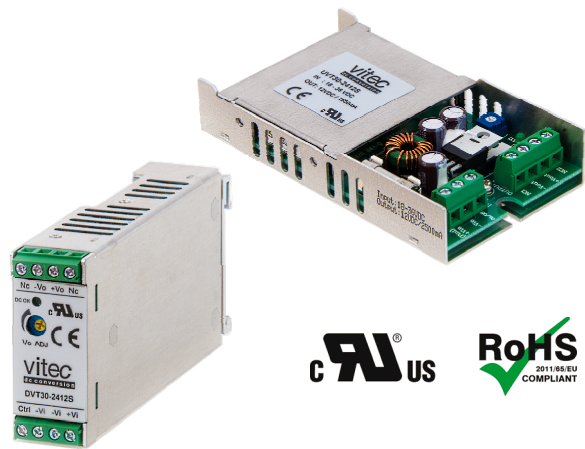


FEATURES AND APPLICATIONS

- 4:1 Input Range
- High Efficiency up to 87%
- U-Channel or DIN Rail Chassis
- Low Ripple & Noise
- Screw Terminals for Input & Output
- UL60950-1 certified
- RoHS ✓



GENERAL DESCRIPTION

The UVTW30 and DVTW30 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 (UVTW30), or DIN rail chassis (DVTW30; 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 4:1 input bus voltage of 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.

4:1 Input – Single and Dual Outputs

Type Number	Input Voltage [Vdc]	Output Voltage [Vdc]	Output Current Full load [mA]	Input Current No load [mA] 24/48	Input Current Full load [mA] 24/48	Output Ripple & Noise [mVpp]	Efficiency [%] 24/48	max. Cap. Load [μ F]
xVTW30-yy3R3S	24 48	3.3	6000	52/32	1031/509	50	85/86	19500
xVTW30-yy05S		5.0	6000	67/32	1563/762	50	85/87	10200
xVTW30-yy12S		12.0	2550	69/38	1563/772	75	85/86	3300
xVTW30-yy15S		15.0	2000	75/48	1543/762	75	86/87	1100
xVTW30-yy24S		24.0	1250	39/30	1602/781	130	83/84	500
xVTW30-yy28S		28.0	1000	45/30	1477/720	130	84/85	340
xVTW30-yy12D		± 12.0	± 1250	34/28	1602/791	100	83/84	± 1000
xVTW30-yy15D		± 15.0	± 1000	40/28	1582/781	100	84/85	± 680

x ... Chassis:

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

Options UVTW30-Series (U-Channel Chassis):

Suffix N Remote On/Off - Negative Logic
Suffix -DR UVTW30 with DIN rail clip for DIN35

yy ... nominal input voltage:

xVTW30-Series: 24 (10 – 40 Vdc)
48 (18 – 75 Vdc)

Options DVTW30-Series (DIN Rail Chassis):

Suffix N Remote On/Off - Negative Logic

e.g. UVTW30-2405S
UVTW30-483R3S-DR
DVTW30-2412D

(U-Channel Chassis, Input 24 Vdc, Output 5 Vdc)
(U-Channel Chassis, Input 48 Vdc, Output 3.3 Vdc, DIN rail clip option)
(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	24V: 10 to 40 Vdc
	48V: 18 to 75 Vdc
Input Fuse (slow blow)	24V: 6 A
	48V: 4 A
Input Surge Voltage	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)
	10 mS (Remote On/Off)
Start-Up/Shutdown Voltage	Startup Shutdown
	24V: 10 Vdc 8 Vdc
	48V: 18 Vdc 16 Vdc

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%
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	250 µsec (25% load step change)
Output Indicator	Green LED

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)

Remote ON/OFF Control

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

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

Environmental Specification

Operating Temperature	
	Case mounting: -40°C to +59°C without Derating
	+59°C to 85°C with Derating
	DIN rail mounting: -40°C to +65°C without Derating
	+65°C to 93°C with Derating
Storage Temperature	-40°C to +105°C
Cooling	Free-air Convection
Over Temp. Protection	+110°C (DC/DC Converter Case)
MTBF	MIL-HDBK-217F: 3.455 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!

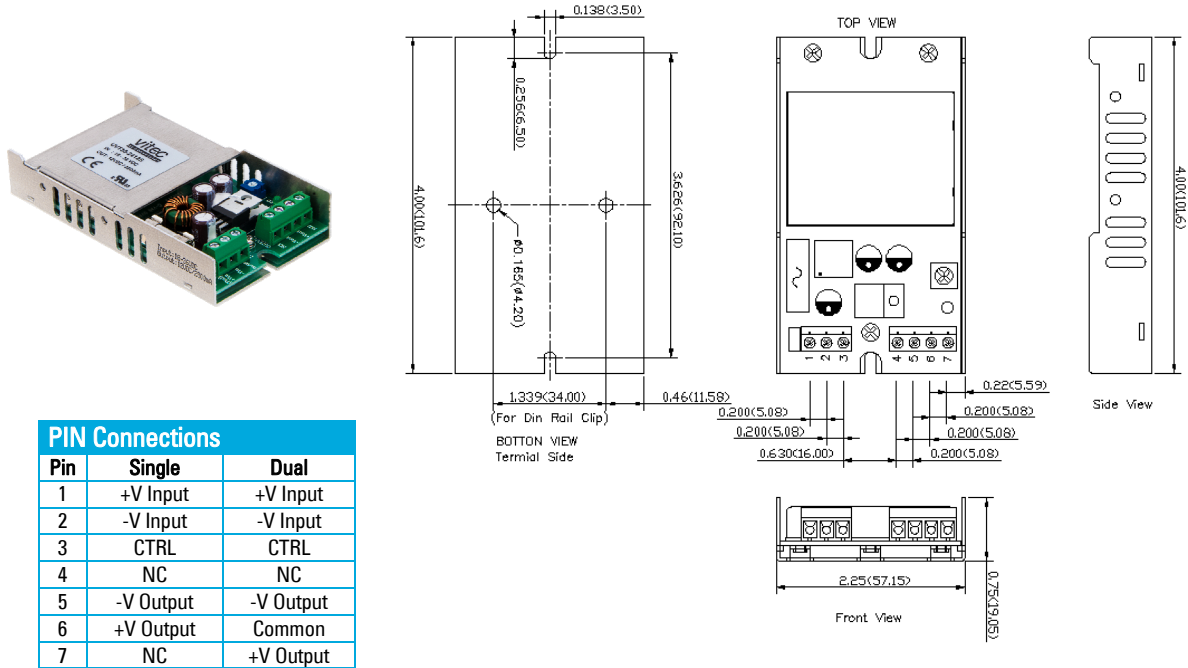
V i t e c POWER GmbH

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

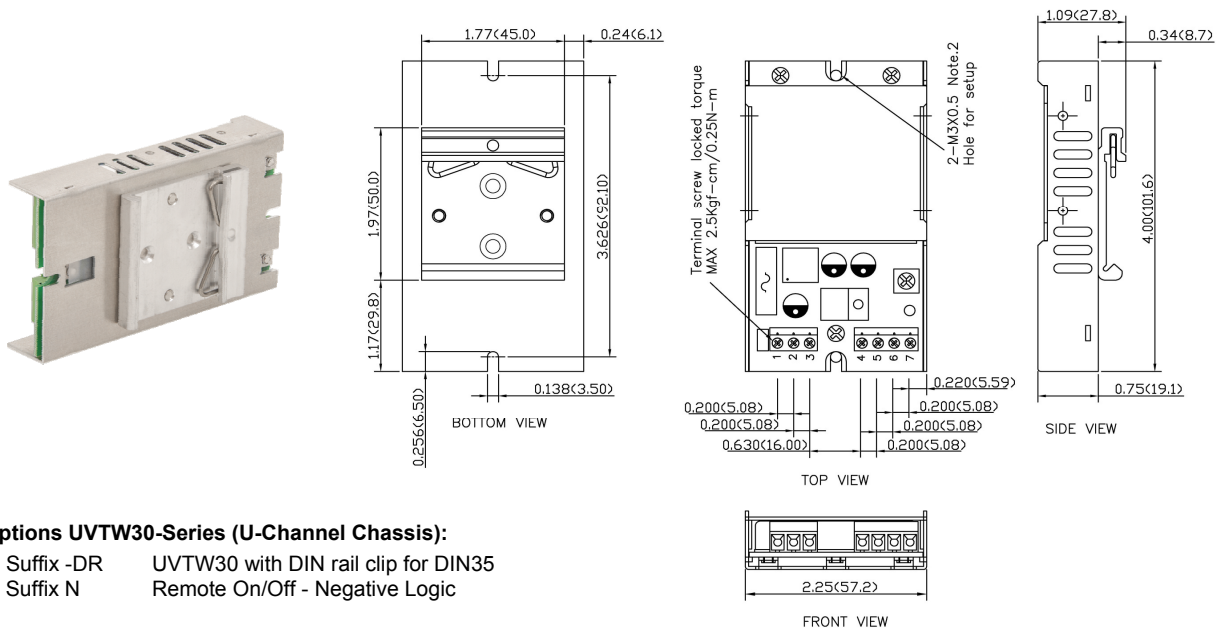
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Drawings & PIN Connections

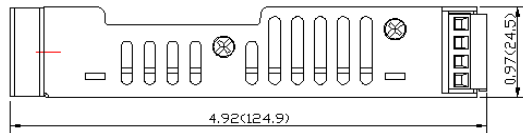
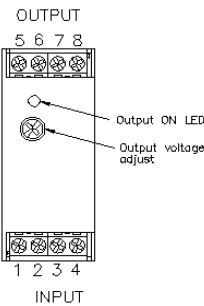
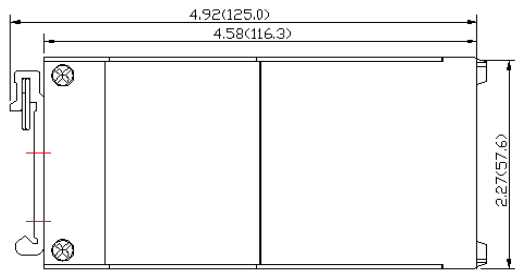
UVTW30 Series (U-Channel Version)



UVTW30 Series (U-Channel Version) with DIN Rail Mounting Clip Option



DVTW30 Series – DIN Rail Chassis (Case protection meets IP20 / IEC60529)

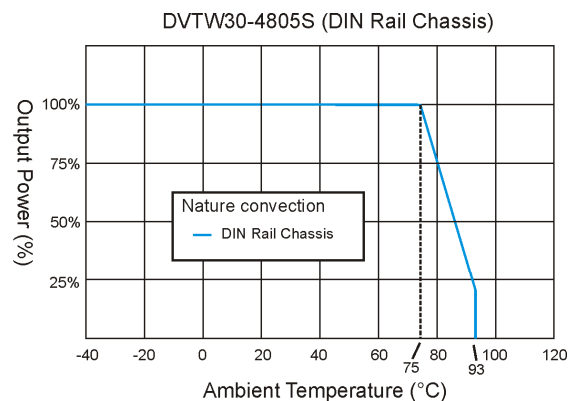
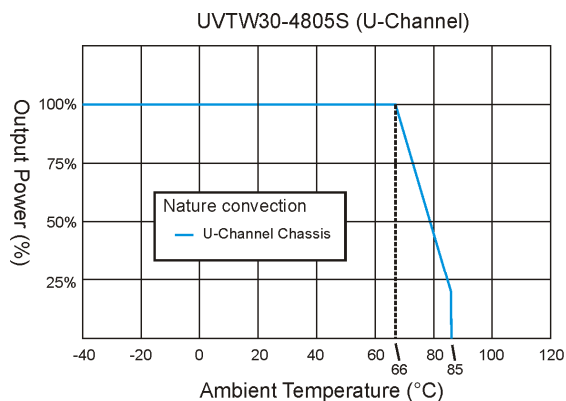


Options DVTW30-Series (DIN Rail Chassis):
Suffix N Remote On/Off - Negative Logic

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.

V i t e c POWER GmbH

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