

# REMOTE ACCESS TO ENERGY DATA

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

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

## Definitions:

**TED Commander** - The most simple approach to remote access (free). TED Commander is a cloud server owned and maintained by Energy Inc. Data is posted to this site every 1 minute. Very simple setup. Unique way to view your data remotely - on any platform or device. Has iOS and Android apps.

**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 APPLICATION 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 can be accessed.

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

## 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.

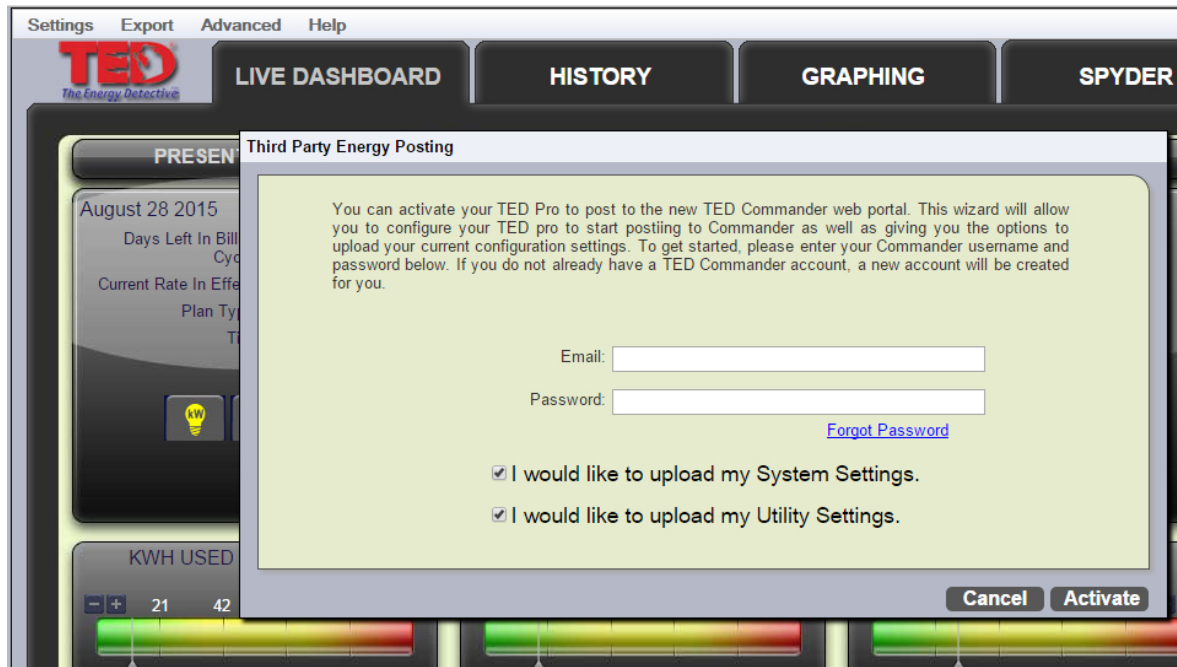
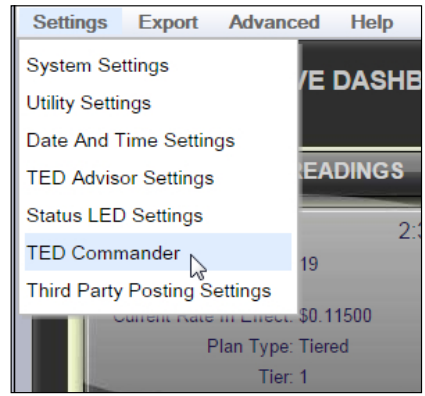
User's can post their energy and cost data from one TED system or multiple systems. The data can then be compared or combined into user-defined groups. Anyone can create an account. Users can then share data with other Commander members.

After TED Commander has been activated, the user may download the free iOS and/or Android app from the Apple Store or the Google Play Store. The app name is "TED Commander."

For details on all features, download the **TED Commander User Manual** (under the SUPPORT tab - Documents and Downloads - "TED Commander User Manual")

TED Commander was designed specifically for the TED Pro series of products.

Activating TED Commander is quite simple:



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

A screenshot of a calendar view titled 'Home-1 (Cost Per Day, kWh Net)'. The calendar shows data for the period from May 17, 2015, to June 20, 2015. Each day's entry includes a cost and kWh usage. The days are color-coded: green for lower costs, red for higher costs, and yellow for a specific day (Thursday, May 21). Navigation arrows are at the top left, and a globe and settings icon are at the top right.

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

## 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
Requires Support from 3rd Party		✓	
Configuration of router which may require IT support			✓
Internet Access	✓	✓	✓

## 3rd Party Post Instructions

Check out the options


- Links to 3<sup>rd</sup> 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.



# MTU PRO

Phase Type: 3-phase four wires with three voltage sensors (w)  Rogowski Coil?

### Network Settings

Network settings only need to be changed if you are using TCP to post data to the SCC.

Device Name:

HTTP Port:

HTTPS Port:

Use Password:

Username:

Password:

Use DHCP:

IP Address:

Subnet:

Gateway:

Primary DNS:

Secondary DNS:

### Firmware Settings

Firmware Revision: 456

UI Revision: 442

Serial ID: 1301AF

### Multiplier Settings

Type	Phase A	Phase B	Phase C
Voltage (V):	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>
Current(A):	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>
Active Pow (W):	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>
Apparent Pow (VA):	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>	<input type="text" value="1.0000"/>

# 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.

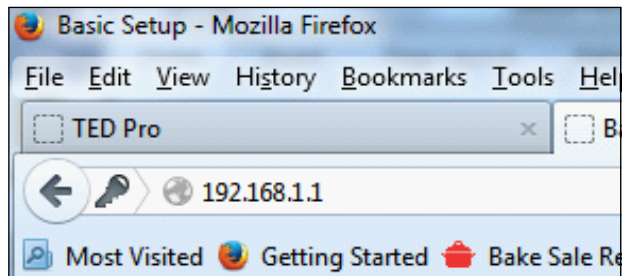
```
C:\Users\Amartin>ipconfig
```

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.

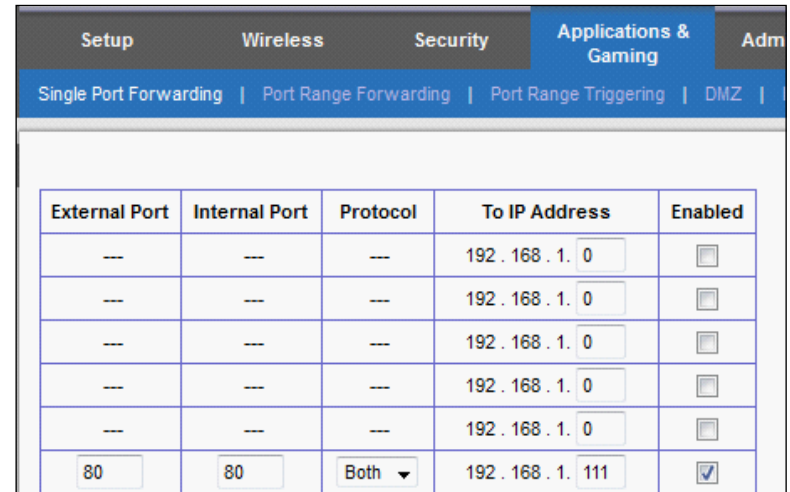
Consult IT Administrator if external port should be changed.

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

[www.portforward.com](http://www.portforward.com) - or -

[www.whatsmyip.org](http://www.whatsmyip.org)

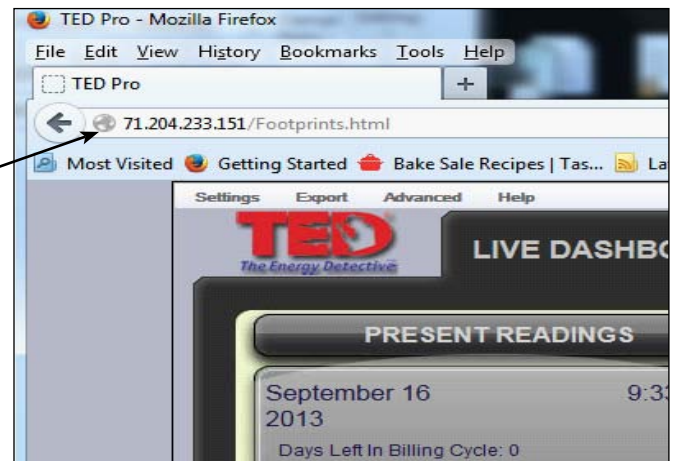
Ask IT Administrator if a Static IP is required. (If IP is not static, your ISP (Internet Service Provider) may, on occasion, change your IP address without your knowledge, which would disconnect your Port Forwarding ability.)



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.