

TESCO METERING

# Nighthawk Troubleshooting Best Practices

*TESCO's Meter School*  
**TESCOOL**  
*July 20-23, 2025*

*Monday July 21, 2025  
3:15PM – 4:30PM  
John Scott*

- Alerts for Billing
  - Non-Reporting – Device Reading over 48 hours old
  - Demand Reset Not Completed – Demand Reset Read older than Previous Cycle Read Date
  - Preactivated w/Activity – Device sending data but still in Inventory
  - Diagnostic – Meter Event that can indicate incorrect service configuration

## Billing Status

Bill Cycle	Next Read Date	Missed	Total Devices
1	07/31/2025	4	5324
2	08/15/2025	6	4291

## Alert Details

6 Caution	1 Tamper
3 Demand Reset Not Completed	35 Voltage Sag
15 Diagnostic	26 Voltage Swell
13 Non Reporting	2 Potential Leak
12 Outage	
43 Preactivated w/activity	

▲ 1/2 ▼ ▲ 2/2 ▼

## Missed Reads For 1 Bill Cycle

Utilities: All

Show 10 entries

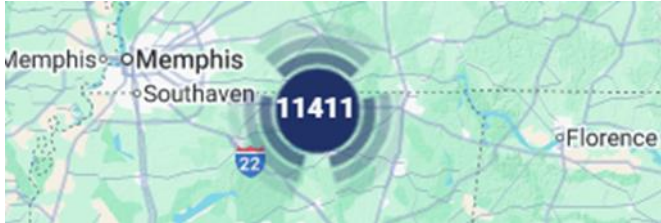
CSV Excel Print Copy

Filter

Utility	Account Number	Customer Name	Address	Device Serial Number
E	305399002	VACANT	19455 OLD HWY 68	MT120320000094582
E	304897002	ROLLINS, JARED	2002 N YARMOUTH	LL012723000928711
E	9524002	VACANT	2270 DAWN HILL RD (9524)	LL022324001318461
E	123651001	CHOUDHRY, MEHWISH	824 S MT OLIVE	LL030824001328841

Showing 1 to 4 of 4 entries

Previous 1 Next



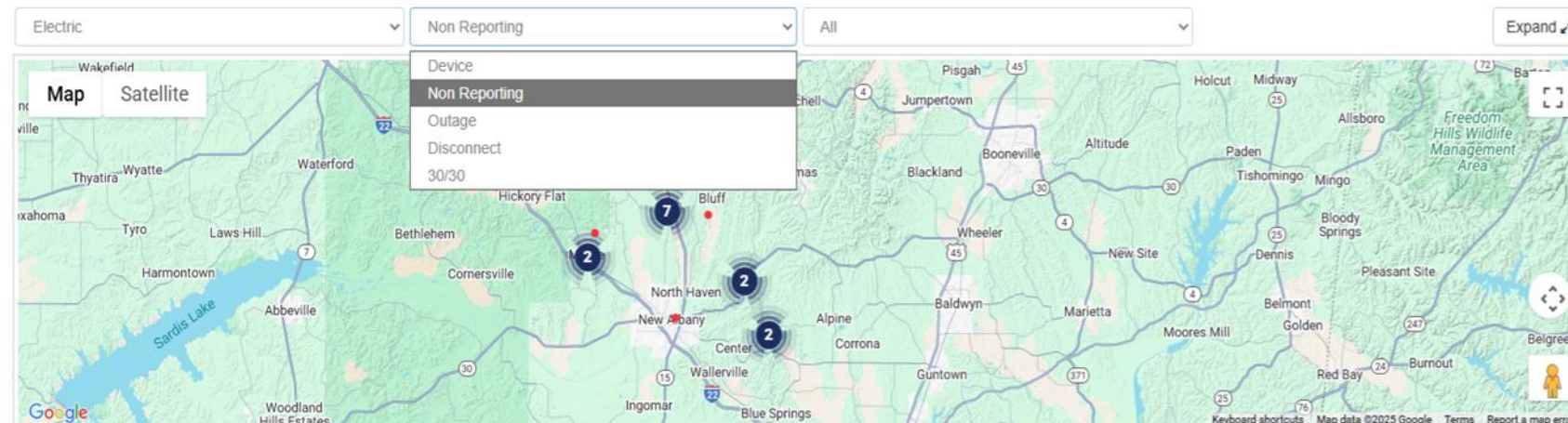
- Good GPS Data allows
  - Outage Mapping
  - Hub Replacements
  - Hub to Leaf Ratio analysis
  - Identification of Trouble areas
  - Water only area analysis
  - Non-Reporting analysis

## Customers

Total No of Customers are 11476

Serial Number	Meter Number	ERT ID	Customer Number
LL010323000896751	E93401875		107155
LL010323000897011	E93401879		106943
LL010323000897031	E93401878		000948
LL010323000897061	E93401876		107160
LL010323000897471	E93401877		999999
LL010323000897551	E93401880		999999
LL010323000897641	E93401886		106869

## Map





TESCO METERING

# Adaptiv Alerts

Welcome Nighthawkadmin1!

Alerts: **80**

- Adaptiv Alerts
  - Alerts can be hidden.
  - Alerts can be slept.
  - Hiding known alerts prevents confusion.
- Filtering
  - Alerts can be filtered by simply typing in the filter

## Alerts

Sleep Duration  ☐ Show Alerts Set To Sleep

Sleep Duration

1 Day

7 Days

1 Month

Forever

Alert time

## Alerts

Sleep Duration

☐ Show Alerts Set To Sleep

Alert Settings

Show 10 entries

CSV Excel Print Copy

Filter non

Alert Type	Alert time	Alert Information	
Non Reporting	06/15/2025 01:00:00 AM	Device Serial Number: MT110124001462722 Meter: 1NF346355804 Next Read Date: 6/15/2025 Last Read Date & Time: at 06/15/2025 01:00:00 AM Reading Age 33 Address: 2304 tarpley rd	Sleep
Non Reporting	06/20/2025 08:19:38 AM	Device Serial Number: LL111424001523841 Meter: 1NF346356784 Next Read Date: 5/22/2025 Last Read Date & Time: at 06/20/2025 08:19:38 AM Reading Age 28 Address: 2304 Tarpley Rd	Sleep
Non Reporting	07/10/2025 10:53:19 AM	Device Serial Number: MT071024001435192 Meter: 88234940 Next Read Date: 7/10/2025 Last Read Date & Time: at 07/10/2025 10:53:19 AM Reading Age 8 Address: 285 andrew young international blvd	Sleep
Non Reporting	05/02/2024 01:00:00 AM	Device Serial Number: MT030218000001592 Meter: 63214263 Next Read Date: 5/2/2024 Last Read Date & Time: at 05/02/2024 01:00:00 AM Reading Age 442 Address: 701 Canyon Drive	Sleep

## Manage Alerts

Show 10 entries

Filter nd

Command	Alert	Display
Edit	Billing Request w/No Device	Yes
Edit	Demand Reset Not Completed	Yes
Edit	Diagnostic	Yes
Edit	No Usage	Yes
Edit	Non Reporting	Yes
Edit	Water Non Reporting	Yes

Showing 1 to 6 of 6 entries (filtered from 22 total entries)

Previous 1 Next

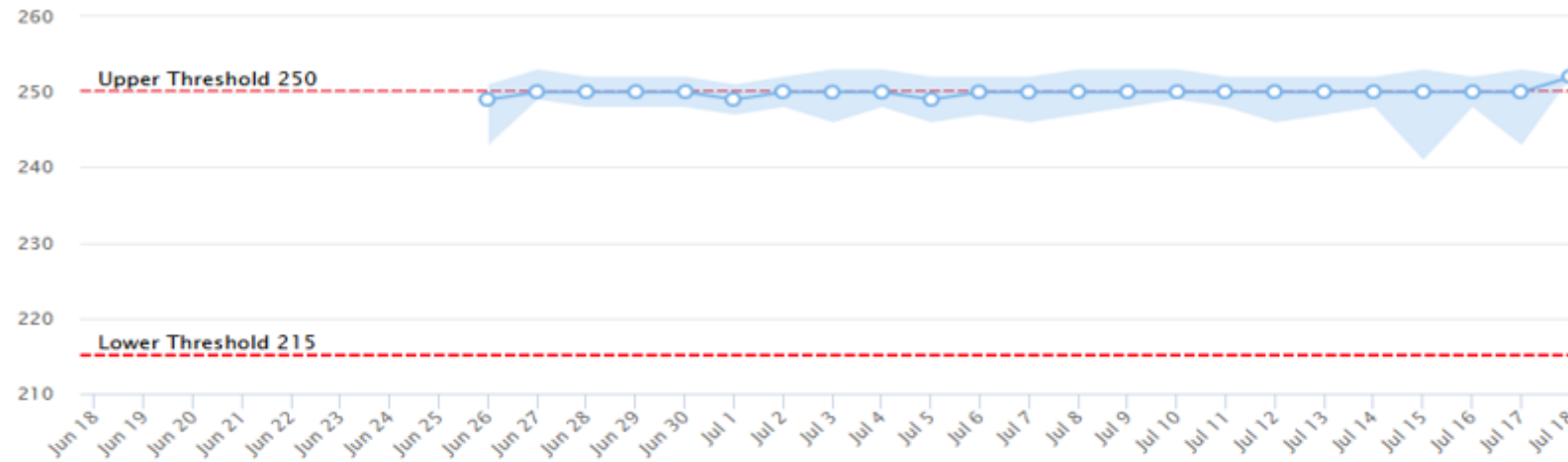
- System Alerts

- Demand Reset Not Completed
- Invalid Read
- (w) No Usage
- Non-Reporting
- Preactivated w/activity
- Retired w/activity
- Usage on Inactive
- (w) Water Non-Reporting

- Device Alerts

- (w) Back Flow
- Caution
- (w) Cut Wire
- Diagnostic
- Error
- Hot Socket
- Low Battery
- Outage
- (w) Potential Leak
- Tamper
- Voltage Sag
- Voltage Swell

## Daily Voltage Summary



Minimum Voltage Threshold:

Maximum Voltage Threshold:

- Individual Voltage Settings

Minimum/Maximum Voltage Setup - Please enter Minimum and Maximum Voltage value for residential meter

Min Voltage:

Max Voltage:

[Update](#)

[Back](#)



- Non-Reporting
  - Cellular Outage/Coverage?
  - Submit a Read Meter command – Verify Response



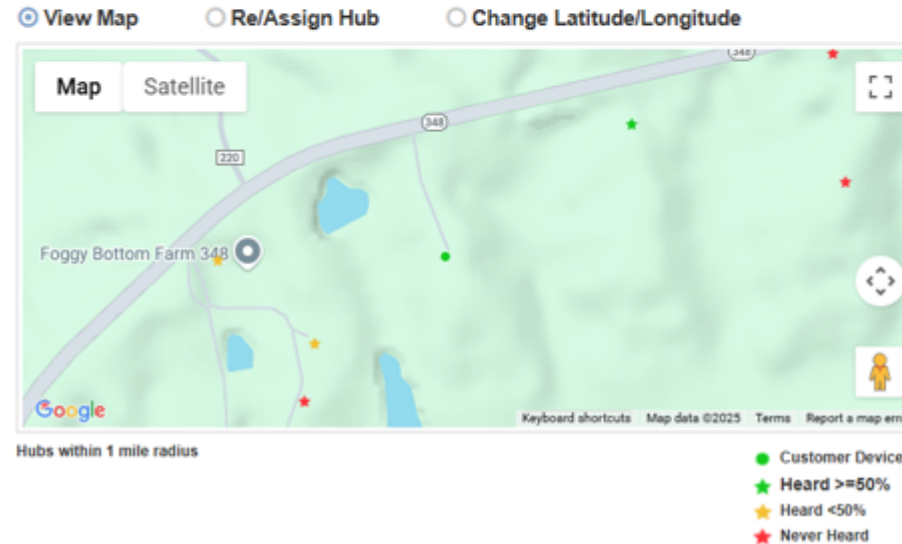
## GRID POWER FAILED

**Recent Activity:** TIMEOUT[!!!12345MDPO,0CD25803] issued at 06:37:40 PM on June 05, 2025, waiting on system response.

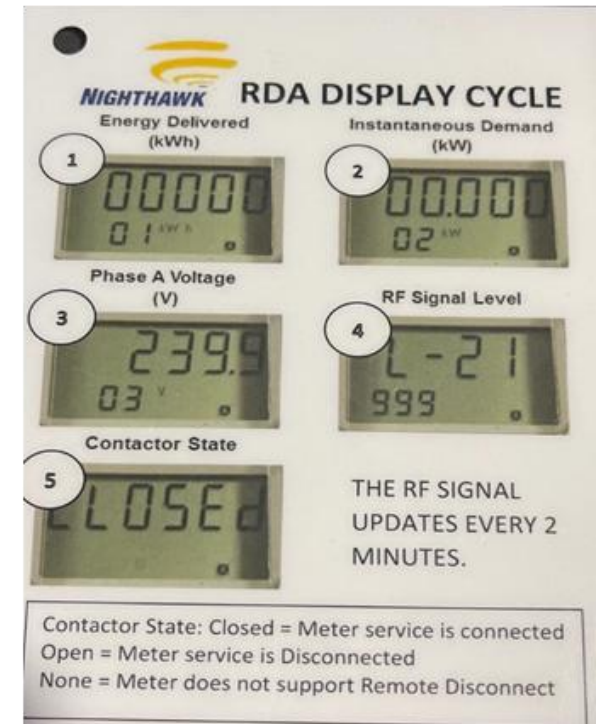
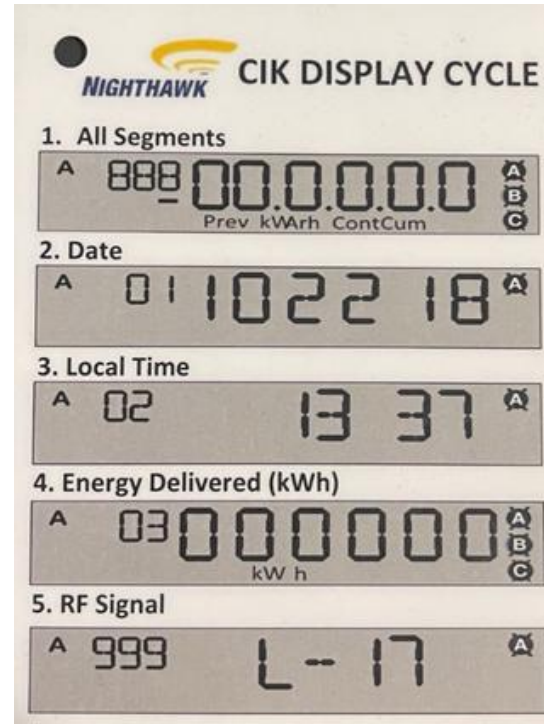
- Days Since Read – How long is the meter read missing?

Device Serial Number: [MT061423001098902](#) Meter: [88867575](#) Next Read Date: 11/11/2023  
 Last Read Date & Time: at 11/11/2023 01:00:00 AM Reading Age 614  
 Address: 1010 COUNTY RD 219

- Has this meter been 'Removed'
- Is this meter in 'Power Fail'
- Hub in Range?
  - Check current Hub is communicating
  - Reassign Hub Meter (GIS)

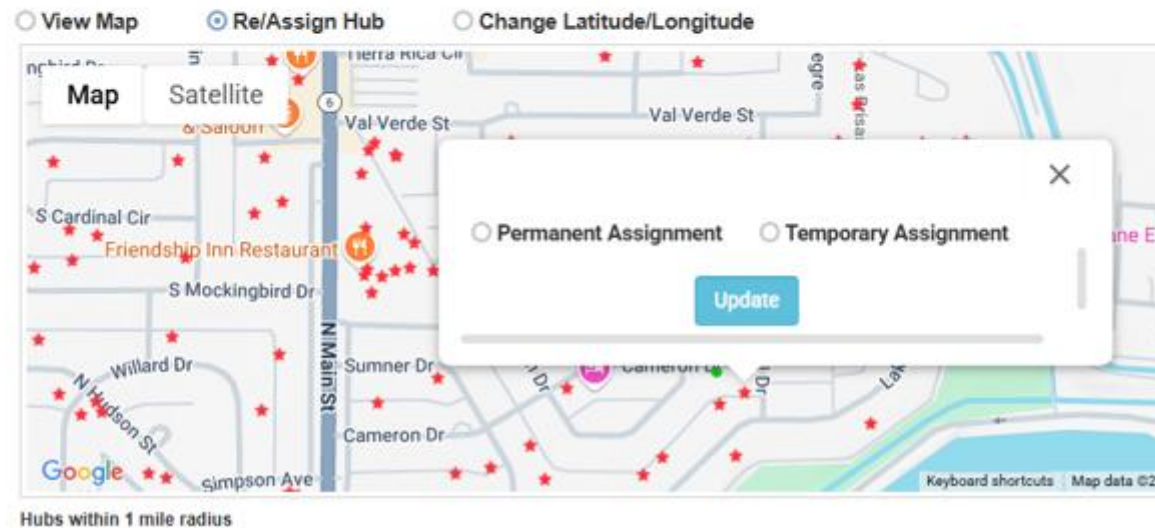


- Physical Device Check
  - Device Inspection
    - Check Display - Verify Signal and Voltage
    - Check for Damage -
    - Verify Meter Number
    - Voltage Check in Service Panel (190+ volts)
  - Signal Strength Indicator
    - Hub Meter: L10 – L31 acceptable levels
    - Leaf Meter: L70 – L06 acceptable levels





- Connect/Disconnect
  - Verify SMS is working
    - Submit a Read Meter command – Verify Response
    - Attempt to read another device using a Read Meter command
  - Non-Reporting
    - Fix Non-Reporting (Slide 1)
  - Reporting
    - Hub Meter - Check Status of Hub Meter
      - Reassign Hub Meter (GIS)



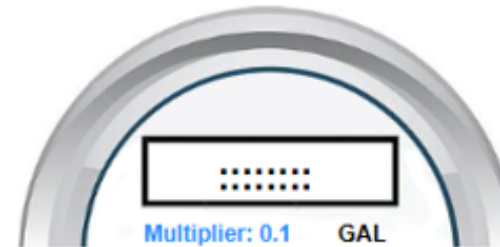
- Data Synch:
  - Device missing from Adaptiv
    - Check device is set correctly in CIS
      - » Verify serial number, meter number, status
    - Check 'Import Logs' for errors
- Billing Read:
  - Device reads missing from billing export
    - Verify device last read inside billing window
      - » Fix Non-Reporting issue (Slide 1)
    - Verify Bill Cycle, Cycle Schedule
    - Demand meters must have a Demand Reset completed
      - » Perform Demand Reset if required

Missing: Device not found for Account:105608004 Meter:16496786 Device Serial Number: on line 3018!

Missing: Device not found for Account:35110000 Meter:16496284 Device Serial Number: on line 2523!

Validation Complete, 9668 lines. Processing Started

- Non-Reporting WEP:
  - Mag Swipe WEP
    - Check Fulcrum/Adaptiv for communication confirmation
  - Check connection
    - Disconnect check pins are straight none broken
      - Mag Swipe disconnected from meter and check for communication
    - Reconnect and Mag Swipe
      - Check Fulcrum/Adaptiv for communication confirmation
  - Replace / RMA WEP
- Reporting:
  - Bad Reading All 9's or all :s
    - Wiring issue WEP cannot read meter
    - Verify connection
    - Mag Swipe WEP
    - Replace / RMA WEP



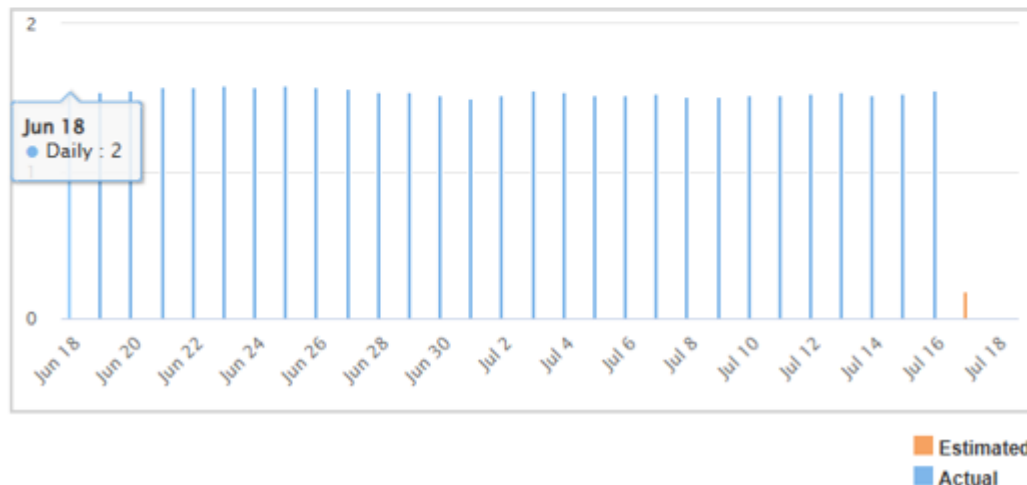
Utility:	Water
Multiplier:	0.1
Radio Type:	Nighthawk
Serial Number:	WL072624001405582
Meter Number:	999999999999

## Read Details

Midnight Read on July 17, 2025	2323.41
Last Meter Read at 03:00:00 AM on July 17, 2025	
Meter Reading	2323.6
kWh Received	20
Voltage	240.6 V
Current	0.5 A
Instantaneous Demand (KW)	0.12
History	

Read Date & Time	kWh Usage	kWh Delivered	kWh Received	Voltage	Current
07/17/2025 12:00 AM	1.55	2323.417	20.006	238	0.5
07/16/2025 12:00 AM	1.53	2321.871	20.006	236.6	0.5
07/15/2025 12:00 AM	1.52	2320.343	20.006	238.1	0.5
07/14/2025 12:00 AM	1.54	2318.818	20.006	239.6	0.5
07/13/2025 12:00 AM	1.53	2317.278	20.006	237.9	0.5
07/12/2025 12:00 AM	1.52	2315.747	20.006	237.6	0.5
07/11/2025 12:00 AM	1.52	2314.231	20.006	237.3	0.5

## Daily Consumption (kWh)



- Daily register readings
  - Adaptiv collects Midnight Readings
  - This allows Customers to easily see Daily, Weekly, Monthly and Yearly Usage Data by device.
  - This can be exported in Excel or PDF format.
  - Very helpful when addressing customer high bill complaints.

## Read History

Start Date:  End Date:

Currently displaying daily reads. Click [here](#) to get interval reads.

**Customer Number** 82330001

**Customer Name** David Robbins

**Address** 8233 W Beaubien Dr

**Meter Number** 1NF330780000

**Serial Number** MT051722000773852

Show      Filter

Read Date & Time	kWh Usage	kWh Delivered	kWh Received	Voltage	Current
07/17/2025 3:00 AM	0.07	2323.609	20.006	240.6	0.5
07/17/2025 2:00 AM	0.06	2323.544	20.006	239.2	0.5
07/17/2025 1:00 AM	0.06	2323.48	20.006	239.8	0.5
07/17/2025 12:00 AM	0.06	2323.417	20.006	238	0.5
07/16/2025 11:00 PM	0.06	2323.354	20.006	236.1	0.5
07/16/2025 10:00 PM	0.06	2323.29	20.006	239.3	0.5
07/16/2025 9:00 PM	0.06	2323.227	20.006	239.6	0.5

- Interval Data Readings
  - Collected hourly for Residential services.
  - Every 15 minutes for Commercial services.
  - These can be used to narrow down periods of High usage.
  - Customers can use this to manage their demand needs and lower their costs.
- Time of Use
  - Interval data can also be used to calculate TOU.
  - Most MDMs use Intervals over registers reads for their billing, VEE and TOU functions.
  - Interval Data is also exportable in Excel or PDF formats.

- Caution(s)

Device Serial Number: MT051722000778102 Meter: E93048912 Error Reading Date & Time: 07/17/2025 01:28:41 AM  
Alert Details: Loss of Program  
Address: 207 E BANKHEAD

Device Serial Number: MT061623001103092 Meter: E95678696 Error Reading Date & Time: 07/17/2025 01:31:57 AM  
Alert Details: Potential Low  
Address: 106 W BANKHEAD

Phase A Voltage	216.7 V
Phase B Voltage	125 V
Phase C Voltage	124.5 V

### 3.13.2.4 CA 000 040 - Loss of Program

The Loss of Program caution indicates that a programming session was interrupted. The meter sets the Loss of Program caution when a programming session is terminated abnormally. The meter will roll back to the last good program and operate from it. If a meter has a Loss of Program caution, reprogram the meter and the Loss of Program caution will be cleared.

**NOTE:** This caution should be disabled for meters with an AMI Communication Module.





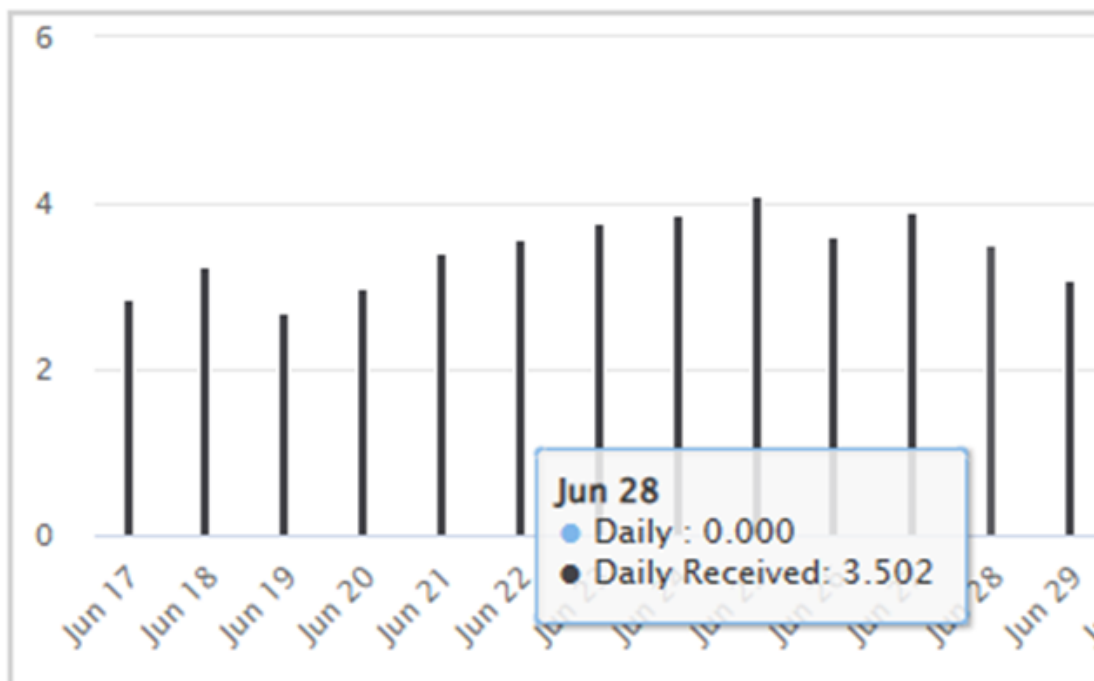
TESCO METERING

# Meter Diagnostic

## Diagnostic

Cautions	None
Diagnostics	Polarity-Cross Ph-Rev.
Errors	None

## Daily Consumption (kWh)



Avg Power Factor	0
KVARH Lead	107.834
KVARH Lag	0.007
Prev Max KVAR Lead	0.146 (at 07/01/2025 12:45PM)
Prev Max KVAR Lag	0.001 (at 07/03/2025 06:00PM)
Max KVAR Lead	0.146 (at 07/15/2025 12:30PM)
Max KVAR Lag	0 (at 07/09/2025 07:15PM)
KVAH Total	170.728
Prev Max KVA Total	0.507 (at 07/01/2025 12:45PM)
Max KVA Total	0.573 (at 07/08/2025 11:15AM)
Phase A Voltage	122.3 V
Phase A Voltage Angle	0°
Phase A Current	0.5 A
Phase A Current Angle	185.9°
Phase B Voltage	122.4 V
Phase B Voltage Angle	180.2°
Phase B Current	0.4 A
Phase B Current Angle	75°
Phase C Voltage	211.4 V
Phase C Voltage Angle	90.2°
Phase C Current	0.5 A
Phase C Current Angle	312.1°
Cautions	None
Diagnostics	Polarity-Cross Ph-Rev.
Errors	None

- Error

Device Serial Number: **MT092424001497182** Meter: **87976301** Error Reading Date & Time: 07/17/2025 01:34:13 AM

Alert Details: EEPROM Error

Address: 2102 E MAIN

Error Display	Probable Cause	Remedy
Er 000 002	Power outage occurred and: a. Battery is disconnected. b. Battery is defective. c. Outage extended sustainable duration of super capacitor.	Set meter's date and time, read meter's load profile data, restart load profile recording (if applicable), and: Connect battery. Replace battery.
Er 000 020	Hardware failure	a. Check for proper installation. b. Check for proper grounding c. Call for factory assistance.
Er 000 200	Nonvolatile memory data error	a. Check for proper installation. b. Check for proper grounding. c. Call for factory assistance.
Er 001 000	Firmware ROM code error	Replace meter.
Er 100 000	Meter chip error	Replace meter.

Please Take a Few  
Minutes To Provide  
Feedback About The  
Course & Instructor

Track 5 - Nighthawk  
Troubleshooting Best Practices  
72125 3:15PM Scott



Dan Falcone – VP Engineering  
John Williams – SVP Engineering  
Chris Pierce – Solutions Engineering  
Jon Scott – Sales Manager



## **TESCO – The Eastern Specialty Company**

*Bristol, PA*

**215.228.0500**

This presentation can also be found under Meter Conferences and Schools on the  
**TESCO** website: [tescometering.com](http://tescometering.com)

**ISO 9001:2015 Certified Quality Company**  
**ISO 17025:2017 Accredited Laboratory**