



## DATA SHEET

### MPPT Solar Controller w/ Monitor and PoE Switch

#### Features

- TPDIN® MPPT 48V 20A Solar Controller
- Temperature Compensated Smart Battery Charging
- 7 Port Gigabit PoE Switch
- Remote Monitor and Control
- 48V or 24V User Selectable Output Voltage
- 2.25A Auxiliary Wire Terminal Output
- Total 200W Power Output
- Automatic Low Voltage Battery Disconnect
- DIN Rail or Screw Tab Mounting



#### Description

The newest in our TPDIN® series of products is the TPDIN-SC48-20 v2. It is a web manageable MPPT Solar Controller with built-in 7 Port Gigabit Passive PoE switch. The controller uses temperature compensated smart battery charging to properly charge GEL or AGM or Lithium batteries and extend their life. It has a balance charge mode for periodic battery bank maintenance. There are 4 Gigabit 802.3at or 24/48V Passive PoE and 3 Gigabit 24/48V Passive PoE ports. Each port is capable of 0.645A Max. There is a wire terminal auxiliary output capable of 2.25A maximum. Total from all outputs is set at 150W at 48VDC and 72W at 24VDC for a max total of 222W. Outputs can be switched by user between 802.3at (port 1-4 only), 48VDC, 24VDC or OFF through the web interface.

The web interface has full capabilities to measure and log battery voltage, battery current, input voltage/current, load current and battery temperature. Ports can be controlled by a settable ping watchdog to power cycle the port if communications to the unit are interrupted. Auxiliary port can be controlled by voltage or temperature or time so it can be programmed to control lights, pumps, generators, heaters, fans, etc. The unit supports automated Email alerts if user programmed limits are exceeded so that the user can be alerted in case of developing problems at the site.

The controller can also be powered through an external AC to DC power supply connected to the PV+/PV- input in order to charge the batteries from an AC source like grid power or generator.

All inputs and outputs are surge and overload protected. Connectors and battery fuse are removable for easy maintenance. The controller can be mounted using the integral DIN rail mount bracket or using 2 mounting tabs.

#### Specifications

TPDIN-SC48-20 v2	
<b>Solar Input Voltage</b>	56VDC Min to 100VDC Max
<b>Max Solar Panel Open Circuit Voltage (Voc)</b>	100VDC (Maximum worst case over full temperature range)
<b>Max Solar Panel Power Point Voltage (Vmp)</b>	90VDC
<b>Solar Input Current</b>	20A Maximum
<b>Typical Controller Efficiency</b>	96% (68VDC Input, 10A Load, 25C)
<b>MPPT Tracking Frequency</b>	19 times/sec or 19 Hz
<b>Battery Voltage</b>	48VDC (Controller will function down to 20VDC)
<b>Battery Current</b>	20A Maximum
<b>Battery Type</b>	GEL or AGM or WET or Lithium
<b>Charging Volts at 25C</b>	AGM= Float:55.2, Bulk:57.6V, Balance:58.4V (60 Min)

	GEL= Float:55.2, Bulk:56.8V, Balance:Disabled WET= Float:55.2, Bulk:58.4V, Balance:59.2V (60 Min) Lithium= Float:Disabled, Bulk:57.6V, Balance:Disabled
<b>Temperature Compensation</b>	-3mV/°C/2V
<b>Fuse Type</b>	58V 20A Automotive Mini Blade Type (Littlefuse 0997020.WXN)
<b>Low Voltage Disconnect</b>	42 to 47.8 – settable in web interface
<b>Low Voltage Disconnect Recovery</b>	44.6V to 49.2V – settable in web interface
<b>Auxiliary DC Output Voltage</b>	24VDC or 48VDC – settable in web interface
<b>Auxiliary DC Output Current</b>	2.25A Maximum Continuous, 3A Max peak
<b>Auxiliary DC Output Controls</b>	Temperature, Voltage, Time – settable in web interface
<b>PoE Switch</b>	Qty 7 RJ45, 10/100/1000MB Gigabit Ethernet, Layer 2, Auto Crossover
<b>PoE Output Voltage</b>	802.3at (port 1-4 only), 48VDC or 24VDC or OFF – settable in web interface
<b>PoE Output Power</b>	0.645A per PoE Port Max PoE Power supplied on pins 4,5 (V+) and 7,8 (V-) (Mode B)
<b>Port Surge Protection</b>	IEC 61000-4-2 (ESD) 15kV (air), 15kV (contact) IEC 61000-4-4 (EFT) 40A (5/50ns) IEC 61000-4-5 (Lightning) 25A (8/20µs)
<b>Maximum Power Output</b>	222W Total (150W @ 48VDC and 72W @ 24VDC) from all output ports (including Aux Output), Auto Shutdown and Autorecovery from Fail
<b>Indicator LED's</b>	Charge (Green), 24VDC (Green) or 48VDC (Yellow) Port Voltage, Overload (Red)
<b>Measurement Accuracy (V / I / T)</b>	+/- 0.1V , +/- 0.1A , +/- 1 Deg C
<b>Power Consumption</b>	3.5W Typ
<b>Accessibility</b>	Via Web Browser and SNMP
<b>Data-Logger</b>	FIFO, 15,000 data sets, Programmable log interval
<b>Wire Size</b>	Solar and Battery – 8AWG, Aux DC Output -12AWG
<b>Mounting</b>	DIN Rail or 4mm Screw Tab
<b>Operating Temperature</b>	-40C to +65C (-40F to 149F)
<b>Humidity (RH)</b>	0% - 90%
<b>Dimensions (LxWxD)</b>	151mm x 111mm x 138mm (5.9 x 4.4 x 5.4")
<b>Weight</b>	1.5kg (3.3lbs)
<b>MTBF</b>	>100,000 Hrs
<b>Certifications</b>	FCC/CE EN55022 (EMC) ; CE EN55024 (EMC); CE/UL EN60950-1 (LVD)
<b>Warranty</b>	3 Years

Monitor Graphs Log System Control SNMP Upgrade

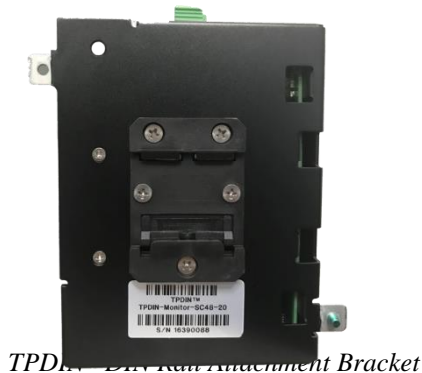
**Port Controls**

Port 1 ON 24V Cycle  
 Port 2 ON 24V Cycle  
 Port 3 ON 24V Cycle  
 Port 4 ON 48V Cycle  
 Port 5 ON 48V Cycle  
 Port 6 ON 48V Cycle  
 Port 7 OFF OFF Cycle  
 Aux ON 24V Cycle

Battery Voltage: 50.2V  
 Battery Current: 1.9A  
 Input Voltage: 62.3V  
 Input Current: 1.9A  
 Load Watts: 12W  
 Battery Temp: 77.3F  
 Battery Status: BULK

Load voltage Setting: 24V/48V Enabled  
 Controller Time: 08/16/2016 12:26:37  
 Uptime: 0 days 01:00:25  
 MPPT Version: 1.700  
 Version: 2.3.6

Disable Confirm



## Ordering:

**TPDIN-SC48-20** TPDIN® MPPT 20A Manageable Solar Controller with PoE Switch

## For further information contact:

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