

## Typical Application:



## Operation & Setup:

1. Connect any auxiliary loads to the controller AUX output on rear of unit. Connect "FG" connection to Earth Ground. Connect POE OUT to any 802.3at compatible device.
2. Remove the front green connector and wire Battery to BAT and PV to SOL connections. Observe proper polarity. There are two BAT- connections for convenience. You only need to connect to one of them. Double check your connections and then plug the green connector with wires attached to the unit.
3. When battery voltage is within operating range, the LOA LED will light and the loads will turn on. When SOL is powered, the SOL LED will light. The CHA LED will also light to show that battery is charging.
4. Using CAT5e or better Ethernet cable, connect the POE IN port to an 802.3at/bt PoE switch or injector. When power is applied to POE IN, the POE LED will light and the battery will charge from the PoE power. Note: Solar power, if present, always takes priority in charging the batteries.
5. The housing has tabs on either side for mounting to a wall or DIN rail using the included DIN Rail Adapters.

**SOL** – Solar / PV Connection

**BAT** – Battery Connection.

Note: There are 2 BAT- connections for convenience.



**POE** – POE IN is Powered  
**SOL** – SOL IN is Powered  
**CHA** – Battery is Charging.  
 Flashing = Float  
**LOA** – Load outputs are ON  
**REV** – Battery Reverse Power

**FUSE** – 12A 5x20mm

**POE OUT** – 802.3af/at 35W PoE  
**POE IN** – 802.3at/bt 35W 2/4Pair



## GigE PoE/Solar Charge Controller

*Innovative solar products designed to deliver uninterrupted power.*



## USER MANUAL

# TS-SCPOE-xxAT-G

[www.tyconsystems.com](http://www.tyconsystems.com)

## Tycon® 16 Port Gigabit 802.3at PoE+ Managed Injector

### Description

Tycon Solar® SCPOE PoE/Solar charge controllers are designed to keep critical systems running by charging batteries using two power sources: Power over Ethernet (PoE) and solar panels. This dual-input setup ensures reliability and uninterrupted operation. When sunlight is available, the controller prioritizes solar power to reduce reliance on grid electricity.

Key features:

- Built-in PoE Injector: Delivers a steady 56VDC, 35W output via a Gigabit 802.3at PoE connection.
- Comprehensive Protections: Guards against short circuits, reverse current, overvoltage, overcharging, and over-discharging (LVD).
- Status Indicators: Five LEDs show whether the power source is PoE or solar, if the battery is charging, if the load output is active, and if the battery is incorrectly connected.
- Connections:
  - Solar, battery, and auxiliary load connections use five screw terminals for wires up to 10AWG.
  - PoE input and output use two shielded RJ45 connectors.
- Fuse Protection: Includes a replaceable 12A fuse.
- Power Capacity:
  - TS-SCPOE-12AT-G: Supports up to 120W for connected devices.
  - TS-SCPOE-24AT-G: Supports up to 240W for connected devices.

### Features

- Dual Input - Charges 12/24V Batteries from Solar Panel and/or 802.3at/bt PoE
- Supports up to 120W/240W Total Device Load
- 802.3at 35W PoE Output
- 10A Aux Output (VOUT = battery voltage)
- Compact and high temperature operation
- Low self consumption < 1.2W
- DIN Rail mount kit included



### Applications

- Remote Power Systems; Surveillance, Sensors
- Wireless Stations ; AP / Client / Repeaters
- UPS Systems ;Lighting, Fences, Gates

### Safety Notes:

- Always connect BAT first and disconnect last. The solar charger cannot be used without a BAT connection.
- "FG" connection should be connected to Earth Ground for Lightning/Surge protection.

## Specifications:

	TS-SCPOE-12AT-G	TS-SCPOE-24AT-G
Solar Input	<b>18-25VDC 120W Max</b>	<b>33-40VDC 240W Max</b>
PoE Input (802.3at/bt or Passive)	36-57VDC 35W Gigabit (1.7A~2.0A Internal Regulated)	
POE IN Pinout	12.36 or 45.78 2 Pair or 4 Pair	
Battery Voltage	12VDC	24VDC
Battery Type	AGM/GEL Lead Acid or LiFePO4/LFP/Lithium with compatible BMS	
PoE Output	Gigabit 802.3at 56VDC 0.625A 35W	
POE OUT Pinout	802.3at Mode A Pins 12.36	
Aux Output (Battery Voltage)	12VDC 10A Max	24VDC 10A Max
Charging Voltage	14.4VDC	28.8VDC
Float Voltage	13.8VDC	26.8VDC
Low Voltage Detect (LVD)	Load Output Off: 11.0 +/-0.3V Load Output On: 12.0 +/-0.3V	Load Output Off: 20.0 +/-0.3V Load Output On: 24.0 +/-0.3V
Load-On Self Consumption	< 1W	<1.2W
Load-Off Self Consumption	0.04W Typical	
Max Wire Size	10 AWG	
Battery Fuse	5mm x 20mm 12A 250V Slo-Blow	
Operating Temp	-40°C to 60°C (-40°F to 140°F)	
Operating Humidity	5% - 90% Non-Condensing	
Dimensions	159 x 118 x 40mm (6.3 x 4.6 x 1.6")	
Weight	476 g (1.05 lb )	
Warranty	3 Years	
MTBF (Mean Time Between Failure)	1,414,941 Hours	
Warranty	3 Years	