

Safecom T-Former Series



*Stabilized sine voltage technology (Patent P)
Modular UPS & Non-standby Power Supplies*



Safecom TFPS Series

Installation Manual

JUN-2011

SAFECOM Patent.P

Table of Contents

Page 3: About T-former Technology & advantages.

Page 4: Safety Instructions:

Page 5 : overview.

Page 6: Specification.

Page 7 : Technology.

Page 8 : Inside view.

Page 9 : Voltage configuration

Page 10: Bottom view – Connecting panel.

Page 11: Back View bracket open & Mounting template.

Page 12: back View bracket locked.

Page 13 : Safecom T-former P.S ordering information.

Page 14 : Connecting Power Cable to T-former AC OUTPUT.

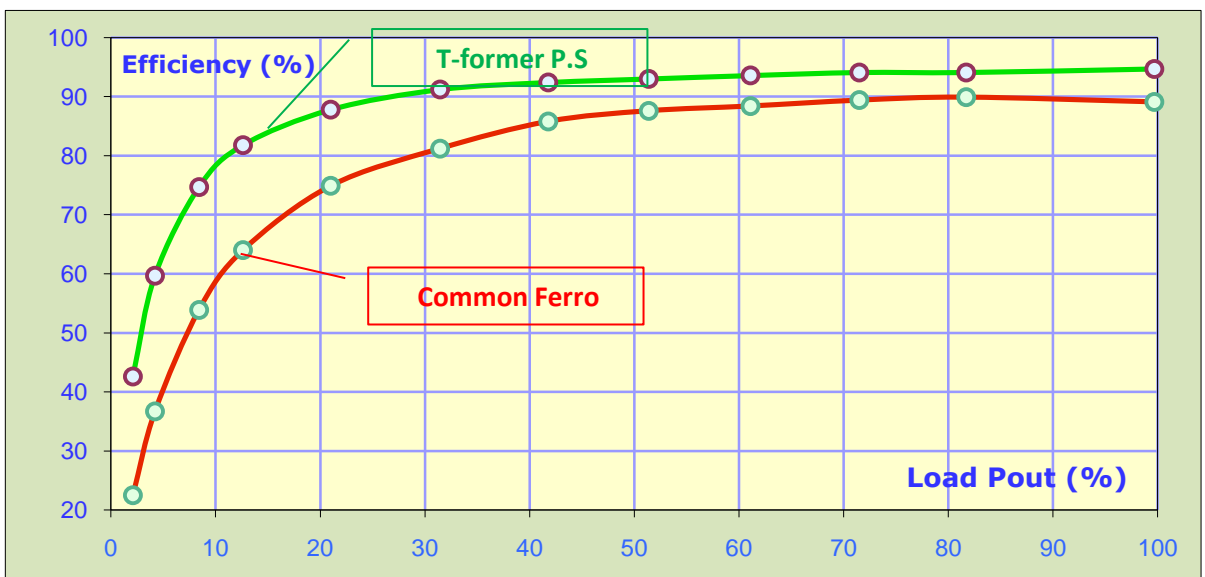
Page 15 : Troubleshooting and Repair

T-Former (patent P) - High efficiency Power supply

- **Lower Operating Costs - Saves at least 5% energy compared to Ferro systems**
- Lower Capital Cost per unit - compared to traditional Ferro-resonant devices.
- Longer Life -Unique technology enables almost unlimited lifetime.
- No Noise, No Vibration - No environmental disturbance when installed on or near buildings
- Slow Start prevents fall of current breakers after power-out or during ignition.
- Automatic overload protection.

EFFICIENCY : T-Former Vs traditional Ferro

pure sine wave stabilizer technology



Safety Instructions

Review the installation manual before proceeding.

If there is any questions regarding safe installation or operation & performance please contact us support@safecom.tv .

Prior to any handling, the power supply is required to be disconnected from the Mains.

Only an experienced and authorized technician or electrician who is qualified to work on the electrical grid while taking necessary precautions that comply with the electrical code will do handling.

Before Installation:

Make sure that P.S input voltage configuration matches the standard utility voltage level

Make sure that P.S output voltage configuration matches the CATV voltage requirements.

Recheck circuit breaker and earth leakage circuit breaker (ELCB).

Connect grounding cable between P.S grounding to utility grounding point.

Safety:

Prior to installation or removal recheck that utility circuit breaker is OFF and no voltage at the P.S.

Only licensed electrician is required to install P.S.

Ensure all cable dry and wet protected.

Overview:

T-Former is pure stabilizer **sine wave P.S with the** highest- efficiency, and most reliable technology, specifically developed for the advanced operation of line amplifiers in CATV distribution systems. With around double the lifetime of legacy Ferro-resonant products, delivering energy savings of at least 5% energy compared to standard systems. Its modular optional design enables upgrade of the T-Former to UPS by adding compatible ONLINE DC-AC inverter /Charger . That helps operators reduce network expenditure at capital as well as operational levels.

Thanks to its patent-pending **sine wave stabilizer technology**, the T-Former's advanced electronic controller automatically monitors and compensates for any changes to line voltage - eliminating negative Inrush current side effects resulting from utility power recovery. In addition, the T-Former operates in complete silence - solving noise and vibration problems inherent in existing products. This is increasingly important in highly populated areas where power supply devices are often mounted nearby the buildings. T-Former is designed to work at a wide range of temperatures and humidity without maintenance, at full power capacity. Safecom's T-Formers undergo rigorous quality testing - with fully 100% of the units repeatedly tested.

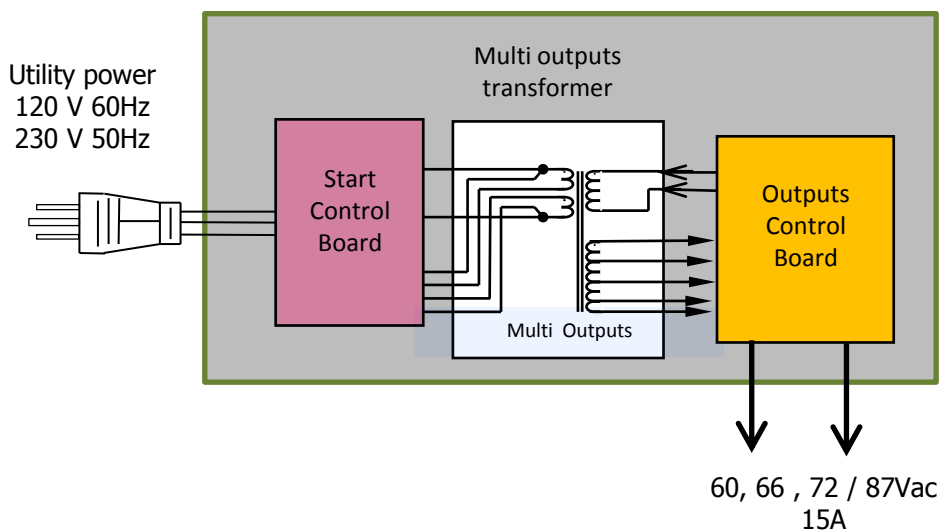


Model	SC-DTFPS 1050-60EO/I
Electrical	
Input Voltage Taps (Vac)	230±15% EUROPE
Input Frequency (Hz)	50/60
Input Current (A)	< 5.5A
Input inrush current	< 10 A In single pulse of 5ms
Input Power Factor	> 0.95 at full load
Output Voltage Taps (Vac)	60, 66, 72V -25A (87V -25A)
Total Output Current (A)	25A (15A max each port)
Short circuit time response (ms)	<10
Recovery safety time delay (sec)	> 3
Output Power (VA)	1050
Load Regulation (%)	< 2%
Output Protection Fuse	T15A
Efficiency (%)	95% at full load
Mechanical	
Dimensions (L , W , H) mm	375 x 220 x 215
Weight (Kg/lbs)	20 kg
Housing Finish	White zinc / epoxy plating
Environment	
Operating Temperature	-20°C ÷ +60°C
Storage Temperature	-20°C ÷ +70°C
Humidity	0 ÷ 100% non condensing
Standard Features	
Power Mains Cable	√
Mains Transients Protection	√
Quick Connection Output Coax socket	√
Output Fuse	√
Output Voltage Test Points	√
Output Current Measurement Loop	√
Power Indication Green LED	√
Optional Features	
Output Screw Terminals	√
DC/AC inverter for UPS	√

• Technology

- The TFPS series, non-standby with the modular UPS option utilizes novel and patented P AC-AC variable ratio transformation, providing ultimate voltage regulation and pure sine voltage output at all loads. Input and output voltages are completely isolated. Line conditioning allows for changing gears at 0 time (“zero crossing”). This smooth online transformation between gears provides clean AC pure sine voltage without any RF noise.
- An additional feature of the T-Former Novel P.S. is its Soft Startup, addressing the most serious problem of Ferro-based P.S: the inrush current. This innovative solution controls the current level during start up and preventing any possibility of circuit breaker down during startup or utility power interruption.
- In addition electronic over load protection protecting and the network and minimize fuse blow when momentary sort circuit occurred
- Safecom T-Former P.S has the most efficient technology with almost 95% efficacy at wide range of load. It saves electricity and keeps cold temperature of transformer and electronic parts make P.S most reliable for un-limited life time
- No like noise and vibrating Ferro P.S the new T-former P.S is completely silence with no noise and vibration enabling to install nearby premises houses or very quite places without interfere the residential area.

Block Diagram T-Former P.S



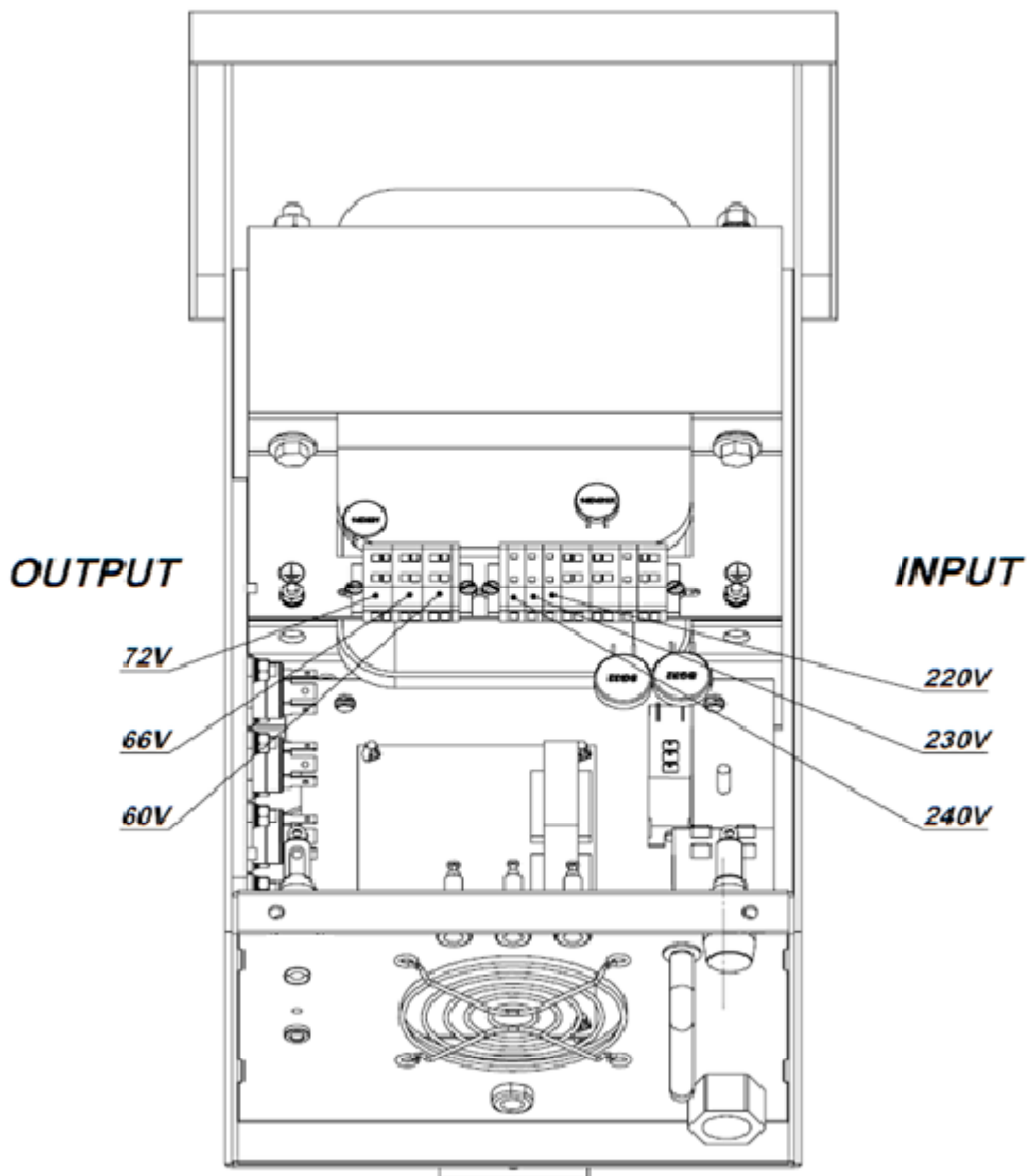
Inside view : T-former outdoor 87V -15A



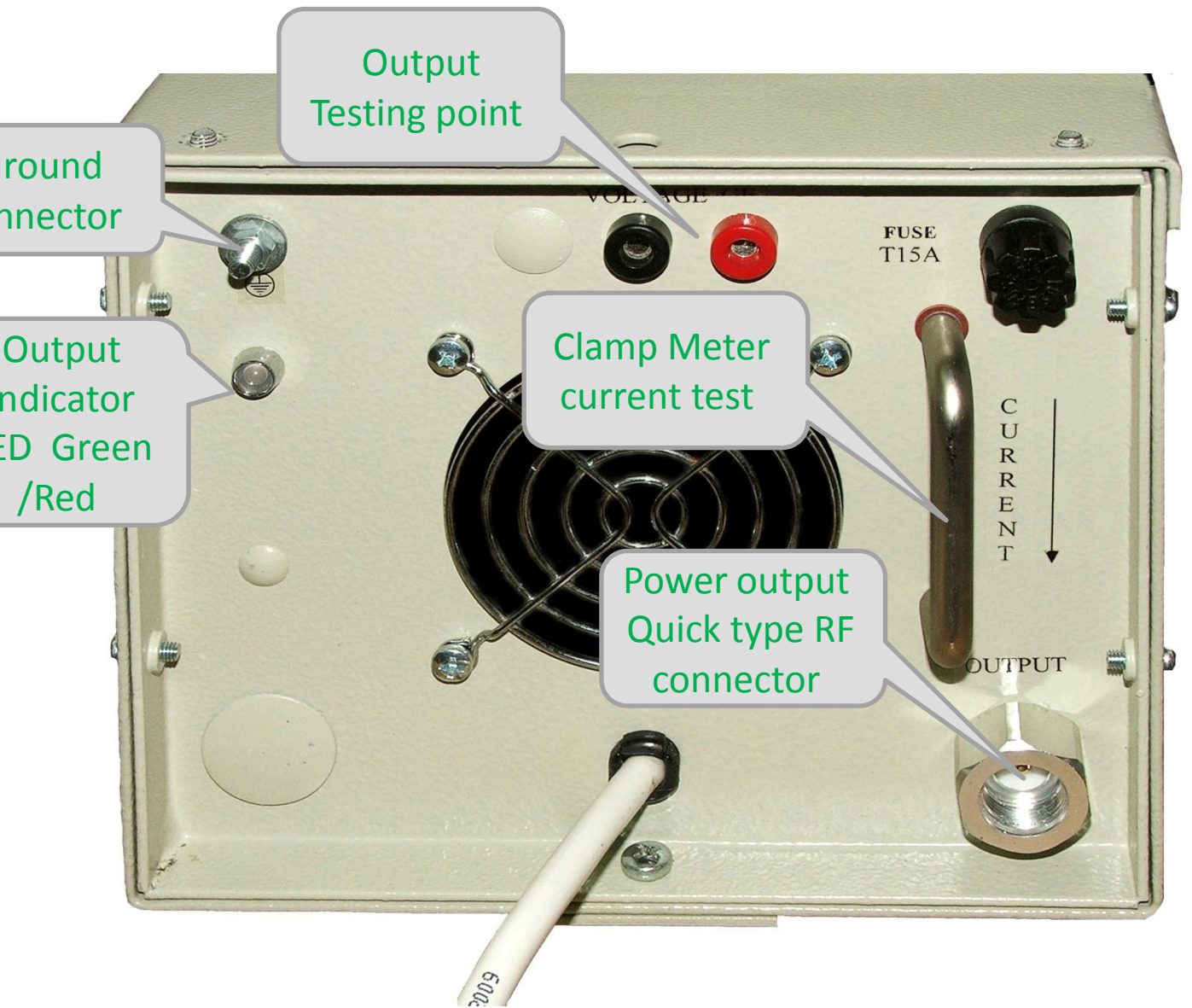
Voltage configuration

Safecom TF-PS serial offer input & output voltage level flexibly. Technician can easily configure the optimal input voltage level and recommended output voltage level for supplying power to the network.

- 1) Ensure utility power is OFF when changing voltage configuration at input & output.
- 2) Changing is setting is by moving input & output cables from one port to another. Cable seizure is by very strong spring. To release seizure simply need to press the lower point by screw driver.
- 3) This configuration insure reliable connection for life without any possibly of lost connection.

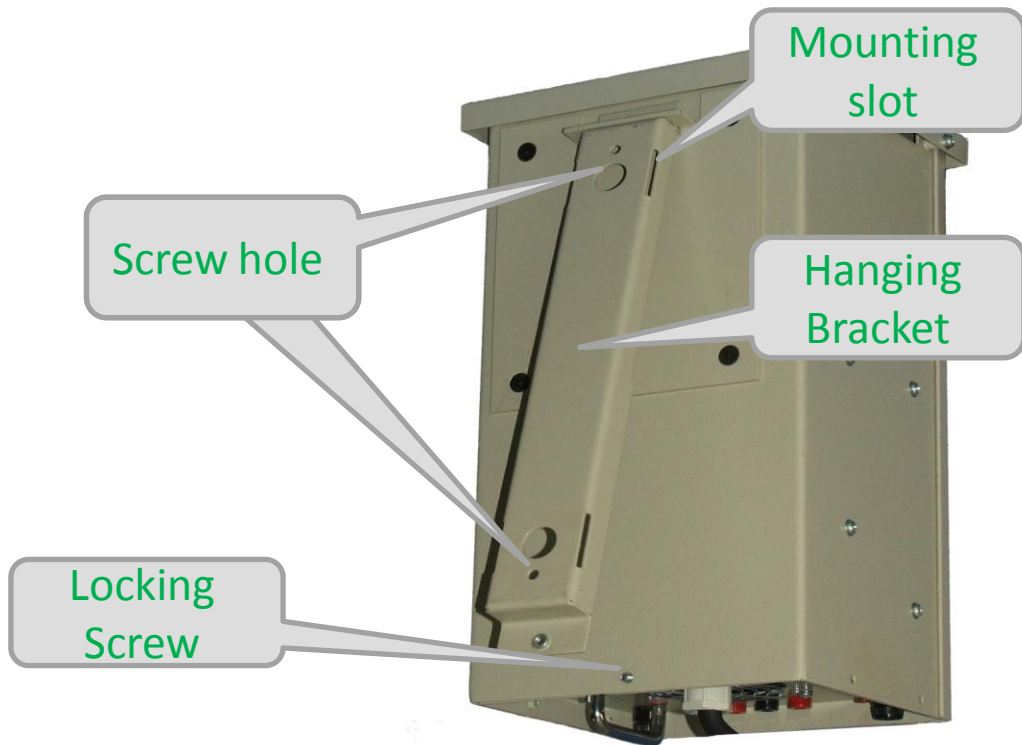


Bottom view



Back View

Hanging Bracket Closed Cabinet Installed with special bracket for hanging or shelf-lain mounting

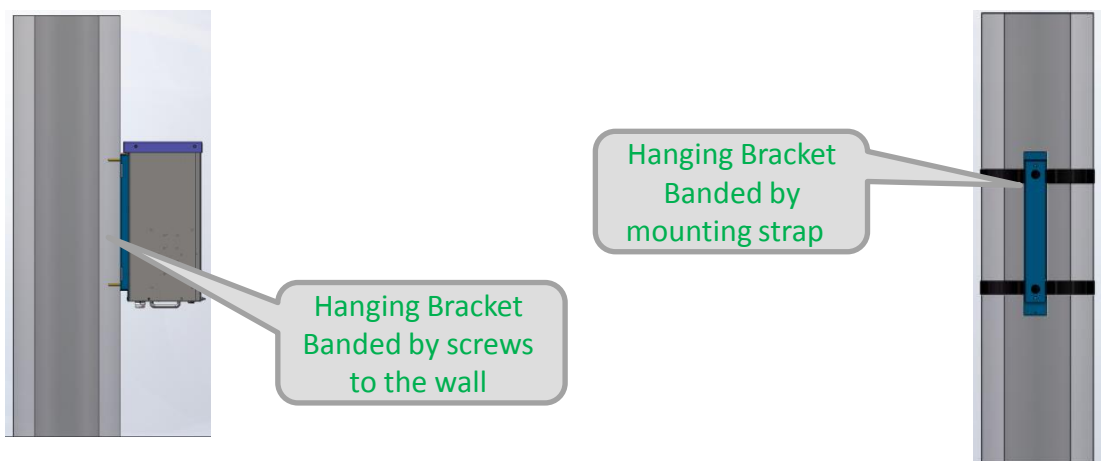


Installing an TFPS – Outdoor

The SC-TFPS outdoor series non-standby power supplies are designed to mount by separate bracket on a wall or pole.

When installing an TF-PS on a pole an approved mounting strap must go through the mounting slots of the back bracket. When installing on the wall use two >8 mm screws to band the bracket on the wall.

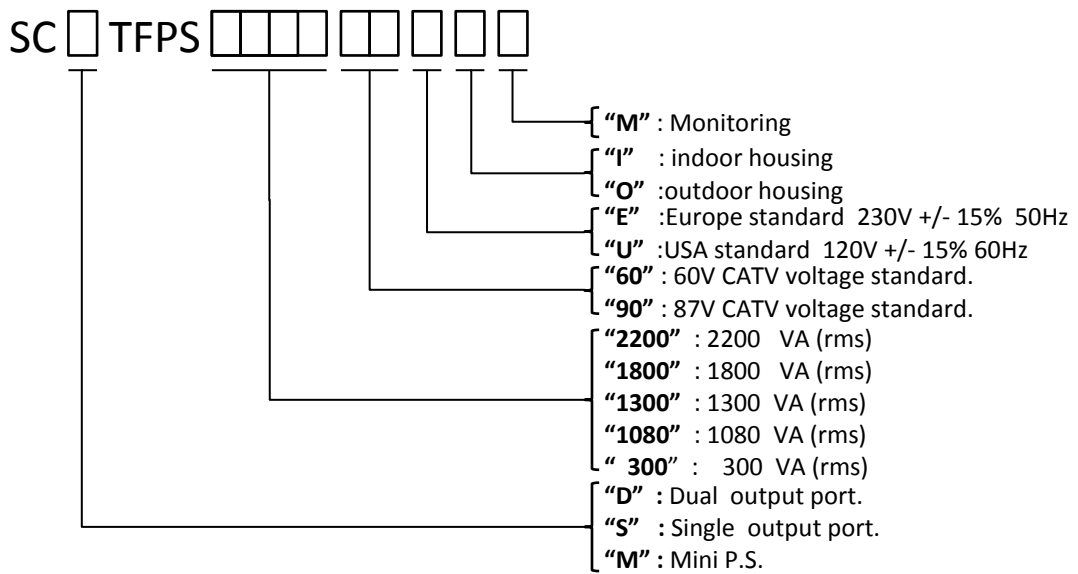
After bracket is well banded on the wall hang PS on the bracket and tight the screw at the bottom of P.S for locking P.S.



Back view TF-PS Bracket locked



Safecom T-former P.S ordering information

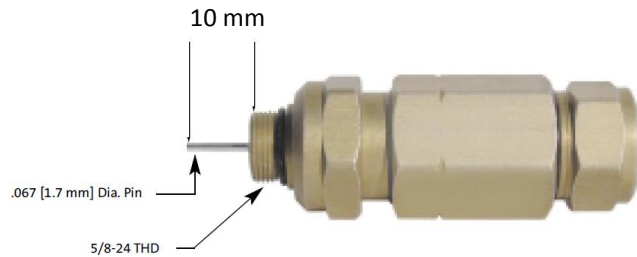
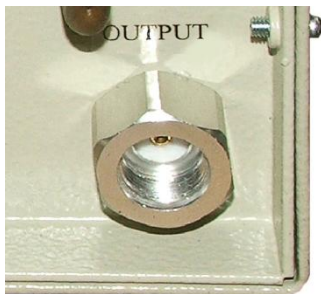


Model	Output Port	Output Voltage	Output Current [A]	Input Voltage[V]	Frequency [Hz]	Housing	Monitoring
SC S TFPS 1080 60UI	Single	66,72	15	110,120	45 ÷ 65	Indoor	-
SC S TFPS 1080 60UO	Single	66,72	15	110,120	45 ÷ 65	Outdoor	-
SC D TFPS 1800 60UI	Dual	66,72	25	110,120	45 ÷ 65	indoor	-
SC D TFPS 1800 60UO	Dual	66,72	25	110,120	45 ÷ 65	outdoor	-
SC S TFPS 1300 90UI	Single	60,75,87	15	110,120	45 ÷ 65	Indoor	-
SC S TFPS 1300 90UO	Single	60,75,87	15	110,120	45 ÷ 65	Outdoor	-
SC D TFPS 2200 90UI	Dual	60,75,87	25	110,120	45 ÷ 65	indoor	-
SC D TFPS 2200 90UO	Dual	60,75,87	25	110,120	45 ÷ 65	outdoor	-
SC D TFPS 2200 90UOM	Dual	60,75,87	25	110,120	45 ÷ 65	outdoor	✓
SC S TFPS 1080 60EI	Single	66,72	15	220,230,240	45 ÷ 65	Indoor	-
SC S TFPS 1080 60EO	Single	66,72	15	220,230,240	45 ÷ 65	Outdoor	-
SC D TFPS 1800 60EI	Dual	66,72	25	220,230,240	45 ÷ 65	indoor	-
SC D TFPS 1800 60EO	Dual	66,72	25	220,230,240	45 ÷ 65	outdoor	-
SC S TFPS 1300 90EI	Single	60,75,87	15	220,230,240	45 ÷ 65	Indoor	-
SC S TFPS 1300 90EO	Single	60,75,87	15	220,230,240	45 ÷ 65	Outdoor	-
SC D TFPS 2200 90EI	Dual	60,75,87	25	220,230,240	45 ÷ 65	indoor	-
SC D TFPS 2200 90EO	Dual	60,75,87	25	220,230,240	45 ÷ 65	outdoor	-
SC D TFPS 2200 90EOM	Dual	60,75,87	25	220,230,240	45 ÷ 65	outdoor	✓

Connecting Power Cable to T-former AC OUTPUT

All Safecom power supplies model has high current output quick type connector without seizure screw.

- ✓ Simply plug in connector at the front panel.
- ✓ Connection is made quickly and reliably from outside.
- ✓ Beryllium, cooper contact.



Note : The center conductor may be cut clean to allow for complete fit.
The length of the center conductor must be 10 mm.

Troubleshooting and Repair

The T-former P.S designed to be the most reliable P.S that can be use for unlimited time at most harass environmental such as heating and humidity even at maximum load.

Power supply has slow start circuit and overload protection to prevent the most common failure at the network such as inrush current that switch OFF circuit breaker, or fuse blow cause by overload or sort circuit.

This guide explain the few rare symptoms possible.

Symptom	Reason	Solution
<i>No Voltage at output RED LED "ON"</i>	1) P.S. was shut down due to overload current short-circuit or a burnt fuses..	The network must monitored and the failure cause must be removed
	2) Fuse blow	Replace fuses and restart.
No voltage at output LED "OFF"	Circuit breaker down / No Power at the Main	Turn on Circuit breaker.
The fuse blows out upon activation of the power supply	Neutral wire must be connected to the connector marked "0".	Check polarity of output connection.
Output voltage exists but the LED is still Red.	Overload protection >15A activated	Reduce the load under 15A .