Total Power International, Inc.

DC-DC CONVERTER 19" COMPATIBLE EUROCARD MULTI-OUTPUT 45-100 WATTS SWITCHING MODE POWER SUPPLIES TPDU45, TPDU60 & TPDU100 SERIES



FEATURES:

- **12/24/48VDC INPUT RANGE**
- **19" COMPATIBLE EUROCARD FORMAT**
- **EMI MEET CISPR PUB. 22 & FCC CLASS B**
- **MEET THE SAFETY STANDARDS**
- **CE MARKING COMPLIANCE**
- **TPDU45: 3U x 6HP x 160MM VMEbus STANDARD**
  TPDU60: 3U x 8HP x 160MM VMEbus STANDARD
  TPDU100: 3U x 10HP x 160MM VMEbus STANDARD

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: Three ranges option.

A Range: 9-18Vdc nominal 12Vdc.

B Range: 18-36Vdc nominal 24Vdc.

C Range: 36-72Vdc nominal 48Vdc.

Input Connector: DIN 41612 at rear.

Input Current:

TPDU45-A: 8.0A,TPDU45-B: 4.0A,TPDU45-C: 2.5A.

TPDU60-A: 10.0A,TPDU60-B: 5.0A,TPDU60-C: 3.15A.

TPDU100-A: 15.0A,TPDU100-B: 6.3A,TPDU100-C: 4.0A.

Dielectric Withstand: Meet IEC 60950-1.

EMI: Meet CISPR PUB. 22 & FCC Class B.

Power Fail Signal: Installed.

Remote (Logic) Inhibit: Installed.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Wattage: Typ. 45 Watts for TPDU45.
Typ. 60 Watts for TPDU60.
Typ. 100 Watts for TPDU100.
Output Connector: DIN 41612 at rear.
Line Regulation: Typ. 0.4%.
Load Regulation: Main VO1 typ. ±1.0%.
Aux. VO2 typ. ±2-3.0%(PR).
± 2.0%(Mag. Amp.)
Aux. VO3 typ. ±2-3.0% (PR).
Aux. VO4 typ. ±2-3.0%(PR).
Noise & Ripple: Typ. 1% peak to peak.
OVP: Built-in at main VO1 (latch).
Adjustability: Available at main output VO1 and Aux. Output VO2 (Mag. Amp.)
Remote Sense: Available at TPDU60 & 100 single O/P.
Overload Protection (OLP): Fully protected against output overload and short circuit. Consult the factory for OLP setting.

GENERAL SPECIFICATION

Efficiency: Typ. 70.0-75.0%.
Switching Frequency: Typ. 100K Hz.
Circuit Topology: Forward circuit.
Transient Response: Typ. 3mS following a 25% load change.
Power Density: 1.4 Watts / Cubic Inch for TPDU45 & TPDU60
1.9 Watts /Cubic Inch for TPDU100.
Operating Temperature: 0 to +50°C at full load.
Derates linearly to +70°C at half load.
Storage Temperature: -20 to +85°C.
Temperature Coefficient: Typ. 0.04% /°C.
Cooling: Free air convection.
Construction: 6,8,10 HP(TE)x3Ux160mm 19" compatible Eurocard VMEbus standard.

Note: Due to requests in market and advances in technology, specifications subject to change without notification.

Total Power International, Inc.

OUTPUT VOLTAGE / CURRENT RATINGS

CHART TPDU45 Series

SINGLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇	
		Typ.	Volt.
TPDU45-A or B or C-S033	A: 9-18,B: 18-36,C: 36-72	10.0A	**3.3V**
TPDU45-A or B or C-10	A: 9-18,B: 18-36,C: 36-72	9.0A	**5.0V**
TPDU45-A or B or C-11	A: 9-18,B: 18-36,C: 36-72	4.0A	**12.0V**
TPDU45-A or B or C-12	A: 9-18,B: 18-36,C: 36-72	3.0A	**15.0V**
TPDU45-A or B or C-13	A: 9-18,B: 18-36,C: 36-72	2.0A	**24.0V**

DUAL OUTPUT

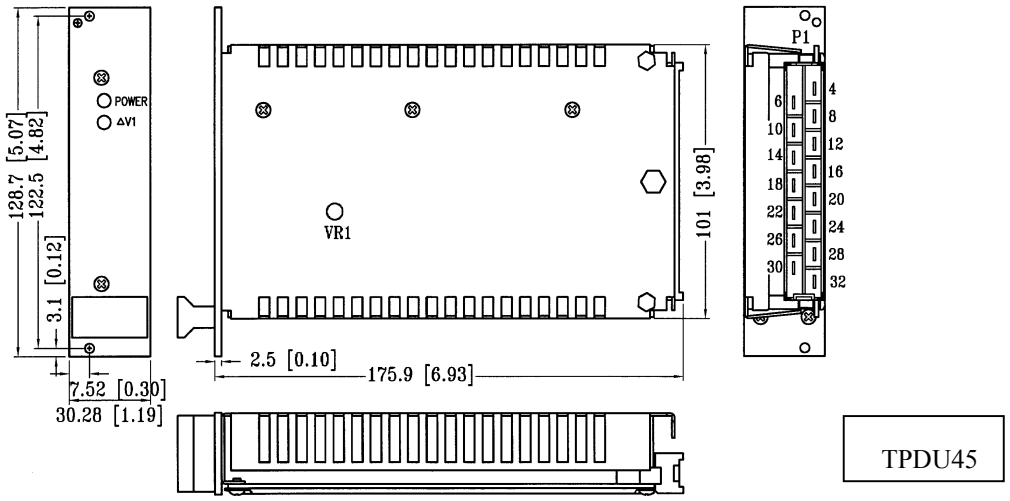
MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2 ●◇■	
		Typ.	Volt.	Typ.	Volt.
TPDU45-A or B or C-D033E	A: 9-18,B: 18-36,C: 36-72	5.0A	**3.3V**	4.0A	**5.0V**
TPDU45-A or B or C-D033I	A: 9-18,B: 18-36,C: 36-72	5.0A	**3.3V**	2.0A	**12.0V**
TPDU45-A or B or C-20	A: 9-18,B: 18-36,C: 36-72	4.0A	**5.0V**	2.0A	**12.0V**
TPDU45-A or B or C-21	A: 9-18,B: 18-36,C: 36-72	2.0A	**12.0V**	2.0A	**12.0V**
TPDU45-A or B or C-23	A: 9-18,B: 18-36,C: 36-72	1.5A	**15.0V**	1.5A	**15.0V**
TPDU45-A or B or C-24	A: 9-18,B: 18-36,C: 36-72	4.0A	**5.0V**	1.0A	**24.0V**
TPDU45-A or B or C-25	A: 9-18,B: 18-36,C: 36-72	1.0A	**24.0V**	1.0A	**24.0V**

TRIPLE OUTPUT

MDEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2 ●◇■		OUTPUT VO3 ●◇■	
		Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
TPDU45-A or B or C-T033EI	A: 9-18,B: 18-36,C: 36-72	5.0A	**3.3V**	4.0A	**5.0V**	0.50A	**12.0V**
TPDU45-A or B or C-T033IM	A: 9-18,B: 18-36,C: 36-72	5.0A	**3.3V**	2.0A	**12.0V**	0.25A	**24.0V**
TPDU45-A or B or C-30	A: 9-18,B: 18-36,C: 36-72	3.0A	**5.0V**	2.0A	**12.0V**	0.50A	**5.0V**
TPDU45-A or B or C-31	A: 9-18,B: 18-36,C: 36-72	3.0A	**5.0V**	2.0A	**15.0V**	0.50A	**15.0V**
TPDU45-A or B or C-32	A: 9-18,B: 18-36,C: 36-72	3.0A	**5.0V**	2.0A	**12.0V**	0.50A	**12.0V**
TPDU45-A or B or C-33	A: 9-18,B: 18-36,C: 36-72	3.0A	**5.0V**	1.0A	**24.0V**	0.50A	**12.0V**

Symbol: "★"OVP built-in. "@"Adjustable. "●" Installed with Post Regulator. "■" Couple filter inductor. "◇" Floating (or isolated) output.

MECHANICAL DIMENSIONS: MM [INCHES] **WEIGHT:** TPDU45 537.0g (18.94 Oz.)



INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

	DC INPUT			SINGLE/DUAL/TRIPLE OUTPUT							ASSORTED SIGNAL			
ASSIGNMENT	**+Vin**	**-Vin**	**G**	**+VO1**	**-VO1**	**+VO2**	**-VO2**	**+VO3**	**-VO3**	**NC**	**LOG. INH.**	**+S**	**-S**	**POWER FAIL**
TPDU45-1X	28	30	32	4,6	12,14	-	-	-	-	16,18,24,26	20	8	10	22
TPDU45-2X	28	30	32	4	6	8	10	-	-	12,14,16,18,24,26	20	-	-	22
TPDU45-3X	28	30	32	4,6,	8,10	12	14	16	18	24,26	20	-	-	22

Mating connector: DIN41612-H15 Female

Total Power International, Inc.

OUTPUT VOLTAGE / CURRENT RATINGS CHART

TPDU60 Series

SINGLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@#◇	
		Typ.	Volt.
TPDU60-A or B or C-S033	A: 9-18,B: 18-36,C: 36-72	16.0A	**3.3V**
TPDU60-A or B or C-10	A: 9-18,B: 18-36,C: 36-72	12.0A	**5.0V**
TPDU60-A or B or C-11	A: 9-18,B: 18-36,C: 36-72	5.0A	**12.0V**
TPDU60-A or B or C-12	A: 9-18,B: 18-36,C: 36-72	4.0A	**15.0V**
TPDU60-A or B or C-13	A: 9-18,B: 18-36,C: 36-72	2.5A	**24.0V**

DUAL OUTPUT

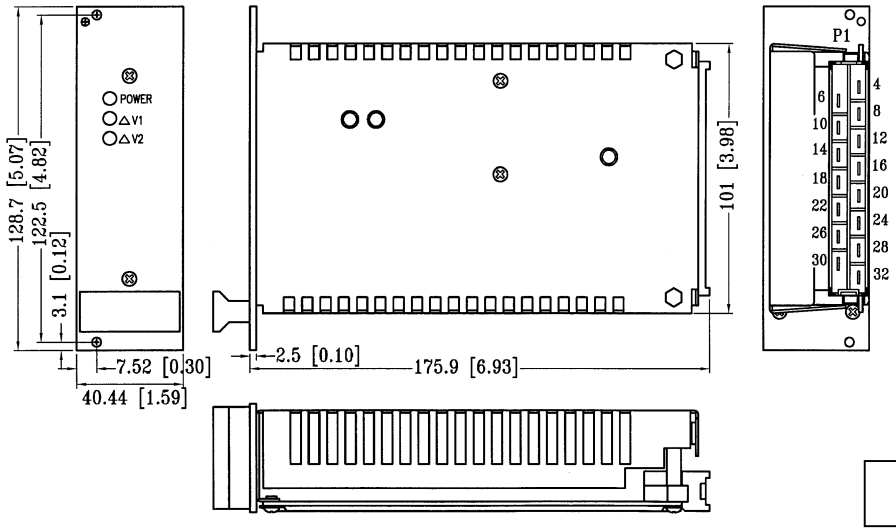
MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2▲◇@	
		Typ.	Volt.	Typ.	Volt.
TPDU60-A or B or C-D033E	A: 9-18,B: 18-36,C: 36-72	6.0A	**3.3V**	5.0A	**5.0V**
TPDU60-A or B or C-D033I	A: 9-18,B: 18-36,C: 36-72	6.0A	**3.3V**	3.0A	**12.0V**
TPDU60-A or B or C-20	A: 9-18,B: 18-36,C: 36-72	5.0A	**5.0V**	3.0A	**12.0V**
TPDU60-A or B or C-21	A: 9-18,B: 18-36,C: 36-72	2.5A	**12.0V**	2.5A	**12.0V**
TPDU60-A or B or C-23	A: 9-18,B: 18-36,C: 36-72	2.0A	**15.0V**	2.0A	**15.0V**
TPDU60-A or B or C-24	A: 9-18,B: 18-36,C: 36-72	5.0A	**5.0V**	1.5A	**24.0V**
TPDU60-A or B or C-25	A: 9-18,B: 18-36,C: 36-72	1.3A	**24.0V**	1.3A	**24.0V**

TRIPLE OUTPUT

MDEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2 ▲◇@		OUTPUT VO3 ●◇■	
		Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
TPDU60-A or B or C-T033EI	A: 9-18,B: 18-36,C: 36-72	6.0A	**3.3V**	5.0A	**5.0V**	0.50A	**12.0V**
TPDU60-A or B or C-T033IM	A: 9-18,B: 18-36,C: 36-72	6.0A	**3.3V**	2.5A	**12.0V**	0.25A	**24.0V**
TPDU60-A or B or C-30	A: 9-18,B: 18-36,C: 36-72	5.0A	**5.0V**	2.5A	**12.0V**	1.00A	**5.0V**
TPDU60-A or B or C-31	A: 9-18,B: 18-36,C: 36-72	4.5A	**5.0V**	2.0A	**15.0V**	0.50A	**15.0V**
TPDU60-A or B or C-32	A: 9-18,B: 18-36,C: 36-72	5.0A	**5.0V**	2.5A	**12.0V**	0.50A	**12.0V**
TPDU60-A or B or C-33	A: 9-18,B: 18-36,C: 36-72	5.0A	**5.0V**	1.3A	**24.0V**	0.50A	**12.0V**

Symbol: "★" OVP built-in. "@" Adjustable. "●" Installed with Post Regulator. "■" Couple filter inductor. "▲" Magnetic Amplifier.
"#" Remote sensing. "◇" Floating (or isolated) output.

MECHANICAL DIMENSIONS: MM [INCHES]WEIGHT: TPDU60 707.0g (24.94 Oz.)



TPDU60

INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

	DC INPUT			SINGLE/DUAL/TRIPLE OUTPUT							ASSORTED SIGNAL			
ASSIGNMENT	**+Vin**	**-Vin**	**G**	**+VO1**	**-VO1**	**+VO2**	**-VO2**	**+VO3**	**-VO3**	**NC**	**LOG. INH.**	**+S**	**-S**	**POWER FAIL**
TPDU60-1X	28	30	32	4,6	12,14	-	-	-	-	16,18,24,26	20	8	10	22
TPDU60-2X	28	30	32	4	6	8	10	-	-	12,14,16,18,24,26	20	-	-	22
TPDU60-3X	28	30	32	4,6,	8,10	12	14	16	18	24,26	20	-	-	22

Mating connector: DIN41612-H15 Female

Total Power International, Inc.

OUTPUT VOLTAGE / CURRENT RATINGS CHART

TPDU100 Series

SINGLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@#◇	
		Typ.	Volt.
TPDU100-A or B or C-S033	A: 9-18,B: 18-36,C: 36-72	25.0A	**3.3V**
TPDU100-A or B or C-10	A: 9-18,B: 18-36,C: 36-72	20.0A	**5.0V**
TPDU100-A or B or C-11	A: 9-18,B: 18-36,C: 36-72	8.5A	**12.0V**
TPDU100-A or B or C-12	A: 9-18,B: 18-36,C: 36-72	7.0A	**15.0V**
TPDU100-A or B or C-13	A: 9-18,B: 18-36,C: 36-72	4.5A	**24.0V**

DUAL OUTPUT

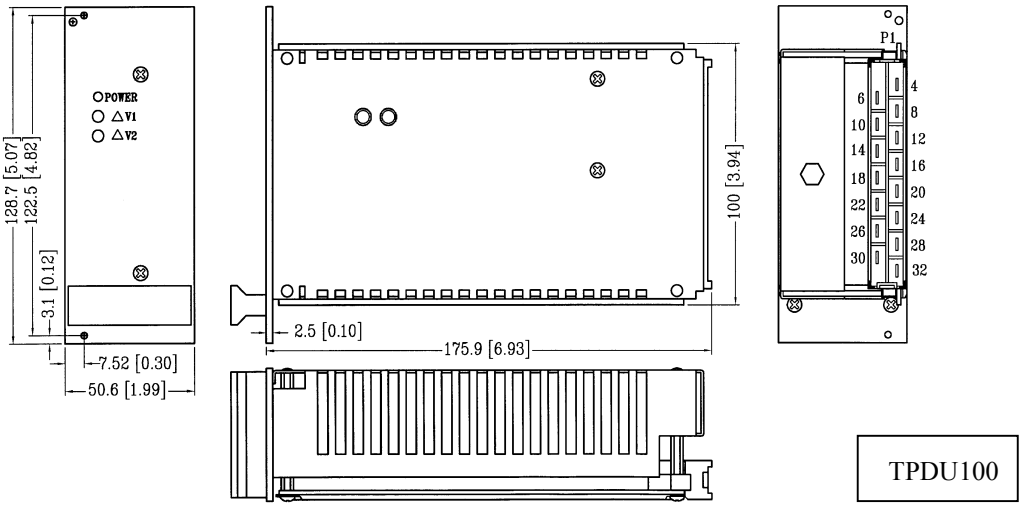
MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2▲◇	
		Typ.	Volt.	Typ.	Volt.
TPDU100-A or B or C-D033E	A: 9-18,B: 18-36,C: 36-72	10.0A	**3.3V**	8.0A	**5.0V**
TPDU100-A or B or C-D033I	A: 9-18,B: 18-36,C: 36-72	10.0A	**3.3V**	5.0A	**12.0V**
TPDU100-A or B or C-20	A: 9-18,B: 18-36,C: 36-72	8.0A	**5.0V**	5.0A	**12.0V**
TPDU100-A or B or C-21	A: 9-18,B: 18-36,C: 36-72	4.2A	**12.0V**	4.2A	**12.0V**
TPDU100-A or B or C-23	A: 9-18,B: 18-36,C: 36-72	3.4A	**15.0V**	3.4A	**15.0V**
TPDU100-A or B or C-24	A: 9-18,B: 18-36,C: 36-72	8.0A	**5.0V**	2.5A	**24.0V**
TPDU100-A or B or C-25	A: 9-18,B: 18-36,C: 36-72	2.1A	**24.0V**	2.1A	**24.0V**

TRIPLE OUTPUT

MDEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2 ▲◇@		OUTPUT VO3 ●◇■	
		Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
TPDU100-A or B or C-T033EI	A: 9-18,B: 18-36,C: 36-72	6.0A	**3.3V**	5.0A	**5.0V**	0.50A	**12.0V**
TPDU100-A or B or C-T033IM	A: 9-18,B: 18-36,C: 36-72	6.0A	**3.3V**	2.5A	**12.0V**	0.25A	**24.0V**
TPDU100-A or B or C-30	A: 9-18,B: 18-36,C: 36-72	7.0A	**5.0V**	5.0A	**12.0V**	1.00A	**5.0V**
TPDU100-A or B or C-31	A: 9-18,B: 18-36,C: 36-72	6.0A	**5.0V**	4.0A	**15.0V**	0.60A	**15.0V**
TPDU100-A or B or C-32	A: 9-18,B: 18-36,C: 36-72	7.0A	**5.0V**	5.0A	**12.0V**	0.50A	**12.0V**
TPDU100-A or B or C-33	A: 9-18,B: 18-36,C: 36-72	7.0A	**5.0V**	2.5A	**24.0V**	0.50A	**12.0V**

Symbol: "★" OVP built-in. "@" Adjustable. "●" Installed with Post Regulator. "■" Couple filter inductor. "▲" Magnetic Amplifier.
"#" Remote sensing. "◇" Floating (or isolated) output.

MECHANICAL DIMENSIONS: MM [INCHES]WEIGHT: TPDU100 943.0g (33.26 Oz.)



TPDU100

INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

	DC INPUT			SINGLE/DUAL/TRIPLE OUTPUT							ASSORTED SIGNAL			
ASSIGNMENT	**+Vin**	**-Vin**	**G**	**+VO1**	**-VO1**	**+VO2**	**-VO2**	**+VO3**	**-VO3**	**NC**	**LOG. INH.**	**+S**	**-S**	**POWER FAIL**
TPDU100-1X	28	30	32	4,6	12,14	-	-	-	-	16,18,24,26	20	8	10	22
TPDU100-2X	28	30	32	4	6	8	10	-	-	12,14,16,18,24,26	20	-	-	22
TPDU100-3X	28	30	32	4,6,	8,10	12	14	16	18	24,26	20	-	-	22

Mating connector: DIN41612-H15 Female