

AC/DC Converter

ZTR Series

**Single output voltage
voltage and current regulated
100% peak overload for 60 sec
continuous overload up to 100%**

Output Power 600W; maximum power 1200W
Wide Range AC Input
DC Input
Primary switched
Power Factor corrected
High Efficiency
For all kinds of Industrial Applications



With the ZTR series Zentro-Elektrik presents a totally new design of AC/DC switched mode power supplies. The 19" rack mountable unit is fully natural convection cooled and can be overloaded by 100% for at least 60 seconds. Because of its high efficiency it is of very compact size and allows to fit 3 x 600W (peak 1200W) units in 1 full 3U 19" rack. The output voltage regulation for input line changes and the regulation for load changes are excellent. The outstanding feature of this unit is its peak overload possibility as well as its continuous overload ability. The output voltage & output current limit till short circuit, is user adjustable for a wide range, allowing a wide range of applications, including its use as a battery Charger. Further up to three converters can be paralleled for getting higher power or redundancy.

Technical Data

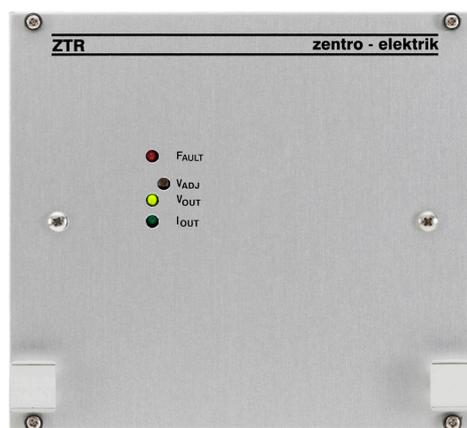
DC output nominal	24 V DC	48V DC
Input		
Input Voltage Range	100...240V AC Nominal: 230V AC, 47...63Hz converter turn off for at least 1min up to 265V converter not damaged	
DC Input Voltage	120 ... 350V DC	
Inrush current limiting	active inrush limiting with inrush <5A (PTC)	
Power Factor	as per EN 61000-3-2 class A approx. 0,98 at full load and nom. input	
Hold up time	better than 20ms at full load and 100VAC input	
Standby Power	less than 1.3W	
Output		
DC output voltage	24VDC nom. adjustable +20VDC ...+30VDC with potentiometer or control signal	48VDC nom. adjustable +40VDC ...+60VDC with potentiometer or control signal
Output current	25A at 24V	12,5A at 48V
Minimum load	0,1A	
Maximum load	25A at 24V	12,5A at 48V
Maximum Peak load	40A for about 60sec with output being within +/-10% regulation of set point	20A for about 60sec with output being within +/-10% regulation of set point
Efficiency	> 90% at full load and nom. input and full output load	
Transient Response (10% - 90%; 90% - 10%)	less than +/- 5%	
Regulation		
Line regulation	better than 0.1% V_{out}	
Load regulation (0% ...100% load change)	better than 1% V_{out}	
Dynamic response	< 2msec	
Ripple and noise	Ripple: better than 50mV at full output load and room temperature; Noise: < 1% V_{out}	Ripple: better than 100mV at full output load and room temperature; Noise: < 1% V_{out}
Temperature coefficient	0.02% / °K	
Protection		
Overload protection	fold back	
Over voltage protection	beyond 33V shut off and recycling the input power, turn on the converter again	beyond 64V shut off and recycling the input power, turn on the converter again
Voltage control	with signal relay	
Thermal protection	turn off, auto recover	
Environmental Conditions		
Operating temperature	-10°C...+70°C, derating beyond +50°C; 2,5%/°K	
Storage temperature	-20°C...+85°C	
Cooling	natural Convection cooling	
Switching Frequency	66kHz	

Nominale Ausgangsspannung	24 V DC	48V DC
Safety		
Electrical safety	EN60950-1	
Isolation	prim - sec: 3,0kVAC prim - ground (PE): 1,5kVAC sec. - ground (PE): 700VAC for 1min.	
EMC		
Immunity	Fast transient: Surge: Conducted RF: Voltage dips/interruptions: Input Flicker: Radiated RF: ESD: Magnetic field:	as per EN61000-4-4 class B as per EN61000-4-5 class B as per EN61000-4-6 class A as per EN61000-4-11 class A for 70%/40%, class B for 5% as per EN61000-3-3 as per EN61000-4-3 class A as per EN61000-4-2 class B as per EN61000-4-8 class B
Operating and Control		
Parallel operation	with load sharing, closed JMP1	
Remote Sense	Remote sense compensation, 0.25V	
Indications	LED: output voltage >20A LED: output overload >25A at 24V or 20A at 30V LED: over temperature or output over voltage	LED: output voltage >40A LED: output overload >12,5A at 48V or 10A at 60V LED: over temperature or output over voltage
Alarms	signal relay NO/NC for output shut off due to over temperature, output over voltage	
Alarm signalisation	output voltage >20V output overload >25A at 24V or 20A at 30V output shut off due to over temperature, output over voltage	output voltage >40V output overload >12,5A at 48V or 10A at 60V output shut off due to over temperature, output over voltage
Output voltage control signalisation Output current control signalisation Temperature sense Adjustment	22 ... 30V	42 ... 60V
Start up time	2.5sec	
Output rise time	250ms	
Connectors		
Input and Output	H15 connector as per DIN41612	
Physical Specification		
IP20 Humidity	5%...95% RH non condensing	
Weight	2.850 kg	
Dimensions	137,8(28T) x 105(3U) x 228,5 mm (w x h x l)	

Pin assignment

H15-connector	ZTR
z4	- V _{SENSE}
d6	+V _{SENSE}
z8	+ V _{out}
d10	+ V _{out}
z12	- V _{out}
d14	- V _{out}
z16	
d18	Relay NO
z20	Relay COM
d22	Relay NC
z24	
d26	L
z28	
d30	N
z32	⊕

Front View



Options:

- Female plug H15
- 19" front-panel, colour RAL 7032
- Sub front-panel
- colour Al anodized
- colour RAL 7032
- other colours consult factory
- Parallel operation with closed JMP1
- mounting brackets to assemble for stand-alone model
- horizontal
- vertical