

REMOTELY ACCESSING TED ENERGY DATA

There are several ways in which you can access your TED-data remotely.

- **3rd Party Posting**
- **TED Commander**
- **Port Forward**
- **Internet Access Options**

Definitions:

3rd Party Posting - allows 3rd parties to use TED's open source API to design their own website to display data from TED. The activation link from the 3rd party website is simply entered into a field on the Footprints page to have TED begin posting. THE OWNER OF THE 3RD PARTY WEBSITE IS ENTIRELY RESPONSIBLE FOR THE MAINTENANCE AND SUPPORT FOR THE 3RD PARTY APPLICATION.

API - *application program interface* – the published documentation allowing program developers the format in which TED energy-data will be sent.

TED Commander - a cloud server, owned and maintained by Energy Inc. Data is posted to this site by entering the activation link in Footprints in the same manner as 3rd party posting. VERY simple and unique way to view your data remotely.

Port Forward - a router configuration that allows a device on a local network to be accessed remotely.

3rd Party Post vs Port Forwarding

Ease of Setup and Features

	TED Commander	3rd Party Post	Port Forward
Easy setup from Footprints, no router configuration	✓	✓	
Complicated setup. Remote access to Footprints: Dashboard, graphs, settings and firmware updates			✓

Requirements

	TED Commander	3rd Party Post	Port Forward
Support from 3rd Party	✓	✓	
Configuration of router which may require IT support			✓
Internet Access	✓		✓

3rd Party Post Instructions

Check out the options

- Links to 3rd party sites can be found on our website.
- Some sites will be entirely free, some will have features that may be purchased
<http://www.theenergydetective.com/third-party-apps>

Follow the instructions

- Go to the site.
- Create an account.
- From Footprints, select settings/activate posting.
- Enter activation link and key provided by 3rd party site

New TED posting feature: MTU posting

- Available on the TED Pro MTU
- This option allows the addition of multiple MTUs without an ECC or without adding additional ECCs.
- Excellent for installations where 5 or more loads or MTUs are used and cost calculations are not required.
- Requires the MTU have an Ethernet connection to the local network.
- Posts energy data
- Activated from the MTU user interface
- Does not post cost-data.

The screenshot displays the TED MTU PRO configuration interface. At the top, the TED logo and 'MTU PRO' are visible. Below the header, there are several configuration sections:

- Phase Type:** 3-phase four wires with three voltage sensors (w) (dropdown menu)
- Rogowski Coil?** (checkbox, currently unchecked)
- Network Settings:**
 - Device Name: MTU3000
 - HTTP Port: 80
 - HTTPS Port: 443
 - Use Password:
 - Username: admin
 - Password: [masked]
 - Use DHCP:
 - IP Address: 192.168.1.104
 - Subnet: 255.255.255.0
 - Gateway: 192.168.1.1
 - Primary DNS: 192.168.1.1
 - Secondary DNS: 0.0.0.0
- Firmware Settings:**
 - Firmware Revision: 456
 - UI Revision: 442
 - Serial ID: 1301AF
 - Update Firmware (button)
- Multiplier Settings:**

Type	Phase A	Phase B	Phase C
Voltage (V):	1.0000	1.0000	1.0000
Current (A):	1.0000	1.0000	1.0000
Active Power (W):	1.0000	1.0000	1.0000
Apparent Power (VA):	1.0000	1.0000	1.0000

At the bottom of the interface, there are buttons for 'Save', 'Stats', and 'Activate Third Party Posting'.

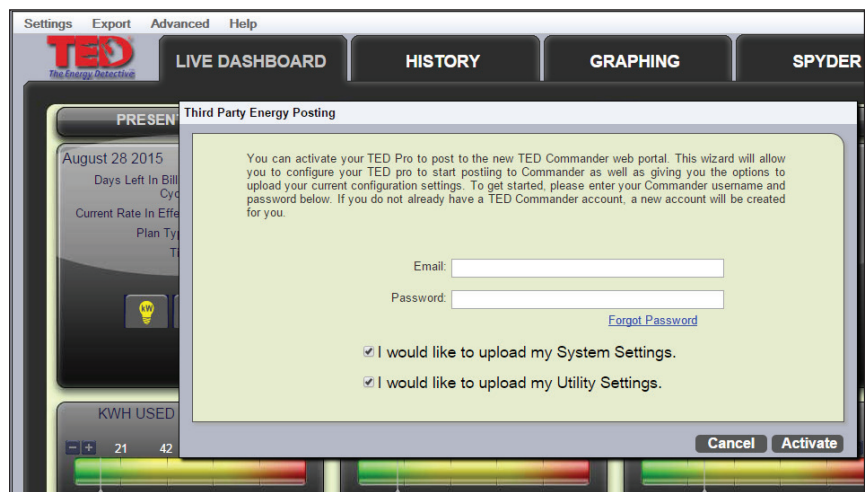
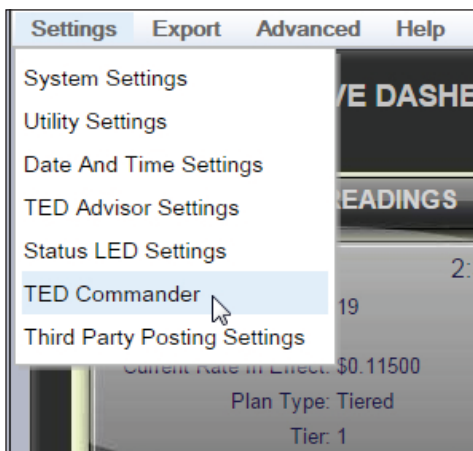
TED Commander

<http://commander.theenergydetective.com/commander/>

TED Commander is hosted on Energy, Inc.'s cloud service. There will be future changes and enhancements. Commander is currently free, but there may be some nominal fee in the future for server maintenance.

User's can post their energy and cost data from one TED system or multiple systems. The data can then be compared or combined into user-defined groups. Anyone can create an account. Users can then share data with other Commander members.

Very comprehensive graphing and comparison library.



Home-1 (Cost Per Day, kWh Net)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May 17, 2015 \$5.21 36.2 kWh	18 \$5.23 36.2 kWh	19 \$6.96 48.2 kWh	20 \$6.35 44.1 kWh	21 \$6.23 43.2 kWh	22 \$4.38 30.4 kWh	23 \$6.53 45.3 kWh
24 \$4.82 33.5 kWh	25 \$3.52 24.4 kWh	26 \$3.70 25.6 kWh	27 \$4.26 29.6 kWh	28 \$3.47 24.1 kWh	29 \$2.83 19.7 kWh	30 \$3.65 25.3 kWh
31 \$6.62 45.9 kWh	Jun 1, 2015 \$8.30 57.5 kWh	2 \$6.47 44.9 kWh	3 \$6.42 44.5 kWh	4 \$3.97 27.5 kWh	5 \$5.94 41.2 kWh	6 \$6.61 45.8 kWh
7 \$7.07 49.0 kWh	8 \$5.58 38.7 kWh	9 \$5.72 39.7 kWh	10 \$4.97 34.5 kWh	11 \$6.37 44.2 kWh	12 \$7.10 49.3 kWh	13 \$8.47 58.7 kWh
14 \$9.14 63.4 kWh	15 \$4.45 30.8 kWh	16	17	18	19	20

Port Forward

- Gives the user remote access to only TED. There is no back door security risk that would compromise the firewall or security settings that you have enabled.
- User-setup requires individual be at least a “5” on a 1-10 geek scale.
- It is, however, a 5-minute job for an IT professional.
- Every router setup is slightly different.
- Portforward.com is a great resource: <http://portforward.com/>

Example of Port Forward

Determine the IP of the TED device from the Network Settings tab. (EDIT > System Settings Wizard > Network Settings Tab)

Device Name: TED6000
 HTTP Port: 80
 HTTPS Port: 443
 Use network settings provided by your router (DHCP)? If you are having problems connecting to your ECC, try a static IP address.
 IP Address: 192 . 168 . 1 . 111
 Subnet: 255 . 255 . 255 . 0
 Gateway: 192 . 168 . 1 . 1
 Pri. DNS Address: 192 . 168 . 1 . 1
 Sec. DNS Address: 0 . 0 . 0 . 0

It is recommended that you un-check the “DHCP” box, then go to Write to Device to save the change. This will keep the local TED IP from changing; (write the IP down and tape to bottom of TED device). If this is a commercial installation, it is highly recommended the IT Administrator be consulted before a static IP is set.

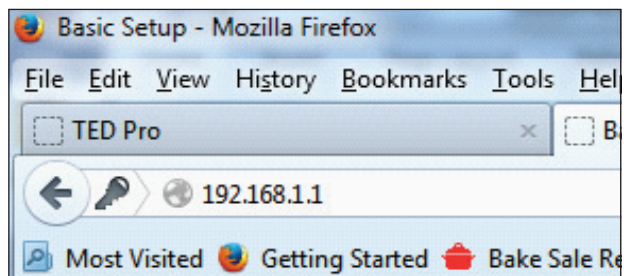
Your router’s user name and password will be required to make the system setting changes.

```
C:\Users\Amartin>ipconfig
```

If router IP is unknown, open Command Prompt and type “ipconfig” then press Enter.

```
Wireless LAN adapter Wireless Network Connection:
Connection-specific DNS Suffix . : home.network
IPv6 Address. . . . . : fd6a:fb6a:94d6:0:
Temporary IPv6 Address. . . . . : fd6a:fb6a:94d6:0:
Link-local IPv6 Address . . . . . : fe80::b4e8:827b:5
IPv4 Address. . . . . : 192.168.1.112
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.1
```

The Default Gateway will be the IP of the router.



Type IP of router in address bar of browser.

Access router. (Windows example)

The router settings will differ between manufacturers. Port forwarding options for this Linksys router are found under Applications and Gaming.

External Port	Internal Port	Protocol	To IP Address	Enabled
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
80	80	Both	192 . 168 . 1 . 111	<input checked="" type="checkbox"/>

Example of Port Forward (cont'd)

Enter the IP of the TED device.

Set 80 as the incoming and outgoing. Port 80 is the default port for the TED device. The port can be changed in TED's network settings.

Consult IT Administrator if external port should be changed.

Determine the external IP of the internet service. This can be found at:

www.portforward.com - or -

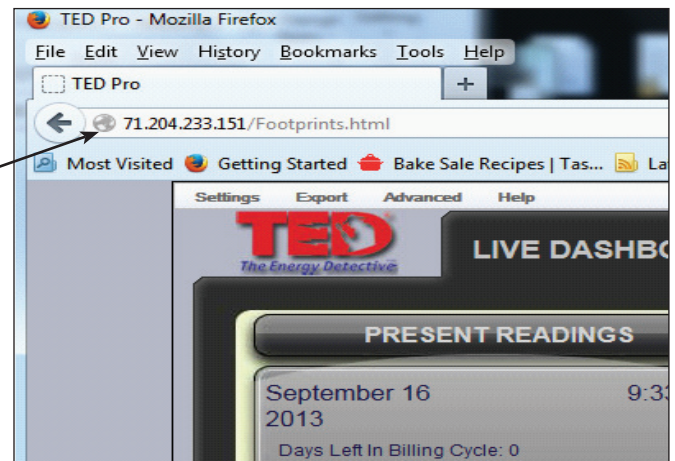
www.whatsmyip.org

Ask IT Administrator if a Static IP is required. (If IP is not static, your ISP (Internet Service Provider) may, on occasion, change your IP address without your knowledge, which would disconnect your Port Forwarding ability.)

External Port	Internal Port	Protocol	To IP Address	Enabled
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
80	80	Both ▾	192 . 168 . 1 . 111	<input checked="" type="checkbox"/>

Your external IP is: 71.204.233.151

If you chose the default ports, typing the external IP in the browser address bar will access the TED device from the web. (If you chose a *new* external port, the IP should be followed by a colon and the assigned port. I.E. If the port was 9191, type 71.204.233.151:9191 into the browser address bar.)



Tips and Options

- Have meeting with local IT Administrator, and have them contact TED with any questions.
- For large orders, call TED to discuss having us pre-configure your system's network settings.
- Ask TED about configuring your system with a cell modem for remote installations or installations where using the local network is not a good option.