Industrial Power Supplies

TCL Series, 24 to 240 Watt

UL 60950 UL 508C UL 60950-1

Features

- For industrial, office and residential applications
- Ultracompact plastic housing
- Connection by spring clamp terminals or detachable screw terminal block
- Reliable snap-on mounting on DIN-rails
- Adaptor for wall mounting
- Universal input 85–264 VAC, 50/60 Hz
- Models with 5, 12, 24 & 48 VDC output
- Output voltage adjustable
- Power OK signal
- Low ripple and noise
- Overload and short-circuit protection
- Parallel operation possible
- Worldwide safety approvals
- Redundancy module
- 3-year product warranty

The TRACO POWER TCL series is a family of DIN-rail power supplies with an excellent price/performance ratio. With tightly regulated output voltage and high immunity against electrical disturbances on the mains they provide a reliable power source for sensitive loads in industrial process controls, machine tools and other equipment exposed to a difficult industrial environment. Compact size, light weight, easy snap-on mounting on DIN-rails and the choice of two connection terminal versions are other features of these power supplies. The TCL series complies with all major safety standards for Europe (EN60950-1, EN50178), North America (UL/cUL 60950, UL 508 listed) or elsewhere in the world (CB-Report).

Models

Order Code	Input Voltage Ranges	Output Power max.	*Output Voltage nom.	Output Current max.	Connection
TCL 024–105	85 – 264 VAC Universal Input 50/60 Hz 85 – 375 VDC	20 W	5 VDC	4.0 A	Detachable screw terminal blocks
TCL 024–112		24 W	12 VDC	2.0 A	
TCL 024–124			24 VDC	1.0 A	
TCL 060–112		60 W	12 VDC	4.0 A	
TCL 060–124			24 VDC	2.5 A	
TCL 060–148			48 VDC	1.25 A	
TCL 120–112		120 W	12 VDC	8.0 A	
TCL 120–124			24 VDC	5.0 A	
TCL 240–124	85–132/187–264 VAC	240 W	24 VDC	10.0 A	
TCL 024–124C	85 – 264 VAC Universal Input 50/60 Hz 85 – 375 VDC	24 W	24 VDC	1.0 A	Spring clamp terminals
TCL 060–112C		60 W	12 VDC	4.0 A	
TCL 060–124C			24 VDC	2.5 A	
TCL 060–148C			48 VDC	1.25 A	
TCL 120–112C		120 W	12 VDC	8.0 A	
TCL 120–124C			24 VDC	5.0 A	

* adjustable

Input Specifications

Input voltage range			85–264 VAC/85–375 VDC
		TCL 240 model:	85–132/187–264 VAC autoselect (no DC input)
Output derating	– at operation between 85...93 VAC/85...130 VDC		15% for TCL 060 & TCL 120 20% for TCL 024-112 & TCL 024-124 & TCL 240 30% for TCL 024-105
Input frequency			47–63 Hz
Harmonic limits			EN 61000-3-2, Class A
Input current at full load (typ.) (115 VAC / 230 VAC)		TCL 024 models:	0.35 A / 0.2 A
		TCL 060 models:	1.2 A / 0.6 A
		TCL 120 models:	2.0 A / 1.0 A
		TCL 240 model:	3.3 A / 1.7 A
Recommended circuit breaker		TCL 240 model:	10 A (characteristic C or slow blow fuse)
		all other models:	5 A (characteristic C or slow blow fuse)

Output Specifications

Output voltage adjustable range (potentiometer on frontpanel)		5.1 VDC model:	5.0 – 5.25 VDC
		12 VDC models:	12 – 15 VDC (12 - 16 VDC for TCL 024-112)
		24 VDC models:	24 – 28 VDC
		48 VDC models:	48 – 56 VDC
Output regulation (10 to 90% load variation)			2.5 % (1 % for TCL 60-112)
Ripple and noise (20MHz bandwidth)			<50 mV pk-pk
Electronic short circuit protection			current limitation at 120 % typ. (constant current, automatic recovery TCL 24 models: foldback, automatic recovery)
Parallel operation			output current characteristic suitable for parallel operation of max. 5 units (not for TCL 240-124)
Overvoltage protection, trigger point		5.1 VDC model:	<6.5 VDC
		12/24 VDC models:	<40 VDC
		48 VDC models:	<60 VDC
Hold-up time (115 VAC / 230 VAC)			min. 15 ms / min. 125 ms
		TCL 240 model:	min. 15 ms / min. 40 ms
Power OK signal (TCL 60, 120 & 240 models only)			trigger point / output signal (reference to – Vout)
		12 VDC models:	>11V / 11.0 V ±1.0 V / 60 mA max.
		24 VDC models:	>22V / 22.0 V ±2.0 V / 30 mA max.
		48 VDC models:	>44V / 44.0 V ±4.0 V / 15 mA max.

General Specifications

Temperature ranges	– Operating	–10°C to +70°C max.
	– Storage (non operating)	–25°C to +85°C
Temperature derating	– at 187...264 VAC or 265...375 VDC operation	1.7 %/K above +50°C
	– at 93...132 VAC or 130...187 VDC operation	1.1 %/K above +40°C
	– at 85...130 VDC operation	1.3 %/K above +30°C
Humidity (non condensing)		95 % rel. H max.
Temperature coefficient		0.02 %/K
Switching frequency		55 – 180 kHz depending on load (frequency modulation)
Efficiency		88 % typ.
Isolation voltage	– I/O isolation voltage (60 s)	3000 VAC