

- 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°C to $+85^{\circ}\text{C}$
- DC-OK indicator, voltage adjust
- Low ripple and noise
- Class I, zone 2 approval incl. ATEX certification
- 3-year product warranty



These isolated power supplies have been designed particularly for applications in extreme environments. The rugged die-cast aluminum 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 decentralized 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: www.tracopower.com/products/tex-c11.pdf
TEX-C21	- Optional Cable : Output cable, 2 m: www.tracopower.com/products/tex-c21.pdf
TEX-P11	- Optional Connector Binder 4-pin female plug 99-4222-14-04: www.tracopower.com/products/tex-p11.pdf
TEX-P21	- Optional Connector Binder 7-pin male plug 99-4225-160-07: www.tracopower.com/products/tex-p21.pdf

Input Specifications

Input Voltage	- AC Range	Operational Range: 85 - 264 VAC (Full Range) Rated Range: 100 - 240 VAC (Full Range)
	- DC Range	Operational Range: 85 - 375 VDC (Designed for, no certification) Polarity: irrelevant
Input Frequency		Operational Range: 47 - 63 Hz Certified: 50/60 Hz
Power Consumption	- No load & Vin = 230 VAC	2'200 mW max.
	- No load & Vin = 115 VAC	2'200 mW max.
Input Current	- Full load & Vin = 230 VAC	1'000 mA max.
	- Full load & Vin = 115 VAC	2'000 mA max.
Input Inrush Current	- At 230 VAC	25 A max.
	- At 115 VAC	13 A max.
Recommended Input Fuse		5'000 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	- Input Variation (Vmin - Vmax)	0.5% max.
	- Load Variation (0 - 100%)	0.5% 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	3'000 μs typ. (10% to 90% Load Step)

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

Safety Specifications

Standards	- IT / Multimedia Equipment	EN 60950-1 EN 62368-1 IEC 60950-1 IEC 62368-1
	- 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 EN 61010-2-201 IEC 61010-1 IEC 61010-2-201 UL 61010-1
	- Power Transformers	EN 61558-2-8
	- Certification Documents	www.tracopower.com/overview/tex120
Protection Class		Class I (Prepared): Connection to PE
Pollution Degree		PD 4

EMC Specifications

EMI Emissions	- Conducted Emissions	EN 61000-6-3 (Generic Residential)
	- Radiated Emissions	EN 61204-3 (Low Voltage Power Supplies) EN 55032 class B (internal filter) EN 55032 class B (internal filter)
EMS Immunity	- Electrostatic Discharge	EN 61000-6-2 (Generic Industrial) EN 61204-3 (Low Voltage Power Supplies) Air: EN 61000-4-2, ± 15 kV, perf. criteria A Contact: EN 61000-4-2, ± 8 kV, perf. criteria A
	- RF Electromagnetic Field	EN 61000-4-3, 10 V/m, perf. criteria A
	- EFT (Burst) / Surge	EN 61000-4-4, ± 4 kV, perf. criteria A L to L: EN 61000-4-5, ± 2 kV, perf. criteria A L to PE: EN 61000-4-5, ± 4 kV, perf. criteria A
	- Conducted RF Disturbances	EN 61000-4-6, 10 Vrms, perf. criteria A
	- Voltage Dips & Interruptions	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	-40°C to +85°C
	- Approved Ambient Temp.	+70°C max. (for ATEX)
	- Storage Temperature	-40°C to +85°C
Power Derating	- High Temperature	2 %/K above 60°C
	- Low Input Voltage	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

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Creepage	- Input to Output	8 mm min.
Clearance	- Input to Output	8 mm min.
Reliability	- Calculated MTBF	900'000 h (IEC 61709)
Environment	- Vibration	IEC 60068-2-6 1 g, 3 axis, sine sweep, 10-55 Hz, 1 oct/min
	- Mechanical Shock	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
Housing Type		Metal Case
Mounting Type		Chassis Mount
Connection Type		Pin Connector
Weight		1'000 g
Environmental Compliance	- REACH Declaration	www.tracopower.com/info/reach-declaration.pdf REACH SVHC list compliant REACH Annex XVII compliant
	- RoHS Declaration	www.tracopower.com/info/rohs-declaration.pdf Exemptions: 7a, 7c-I (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).)
	- SCIP Reference Number	51c60289-03f1-409c-b596-1e9efd5b7154

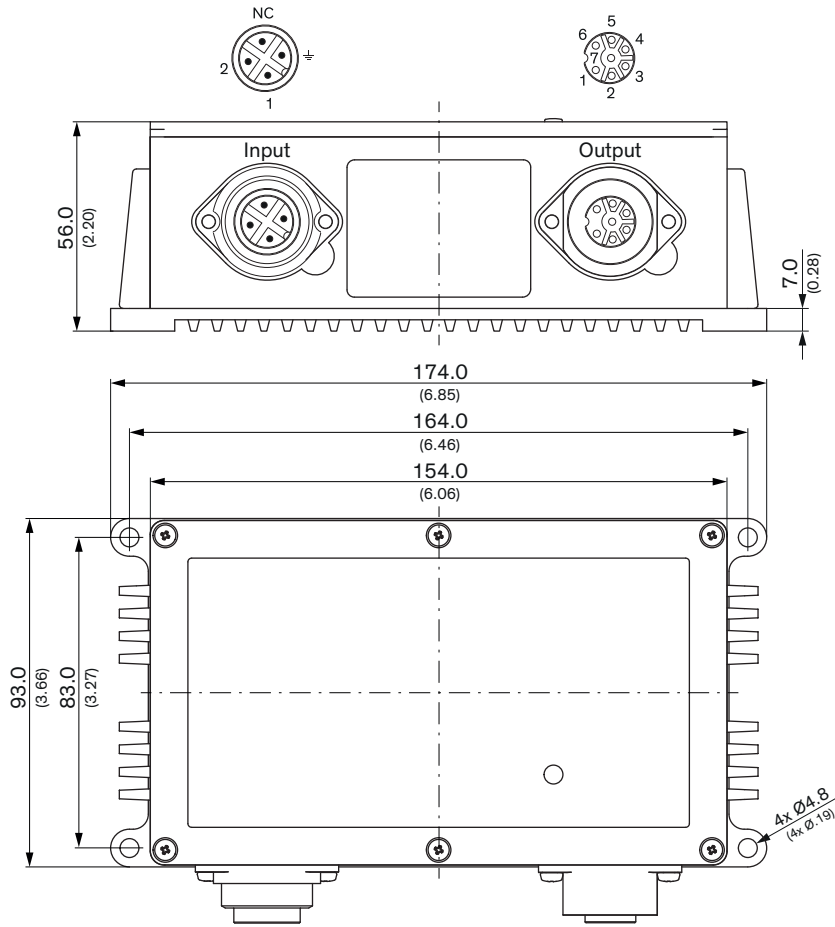
Supporting Documents

Overview Link (for additional Documents)

www.tracopower.com/overview/tex120

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Outline Dimensions



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

NC: Not connected

Connectors not included in shipment!
 (Units are supplied with sealing connector caps)

Mounting screw tightening torque: 2.0 - 2.4 Nm

Dimensions in mm (inch)
 Tolerances: ± 0.50 (± 0.02)

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