



**UNIVERSAL INPUT**

# SUP650P18C

## 650 WATT, 48 VDC

### SWITCHING POWER SUPPLY

#### GENERAL SPECIFICATIONS

Construction	PCB, metal cover-and-built-in fan.
Connectors / Terminals	Threaded studs (DC), header pins (AC)
Switching Frequency	92KHz ±10KHz
Power Factor	0.98 min at 100VAC 0.95 min at 230VACn
Efficiency	75% min. at full rated load
Dielectric Isolation	3000VAC from input to output 1500VAC from input to ground 500VAC from output to ground
MTBF (per MIL-HDBK-217F)	300,000 hours minimum at full load at 25 °C ambient

#### FEATURES

- ◆ Meets, EN55022, EN55024, FCC Class B, EN61000 Class A,D, EN60950-1
- ◆ Compact size 5" x 10.5" x 2.5"
- ◆ Remote Sense input terminals
- ◆ Wide range input 90 to 264VAC
- ◆ Overcurrent, Short-circuit, Overvoltage, Thermal protections
- ◆ Power Factor 0.95 – 0.98 typical
- ◆ 100% burn-in at full rated load
- ◆ Compliant with RoHS requirements

#### DESCRIPTION

This switching power supply delivers up to 650 watts at 48 VDC of continuous output power. Construction is PCB with a U-bracket and metal cover for mechanical support and heat sinking. The supply operates at 90 to 264VAC input voltage without the need for voltage selection. Ideal applications include data networking, telecom, industrial, test and office equipment.

#### INPUT SPECIFICATIONS

Input Voltage	90 to 264 VAC (auto select).
Input Frequency	47 to 63 Hz
Input Current	10A rms @ 115VAC 5A rms @ 230 VAC
Inrush Current (at 25°C cold start)	30 amps @ 115VAC 60 amps @ 230VAC
Leakage Current	1mA max @ 240VAC 50Hz

#### ENVIRONMENTAL

Operating Temperature	0 °C to +70 °C.
Storage Temperature	-40 °C to +85 °C
Operating Humidity	30% to 90% RH, non-condensing
Storage Humidity	10% to 95% RH, non-condensing
Cooling	Built-in fan. Refer to mechanical specification

#### OUTPUT SPECIFICATIONS

Total Output Power	650 watts max
Derating Output Power	Derate from 100% @ +50 °C linearly to 50% @ +70 °C
Output Voltage / Current	48V, 13.5A max
Minimum Load	No minimum load required
Hold Up Time	15 mSec min @ 115VAC or 230VAC
Line Regulation	± 0.5% max at full load, (only when Remote Sense P3 is used)
Over / Undershoot	None at turn on or turn off
Ripple and Noise	2% peak to peak max
Overvoltage Protection	Setting at 120-132% of Vnom output voltage.
Overcurrent / Short Circuit Protection	Setting at 105-125% of I <sub>max</sub> output current.
Temperature Coefficient	± 0.04% / °C max for all outputs
Transient Response	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 uS after a 25% step load change.

#### EMC and SAFETY (1)

EMC Performance Standard	EN55024
EN55022, FCC-15, VCCI	Class-B Conducted, Radiated
EN61000-3-2, -3-3, -4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11	
Safety Standards (certified to)	UL60850-1, EN60950-1 (TUV), CE, CSA C22.2 No 60950-1

(1) Products are rated for industrial environments and are not to be used nor are warranted in aerospace or life-support medical applications.



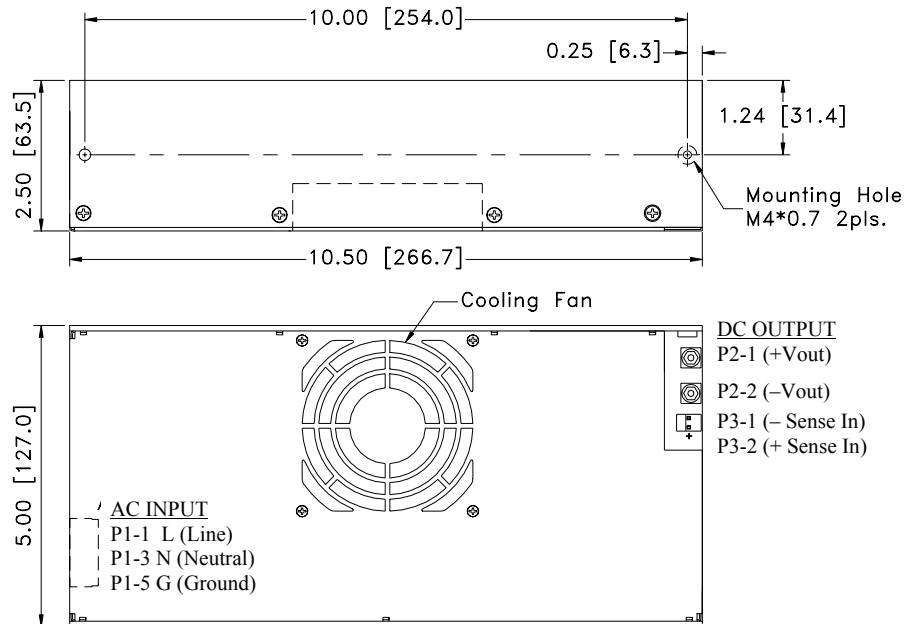
## OUTPUT VOLTAGE / CURRENT RATINGS

MODEL	Vnom.	I <sub>max.</sub>	I <sub>min.</sub>	Tol.	Power
SUP650P18C	48V	13.5A	0A	2%	650W

### NOTE

Load Regulation specification requires Remote Sense (P3) to be used.

## MECHANICAL SPECIFICATIONS (mm / inches)



### NOTES

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 2kg approx.
4. P1 AC Input connector is WAGO, P/N: 231-535/001-000. For mating connector, refer to WAGO 733 series.
5. P2 DC Output studs are nickel-plated copper, M5\*0.8mm threaded.
6. P3 Remote sense mating connector is Molex 09-50-3021 and 2878 series crimp terminal or equivalent.

## PIN ASSIGNMENTS

MODEL	CONN.:	P 1 AC Input			P 2		P 3	
	PIN:	1	3	5	1	2	1	2
SUP650P18C		Line	Neutral	Ground	+ Vout	- Vout Return	- Sense Input	+ Sense Input