



### 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	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 W	24 VDC	1.0 A	
TCL 060-112		60 W	12 VDC	4.0 A	
TCL 060-124		60 W	24 VDC	2.5 A	
TCL 060-148		85 – 375 VDC	48 VDC	1.25 A	
TCL 120-112		120 W	12 VDC	8.0 A	
TCL 120-124		120 W	24 VDC	5.0 A	
TCL 240-124	85-132/187-264 VAC	240 W	24 VDC	10.0 A	Spring clamp terminals
TCL 024-124C	85 – 264 VAC Universal Input 50/60 Hz	24 W	24 VDC	1.0 A	
TCL 060-112C		60 W	12 VDC	4.0 A	
TCL 060-124C		60 W	24 VDC	2.5 A	
TCL 060-148C		48 VDC	1.25 A		
TCL 120-112C	85 – 375 VDC	120 W	12 VDC	8.0 A	
TCL 120-124C		120 W	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)		<table border="0"> <tr> <td></td> <td>trigger point</td> <td>output signal (reference to – Vout)</td> </tr> <tr> <td></td> <td>12 VDC models: &gt;11V</td> <td>11.0 V ±1.0 V / 60 mA max.</td> </tr> <tr> <td></td> <td>24 VDC models: &gt;22V</td> <td>22.0 V ±2.0 V / 30 mA max.</td> </tr> <tr> <td></td> <td>48 VDC models: &gt;44V</td> <td>44.0 V ±4.0 V / 15 mA max.</td> </tr> </table>		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.
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	48 VDC models: >44V	44.0 V ±4.0 V / 15 mA max.												

### General Specifications

Temperature ranges	– Operating – Storage (non operating)	–10°C to +70°C max. –25°C to +85°C
Temperature derating	– at 187...264 VAC or 265...375 VDC operation – at 93...132 VAC or 130...187 VDC operation – at 85...130 VDC operation	1.7 %/K above +50°C 1.1 %/K above +40°C 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