

- Rugged isolated power supplies for harsh outdoor environments
- Dust, water (incl. salt water), ice and oil resistant enclosure
- IP67 and NEMA 4X rated
- Connection via waterproof I/O plug-connectors
- Shock & vibration proof construction
- Operating temp. range  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- DC-OK indicator, voltage adjust
- Low ripple and noise
- Class I, zone 2 approval incl. ATEX certification (tested in accordance to IECEx)
- 3-year product warranty



UL 508 IEC 60950-1

These isolated power supplies have been designed particularly for applications in extreme environments. The rugged die-cast aluminium housing is water, ice, oil and dust resistant in compliance with IP67 and NEMA 4X standards. The metal case works as an efficient heatsink allowing full power operation at up to  $+60^{\circ}\text{C}$  ambient temperature (no fan required). With a shock and vibration proof construction the power supplies can be mounted directly on a machine. An International safety approval package includes CB scheme as well as ATEX certification for applications in hazardous locations i.e. in chemical or food processing industries. The TEX series offers a cost efficient solution for de-centralized power systems in industrial automation applications with critical environment conditions.

Models				
Order Code	Output Power max.	Output Voltage nom. (adjustable)	Output Current max.	Efficiency typ.
TEX 120-112	96 W	12 VDC (12.0 - 15.0 VDC)	8'000 mA	87 %
TEX 120-124	120 W	24 VDC (24.0 - 28.0 VDC)	5'000 mA	87 %

Options	
TEX-C11	- Optional Cable : Input cable, 2 m: <a href="http://www.tracopower.com/products/tex-c11.pdf">www.tracopower.com/products/tex-c11.pdf</a>
TEX-C21	- Optional Cable : Output cable, 2 m: <a href="http://www.tracopower.com/products/tex-c21.pdf">www.tracopower.com/products/tex-c21.pdf</a>
TEX-P11	- Optional Connector Binder 4-pin female plug 99-4222-14-04: <a href="http://www.tracopower.com/products/tex-p11.pdf">www.tracopower.com/products/tex-p11.pdf</a>
TEX-P21	- Optional Connector Binder 7-pin male plug 99-4225-160-07: <a href="http://www.tracopower.com/products/tex-p21.pdf">www.tracopower.com/products/tex-p21.pdf</a>

### Input Specifications

Input Voltage	- AC Range	85 - 264 VAC (Full Range)
	- DC Range	85 - 375 VDC (Designed for, no certification)
Input Frequency		47 - 63 Hz
Input Current	- Full Load & Vin = 230 VAC	1'000 mA max.
	- Full Load & Vin = 115 VAC	2'000 mA max.
Power Consumption	- At no load	4'250 mW max.
Input Inrush Current	- At 230 VAC	25 A max.
	- At 115 VAC	13 A max.
Recommended Input Fuse		5000 mA (slow blow) (The need of an external fuse has to be assessed in the final application.)

### Output Specifications

Output Voltage Adjustment	12 VDC model:	12.0 - 15.0 VDC
	24 VDC model:	24.0 - 28.0 VDC (By trim potentiometer) Output power must not exceed rated power!
Regulation	- Load Variation (0 - 100%)	0.25% max.
Ripple and Noise (20 MHz Bandwidth)		50 mVp-p max.
Minimum Load		Not required
Hold-up Time	- At 230 VAC	25 ms min.
	- At 115 VAC	20 ms min.
Start-up Time	- At 230 VAC	2'000 ms max.
Short Circuit Protection		Continuous, Automatic recovery
Overload Protection		Constant Current Mode
Output Current Limitation		104 - 135% of Iout max.
		110% typ. of Iout max.
Overvoltage Protection		125 - 162% of Vout nom.
Transient Response	- Peak Variation	1500 mV max. (10% to 90% Load Step)
	- Response Time	3000 µs typ. (10% to 90% Load Step)

### Safety Specifications

Safety Standards	- IT / Multimedia Equipment	EN 60950-1 IEC 60950-1
	- Industrial Control Equipment	UL 508
	- Machines Equipment	EN 60204 EN 60204-3
	- ATEX	EN 60079-0 EN 60079-15 EX II3G EX nA IIC T4
	- HazLoc	UL 60079-15 Class I; Div 2; Groups A,B,C,D; T4
	- Power Installation	EN 50178
	- Measurement, Control & Lab.	EN 61010-1 IEC 61010-1 UL 61010-1
	- Power Transformers	EN 61558-2-8
	- Certification Documents	<a href="http://www.tracopower.com/overview/tex120">www.tracopower.com/overview/tex120</a>
	Protection Class	Class I (Prepared): Connection to PE
	Pollution Degree	PD 4

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

## EMC Specifications

EMI Emissions		EN 61000-6-3 (Generic Residential) EN 61204-3 (Low Voltage Power Supplies) EN 55032 class B (internal filter) EN 55032 class B (internal filter) EN 61000-3-2, class A
	- Conducted Emissions - Radiated Emissions - Harmonic Current Emissions	
EMS Immunity		EN 61000-6-2 (Generic Industrial) EN 61204-3 (Low Voltage Power Supplies)
	- Electrostatic Discharge	Air: EN 61000-4-2, ±15 kV, perf. criteria A Contact: EN 61000-4-2, ±8 kV, perf. criteria A
	- RF Electromagnetic Field - EFT (Burst) / Surge	EN 61000-4-3, 10 V/m, perf. criteria A EN 61000-4-4, ±4 kV, perf. criteria A
	- Conducted RF Disturbances - Voltage Dips & Interruptions	L to L: EN 61000-4-5, ±2 kV, perf. criteria A L to PE: EN 61000-4-5, ±4 kV, perf. criteria A EN 61000-4-6, 10 Vrms, perf. criteria A
		115 VAC / 60 Hz: EN 61000-4-11 30%, 0.5 periods, perf. criteria B 60%, 5 periods, perf. criteria C
	- Voltage Sag Immunity	SEMI F47, criteria A

## General Specifications

Relative Humidity		100% max.
Temperature Ranges	- Operating Temperature - Approved Ambient Temp. - Storage Temperature	-40°C to +85°C +70°C max. (for ATEX) -40°C to +85°C
Power Derating	- High Temperature - Low Input Voltage	2 %/K above 60°C 0.33 %/V below 120 VDC (24 Vout model) No derating required (12 Vout model) (for DC supply only)
Cooling System		Natural convection (20 LFM)
Altitude During Operation		3'000 m max.
Switching Frequency		100 - 190 kHz (PWM)
Insulation System		Reinforced Insulation
Isolation Test Voltage	- Input to Output, 60 s	3'000 VDC
Creepage	- Input to Output	8 mm min.
Clearance	- Input to Output	8 mm min.
Reliability	- Calculated MTBF	900'000 h (IEC 61709)
Environment	- Vibration  - Mechanical Shock	IEC 60068-2-6 1 g, 3 axis, sine sweep, 10-55 Hz, 1 oct/min IEC 60068-2-27 15 g, 3 axis, half sine, 11 ms
Case Ingress Protection		IP 67 (acc. IEC 60529) NEMA 4X UL 50 Water intrusion test Dust test Icing test Oil exclusion test Salt spray test Gasket aging test Hosedown test
Connection Type		Plug-in
Weight		1000 g

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Environmental Compliance - REACH Declaration

[www.tracopower.com/info/reach-declaration.pdf](http://www.tracopower.com/info/reach-declaration.pdf)

REACH SVHC list compliant

REACH Annex XVII compliant

[www.tracopower.com/info/rohs-declaration.pdf](http://www.tracopower.com/info/rohs-declaration.pdf)

Exemptions: 6a, 6c, 7a, 7c-I, 7c-II

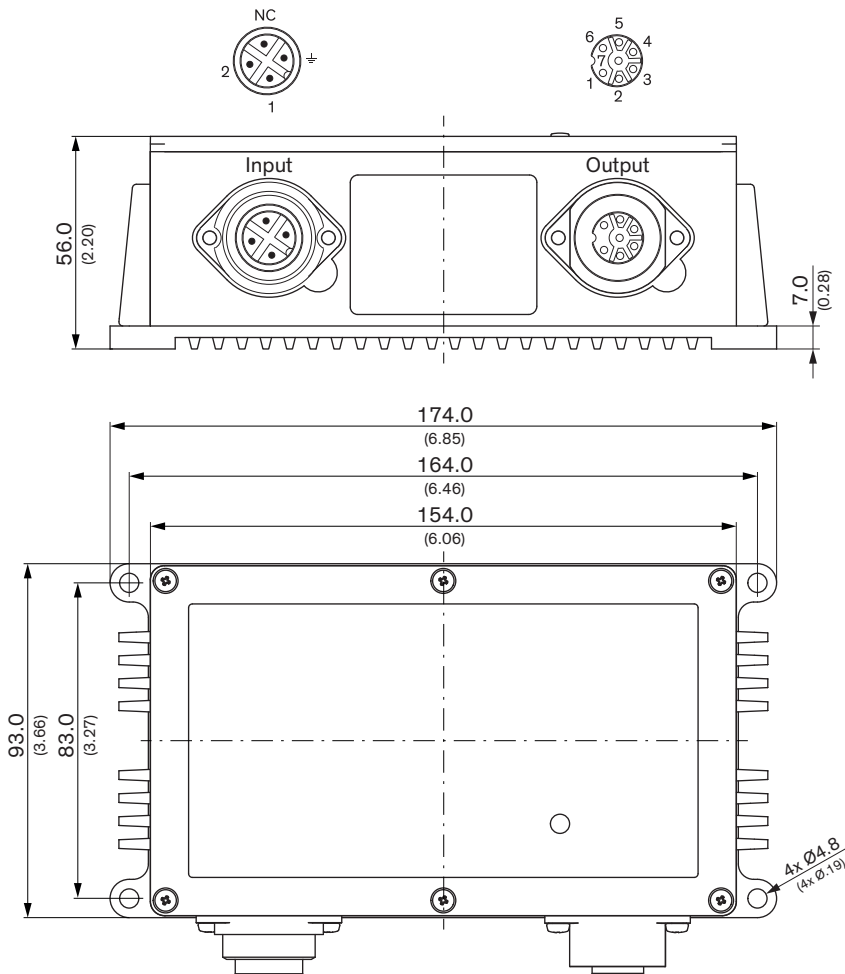
- RoHS Declaration

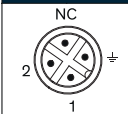

## Supporting Documents

Overview Link (for additional Documents)

[www.tracopower.com/overview/tex120](http://www.tracopower.com/overview/tex120)

## Outline Dimensions



Pinout			
			
<b>Input (male)</b>		<b>Output (female)</b>	
<b>1</b>	L	<b>1-3</b>	-
<b>2</b>	N	<b>4-6</b>	+
$\perp$	PE	<b>7</b>	case

NC: Not connected

**Connectors not included in shipment!**

(Units are supplied with sealing connector caps)

To access the trim potentiometer, the cover has to be removed. Please refer to the installation manual.

Dimensions in mm (inch)  
Tolerances:  $\pm 0.50$  ( $\pm 0.02$ )

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