

# Your Total Source®

**Solutions to Support the Building, Operating and Using of Mobile, Fixed and In-Building Wireless Systems**

## Knowledge Solutions

*Providing the intelligence for optimum, faster decisions.*



### TESSCO.com

Your link to the most powerful and dynamic way to learn, search, compare, select, order, and control everything you need.

### The Wireless Guide

More than 25,000 products—over 300 Brands—organized in over 1,700 pages. Available in print and online, this award-winning resource is your essential knowledge tool to easily find and compare what you need in wireless.

### The Wireless Journal

A bimonthly "must-have" review of vital product news, industry trends, and successful applications.

### The Wireless Updates

Timely, targeted e-newsletters delivering the latest, most critical wireless products, programs, and solutions directly to your in-box.

### The Wireless Bulletins

Quick hitting updates that showcase what's new and what's next in wireless.

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## Product Solutions

*Offering the breadth, depth and choice of everything required; configured and delivered for immediate use.*



### Everything Needed:

- Network Infrastructure
- Mobile Devices & Accessories
- Installation, Test & Maintenance
- Training
- Customized Packaging & Fulfillment

### Supporting Wireless Systems:

- Cellular
- Two-Way Radio
- Local & Wide Area Networks
- Infrastructure Support
- Security & Video Surveillance
- VoIP

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## Supply Chain Solutions

*Consolidating and integrating the product search, selection, credit, procurement, configuration receipt, deployment and accounting.*



- Guaranteed Availability & On-Time Delivery
- Lowest Inventory Investment & Obsolescence
- Lowest TOTAL Procurement & Ownership Costs

■ **TESSCO**

# Outdoor Power SOLUTIONS

powered by:



Don't let power be the weak link in your network



**Delivering What You Need, When and Where You Need It.®**

■ **TESSCO**

800-305-9772

[www.tessco.com](http://www.tessco.com)

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Introduction

TESSCO has always been Your Total Source® provider for wireless communications products. Because TESSCO understands your need for reliable power systems in outdoor environments, we have partnered with knowledgeable leaders in the outdoor power industry, and have assembled the most comprehensive and flexible power solution series available in a single, robust, and easy-to-select and easy-to-install platform.

Whether solar is the primary power source, or for locations where only AC power is available, TESSCO’s outdoor power solutions ensure total system uptime and maximum reliability. TESSCO’s radio-ready outdoor power systems are pre-engineered and pre sized for easy product selection and rapid shipment while the durable NEMA 4X weatherproof enclosures have ample room for “CLICK-IN” installation of radio gear and control equipment on pre-installed DIN rails.

AC-Powered Sites

The new Link UPS™ outdoor backup power system by VENTEV is specifically designed to provide both primary and uninterrupted, reliable standby power for critical equipment in harsh environmental applications where AC power is available.

Solar-Powered Sites

For sites where solar is the best option, TESSCO has partnered with Kyocera Solar to offer Class 1, Division 2-compliant solar power systems. The Kyocera standard SCADA/RTU-ready solar power system, Series 88+, uses the same enclosure platform as LinkUPS, ensuring superior quality, ease of installation, and product performance longevity.

Your Total Source®

TESSCO is Your Total Source® provider for everything needed to build, operate and use wireless systems. TESSCO offers complete solutions including power, radios, modems, antennas, towers, jumpers, and everything else needed to make wireless communications right.



Utilities



Utility Operations

TESSCO is well known throughout the utility industry as the leading wireless equipment provider. Now with emerging technologies that require more sophisticated technology such as Smart Grid, who better to partner with than TESSCO?

Collector sites are pivotal in the deployment of any Smart Grid system as millions of residential and commercial meters will need to be constantly connected and monitored. LinkUPS systems are ideal solutions for collector sites as they are easily mounted on utility poles and can safely and reliably protect Smart Grid collection and backhaul radio gear while providing guaranteed 24/7 uptime during any power event.

Typical Applications

- Smart Grid Collector Sites
- Distribution Automation
- Distribution Generation
- Remote Monitoring

Railroad



Railroad Communications and Signaling

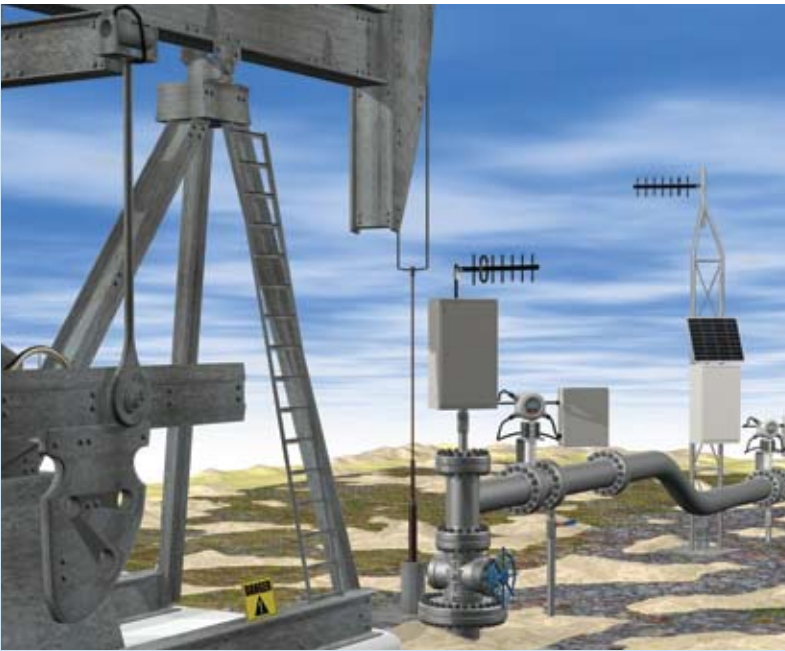
TESSCO has years of experience working with customers to provide complete wireless communications systems in the railroad industry for critical signaling and communications applications.

The LinkUPS system facilitates communications and ensures safety, as well as reliable power. Outdoor power systems from TESSCO are designed to support both types of deployments for sites where AC power is available, or in territories where solar power is required.

Typical Applications

- |                     |                             |
|---------------------|-----------------------------|
| • Hot Box Detection | • Signals                   |
| • Wayside Signaling | • Switches                  |
| • Track Circuits    | • Interlocking Systems      |
| • Block Sections    | • Fault Equipment Detectors |

Oil & Gas



Oil and Gas Wellhead Measurement & Telemetry

TESSCO is your trusted partner for wireless products and accessories used in oil and gas applications.

TESSCO’s reliable outdoor power systems provide uninterrupted power as well as shelter for SCADA, radio modems and/or Remote Terminal Units (RTUs). LinkUPS and solar power systems allow the RTU units to be housed in the same enclosures as the radios, with primary power derived from solar power or directly from utility AC power-saving costs and installation time.

Typical Measurements

- |                                   |                         |
|-----------------------------------|-------------------------|
| • Pressure, Temperature and Flows | • Down Hole Pressure    |
| • Plunger Lift Control            | • Tank Level            |
| • Choke Control                   | • Differential Pressure |
| • Tubing and Casing Pressure      |                         |

# Outdoor Power Solutions

## Simple . . . Fast . . . Reliable

| Features                                                             | Benefits                                                                          |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Off-the-shelf standard product series available in 4 standard sizes. | Right sized systems available from stock, systems ship same day and install fast. |
| Modular DIN rail.                                                    | Easy “Click-In” equipment mounting reduces installation time.                     |
| Single enclosure platform for Solar and AC Power UPS Systems.        | Reduces install time and spare parts inventory.                                   |
| Pre-Engineered system design.                                        | Plug-and-play systems minimize install time and errors.                           |
| Heavy-gauge, rust-proof, aluminum, powder-coated enclosures.         | Worry-free housing for sensitive equipment for harsh environmental conditions.    |
| Deep-cycle gel batteries.                                            | Reliable, uninterrupted battery reserve lasts for years of service.               |
| Smart system monitoring options.                                     | Tell you <i>before</i> there is a problem.                                        |

## Ideal Applications by Model

### Micro - Oil, Gas & Security

- Low power monitoring, 30 Watts
- Transnet 900 MDS radio with external Flow Meter.

### Micro M2M - Ready-for-Cellular Modem

- Includes antenna, jumpers, DB9 breakout for I/O.
- Perfect for discrete metering and factory automation.

### Small - Oil, Gas & Utility

- Larger radio product installation.
- SCADA repeater sites.
- Larger power budget.
- Ideal for radio and PLC installation inside the enclosure.

### Medium - Oil, Gas, Utility & Railroad

- This popularly sized unit can house up to two full-sized radios and a full-featured RTU.
- Perfect for gas well pad master sites, custody transfer stations, Smart Grid collector sites, and more.

### Large - Oil, Gas & Railroad

- Large system offers robust functionality and up to 200 Watts for AC UPS systems.
- Complete backplane and integrated DIN rail the large can handle almost any requirement.
- Broadband backhaul sites.
- High-security applications.
- Positive train control.
- Distribution automation.

#### Key:

X= Optional Accessories

N/A= Not available on this model

Standard= Accessory comes standard on this model

## Specifications

|                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|--------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                |  |  |  |  |  |
|                                | LinkUPS Micro                                                                       | LinkUPS M2M                                                                         | LinkUPS Small                                                                       | LinkUPS Medium                                                                      | LinkUPS Large                                                                       |
| Enclosure Size                 | 12" X 10" X 6"                                                                      | 12" X 10" X 6"                                                                      | 18" X 16" X 12"                                                                     | 26" X 16" X 12"                                                                     | 26" X 27" X 12"                                                                     |
| Cust Equip Space               | 2" DIN                                                                              | 2" DIN                                                                              | 12" X 7" DIN                                                                        | 19" X 7" DIN                                                                        | 37" x 7" DIN                                                                        |
| Enclosure Type                 | Non-Metallic                                                                        | Non-Metallic                                                                        | Aluminum                                                                            | Aluminium                                                                           | Aluminium                                                                           |
| Enclosure Rating               | Nema 4X                                                                             | Nema 4X                                                                             | Nema 4X                                                                             | Nema 4X                                                                             | Nema 4X                                                                             |
| Battery Type                   | AGM                                                                                 | AGM                                                                                 | Gel                                                                                 | Gel                                                                                 | Gel                                                                                 |
| Max Battery Size (Ah)          | 7Ah x 2                                                                             | 7Ah x 2                                                                             | 99Ah                                                                                | 99Ah                                                                                | 99Ah x 2                                                                            |
| Mount Type                     | Wall                                                                                | Wall                                                                                | Side of Pole                                                                        | Side of Pole                                                                        | Side of Pole                                                                        |
| Mount Diameter Range           | See Kit                                                                             | See Kit                                                                             | 2" - 4.5" OD                                                                        | 2" - 4.5" OD                                                                        | 2" - 4.5" OD                                                                        |
| Model Number                   | 88+ MC                                                                              | 88+ M2M                                                                             | 88+ SM                                                                              | 88+ MD                                                                              | 88+ LG                                                                              |
| Solar Panel Size Range (Watts) | 10-40                                                                               | 20                                                                                  | 10-40                                                                               | 40-130                                                                              | 85-260                                                                              |
| Output Voltages (VDC)          | 12 or 24                                                                            | 12                                                                                  | 12 or 24                                                                            | 12 or 24                                                                            | 12 or 24                                                                            |
| Typical Days of Autonomy       | 7                                                                                   | 7                                                                                   | 7                                                                                   | 7                                                                                   | 7                                                                                   |
| Solar Array Conduit Incl       | 15 ft.                                                                              | 15 ft.                                                                              | 15 ft.                                                                              | 15 ft.                                                                              | 15 ft.                                                                              |
| Regulatory                     | Class 1 Div 2                                                                       | Class 1 Div 2                                                                       | Class 1 Div 2                                                                       | Class 1 Div 2                                                                       | Class 1 Div 2                                                                       |
| Model Number                   | LMC                                                                                 | LMC M2M                                                                             | LSM                                                                                 | LMD                                                                                 | LLG                                                                                 |
| Max Output Power (Watts)       | 30                                                                                  | 30                                                                                  | 100                                                                                 | 100                                                                                 | 200                                                                                 |
| Input Voltage (VAC)            | 90-264                                                                              | 90-264                                                                              | 90-264                                                                              | 90-264                                                                              | 90-264                                                                              |
| Output Voltages (VDC)          | 12 or 24                                                                            | 12                                                                                  | 12 or 24                                                                            | 12 or 24                                                                            | 12 or 24                                                                            |
| Max Runtime Full Load          | 4 hrs.                                                                              | 4 hrs.                                                                              | 9.4 hrs.                                                                            | 9.4 hrs.                                                                            | 18 hrs.                                                                             |
| Max Runtime 1/2 Load           | 8 hrs.                                                                              | 8 hrs.                                                                              | 18 hrs.                                                                             | 18 hrs.                                                                             | 36 hrs.                                                                             |
| SNMP-Battery Test Module       | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Top Mounting Plate             | N/A                                                                                 | N/A                                                                                 | X                                                                                   | X                                                                                   | Standard                                                                            |
| Mini-Shelf                     | X                                                                                   | N/A                                                                                 | X                                                                                   | X                                                                                   | X                                                                                   |
| PoE Injector Kit               | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Radio Bracket - Full Size      | N/A                                                                                 | N/A                                                                                 | X                                                                                   | X                                                                                   | X                                                                                   |
| Radio Bracket - Modem          | X                                                                                   | Standard                                                                            | N/A                                                                                 | N/A                                                                                 | N/A                                                                                 |
| DIN Polyphaser                 | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Utility Pole Mounting Kit      | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |



The entire product offering and your pricing is on TESSCO.com



LinkUPS Remote Battery Tester and Monitor System  
TESSCO No. 334674

The LinkUPS Remote Battery Tester and Monitor System is designed specifically for monitoring power supplies, rectifiers, batteries, converters, inverters, UPS, distribution panels, and AC power at communication sites, base stations, outdoor enclosures, and command vehicles via Ethernet or wireless connection.

- Tests the battery's state of health.
- Dynamic system alerts you *before* there's a problem.
- Supports SNMP, TCP-IP, Serial Modbus.
- 10/100 Ethernet port and DB9 Serial Port.
- Digital and analog I/O ports allow for alarm sensors.
- Internal temperature probe measures conditions inside enclosure.
- DIN-rail or wall mounted.
- Auto generator start function.



Phantom Dual-Band Cell/PCS Antenna  
TESSCO No. 494677



Sixnet RTU  
TESSCO No. 394303



Cellular Wireless Modem  
TESSCO No. 344250

This cellular wireless modem is equipped with a robust ARM9 processor and embedded ALEOSTM technology to optimize performance on today's high-speed data networks. The high-speed interface and 3G-optimized architecture makes it ideal for various commercial mobile or portable network connectivity applications.



710-970 MHz Yagi Antenna  
TESSCO No. 94674



DSXL Surge Arrestor  
TESSCO No. 491574



Radio Bracket Kit  
TESSCO No. 392065



Solar Gelled Electrolyte Battery  
TESSCO# 360014



Mini Shelf  
TESSCO No. 382366



Backplane Kit  
TESSCO No. 372301



Fixed Camera Enclosure  
TESSCO No. 314076



5-Port DIN Switch  
TESSCO No. 367042



Fixed Network Camera  
TESSCO No. 323093



LMR400 10' Jumper  
TESSCO No. 450942



Telephone Pole Mounting Kit  
TESSCO No. 372788



Din-rail DSL Surge Protector  
TESSCO No. 3312170



120 VAC Surge Arrestor  
TESSCO No. 453945



DIN Rail PoE Injector  
TESSCO No. 337014



1' RG58 Jumper  
TESSCO No. 334884



Grounding Kit  
TESSCO No. 67471



Weatherproofing Proofing  
TESSCO No. 18264



Snap-In Hanger  
TESSCO No. 439081