DTE10 series

XP Power

10W

DC-DC power supplies

Available in two wide (4:1) input ranges for nominal 12/24VDC & 24/48VDC, the DTE10 series of encapsulated 6W DC-DC converters are chassis mount as standard or can be ordered with a DIN rail mount (suffix -D).

They have screw terminals for ease of connection and an LED provides clear 'power good' indication. Remote On/Off is standard and when inhibited the standby current is just 2.5mA. Isolation is 3kVDC input/output providing excellent separation between supply and load. The modules are fully protected against input undervoltage, short circuit and overload conditions. These features, along with a rugged design and wide operating temperature range make the DTE10 series suitable for a variety of commercial and industrial electronics applications.



Features

- Regulated single & dual outputs
- 4:1 input range
- Single outputs 5.1 to 48VDC
- Dual outputs ±12 to ±24VDC
- Fully encapsulated chassis mount
- DIN rail mount option
- 3.0kVDC isolation
- EN55032 Class A with no external components
- Remote On/Off
- -40°C to +105°C operating temperature
- Full power to +80°C
- 3 year warranty

Applications

Industrial

Instrumentation

Process control

Robotics

Technology

Dimensions

79.0 x 34.0 x 22.0mm (3.11" x 1.34" x 0.87")

Documentation

For further information click the link or scan the code

→ xppower.com

Models & ratings

Model number[3]	Input voltage	Output voltage	Output current	Input current[1,4]		Maximum capacitive load[5]	Efficiency[2]
				No load	Full load		
DTE1024S5V1	24VDC (9-36VDC)	5.1VDC	2.00A	30mA	506mA	1000µF	84%
DTE1024S12		12.0VDC	0.833A		484mA	470µF	86%
DTE1024S15		15.0VDC	0.666A		484mA	330µF	86%
DTE1024S24		24.0VDC	0.418A		484mA	150µF	86%
DTE1024S48		48.0VDC	0.208A		495mA	68µF	84%
DTE1024D12		±12.0VDC	±0.416A		484mA	±220µF	86%
DTE1024D15		±15.0VDC	±0.333A		484mA	±150µF	86%
DTE1024D24		±24.0VDC	±0.208A		489mA	±68µF	85%

Continued on pg2.

Notes:

1. Input current measured at nominal input voltage.
2. Typical values.
3. For optional version fitted with DIN Clip add suffix '-D' e.g. DTE1024S24-D. DIN Rail mounting clip is available as a separate item, order code DTE10 DIN CLIP.
4. Input current is typically 2.5mA at nominal input voltage when output is remotely turned off.
5. Per output.

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Models & ratings

Model number[3]	Input voltage	Output voltage	Output current	Input Current[1,4]		Maximum capacitive load[5]	Typical efficiency[2]
				No load	Full load		
DTE1048S5V1	48VDC (18-75VDC)	5.1VDC	2.00A	20mA	253mA	1000µF	84%
DTE1048S12		12.0VDC	0.833A		242mA	470µF	86%
DTE1048S15		15.0VDC	0.666A		242mA	330µF	86%
DTE1048S24		24.0VDC	0.418A		242mA	150µF	86%
DTE1048S48		48.0VDC	0.208A		248mA	68µF	84%
DTE1048D12		±12.0VDC	±0.416A		242mA	±220µF	86%
DTE1048D15		±15.0VDC	±0.333A		242mA	±150µF	86%
DTE1048D24		±24.0V	±0.208A		245mA	±68µF	85%

Notes:

1. Input current measured at nominal input voltage.
2. Typical values.
3. For optional version fitted with DIN Clip add suffix '-D' e.g. DTE1024S24-D. DIN Rail mounting clip is available as a separate item, order code DTE10 DIN CLIP.
4. Input current is typically 2.5mA at nominal input voltage when output is remotely turned off.
5. Per output.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range	9		36	VDC	12VDC & 24VDC nominal
	18		75		24VDC & 48VDC nominal
Input current	See models and ratings table				
External fuse required	2A/1A timelag 24VDC/48VDC nominal				
Input filter	Pi type				
Undervoltage lockout	On at >9VDC, Off <8.0VDC				DTE1024 models
	On at >18VDC, Off <16.0VDC				DTE1048 models
Input surge			50	VDC	DTE1024 models for 1s
			100		DTE1048 models for 1s
Remote on/off	On: Logic High (3.5-12VDC) or open circuit				
	Off: Logic Low (<1.2VDC) or short pin 1 to pin 2				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	5.1		48	VDC	See models and ratings table
Initial set accuracy			±2	%	At full load
Minimum load	No minimum load required				
Start Up delay			60	ms	At nominal input voltage
Line regulation			±0.5	%	From minimum to maximum input voltage
Load regulation			±0.5	%	0-100% load
Cross regulation			±5	%	On dual output models with one output at 25% load and the other varied from 10% to 100% load
Transient response			±5	% deviation	Recovery to within 1% in <500µs for a 25% load change
Ripple & noise		90		mV pk-pk	5VDC-15VDC output models, 20MHz bandwidth
		180			24VDC, 48VDC output models, 20MHz bandwidth
Short circuit protection	Trip & restart (hiccup mode), auto recovery				
Overload protection		150		%	Trip & restart (hiccup mode)
Temperature coefficient			±0.02	%/°C	

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General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		86		%	See models and ratings table
Isolation	3000			VDC	For 60s functional
Isolation resistance	1000			MΩ	At 500VDC
Input to output capacitance		2200		pF	At 100KHz, 1VDC
Switching frequency		330		kHz	
Power density			0.23 (3.8)	W/cm^3 (W/in^3)	
Mean time between failure	4100			khrs	MIL-HDBK-217F, +25°C GB
Case material	Epoxy potted in plastic case, UL94V-0				
Weight		66.0 (0.145)		g (lbs)	DIN rail option add 109 (0.240)

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+105	°C	See derating curve
Storage temperature	-50		+125	°C	
Case temperature			+105	°C	
Thermal impendance		4.3		°C/W	Natural convection, 20LFM case to air
Humidity	5		95	%RH	Non-condensing
Coolling	Natural convection				
Altitude			5000	m	Operating
Shock and vibration	Tested to EN60068-2				

Emissions - EMC

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032	Level A	
Radiated	EN55032	Level A	

Emissions - Immunity

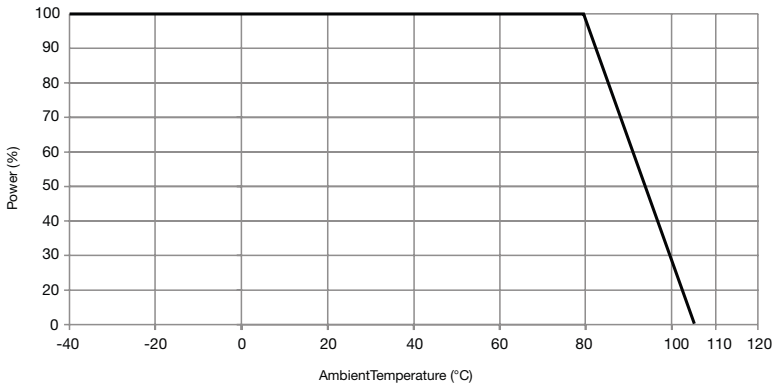
Phenomenon	Standard	Test level	Criteria	Notes & conditions
Immunity	EN55035			
ESD immunity	EN61000-4-2	±6kV contact, 8kV air discharge	A	
Radiated immunity	EN61000-4-3	10V/m	A	
EFT/burst	EN61000-4-4	±2kV	A	
Surge	EN61000-4-5	±2kV	A	
Conducted	EN61000-4-6	10Vrms	A	
Magnetic fields	EN61000-4-8	1000A/m	A	

Safety approvals

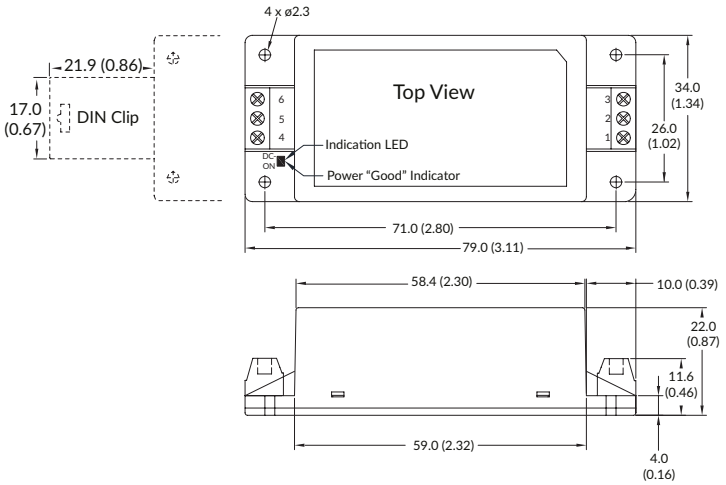
Certification	Standard	Notes & conditions
UL	UL60950-1/UL62368-1	
CSA	CAN/CSA-C22.2 No. 62368-1	
CB	IEC62368-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Application notes

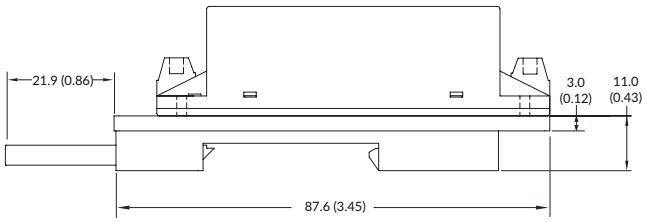
Derating curve for convection cooling



Mechanical details



-D version



Pin	Single output	Dual output
1	Remote On/Off	Remote On/Off
2	-Vin	-Vin
3	+Vin	+Vin
4	-Vout	-Vout
5	No Connection	Common
6	+Vout	+Vout

Notes:

1. All dimensions in mm (inches).
2. Weight: 66g (0.145lbs) approx, -D version: 180g (0.240lbs) approx
3. Terminal wire size 0.240mm² max
4. Screw terminal torque 0.5 to 0.7Nm (4.5 to 6.2lb-in)
5. Case tolerance: ±0.5 (±0.02)