

- Compact metal case with screw terminal block
- Universal input 90-264 VAC
- I/O reinforced isolation 3000 VAC
- Internal EN 55032 class B filter
- High efficiency up to 86%
- Operating temperature range  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Compliance to EN 61000-3-2
- Short circuit, overvoltage and overload protection
- IEC/EN/UL 62368-1 safety approvals
- 3-year product warranty



The TXN 35 is a cost efficient, metal enclosed AC/DC power supplies series and is designed for industrial applications. With a low-profile metal case and screw terminal block connection, they are easy to install in any equipment. The TXN 35 power supplies are completely convection cooled and internal EMC filter, high IO-isolation and wide temperature range qualify them for numerous industrial applications. All models within the TXN 35 series have universal input (90-264 VAC) and comply with the latest industrial standard IEC/EN/UL 62368-1, European EMC standards and the Low Voltage Directive (LVD).

Models				
Order Code	Output Power max.	Output Voltage nom. (adjustable)	Output Current max.	Efficiency typ.
TXN 35-103	23 W	3.3 VDC (3.0 - 3.6 VDC)	7'000 mA	81 %
TXN 35-105		5 VDC (4.5 - 5.5 VDC)	7'000 mA	82 %
TXN 35-112		12 VDC (10.8 - 13.2 VDC)	3'000 mA	84 %
TXN 35-115		15 VDC (13.5 - 16.5 VDC)	2'400 mA	85 %
TXN 35-124		24 VDC (21.6 - 26.4 VDC)	1'500 mA	85 %
TXN 35-148	38 W	48 VDC (43.2 - 52.8 VDC)	750 mA	86 %

Options	
on demand (backorder with MOQ non stocking item)	- Optional model with 36 VDC and 1'000 mA

### Input Specifications

Input Voltage	- AC Range	Operational Range: <b>90 - 264 VAC</b> (Full Range) Rated Range: <b>100 - 240 VAC</b> (Full Range)
	- DC Range	Operational Range: <b>140 - 340 VDC</b> (Designed for, no certification) Polarity: <b>+DC: L / -DC: N</b>
Input Frequency		Operational Range: <b>47 - 63 Hz</b> Certified: <b>50/60 Hz</b>
Power Consumption	- No load & Vin = 230 VAC	<b>1 W max.</b>
	- No load & Vin = 115 VAC	<b>1 W max.</b>
Input Current	- Full load & Vin = 230 VAC	<b>500 mA max.</b>
	- Full load & Vin = 115 VAC	<b>700 mA max.</b>
Input Inrush Current	- At 230 VAC	<b>60 A max.</b>
	- At 115 VAC	<b>30 A max.</b>
Input Protection		<b>T 3.15 A / 250 VAC</b> (Internal Fuse in L)
Recommended Input Fuse		(The need of an external fuse has to be assessed in the final application.)

### Output Specifications

Output Voltage Adjustment		<b>±10%</b> (By trim potentiometer) Output power must not exceed rated power!
Voltage Set Accuracy		<b>±1% max.</b>
Regulation	- Input Variation (Vmin - Vmax)	<b>0.5% max.</b>
	- Load Variation (10 - 90%)	<b>2% max.</b> (3.3 & 5 Vout models) <b>1% max.</b> (other models)
Ripple and Noise (20 MHz Bandwidth)	3.3 VDC model:	<b>100 mVp-p max.</b> (w/ 0.1 µF    47 µF)
	5 VDC model:	<b>100 mVp-p max.</b> (w/ 0.1 µF    47 µF)
	12 VDC model:	<b>120 mVp-p max.</b> (w/ 0.1 µF    47 µF)
	15 VDC model:	<b>150 mVp-p max.</b> (w/ 0.1 µF    47 µF)
	24 VDC model:	<b>150 mVp-p max.</b> (w/ 0.1 µF    47 µF)
	36 VDC model:	<b>200 mVp-p max.</b> (w/ 0.1 µF    47 µF)
Capacitive Load	3.3 VDC model:	<b>62'100 µF max.</b>
	5 VDC model:	<b>62'100 µF max.</b>
	12 VDC model:	<b>19'800 µF max.</b>
	15 VDC model:	<b>6'100 µF max.</b>
	24 VDC model:	<b>2'000 µF max.</b>
	36 VDC model:	<b>1'100 µF max.</b>
48 VDC model:	<b>200 µF max.</b>	
Minimum Load		<b>Not required</b>
Temperature Coefficient		<b>±0.03 %/K max.</b>
Hold-up Time	- At 230 VAC	<b>10 ms min.</b>
	- At 115 VAC	<b>10 ms min.</b>
Start-up Time	- At 230 VAC	<b>1.5 s max.</b>
	- At 115 VAC	<b>1.5 s max.</b>
Start-up Overshoot Voltage		<b>2.5% max.</b>
Short Circuit Protection		<b>Continuous, Automatic recovery</b>
Output Current Limitation		<b>105 - 160% of Iout max.</b>
Overvoltage Protection		<b>110 - 135% of Vout nom.</b>

### Safety Specifications

Standards	- IT / Multimedia Equipment	<b>EN 62368-1</b> <b>IEC 62368-1</b> <b>UL 62368-1</b>
	- Certification Documents	<a href="http://www.tracopower.com/overview/txn35">www.tracopower.com/overview/txn35</a>

All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

Protection Class	Class I (Prepared): Connection to PE
	See application note: <a href="http://www.tracopower.com/info/protection-class.pdf">www.tracopower.com/info/protection-class.pdf</a>
Pollution Degree	PD 2
Over Voltage Category	OVC II

### EMC Specifications

EMI (Emissions)	- Conducted Emissions	EN 55032 class B (internal filter)
	- Radiated Emissions	EN 55032 class B (internal filter) FCC 47 Part 15 class B (internal filter)
	- Harmonic Current Emissions	EN 61000-3-2, class A
	- Voltage Fluctuations & Flicker	EN 61000-3-3
EMS (Immunity)	- Electrostatic Discharge	Air: EN 55035 (Multimedia) EN 61000-4-2, ±8 kV, perf. criteria B
		Contact: EN 61000-4-2, ±4 kV, perf. criteria B
	- RF Electromagnetic Field	EN 61000-4-3, 10 V/m, perf. criteria B
	- EFT (Burst) / Surge	EN 61000-4-4, ±2 kV, perf. criteria B
		L to L: EN 61000-4-5, ±1 kV, perf. criteria B
		L to PE: EN 61000-4-5, ±2 kV, perf. criteria B
	- Conducted RF Disturbances	EN 61000-4-6, 10 Vrms, perf. criteria B
	- PF Magnetic Field	Continuous: EN 61000-4-8, 30 A/m, perf. criteria A
	- Voltage Dips & Interruptions	230 VAC / 50 Hz: EN 61000-4-11 30%, 25 periods, perf. criteria C >95%, 0.5 periods, perf. criteria B >95%, 250 periods, perf. criteria C
	EMC / Environmental	- Certification Documents

### General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature	-30°C to +70°C
	- Storage Temperature	-40°C to +85°C
Power Derating	- High Temperature	2 %/K above 50°C (average)
	- Low Input Voltage	2 %/V below 100 VAC
		See application note: <a href="http://www.tracopower.com/overview/txn35">www.tracopower.com/overview/txn35</a>
Cooling System		Natural convection (20 LFM)
Altitude During Operation		5'000 m max.
Regulator Topology		Flyback Converter
Switching Frequency		65 kHz typ. (PWM)
Insulation System		Reinforced Insulation
Isolation Test Voltage	- Input to Output, 60 s	4'000 VDC
	- Input to Case or PE, 60 s	2'500 VDC
	- Output to Case or PE, 60 s	750 VDC
Creepage	- Input to Output	7.3 mm min.
	- Input to Case or PE	3.2 mm min.
	- Output to Case or PE	2 mm min.
Clearance	- Input to Output	6.1 mm min.
	- Input to Case or PE	3.2 mm min.
	- Output to Case or PE	2 mm min.
Isolation Resistance	- Input to Output, 500 VDC	100 MΩ min.
Isolation Capacitance	- Input to Output, 100 kHz, 1 V	1'000 pF typ.
Leakage Current (at 240 VAC / 60 Hz)	- Earth Leakage Current	3.5 mA max.
Reliability	- Calculated MTBF	525'000 h (MIL-HDBK-217F, ground benign)
Washing Process		Not allowed
Environment	- Vibration	2 g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle
	- Mechanical Shock	20 g, 3 axis, 3 shocks

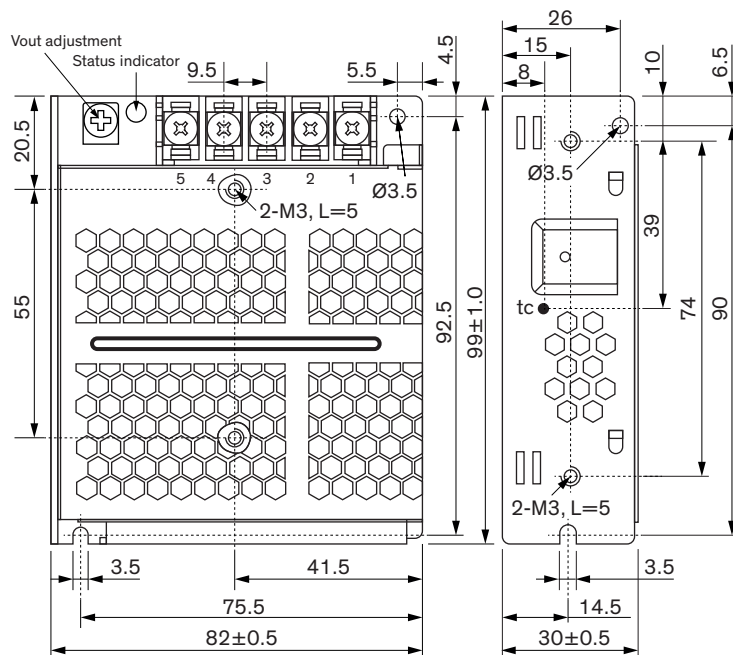
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Case Ingress Protection	IP 20 (acc. IEC 60529)
Housing Material	Aluminum (Chassis)
Housing Type	Metal Case
Mounting Type	Chassis Mount
Connection Type	Screw Terminal
Weight	200 g
Status Indicator	Indicated by green LED
Environmental Compliance	- REACH Declaration <a href="http://www.tracopower.com/info/reach-declaration.pdf">www.tracopower.com/info/reach-declaration.pdf</a> REACH SVHC list compliant REACH Annex XVII compliant - RoHS Declaration <a href="http://www.tracopower.com/info/rohs-declaration.pdf">www.tracopower.com/info/rohs-declaration.pdf</a> Exemptions: 7(a), 7(c)-I (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule.) - SCIP Reference Number <a href="http://dedc2f3a-63a6-4a0f-a205-369ffca0c1ab">dedc2f3a-63a6-4a0f-a205-369ffca0c1ab</a>

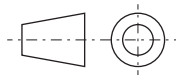
### Additional Information

Supporting Documents	<a href="http://www.tracopower.com/overview/txn35">www.tracopower.com/overview/txn35</a>
Frequently Asked Questions	<a href="http://www.tracopower.com/glossary-faq">www.tracopower.com/glossary-faq</a>
Glossary	<a href="http://www.tracopower.com/info/glossary.pdf">www.tracopower.com/info/glossary.pdf</a>

### Outline Dimensions



Dimensions in mm  
 Terminal screw tightening torque: Max. 1.0 Nm  
 Mounting screw tightening torque: Max. 0.8 Nm  
 Mounting screw penetration depth: Max. 3 mm  
 Mounting screw length: Max. 5 mm



Pinout	
Pin	Function
1	AC (L)
2	AC (N)
3	PE
4	-Vout
5	+Vout

**Wiring:** Conductor cross section 0.5 .. 3 mm<sup>2</sup>