 25℃, 70% RH, 500 Vdc                                                                                   |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Safety Standard               |          | EN 60950-1 / IEC61010                                                                                                                                                                                                                  |         |         |         |         |         |          |          |          |         |         |            |         |            |
| EMC Standards                 |          | ESD :EN 61000-4-2: 2009, Fast Transients :EN 61000-4-4: 2012<br>Conducted Immunity : EN 61000-4-6, Radiated Immunity : EN 61000-4-3<br>Voltage dips & Interruption : EN 61000-4-11<br>Harmonics : EN 61000-3-2, Flicker : EN 61000-3-3 |         |         |         |         |         |          |          |          |         |         |            |         |            |
| General Specifications        |          |                                                                                                                                                                                                                                        |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Dimensions (mm)               |          | W x D x H : 443 x 485 x 43.5 mm (1U, 19" Rack size)<br>excluding connectors, terminals, switches, front and back panel controls, handles etc                                                                                           |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Weight (kg)                   |          | 9 kg ( Approx )                                                                                                                                                                                                                        |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Cooling                       |          | Forced, variable fan speed                                                                                                                                                                                                             |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Interfaces                    | Standard | Analog Programing, USB / RS232 / RS485, Master/Slave                                                                                                                                                                                   |         |         |         |         |         |          |          |          |         |         |            |         |            |
|                               | Optional | LAN                                                                                                                                                                                                                                    |         |         |         |         |         |          |          |          |         |         |            |         |            |
| Standard Accessories Supplied |          | Mains Cable, USB Cable, RS485 Cable                                                                                                                                                                                                    |         |         |         |         |         |          |          |          |         |         |            |         |            |

Subject to change without notice

Notes: 1. Unit warm up time is 30 min.. 2. Sensing at the rear panel of the power supply unit at sense terminals 3. Minimum output voltage guaranteed to maximum of 0.2% rated. 4. Minimum output current guaranteed to maximum of 0.4% rated. 5. Please contact factory for more no. of units in master/slave operation.

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