



DC-DC CONVERTER 19" COMPATIBLE EUROCARD MULTI-OUTPUT 45-100 WATTS SWITCHING MODE POWER SUPPLIES HDU45, HDU60 & HDU100 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
- HDU45 3UX6HPX160MM VMEbus STANDARD
- HDU60 3UX8HPX160MM VMEbus STANDARD
- HDU100 3UX10HPX160MM 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:

HDU45-A: 8.0A, HDU45-B: 4.0A, HDU45-C: 2.5A.

HDU60-A: 10.0A, HDU60-B: 5.0A, HDU60-C: 3.15A.

HDU100-A: 15.0A, HDU100-B: 6.3A, HDU100-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 HDU45.

Typ. 60 Watts for HDU60.

Typ. 100 Watts for HDU100.

Output Connector: DIN 41612 at rear.

Line Regulation: Typ. 0.4%.

Load Regulation: Main VO1 typ. $\pm 1.0\%$.

Aux. VO2 typ. $\pm 2.0\%$ (PR).

$\pm 2.0\%$ (Mag. Amp.)

Aux. VO3 typ. $\pm 2.0\%$ (PR).

Aux. VO4 typ. $\pm 2.0\%$ (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 HDU60 & 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 HDU45, HDU60.
1.9 Watts /Cubic Inch for HDU100.

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.

OUTPUT VOLTAGE / CURRENT RATINGS CHART

HDU45 Series

SINGLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇	
		Typ.	Volt.
HDU45-A or B or C-S033	A: 9-18,B: 18-36,C: 36-72	10.0A	3.3V
HDU45-A or B or C-10	A: 9-18,B: 18-36,C: 36-72	9.0A	5.0V
HDU45-A or B or C-11	A: 9-18,B: 18-36,C: 36-72	4.0A	12.0V
HDU45-A or B or C-12	A: 9-18,B: 18-36,C: 36-72	3.0A	15.0V
HDU45-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.
HDU45-A or B or C-D033E	A: 9-18,B: 18-36,C: 36-72	5.0A	3.3V	4.0A	5.0V
HDU45-A or B or C-D033I	A: 9-18,B: 18-36,C: 36-72	5.0A	3.3V	2.0A	12.0V
HDU45-A or B or C-20	A: 9-18,B: 18-36,C: 36-72	4.0A	5.0V	2.0A	12.0V
HDU45-A or B or C-21	A: 9-18,B: 18-36,C: 36-72	2.0A	12.0V	2.0A	12.0V
HDU45-A or B or C-23	A: 9-18,B: 18-36,C: 36-72	1.5A	15.0V	1.5A	15.0V
HDU45-A or B or C-24	A: 9-18,B: 18-36,C: 36-72	4.0A	5.0V	1.0A	24.0V
HDU45-A or B or C-25	A: 9-18,B: 18-36,C: 36-72	1.0A	24.0V	1.0A	24.0V

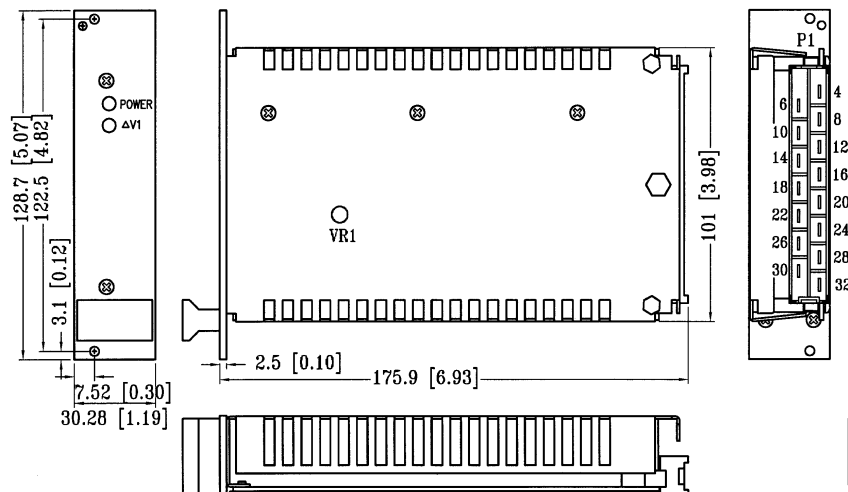
TRIPLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2 ●◇■		OUTPUT VO3 ●◇■	
		Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
HDU45-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
HDU45-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
HDU45-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
HDU45-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
HDU45-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
HDU45-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: HDU45 537.0g (18.94 Oz.)



HDU45

INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

ASSIGNMENT	DC INPUT			SINGLE/DUAL/TRIPLE OUTPUT							ASSORTED SIGNAL			
	+Vin	-Vin	G	+VO1	-VO1	+VO2	-VO2	+VO3	-VO3	NC	LOG. INH.	+S	-S	POWER FAIL
HDU45-1X	28	30	32	4,6	12,14	-	-	-	-	16,18,24,26	20	8	10	22
HDU45-2X	28	30	32	4	6	8	10	-	-	12,14,16,18,24,26	20	-	-	22
HDU45-3X	28	30	32	4,6	8,10	12	14	16	18	24,26	20	-	-	22

Mating connector: DIN41612-H15 Female

OUTPUT VOLTAGE / CURRENT RATINGS CHART

HDU60 Series

SINGLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@#◇	
		Typ.	Volt.
HDU60-A or B or C-S033	A: 9-18,B: 18-36,C: 36-72	16.0A	3.3V
HDU60-A or B or C-10	A: 9-18,B: 18-36,C: 36-72	12.0A	5.0V
HDU60-A or B or C-11	A: 9-18,B: 18-36,C: 36-72	5.0A	12.0V
HDU60-A or B or C-12	A: 9-18,B: 18-36,C: 36-72	4.0A	15.0V
HDU60-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.
HDU60-A or B or C-D033E	A: 9-18,B: 18-36,C: 36-72	6.0A	3.3V	5.0A	5.0V
HDU60-A or B or C-D033I	A: 9-18,B: 18-36,C: 36-72	6.0A	3.3V	3.0A	12.0V
HDU60-A or B or C-20	A: 9-18,B: 18-36,C: 36-72	5.0A	5.0V	3.0A	12.0V
HDU60-A or B or C-21	A: 9-18,B: 18-36,C: 36-72	2.5A	12.0V	2.5A	12.0V
HDU60-A or B or C-23	A: 9-18,B: 18-36,C: 36-72	2.0A	15.0V	2.0A	15.0V
HDU60-A or B or C-24	A: 9-18,B: 18-36,C: 36-72	5.0A	5.0V	1.5A	24.0V
HDU60-A or B or C-25	A: 9-18,B: 18-36,C: 36-72	1.3A	24.0V	1.3A	24.0V

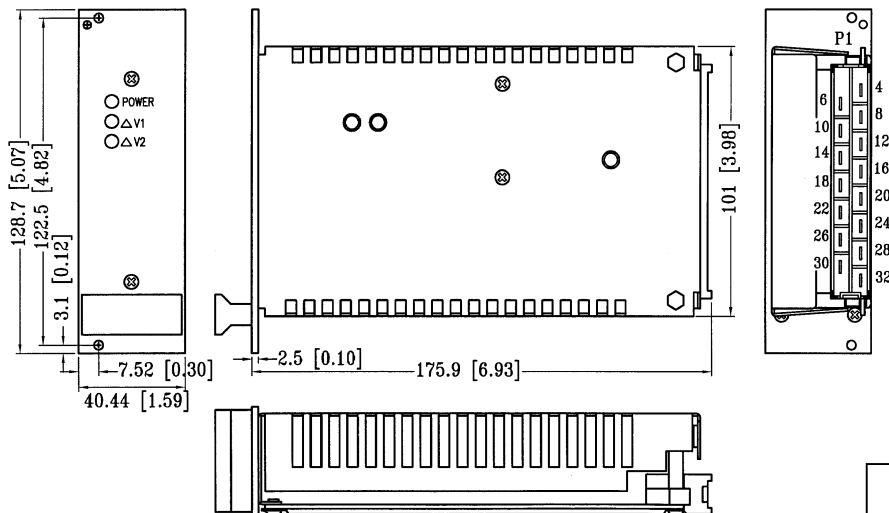
TRIPLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2 ▲◇@		OUTPUT VO3 ●◇■	
		Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
HDU60-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
HDU60-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
HDU60-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
HDU60-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
HDU60-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
HDU60-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: HDU60 707.0g (24.94 Oz.)



INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

ASSIGNMENT	DC INPUT			SINGLE/DUAL/TRIPLE OUTPUT							ASSORTED SIGNAL			
	+Vin	-Vin	G	+VO1	-VO1	+VO2	-VO2	+VO3	-VO3	NC	LOG. INH.	+S	-S	POWER FAIL
HDU60-1X	28	30	32	4,6	12,14	-	-	-	-	16,18,24,26	20	8	10	22
HDU60-2X	28	30	32	4	6	8	10	-	-	12,14,16,18,24,26	20	-	-	22
HDU60-3X	28	30	32	4,6	8,10	12	14	16	18	24,26	20	-	-	22

Mating connector: DIN41612-H15 Female

OUTPUT VOLTAGE / CURRENT RATINGS CHART

HDU100 Series

SINGLE OUTPUT

MODEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@#◇	
		Typ.	Volt.
HDU100-A or B or C-S033	A: 9-18,B: 18-36,C: 36-72	25.0A	3.3V
HDU100-A or B or C-10	A: 9-18,B: 18-36,C: 36-72	20.0A	5.0V
HDU100-A or B or C-11	A: 9-18,B: 18-36,C: 36-72	8.5A	12.0V
HDU100-A or B or C-12	A: 9-18,B: 18-36,C: 36-72	7.0A	15.0V
HDU100-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.
HDU100-A or B or C-D033E	A: 9-18,B: 18-36,C: 36-72	10.0A	3.3V	8.0A	5.0V
HDU100-A or B or C-D033I	A: 9-18,B: 18-36,C: 36-72	10.0A	3.3V	5.0A	12.0V
HDU100-A or B or C-20	A: 9-18,B: 18-36,C: 36-72	8.0A	5.0V	5.0A	12.0V
HDU100-A or B or C-21	A: 9-18,B: 18-36,C: 36-72	4.2A	12.0V	4.2A	12.0V
HDU100-A or B or C-23	A: 9-18,B: 18-36,C: 36-72	3.4A	15.0V	3.4A	15.0V
HDU100-A or B or C-24	A: 9-18,B: 18-36,C: 36-72	8.0A	5.0V	2.5A	24.0V
HDU100-A or B or C-25	A: 9-18,B: 18-36,C: 36-72	2.1A	24.0V	2.1A	24.0V

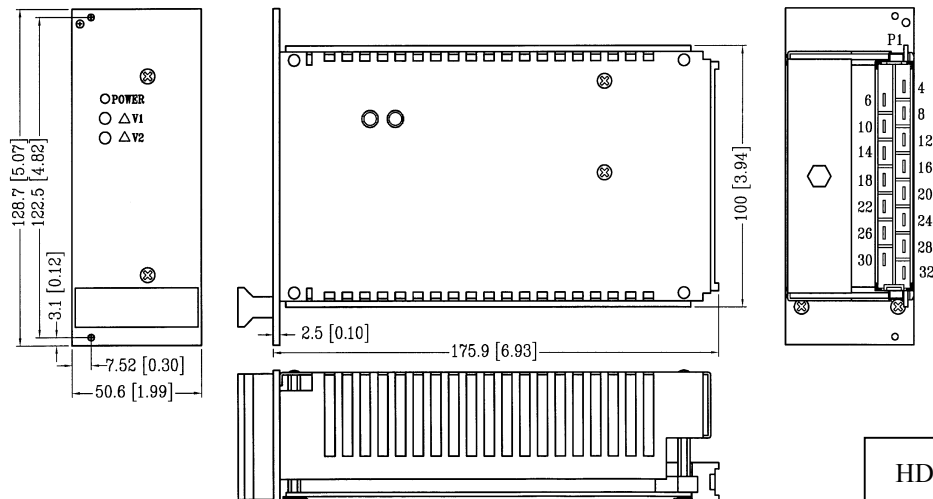
TRIPLE OUTPUT

MDEL NO.	INPUT RANGE Vdc	OUTPUT VO1 ★@◇		OUTPUT VO2 ▲◇@		OUTPUT VO3 ●◇■	
		Typ.	Volt.	Typ.	Volt.	Typ.	Volt.
HDU100-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
HDU100-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
HDU100-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
HDU100-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
HDU100-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
HDU100-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: HDU100 943.0g (33.26 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
HDU100-1X	28	30	32	4,6	12,14	-	-	-	-	16,18,24,26	20	8	10	22
HDU100-2X	28	30	32	4	6	8	10	-	-	12,14,16,18,24,26	20	-	-	22
HDU100-3X	28	30	32	4,6	8,10	12	14	16	18	24,26	20	-	-	22

Mating connector: DIN41612-H15 Female