TRIO-PS-2G/1AC/12DC/5/C2LPS Single-Phase DIN Rail Power Supply

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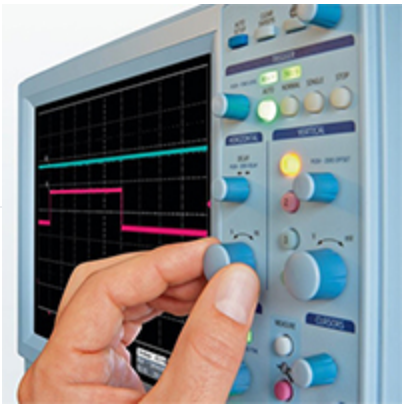
12V Industrial Power Supply for Regulated AC/DC or DC/DC Conversion

- 12 DC Output Voltage
- 5 Amps
- 60 Watts
- Single phase AC or DC Input
- Input Voltage Range: 85 ... 264 V AC and 99 ... 275 V DC

The **TRIO-PS-2G/1AC/12DC/5/C2LPS Industrial Power Supply** is a rugged AC to DC and DC to DC Converter built to meet the high stability and efficiency expectations of industrial, machine automation and process control environments. This Switching (switch mode) Power Supply ensures a regulated output voltage even in the event of voltage fluctuations in the power supply network. With all required safety certifications to support ITE (Information Technology Equipment), ruggedized packaging, extended operating temperatures, high peak load capabilities and high isolation voltages, TRIO Industrial Power Supply is designed to meet the needs of your industrial application.

150% Dynamic Power Boost

The dynamic boost provides additional power for starting difficult loads. By supplying up to 150% of the nominal current for 5 seconds, this TRIO-PS-2G power supply starts difficult loads reliably.



12 to 18 V DC Adjustable Output Voltage Range

Using the rotary potentiometer on the front face of the TRIO-PS-2G/1AC/12DC/5/C2LPS power supply, the output voltage can be optimally adjusted to meet specific application environment requirements. For example, you can easily adjust to compensate for a voltage drop caused by a long cable length.

Industrial operating temperature of -25°C to +70°C

Equipment found in traffic management, oil and gas pipelines, weather tracking, industrial and outdoor applications must function in temperatures that cannot be supported by a commercial power supplies. With an operating temperature of -25°C to +70°C, the TRIO-PS-2G/1AC/12DC/5/C2LPS Industrial Power Supply is ideal for use with equipment subjected to harsh environments and severe temperatures.

High efficiency and low no load power consumption

Compared with other products on the market, the TRIO Industrial Power Supply provides excellent energy savings. With a very low no load power consumption and high efficiency at nominal load, just a small amount of electrical energy is converted into undesired heat energy making these very ECO friendly power supplies.

Easy & efficient installation

The tool-free Push-in connection will save time and make installation quick and easy. And, the DIN Rail mount narrow housing will save space in the control cabinet.

Ideal application environments for a TRIO-PS-2G DIN Rail Power Supply

- machine building
- automated production process
- industrial control, automation, assembly, and test equipment
- building control, security and surveillance, and climate control systems.
- power countless industrial automation devices such as sensors, controllers and valves

Other reasons to choose a TRIO-PS-2G/1AC/12DC/5/C2LPS Industrial Power Supply

- Contact signal output and LED indicator for voltage out failure: If the output voltage is below the operational range, the LED turns off and the contact opens.
- Vibration resistance up to 4 kg
- Shock resistance up to 30g
- Voltage Isolation input/output: 3 kV AC
- Protections: Short-circuit, Overload, Over voltage, Over-temperature
- High MTBF (Mean Time Between Failure) values of more than 1 million hours at +40°C ensure maximum availability
- IEC Protection Class II Power Supply

Industrial Class 2 Power Supply

With the NEC designation as a **Class 2 Power Supply**, all regulations address the wiring requirements (wire size and insulation, wire derating factors, overcurrent protection limits and methods of wiring installation) between the output of the supply and the input of the load are met by this TRIO-PS-2G. The output voltage and power delivery capabilities of this Class 2 power supply will lower the risk of fire initiation and electrical shocks, which allows for lower cost wiring methods to be employed when installing an electrical system in a building.

Environmental Product Compliance

REACH SVHC Lead 7439-92-1

China RoHS	Environmentally Friendly Use Period = 25;
General	
Net weight	0.32 kg
Efficiency	> 86 % (for 230 V AC and nominal values)
Insulation voltage input/output	3 kV AC (type test)
	1.5 kV AC (routine test)
Protection class	II (in closed control cabinet)
Degree of protection	IP20
MTBF (IEC 61709, SN 29500)	25 °C
	> 2900000 h (40 °C)
	60 °C
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: horizontally 0 mm (≤ 40 °C) 10 mm (≤ 70 °C), vertically 50 mm
Standards and Regulations	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011 (EN 55022)
Noise immunity	EN 61000-6-2:2005
Standards/regulations	EN 61000-4-2
Contact discharge	4 kV (Test Level 2)
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1.4 GHz ... 2 GHz
Test field strength	3 V/m (Test Level 2)
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-6-3

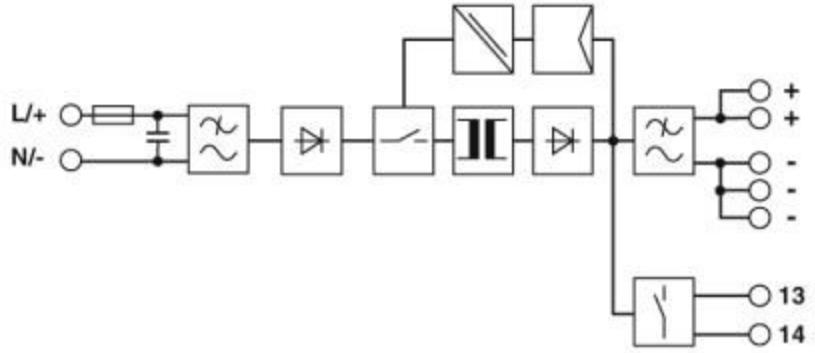
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Standards/regulations	EN 61000-4-11
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Standard - Safety of transformers	EN 61558-2-16 (air clearances and creepage distances only)
Standard - Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Limitation of mains harmonic currents	EN 61000-3-2
UL approvals	UL Listed UL 508
	UL/C-UL Recognized UL 60950-1
	NEC Class 2 as per UL 1310
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 4g, 90 min.
Rail applications	EN 50121-4
Overvoltage category (EN 60950-1)	II
Connection data, input	
Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	4 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24

Conductor cross section AWG max.	12
Stripping length	10 mm
Output data	
Nominal output voltage	12 V DC ±1 %
Setting range of the output voltage (U_{Set})	12 V DC ... 18 V DC (> 12 V DC, constant capacity restricted)
Nominal output current (I_N)	5 A
Derating	> 60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	yes
Feedback resistance	< 25 V
Protection against surge voltage on the output	≤ 22 V DC
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, 10 Hz)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 50 mV_{PP} (with nominal values)
Output power	60 W
Typical response time	< 1 s
Maximum power dissipation in no-load condition	< 1 W (230 V)
Power loss nominal load max.	< 10 W (230 V)
Connection data for signaling	
Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	1.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16

Stripping length	8 mm
Dimensions	
Width	30 mm
Height	130 mm
Depth	115 mm
Weight per piece	486.5 GRM
Input data	
Nominal input voltage range	100 V AC ... 240 V AC
	110 V DC ... 250 V DC
Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
	99 V DC ... 275 V DC
Dielectric strength maximum	≤ 300 V AC 15 s
AC frequency range	50 Hz ... 60 Hz ±10 %
Discharge current to PE	< 0.25 mA
Current consumption	1.1 A (100 V AC)
	1 A (120 V AC)
	0.6 A (230 V AC)
	0.6 A (240 V AC)
Nominal power consumption	137.3 VA
Inrush surge current	≤ 25 A (typical)
Mains buffering	typ. 20 ms (120 V AC)
	typ. 110 ms (230 V AC)
Input fuse	6.3 A Slow-blow
Choice of suitable circuit breakers	6 A ... 16 A (Characteristics B, C, D, K)
Power factor (cos phi)	0.51
Type of protection	Transient surge protection
Protective circuit/component	Varistor
Connection data, onput	
Connection method	Push-in connection

Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	4 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	8 mm
Ambient conditions	
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2.5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2
Installation height	≤ 5000 m (> 2000 m, Derating: 10 %/1000 m)
Approvals	
	• cULus Listed • cULus Recognized • EAC • UL Recognized • cUL Recognized • cUL Listed • IECEE CB Scheme • UL Listed

TRIO-PS-2G/1AC Industrial Power Supply Block Diagram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