

Features

- Ultra wide 4 : 1 Input Range
- High Power Density
- Indefinite Short-Circuit Protection
- I/O-Isolation 1500 VDC
- Input Filter meets EN 55022, Class A and FCC, Level A without external Components
- Remote on/off
- Adjustable Output
- Industry Standard Pinout
- Shielded Metal Case with insulated Baseplate
- 2 Year Product Warranty



The TEN 20WI is a new high efficiency isolated 20 Watt converter series with industry standard footprint. They feature a very wide input voltage ranges of 9 – 36 VDC and 18 – 75 VDC. Overload and overvoltage protection as well as remote of/off are included as standard. Built-in filters for both input and output minimizes the need of external filtering. The TEN 20WI series is targeted specially at mobile systems, telecommunication, industrial and distributed power applications where a 4:1 input voltage range is required.

Models

Ordercode	Input voltage range	Output voltage	Output current max.	Efficiency typ.
TEN 20-2411WI	9 – 36 VDC	5 VDC	4'000 mA	78 %
TEN 20-2412WI		12 VDC	1'670 mA	80 %
TEN 20-2413WI		15 VDC	1'330 mA	80 %
TEN 20-2421WI		± 5 VDC	± 2'000 mA	79 %
TEN 20-2422WI		± 12 VDC	± 835 mA	81 %
TEN 20-2423WI		± 15 VDC	± 665 mA	82 %
TEN 20-4811WI	18 – 75 VDC	5 VDC	4'000 mA	80 %
TEN 20-4812WI		12 VDC	1'670 mA	81 %
TEN 20-4813WI		15 VDC	1'330 mA	81 %
TEN 20-4821WI		± 5 VDC	± 2'000 mA	79 %
TEN 20-4822WI		± 12 VDC	± 835 mA	83 %
TEN 20-4823WI		± 15 VDC	± 665 mA	84 %

Input Specifications

Input current no load /full load	12 Vin models: 24 Vin models: 48 Vin models:	40 mA typ. 35 mA typ. 25 mA typ.
Input current (full load)	24 Vin models: 48 Vin models:	1000 mA typ. 500 mA typ.
Surge voltage (100 msec. max.)	24 Vin models: 48 Vin models:	50 V max.. 100 V max.
Conducted noise (input)	EN 55022 level A, FCC part 15, level A	

Output Specifications

Voltage set accuracy	± 2 %	
Output voltage adjustment	± 10 %	
Regulation	– Input variation Vin min. to Vin max. – Load variation 10 – 100 % – single output models – dual output models balanced load – dual output models unbalanced load	± 0.5 % max. ± 0.5 % max. ± 3 % max. ± 5 % max.
Ripple and noise (20 MHz Bandwidth)	single output models: dual output models:	75 mVpk-pk max. 100 mVpk-pk max.
Temperature coefficient	± 0.02 % / °C	
Output current limitation	105% – 145% of Iout max., foldback	
Short circuit protection	Indefinite (automatic recovery)	
Over voltage protection	5 Vout models: 12 Vout models: 15 Vout models:	6.2 V 15 V 18 V
Capacitive load	5 Vout models / ± 5 Vout models: 12 Vout models / ±12 Vout models: 15 Vout models / ±15 Vout models:	6'800 µF max. / ± 3'400 µF max. 2'200 µF max. / ± 680 µF max. 755 µF max. / ± 450 µF max.

General Specifications

Temperature ranges	– Operating – Case temperature – Storage	– 25 °C ... + 70 °C + 100 °C max. – 55 °C ... + 105 °C
Derating	2.5 % / °C above 60°C	
Humidity (non condensing)	95 % rel H max.	
Reliability, calculated MTBF (MIL-HDBK-217 E)	> 440'000 h @ + 25°C	
Isolation voltage	– Input / Output	1'500 VDC
Isolation capacity	– Input / Output	300 pF max.
Isolation resistance	– Input / Output (500 VDC)	> 1'000 M Ohm
Switching frequency (fixed)	300 kHz typ. (Pulse width modulation PWM)	
Remote ON / OFF (optional):	ON: OFF: OFF idle current:	3.5 ... 12 VDC or open circuit. 0 ... 1.2 VDC or short circuit pin 4 and pin 2 16 mA typ.

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

General Specifications

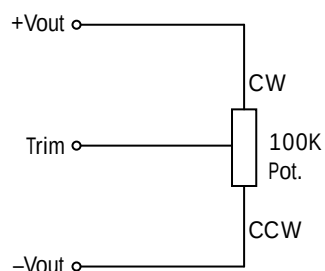
Safety standards	UL 1950, EN 60950, IEC 60950 Compliance up to 60 VDC input voltage(SELV limit)
Safety approvals	UL / cUL File E 188913

Physical Specifications

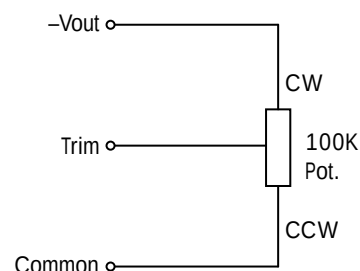
Case material	Copper nickel plated
Baseplate	Plastik none conductive
Potting material	flammability to UL 94V-0
Weight	50 g (1.2 oz)
Soldering temperature	max. 250 °C / 10 sec.

Output Voltage Adjustment

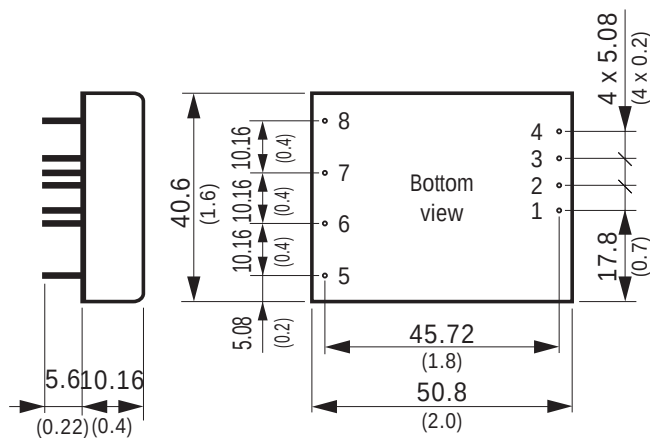
Single output models



Dual output models



All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Outline Dimensions mm (inches)


Pin diameter $\varnothing 1.0 \pm 0.05$ (0.039 ± 0.002)

Pin-Out		
Pin	Single	Dual
1	+Vin (Vcc)	+Vin (Vcc)
2	-Vin (GND)	-Vin (GND)
3	No pin	No pin
4	Remote on/off	Remote on/off
5	No pin	+Vout
6	+Vout	Common
7	-Vout	-Vout
8	Trim	Trim

Specifications can be changed without notice

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