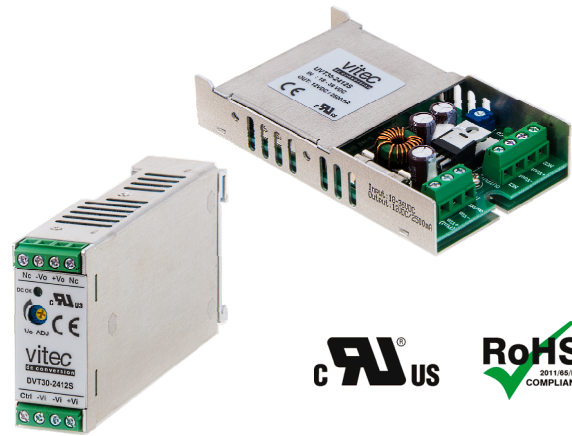


FEATURES AND APPLICATIONS

- 2:1 Input Range
- High Efficiency up to 89%
- U-Channel or DIN Rail Chassis
- Low Ripple & Noise
- Screw Terminals for Input & Output
- UL60950-1 certified
- RoHS ✓



GENERAL DESCRIPTION

The UVT30 and DVT30 series is a family of 30 Watt single and dual output DC-DC converters. These converters were designed as DC/DC Plug-in solution and are available in U-Channel chassis (UVT30), or DIN rail chassis (DVT30; Reliable snap-on for DIN rail TS-35/7.5 or TS-35/15). These devices offering high performance features such as 1500 Vdc input/output isolation voltage, continuous short circuit protection with automatic restart and tight line and load regulation. Further features are internal input fuse protection, internal reverse polarity protection, internal input in-rush current limit circuit, over voltage protection and Output DC-OK LED indicator.

Models operate from a 2:1 input bus voltage of 12, 24 and 48 Vdc offering output voltage levels of 3.3, 5, 12, 15, 24, 28, ± 12 and ± 15 Vdc. Cooling is by free-air convection.

2:1 Input – Single and Dual Outputs

Type Number	Input Voltage [Vdc]	Output Voltage [Vdc]	Output Current Full load [mA]	Input Current No load [mA] 12/24/48	Input Current Full load [mA] 12/24/48	Output Ripple & Noise [mVpp]	Efficiency [%] 12/24/48	max. Cap. Load [μ F]
xVT30-yy3R3S	12 24 48	3.3	6000	119/52/32	2143/1044/509	50	82/84/86	19500
xVT30-yy05S		5.0	6000	100/52/37	3165/1543/753	50	84/86/88	10200
xVT30-yy12S		12.0	2500	178/84/38	3125/1524/744	75	85/87/89	3240
xVT30-yy15S		15.0	2000	220/95/58	3125/1524/744	75	85/87/89	1100
xVT30-yy24S		24.0	1250	74/38/29	3125/1524/762	75	85/87/87	510
xVT30-yy28S		28.0	1000	56/39/29	2917/1423/711	75	85/87/87	340
xVT30-yy12D		± 12.0	± 1250	68/34/23	3165/1543/762	100	84/86/87	± 1020
xVT30-yy15D		± 15.0	± 1000	50/35/23	3165/1543/762	100	84/86/87	± 675

x ... Chassis:

U ... U-Channel Chassis
D ... DIN Rail Chassis

Options UVT30-Series (U-Channel Chassis):

Suffix -DR UVT30 with DIN rail clip for DIN35

yy ... nominal input voltage:

xVT30-Series: 12 (9.5 – 18 Vdc)
24 (18 – 36 Vdc)
48 (36 – 75 Vdc)

Options DVT30-Series (DIN Rail Chassis):

no additional option available

e.g. UVT30-1205S (U-Channel Chassis, Input 12 Vdc, Output 5 Vdc)
UVT30-483R3S-DR (U-Channel Chassis, Input 48 Vdc, Output 3.3 Vdc, DIN rail clip option)
DVT30-2412D (DIN rail Chassis, 24 Vdc input, ± 12 Vdc dual output)

ELECTRICAL SPECIFICATIONS

Specifications typical at +25°C, nominal Input voltage, rated output current unless otherwise specified.

Input Specifications

Input Voltage Range	12V: 9.5 to 18 Vdc
	24V: 18 to 36 Vdc
	48V: 36 to 75 Vdc
Input Fuse (slow blow)	12V: 6 A
	24V: 6 A
	48V: 4 A
Input Surge Voltage	12V: 36 Vdc, 100 mS, max.
	24V: 50 Vdc, 100 mS, max.
	48V: 100 Vdc, 100 mS, max.
In-Rush Current	15 A
Input Reflected Ripple Current	15 mApp
Start Up time (nom. input, const. res. load)	100 mS (Power up)
	25 mS (Remote On/Off)
Start-Up/Shutdown Voltage	Startup Shutdown
	12V: 9.5 Vdc 8 Vdc
	24V: 18 Vdc 16 Vdc
	48V: 36 Vdc 33 Vdc

General Specifications

Efficiency	see table
Switching Frequency	300 kHz, ±10%
Isolation Voltage	1500 Vdc, min. (1 minute)
Isolation Resistance	10 ⁹ Ohms, min.
Isolation Capacitance	4000 pF, max.
Approvals	UL60950-1 certified (E352836) IEC/EN60950-1 (designed to meet)

Physical Characteristics

Dimensions	U-channel:	101.6 x 57.2 x 19.1 mm 4.00 x 2.25 x 0.75 inches
	DIN rail:	125.0 x 57.6 x 24.5 mm 4.92 x 2.27 x 0.97 inches
Chassis Material		Aluminium
Weight	U-channel:	110 g
	DIN rail mounting:	170 g

EMC Characteristics

EMI	EN55022	Class B
ESD	EN61000-4-2	Perf. Criteria A (Air ±8 kV; Contact ±6 kV)
Radiated Im.	EN61000-4-3	Perf. Criteria A (10 V/m)
F. Transients	EN61000-4-4	Perf. Criteria A (±2 kV)
Surge	EN61000-4-5	Perf. Criteria A (±1 kV)
Conducted I.	EN61000-4-6	Perf. Criteria A (10 Vrms)

Output Specifications

Output Power	30 Watts, max.
Output Voltage Accuracy	±1.0%
	±1.5% (3.3 Vout)
Output Voltage Trim	±10%
	-3% ~ +17% (28 Vout)
	The output voltage could be adjusted by a potentiometer (single output only).
Min. Load for specified regulation	0%
Ripple and Noise (20 MHz BW)	see table
Line Voltage Regulation	±0.5% (LL to HL at full load)
Load Voltage Regulation	±1.0%
	(Min. load to full load)
	±1.5% (3.3 Vout)
Cross Regulation (Dual)	±5.0% (Asym. load 25%/100% FL)
Temperature Coefficient	±0.02%/°C, max.
Over Load Protection	150% (of FL at nominal input)
Short Circuit Protection	Continuous (Hiccup)
Over Voltage Protection	3.3 Vout: 3.9 Vdc 15 Vout: 18 Vdc
	5 Vout: 6.2 Vdc 24 Vout: 30 Vdc
	12 Vout: 15 Vdc 28 Vout: 36 Vdc
Transient response recovery time	300 µsec (25% load step change)
Output Indicator	Green LED

Remote ON/OFF Control

Control Voltage referenced to negative (-) input	
Positive Logic	ON-Control: 3 to 12 V or open
	OFF-Control: 0 to 1.2 V or short
Input current of remote control pin	-0.5 mA to +0.5 mA, max.
Remote off input current	2.5 mA

Environmental Specification

Operating Temperature	
Case mounting:	-40°C to +61°C without Derating +61°C to 88°C with Derating
DIN rail mounting:	-40°C to +68°C without Derating +68°C to +90°C with Derating
Storage Temperature	-40°C to +105°C
Over Temp. Protection	+110°C (DC/DC Converter Case)
Cooling	Free-air Convection
MTBF	MIL-HDBK-217F: 3.464 x 10 ⁵ Hrs *
	Bellcore TR-NWT-000332: 1.014 x 10 ⁶ Hrs **
	* Notice2 @25°C, FL, Ground, Benign, controlled environment
	** Case1, 50% Stress, 40°C
Thermal Shock	MIL-STD-810F
Vibration	MIL-STD-810F
Relative Humidity	5% to 95% RH

CAUTION: This power module is not internally fused. An input line fuse must always be used!

UVT30 DVT30

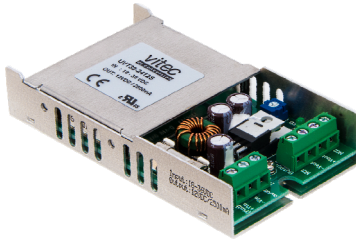
SERIES

30 Watt DC/DC Converter
Single and Dual Output
1500 Vdc Isolation

vitec
dc conversion

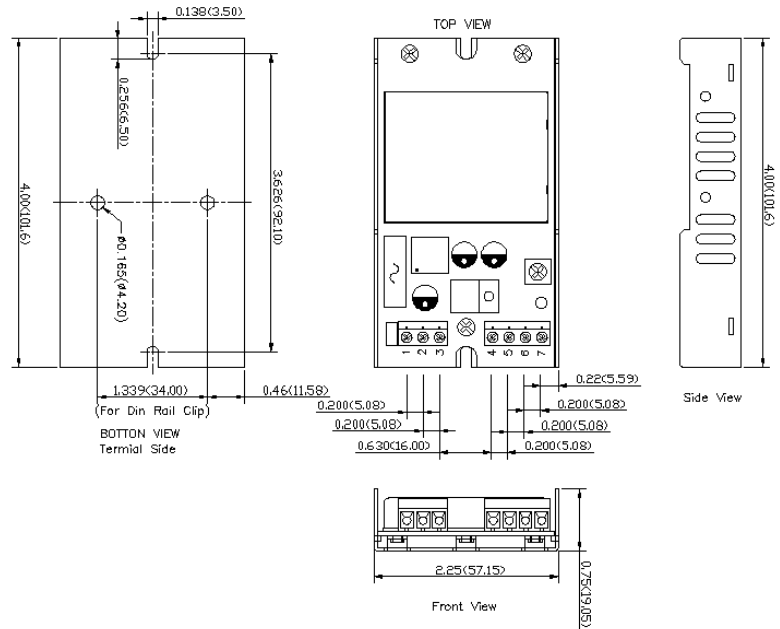
Drawings & PIN Connections

UVT30 Series (U-Channel Version)

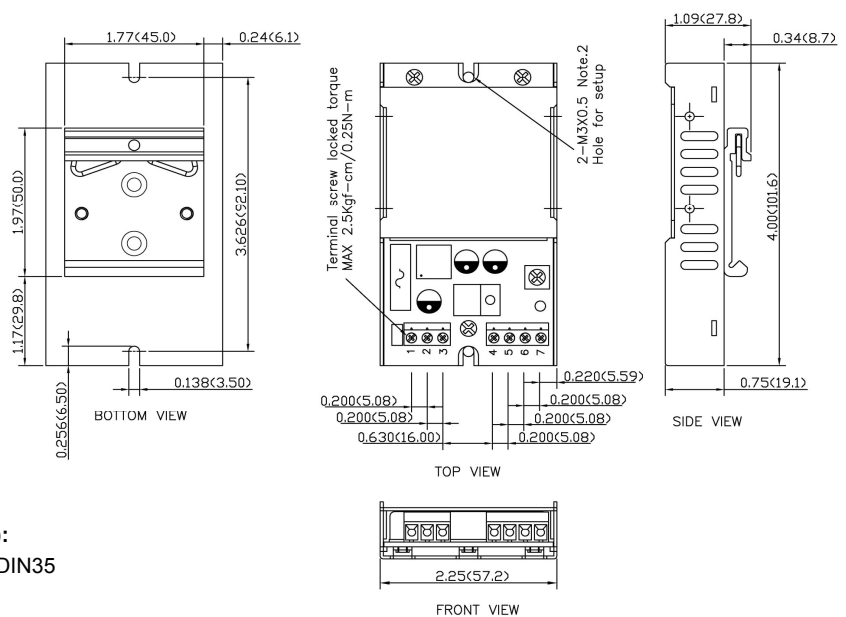
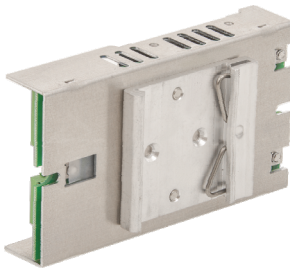


PIN Connections

Pin	Single	Dual
1	+V Input	+V Input
2	-V Input	-V Input
3	CTRL	CTRL
4	NC	NC
5	-V Output	-V Output
6	+V Output	Common
7	NC	+V Output



UVT30 Series (U-Channel Version) with DIN Rail Mounting Clip Option



Options UVT30-Series (U-Channel Chassis):

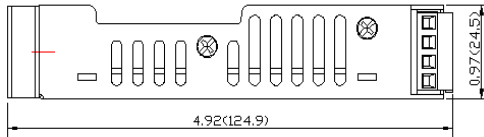
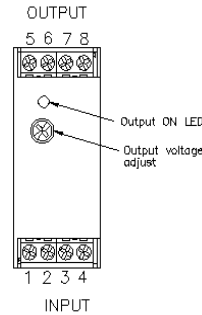
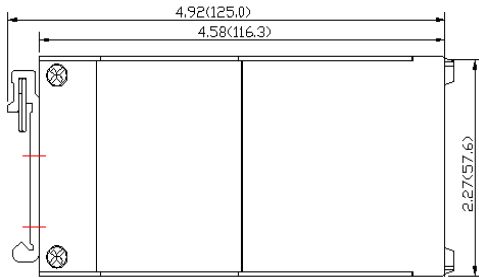
Suffix -DR UVT30 with DIN rail clip for DIN35

V i t e c POWER GmbH

Hans Kudlich Gasse 12/3, A-2230 Gänserndorf, Austria, Tel.: +43/2282/3144, Fax.: +43/2282/60494, Email: office@vitecpower.com

www.vitecpower.com

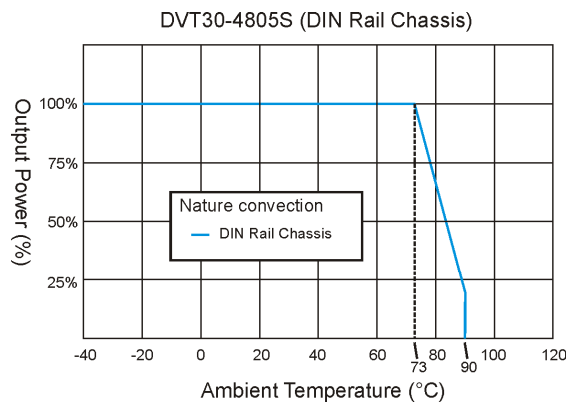
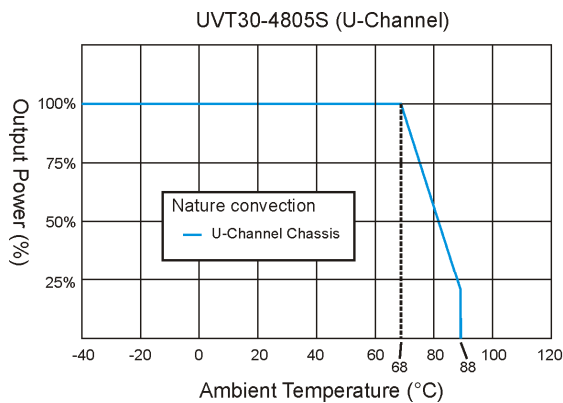
DVT30 Series – DIN Rail Chassis (Case protection meets IP20 / IEC60529)



PIN Connections		
Pin	Single	Dual
1	CTRL	CTRL
2	-V Input	-V Input
3	-V Input	-V Input
4	+V Input	+V Input
5	NC	NC
6	-V Output	-V Output
7	+V Output	Common
8	NC	+V Output

NC ... not connected

Derating



Notes: All dimensions in millimeters (inches). Tolerance $\pm 0.25\text{mm}$ (0.01).

Specifications can be changed without prior notice. Products are not intended for and must not be used in life support systems, human implantation, nuclear facilities or systems or any other application where product failure or malfunction of the component could lead to loss of life or catastrophic property damage.