# 120VAC 24VDC 1500VA 1200W Extreme Temperature Network UPS for Industrial and Traffic Networks, 3U, Hardwire, TAA

MODEL NUMBER: **SMART1524ET**















Line-interactive UPS with buck-and-boost AVR offers network-grade power protection in extreme temperatures from -40°C to 80°C.

## Features

**1.5kVA/1.2kW/120V Battery Backup for Applications in Low- and High-Temperature Extremes**
This SmartPro® line-interactive SMART1524ET UPS system with hardwire AC input/output offers a wide operating temperature range and provides constant and reliable backup power to critical equipment in harsh environments, including outdoor and industrial equipment. It prevents surges, spikes, overvoltage, undervoltage and blackouts from damaging equipment, destroying data and contributing to costly downtime.

**Ideal for Running Networking, Security or Traffic Equipment in -40°C to 80°C Temperatures**
The SMART1524ET is ideal protection for a wide variety of industry-specific IT, communications, edge computing, security, surveillance, traffic signage and traffic camera equipment in remote locations where temperatures are typically within -40°C and 55°C (for max output), -40°C and 75°C (for up to 1200W output) or -40°C and 80°C (for up to 1000W output). Internal circuitry is covered with a conformal coating that protects against extreme temperatures. Applications range from oil fields, offshore oil rigs and other industrial locations to remote security and military applications to traffic-related setups involving signals and cameras.

**Reliable, Expandable Battery Backup Keeps You Operational Through Power Outages**
Backup support allows you to safely maintain the operation of critical traffic/industrial equipment and other applications requiring reliable extended UPS runtime in demanding environments. A battery connector kit with wireable contact pins lets you connect your own 24V battery banks up to 200Ah (batteries and cables not included). A temperature sensor monitors the battery terminals and customizes charging to optimum levels to extend the lifespan of the connected batteries.

**Optional WEBCARDLXMINI Network Interface Offers 24/7 Remote Access for Monitoring and Control**
The Java-free HTML5-based WEBCARDLXMINI (sold separately) enables full remote access for site power and UPS status monitoring, configuration, control and email notifications via secure web browser, SNMP, telnet or SSH. It supports 10/100 Mbps auto-sensing for optimum communication with an Ethernet network. Automated alerts help prevent accidental overloads, power loss and downtime. WEBCARDLXMINI allows you to use the Auto Probe feature, which can prevent costly service calls by automatically rebooting non-responsive network devices. Note: WEBCARDLXMINI has a temperature range of 0°C to 70°C, as measured inside the UPS housing.

## Highlights

- Recommended for remote locations where temperatures range within -40°C and 80°C
- Protects equipment against blackouts, brownouts, overvoltages, surges and line noise
- Keeps power running during prolonged outages to allow time for safe system shutdown
- Maintains continuous 120V nominal output during brownouts and overvoltages
- Optional WEBCARDLXMINI network interface supports Auto Probe feature

## Applications

- Traffic signal/camera
- Remote security, network and telecommunications equipment
- Military and industrial
- Oil field and offshore oil rig
- Wind power
- Network equipment closets located at the base of a cell phone tower

## Package Includes

- SMART1524ET Extreme Temperature Network UPS
- External battery connection kit
- Battery temperature sensor cable
- USB cable
- External fan power adapter cable
- (2) AC hardwire strain reliefs
- (8) M4 screws
- (4) M6 screws
- (2) Rack-mounting brackets
- Instruction sheet
- Owner’s manual

**Built-in Input/Output Dry Contacts and 24V DC Temperature-Controlled Fan Power Outlet**
Six sets of output dry contacts support Normally Open (NO) or Normally Closed (NC) signaling of user-configurable UPS conditions, such as On Battery, Low Battery or UPS Fault to other integrated devices. One set of input dry contacts supports the connection of one user-supplied contact-closure sensor for remote notification via WEBCARDLXMINI and local notification via front-panel LCD. A temperature-controlled 24V DC output power jack supports optional user-supplied fan installation to control over-temperature conditions in equipment enclosures.

**Automatic Voltage Regulation (AVR) Corrects Low- and High-Voltage Conditions**
AVR protects your equipment from incremental hardware damage, data loss and performance problems caused by brownouts and overvoltages. The SMART1524ET can correct brownouts as low as 88V and overvoltages as high as 152V with user-configurable buck-and-boost settings, all while keeping the battery fully charged and ready to take over in case of power failure.

**Premium Protection from EMI/RFI Line Noise Helps Your Equipment Perform Better**
This UPS system filters out disruptive electromagnetic and radio frequency interference that can inflict hardware damage or data loss. This EMI/RFI filtering also helps your connected components perform better and last longer.

**Designed for High Efficiency to Help You Save Money and Protect the Environment**
A >95% efficiency rating reduces BTU emissions, energy consumption and, ultimately, your energy costs.

**Intuitive Front-Panel Interface for Convenient Monitoring**
Front-panel LEDs report operating mode (green), alarm (yellow) and fault (red). The LCD screen with select and scroll buttons offers a wide variety of UPS status and site power information, control options, UPS configuration settings and event logs.

**Advanced Communications Ports Allow for Automatic Saves and Shutdowns**
RS-232 and HID-compliant USB ports connect to a computer running free downloadable PowerAlert® software to enable a safe, automatic system shutdown in case of a prolonged power failure.

**Versatile Installation Options**
Hardware is included for mounting the SMART1524ET in 3U of space in an EIA-standard 19-inch 2-post or 4-post rack or on a flat desktop surface. The reduced-depth housing requires less than 10 inches of equipment rack depth for convenient two-point installation.

# Specifications

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| **OVERVIEW** | |
| UPC Code | 037332241214 |
| UPS Type | Line-Interactive |
| **INPUT** | |
| Input Phase | Single-Phase |
| Rated input current (Maximum Load) | 22A |
| Nominal Input Voltage(s) Supported | 120V AC |
| UPS Input Connection Type | Hardwire |
| UPS Input Connection Description | Protected Line, Neutral and Ground hardwire input terminals; Includes strain relief |
| Input Circuit Breakers | 30A breaker |
| Recommended Electrical Service | 120V AC |

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| **OUTPUT** | |
| Output Capacity (VA) | 1500 |
| Output Capacity (kVA) | 1.5 |
| Output Capacity (Watts) | 1200 |
| Output Capacity (kW) | 1.2 |
| Output Capacity Details | Maximum output capacity is temperature dependent: 1600W (-40 to 55° C) / 1200W (55 to 75° C) and 1000W (75 to 80° C) |
| Power Factor | 0.8 |
| Frequency Compatibility | 50 / 60 Hz |
| Output Voltage Regulation (Line Mode) | 120V (-14% / +8%) Factory setting, adjustable |
| Output Voltage Regulation (Battery Mode) | 120V (±4%) |
| Output Receptacle Details | Protected Line, Neutral and Ground hardwire output terminals; Includes strain relief |
| Output Circuit Breakers | 30A breaker |
| Output AC Waveform (AC Mode) | Pure Sine Wave |
| Output AC Waveform (Battery Mode) | Pure Sine wave |
| Nominal Output Voltage(s) Supported | 120V |
| Output Receptacles | Hardwire |
| Individually Controllable Load Banks | No |
| **BATTERY** | |
| Battery Type | Valve Regulated Lead Acid (VRLA) |
| Runtime Full Load (min.) | 54 min. (1500W) |
| Runtime Half Load (min.) | 113 min. (750W) |
| Typical Battery Runtime | Supports 1500W (54 / 113 min), 1200W (68 /145 min), 900W (101 / 235 min), 750W (113 / 285 min), 600W (145 / 350 min), 450W (235 / 520 min) with user-supplied 24V (100AH / 200AH) temperature-appropriate battery system; See manual for more information |
| Expandable Runtime | Yes |
| Expandable Runtime Description | Requires user-supplied 24V lead-acid battery bank with temperature ratings appropriate for the intended application; Supports 24V 200AH maximum; Includes installable Anderson PA75 compatible DC connector; Battery cabling and battery fuses are user-supplied (See manual for wiring diagram, recommended wiring gauge and fuse ratings) |
| DC System Voltage (VDC) | 24V DC |
| Battery Charge | Temperature compensated 2/4/6/8/10A selectable charging system; Battery temperature sensor cable included |
| **VOLTAGE REGULATION** | |
| Voltage Regulation Description | Corrects brownouts and overvoltages from 88 to 152V to 120V nominal (factory default) |
| Overvoltage Correction | Overvoltages from 128 to 152V are reduced by 20% (default, adjustable from 120 to 144V) |
| Undervoltage Correction | Undervoltages from 88 to 102V are boosted by 8% (default, adjustable from 88 to 120V) |

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| **USER INTERFACE, ALERTS & CONTROLS** | |
| Front Panel LCD Display | Four line text-based front panel LCD provides full access to UPS status, alarms, faults, events, settings and control options |
| Switches | All three front-panel circuit breakers serve as power switches required to energize the UPS (DC INPUT, AC INPUT, AC OUTPUT); Three additional switches below the LCD provide SCROLL, ESCAPE and ENTER functions |
| Audible Alarm | Audible alarm reports Battery mode operation, Battery low status, Overload and UPS Fault conditions |
| LED Indicators | Set of 3 front panel LEDs report AC output status (green), Alarm condition (yellow) and Fault condition (red) |
| **SURGE / NOISE SUPPRESSION** | |
| UPS AC Suppression Joule Rating | 474 |
| EMI / RFI AC Noise Suppression | Yes |
| **PHYSICAL** | |
| Primary Form Factor | Rackmount |
| Rack Height | 3U |
| Cooling Method | High speed user-replaceable fan with dust filter |
| Included Mounting Accessory Description | Set of two rackmount brackets support installation in 2 or 4 post racks |
| Installation Form Factors Supported with Included Accessories | 2 post 19 inch rackmount; 4 post 19 inch rackmount |
| Maximum Device Depth (cm) | 24.00 |
| Maximum Device Depth (in.) | 9.450 |
| Maximum Device Depth (mm) | 240 |
| Minimum Required Rack Depth (cm) | 25.40 |
| Minimum Required Rack Depth (inches) | 10 |
| Primary UPS Depth (mm) | 240 |
| Primary UPS Height (mm) | 133 |
| Primary UPS Width (mm) | 400 |
| Shipping Dimensions (hwd / in.) | 9.70 x 15.30 x 23.10 |
| Shipping Weight (kg) | 15.60 |
| UPS Housing Material | Steel |
| UPS Power Module Dimensions (hwd, in.) | 5.24 x 15.750 x 9.45 |
| UPS Power Module Weight (kg) | 14.70 |
| UPS Power Module Weight (lbs.) | 32.41 |
| Unit Dimensions (hwd / in.) | 5.240 x 15.750 x 9.450 |
| Unit Weight (lbs.) | 32.410 |
| Unit Weight (kg) | 14.70 |

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| **ENVIRONMENTAL** | |
| Operating Temperature Range | -40° to 176°F (-40° to 80°C) |
| Storage Temperature Range | -40° to 176°F (-40° to 80°C) |
| Relative Humidity | Up to 95% non-condensing |
| AC Mode BTU / Hr. (Full Load) | 266 |
| AC Mode Efficiency Rating (100% Load) | >95% |
| Operating Elevation | 0-3280 ft. (0-1000 m) |
| Audible Noise | 52.4 dB maximum, front-side 1 meter |
| **COMMUNICATIONS** | |
| Network Management Cards |  <a class="productLink" href="//tripplite.eaton.com/network-interface-card-for-select-tripp-lite-ups-systems~WEBCARDLXMINI">WEBCARDLXMINI</a>  |
| Network Monitoring Port Description | WEBCARDLXMINI network management card option supports operation from 0C to 70C as measured inside the UPS; Built-in USB and Serial ports support UPS configuration via Windows Hyperterminal session |
| Input Dry Contact Ports | 1 set of input dry contacts generate an alarm of configurable input conditions when pins 1&2 are shorted; Rating: 300VDC/12A; Wiring Gauge: Up to 12AWG |
| Output Dry Contact Ports | 6 sets of output dry contacts support normally-open or normally-closed signaling of configurable UPS conditions; Rating: 300VDC/12A; Wiring Gauge: Up to 12AWG |
| Network Management Card Description | Network management card optional |
| Communications Interface | DB9 Serial; Slot for SNMP/Web interface; USB |
| **LINE / BATTERY TRANSFER** | |
| Transfer Time | UPS mode: 10ms (typical) / 12ms (max); Generator mode: 20ms (typical) / 22ms (max) |
| Low Voltage Transfer to Battery Power (Setpoint) | 88V (default, adjustable from 88 to 120V) |
| High Voltage Transfer to Battery Power (Setpoint) | 152V (default, adjustable from 120 to 152V) |
| **FEATURES & SPECIFICATIONS** | |
| Cold Start (Startup in Battery Mode During a Power Failure) | Yes |
| High Availability UPS Features | Automatic Voltage Regulation (AVR); Surge/noise protection; Extreme Operating Temperature |
| Grounding Details | Grounding lug connector provides a permanent ground connection for the UPS |
| **APPLICATIONS** | |
| UPS Applications | Mission Critical Applications; Extreme Temperature Applications |
| **STANDARDS & COMPLIANCE** | |
| Product Certifications | CSA (Canada); NOM (Mexico); UL 1778 |
| Product Compliance | RoHS; Trade Agreements Act (TAA) |

| WARRANTY & SUPPORT | |
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| Product Warranty Period (Worldwide) | 2-year warranty, 3 year with registration. Note: <a class="insuranceLink" href="//tripplite.eaton.com/support/product-warranty-registration">Registration is required</a> for 3-year warranty. |
| Connected Equipment Insurance (U.S., Canada & Puerto Rico) | $250,000 <a class="insuranceLink" href="//tripplite.eaton.com/support/insurance-policy">Ultimate Lifetime Insurance</a>  |

1000 Eaton Boulevard
Cleveland, OH 44122
United States
https://tripplite.eaton.com

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