120VAC 24VDC 2000VA 1600W 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

2kVA/1.6kW/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 up to 1600W 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

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
Maximum Input Amps	22

OUTPUT	
Output Capacity (VA)	2000
Output Capacity (kVA)	2
Output Capacity (Watts)	1600
Output Capacity (kW)	1.6
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.)	43
Runtime Half Load (min.)	113
Typical Battery Runtime	Above runtimes of full-load (2000VA/1600W) and half-load (1000VA/800W) with use of 24VDC 100AH battery system within a -40F(-40C)-to-131F (55C) operating environment. See manual and runtime charts for expanded runtimes with 55AH, 100AH, 110AH, and 200AH battery configuraitons based on supported load and temperature,
Expandable Runtime	Yes
Expandable Runtime Description	Requires 24V battery bank configured from a combination of RBC12V55ET (sold separately) or RBC12V100ET (sold separately) Extreme Temperature Battery modules based on runtime requirements. Supports up to 24V 200AH maximum capacity. Includes installable Anderson PA75 compatible DC connector kit; DC Battery cabling and 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)
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	
EMI / RFI AC Noise Suppression	Yes
AC Suppression Joule Rating	474
PHYSICAL	
Primary Form Factor	Rackmount
Rack Height	3U
Cooling Method	High speed user-replaceable fan with dust filter
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

Mounting Details	Set of two rackmount brackets support installation in 2 or 4 post racks
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	WEBCARDLXMINI
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	
Product Warranty Period (Worldwide)	2-year warranty, 3 year with registration. Note: Registration is required for 3-year warranty.
Connected Equipment Insurance (U.S., Canada & Puerto Rico)	$250,000 Ultimate Lifetime Insurance

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