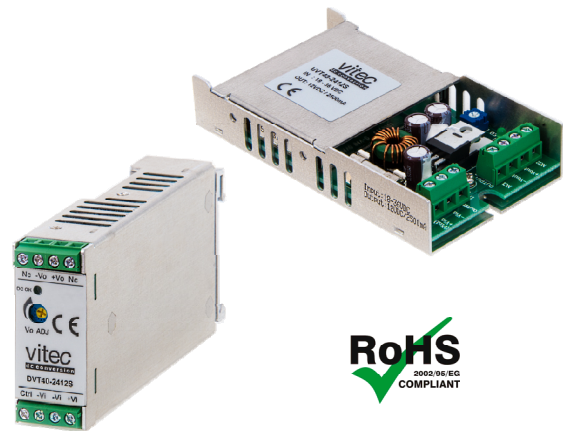


FEATURES AND APPLICATIONS

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



GENERAL DESCRIPTION

The UVT60 and DVT60 series is a family of 60 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 (UVT60), or DIN rail chassis (DVT60; 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 24 and 48 Vdc offering output voltage levels of 3.3, 5, 12, 15 and 24 Vdc. Cooling is by free-air convention.

2:1 Input – Single Outputs

Type Number	Input Voltage [Vdc]	Output Voltage [Vdc]	Output Current Full load [A]	Input Current No load DVT60 [mA] 24/48	Input Current No load UVT60 [mA] 24/48	Output Ripple & Noise [mVpp]	Efficiency [%]	max. Cap. Load [µF]
xVT60-yy3R3S	24 48	3.3	14	104/102	101/81	75	87	36000
xVT60-yy05S		5.0	12	134/94	153/102	75	88	20400
xVT60-yy12S		12.0	5	59/37	153/102	100	89	3550
xVT60-yy15S		15.0	4	74/42	153/102	100	89	2300
xVT60-yy24S		24.0	2.5	76/45	153/102	130	88	885

x ... Chassis:

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

Options UVT60-Series (U-Channel Chassis):

- Suffix N Remote On/Off - Negative Logic
- Suffix -DR UVT60 with DIN rail clip for DIN35

yy ... nominal input voltage:

- xVT60-Series: 24 (18 – 36 Vdc)
- 48 (36 – 75 Vdc)

Options DVT60-Series (DIN Rail Chassis):

- Suffix N Remote On/Off - Negative Logic

- e.g. UVT60-1205S (U-Channel Chassis, Input 12 Vdc, Output 5 Vdc)
 UVT60-483R3S-DR (U-Channel Chassis, Input 48 Vdc, Output 3.3 Vdc, DIN rail clip option)
 DVT60-2412S (DIN rail Chassis, 24 Vdc input, 12 Vdc output)

ELECTRICAL SPECIFICATIONS

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

Input Specifications

Input Voltage Range	24V: 18 to 36 Vdc	
	48V: 36 to 75 Vdc	
Input Fuse (slow blow)	24V: 8 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)	
	20 mS (Remote On/Off)	
Start-Up/Shutdown Voltage	Startup	Shutdown
	24V: 17.5 Vdc	15 Vdc
	48V: 34.5 Vdc	32 Vdc

Output Specifications

Output Power	60 Watts, max.
Output Voltage Accuracy	±1.0%
	±1.5% (3.3 Vout)
Output Voltage Trim	±10%
	-10% ~ +20% (24 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	±1.5%
	(Min. load to full load) ±2.5% (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: 3.7 to 5.4 Vdc
	5 Vout: 5.6 to 7.0 Vdc
	12 Vout: 13.8 to 17.5 Vdc
	15 Vout: 16.8 to 20.5 Vdc
	24 Vout: 30.0 to 33.0 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 +1 mA, max.
Remote off input current	4 mA

Physical Characteristics

Dimensions	U-channel: 101.6 x 57.2 x 19.5 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: 122 g
	DIN rail mounting: 182 g

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	IEC/EN/UL60950-1 (designed to meet)

Environmental Specification

Operating Temperature	
Case mounting:	-40°C to +54°C without Derating
	+54°C to 85°C with Derating
DIN rail mounting:	-40°C to +55°C without Derating
	+55°C to 85°C with Derating
Storage Temperature	-40°C to +105°C
Over Temp. Protection	+120°C (DC/DC Converter Case)
Cooling	Free-air Convection
MTBF	MIL-HDBK-217F: 1.096 x 10 ⁵ Hrs *
	Bellcore TR-NWT-000332: 8.763 x 10 ⁵ 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!

UVT60 DVT60

SERIES

60 Watt DC/DC Converter
Single Output
1500 Vdc Isolation

vitec
dc conversion

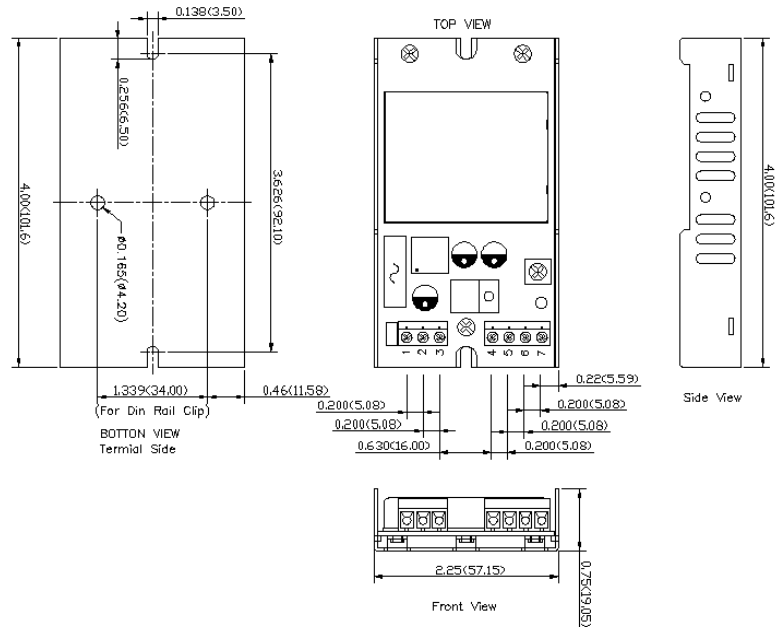
Drawings & PIN Connections

UVT60 Series (U-Channel Version)

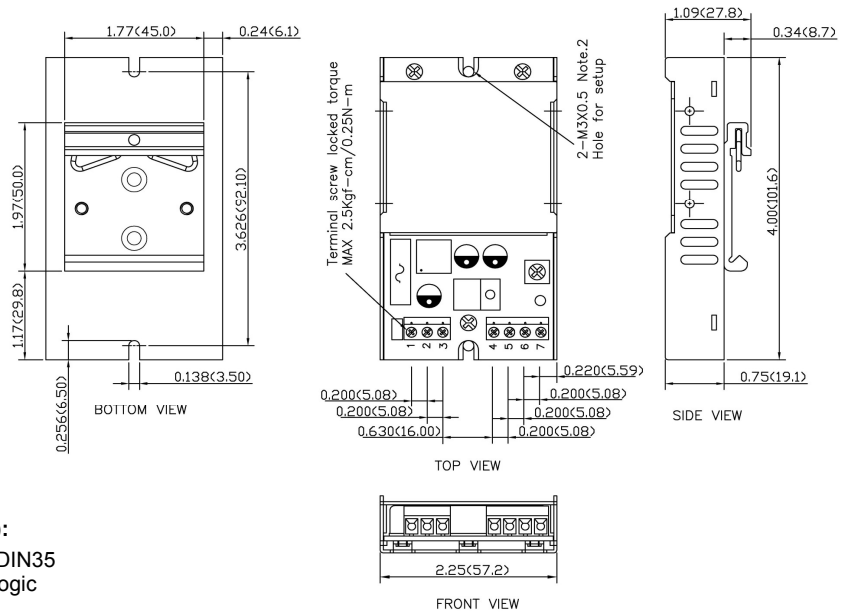
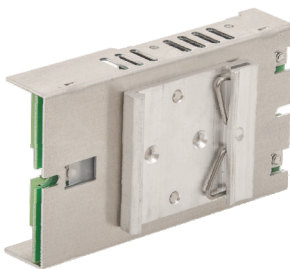


PIN Connections

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



UVT60 Series (U-Channel Version) with DIN Rail Mounting Clip Option



Options UVT60-Series (U-Channel Chassis):

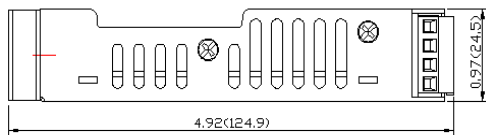
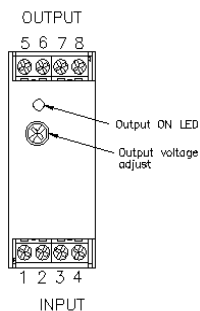
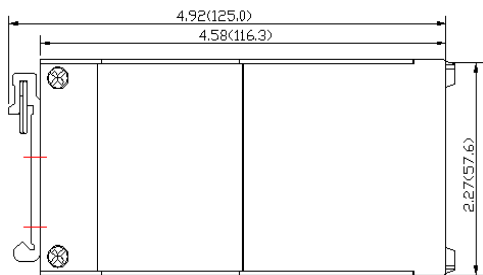
Suffix -DR UVT60 with DIN rail clip for DIN35
Suffix N Remote On/Off - Negative Logic

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www.vitecpower.com

DVT60 Series – DIN Rail Chassis (Case protection meets IP20 / IEC60529)

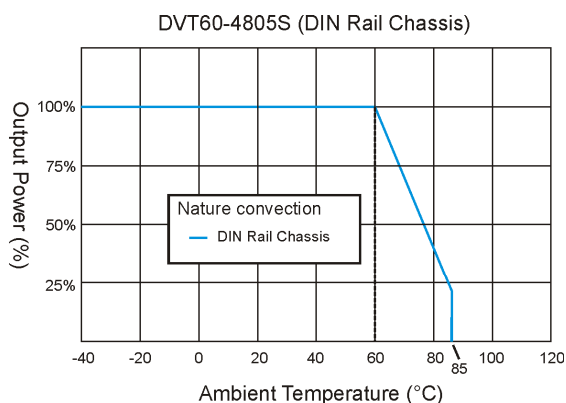
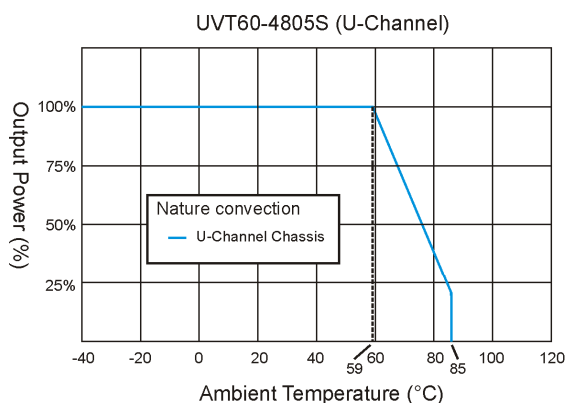


Options DVT60-Series (DIN Rail Chassis):
Suffix N Remote On/Off - Negative Logic

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.