



## ***TPDIN™-Monitor-WEB2***

### ***Web Based Monitor and Control***

- Remote Power Stations
- Backup Power Systems
- Solar Systems
- Wind Powered Systems
- Industrial Sense & Control
- Process Automation



***Congratulations!*** on your purchase of the TPDIN™-Monitor-WEB2 System Monitor. Please take a moment to review this Qwik Install Guide before installation.



**Recommended Tools and Supplies:** Small Flat Blade Screwdriver, 35mm x 7.5mm DIN Rail

## **Qwik Install**

**STEP 0:** The TPDIN™-Monitor-WEB2 can be used to monitor Qty 4 1V -80V Voltages, four Currents ( Qty 1 +/- 10A, Qty 1 shunt and Qty 2 +20A) and two temperatures (1 internal and 1 external). There are four 10A relays that can be used to control power to four devices. Two of the relays (CH1,CH2) are normally closed type and two are normally open type (CH3,CH4). They can be automatically controlled by voltage, current, temperature, ping watchdog or time.

**STEP 1:** Install the TPDIN™-Monitor-WEB2 to a suitable DIN rail mount.

**STEP 2:** Connect the voltages to be monitored to the V1 to V4 voltage ports. Voltages between 1 and 80volts DC can be monitored.

**Note:** The green connectors may need to be removed to be able to access the wire terminal screws. The green connectors are numbered 1-7 and should be re-installed back in their proper position.

**STEP 3:** Connect the currents to be monitored to the I1-I3 current ports. I1 and I2 can read currents from 0.1 to 20A. I3 can read positive or negative currents to +/-10A. I3 can be used to measure current flowing into and out of a battery to see if the battery is charging or discharging. I4 is

designed to be used with a current shunt to be able to read higher currents. It is also capable of reading +/- current.

**STEP 4:** Connect any power to devices you want to be under relay control to the CH1—CH4 relays. The CH1 and CH2 relays are normally closed relays and the CH3 and CH4 are normally open relays. When the relay is in it's default position it draws zero power. When it is switched to the opposite position, it draws up to 0.5W. When the Open/Closed indicator in the user interface is Green, the relay is not using any power. When it is Red, the relay is using up to 0.5W.

**STEP 5:** Connect the External Temperature sensor to the included green wire terminal connector. There is no polarity. Plug the wire terminal connector to the "Temp." connector location. Locate the external temperature sensor where you want to measure external temperatures. You can extend the wire lengths if desired by soldering additional wires to the existing wires. You can measure temperatures from -40C to +125C

**STEP 6:** The *TPDIN™-Monitor-WEB2* can be powered with 10-57VDC thru the wire terminal connector #7 or via 802.3af/at PoE or Passive 24V to 48V PoE thru the RJ45 PoE/DATA port. If powered by both wire terminal and PoE port, the port with highest voltage has priority.

**STEP 7:** Download the Discovery Tool from [http://tyconsystems.com/Assets/TPDIN\\_Firmware/Tycon\\_Discovery\\_Tool.zip](http://tyconsystems.com/Assets/TPDIN_Firmware/Tycon_Discovery_Tool.zip)

The *TPDIN™-Monitor-WEB2* ships with IP addressing by DHCP enabled. The discovery tool will find the IP address of the device so you can access the web control panel. If not connected to a DHCP server the default IP address is 192.168.1.6

**STEP 8:** Open the Web control panel of the unit by using the discovery tool or typing the units known IP address into a browser. The unit will serve up the Monitor web page. The monitor page is where all the voltage, current, temperature and relay status can be seen. Relays can also be controlled manually from this page. There is a cycle button by the relays if you want to automatically cycle a relay from open to closed and back. The Cycle Delay is specified on the SYSTEM page.

You can modify any labels directly on the monitor page. Click "Save Labels" to save your customizations.

**STEP 9:** Open the System Page. Here you can set a static IP Address. You can also set access security by entering a user name and password (10 characters max). You can also set a unique Host Name to identify the Monitor. Sensor offsets can be entered to fine tune the readings to match another piece of measuring equipment or to compensate for line loss.

**STEP 10:** Open the Relays Page. This is where you can set the relay controls. Relays can be controlled by Time, Temp, Voltage, Current, Ping or Periodic. The controls can be setup as compound controls so

more than 1 control can be setup for a single relay. The control above has priority.

**STEP 11:** Open the Alerts Page. This is where you can setup the SMTP server and various alerts. Multiple alert triggers can be set. SSL servers will be supported on a future software release.

## Other Pages

**SNMP:** You setup the SNMP access on this page. The unit supports SNMP walking and extracting data via SNMP programs such as Cacti. The relays can also be controlled via SNMP. The unit does not support SNMP traps.

**Upgrade:** Go to this page to update the software. Download the latest software from Tyconsystems.com. Select the file and click on “Upgrade and Reboot”. Note: Do not navigate away from this page during upgrade or the upgrade will be aborted.

**Log:** You will find a sequential log file of system events here. You can set the log interval on the System page. The log memory status can be seen on the Monitor Page. When the memory reaches 100% the new data will bump the old data. The log holds 4048 records.

**Graph:** You can graph single or multiple parameters. Click on “Show All” to see all the data. To print the graph do a screen capture and save as a graphic file.

## TECH CORNER

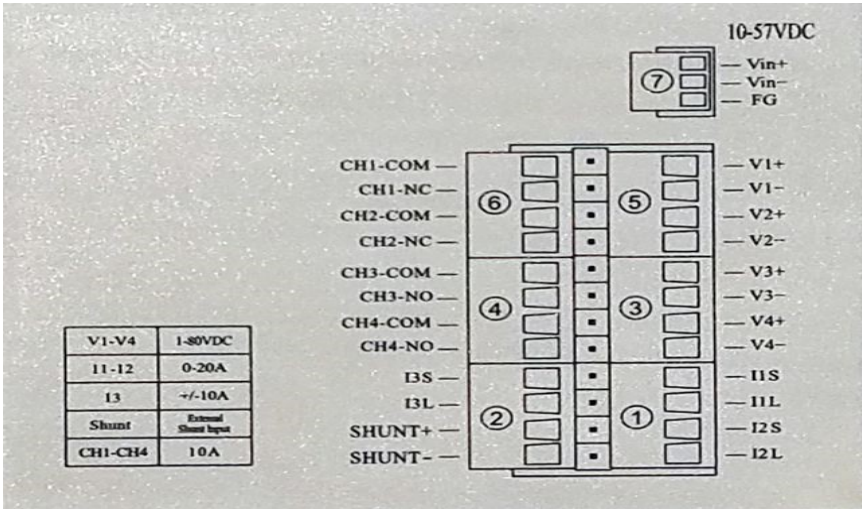
### *Additional Information you may find useful*

1. **FUSE:** The *TPDIN™-Monitor-WEB2* has an external mini blade 2A fuse. If the *TPDIN™-Monitor-WEB2* doesn't power up, check the fuse.
2. **LIMITS:** Don't exceed 80V on the voltage inputs or 20A on the current inputs or 10A on the relays or the unit could be damaged. This kind of damage isn't covered under warranty.
3. **MOISTURE:** The *TPDIN™-Monitor-WEB2* is designed to be used indoors or outdoors in a weatherproof enclosure. Avoid getting the *TPDIN™-Monitor-WEB2* wet. This kind of damage isn't covered under warranty.
4. **TELNET:** The unit can be accessed via TELNET to see the present readings and also control the relays. You can toggle relays using the number keys on the computer #1-4. Default TELNET user name = admin and password = tycon
5. **BATTERY STATUS:** If measuring voltage of battery systems typical state of charge readings are as follows. These readings are

State Of Charge	Sealed or Flooded Lead Acid	GEL Battery	AGM Battery
100%	12.7+Volts	12.9+Volts	12.8+Volts
75%	12.4 Volts	12.7 Volts	12.6 Volts
50%	12.2 Volts	12.4 Volts	12.3 Volts
25%	12.0 Volts	12.0 Volts	12.0 Volts
10%	11.8 Volts	11.8 Volts	11.8 Volts

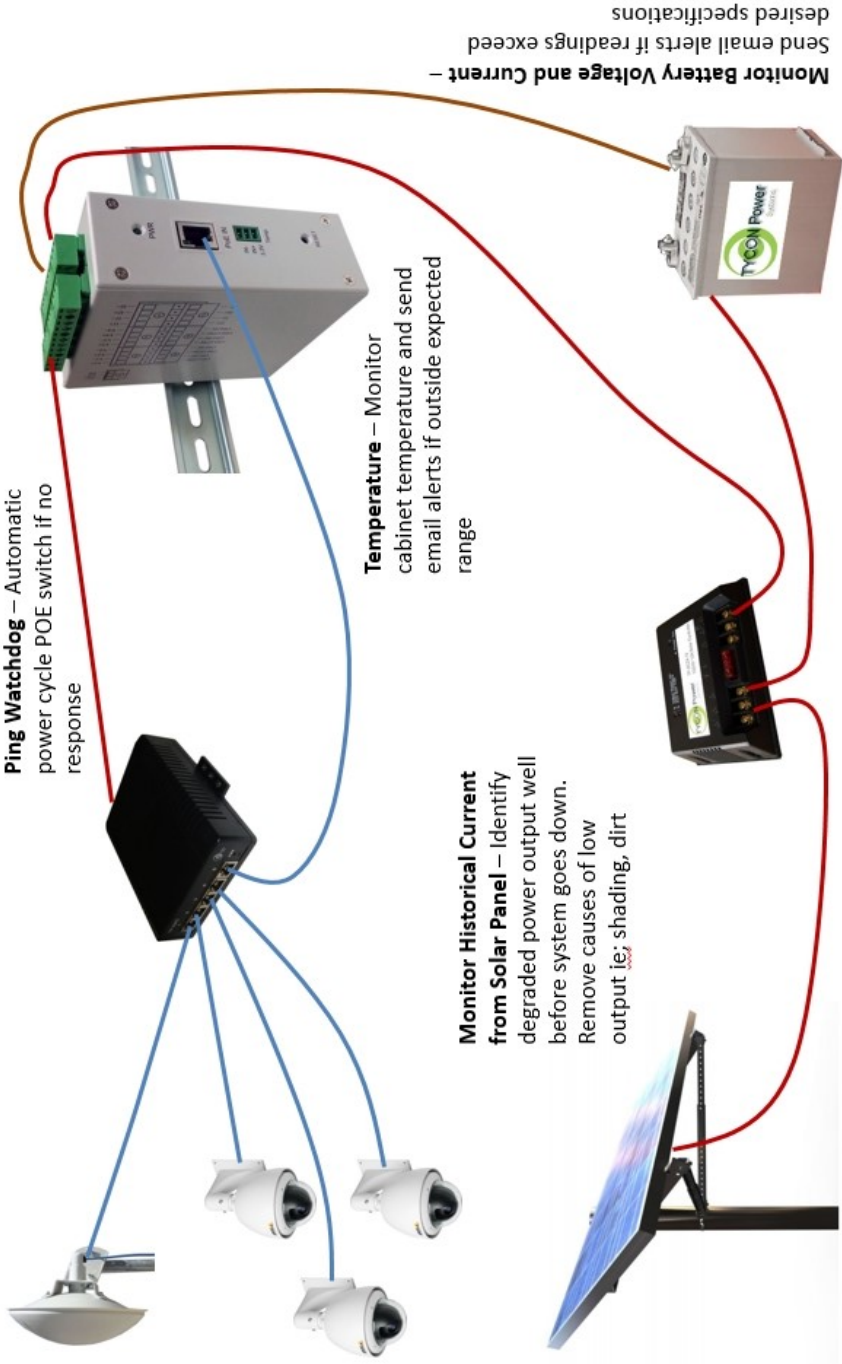
without any load on the battery. For max battery life don't discharge under 50%:

5. **Operating Power:** The TPDIN™-Monitor-WEB2 has extremely low operating power, typically less than 1.5W. CH1,CH2 relays are normally closed type and CH3,CH4 are normally open type so in typical operation they don't use any power until they are energized. If the relays are turned on, the power usage will increase by 0.5W per relay.
6. **WIRE TYPE:** When using the monitor in high current applications (>10A), it's important to use a stranded wire with many fine strands. This type of wire will provide a low resistance electrical connection to the green connectors. If using course strand wire such as THHN, there will be higher resistance in the connection which will generate excessive heat at high currents, possibly causing damage to the connectors. NEC Wire Class C and D are acceptable.
7. **Reset to Factory Defaults:** Power up unit. Wait at least 20 seconds. Press reset button and hold for 15 seconds to reset to factory defaults. If reset button is held for longer than 30 seconds, the unit will roll back to the last stable factory firmware. Only use this if the unit has an unrecoverable error.
8. **Shunt Resistor:** The unit is capable of reading a shunt voltage up to +/-25mV into I4 input. Just enter the shunt resistor ohms on the system page and the correct current will be displayed on the monitor page.
9. **Branding:** You can brand the TPDIN™-Monitor-WEB2 with your own logo, colors and suppress the Tycon footer. Just access the custom.htm page by entering <IP Address>/custom.htm to a browser. You can change the parameters on this page and save. If you have multiple units to update with your brand, get the branding correct on one unit then go to the brand.htm page. Copy and paste the code to a txt file. Open the next unit brand.htm page and upload the new text file to the unit. All custom parameters will be uploaded from the single file.



<b>Voltage Measurement (DC)</b>	V1, V2, V3, V4 = 1-80VDC
<b>Voltage Meas Accuracy</b>	+/- 0.1V
<b>Current Measurement (DC)</b>	I1, I2 = 0.1A to 20A, I3 = +/-10A I4 Supports Ext Current Shunts – Input Range +/- 25mV
<b>Current Meas Accuracy</b>	+/- 0.1A
<b>Common Mode Volt Range</b>	-20V to +80V
<b>Temperature Measurement</b>	T1,T2 = -40C to 125C
<b>Temp Measurement Type</b>	T2 = Embedded, T1 = External Sensor (included)
<b>Temp Measurement Accuracy</b>	+/- 1 degC
<b>Relays</b>	CH1, CH2 (NC) ; CH3, CH4 (NO) = 10A 30VDC, 125 -250VAC
<b>Relay Control</b>	CH1, CH2, CH3, CH4 = Manual or Automatic based on Volts, Amps, Temperature, Ping or Time
<b>Power Requirements</b>	10-57VDC Wire Terminal or 802.3af/at Class 0 PoE or 24V Passive PoE 1.5W All Relays Off, 3.5W All Relays On
<b>Accessibility</b>	Via Web Browser and SNMP and Telnet
<b>Data-Logger</b>	FIFO, Max 4048 data sets, Prog log interval
<b>Connections</b>	Removable Wire Terminal
<b>Wire Size</b>	12AWG Max
<b>Mounting</b>	DIN Rail
<b>Operating Temperature</b>	-40C to +75C (-40F to 167F)
<b>Humidity (RH)</b>	0% - 90%
<b>Dimensions (LxWxH)</b>	125 x 102 x 46mm (4.9" x 4" x 1.8")
<b>Weight</b>	410g (14.5 oz)
<b>Warranty</b>	2 Years

# Connector Pinouts



## **Limited Warranty**

The TPDIN™-Monitor-WEB2 products are supplied with a limited 24 month warranty which covers material and workmanship defects. This warranty does not cover the following:

- Parts requiring replacement due to improper installation, misuse, poor site conditions, faulty power, etc.
- Lightning or weather damage.
- Physical damage to the external & internal parts.
- Products that have been altered, or defaced.
- Products that have been subjected to voltages or currents greater than the published ratings.
- Water damage for units that were not mounted according to user manual.
- Usage other than in accordance with instructions and the normal intended use.

## **Notes**





