NETSURE™ LMS1000

Monitoring System

KEY FEATURES

- Front access cabinets — provide easy access for future growth and service
- Modular design — allows for system expansion with the addition of expansion cabinets and expansion assemblies
- Flexible — environmentally hardened for use in uncontrolled and extended temperature environments; wide DC input range (20-60 VDC); 19-in. rack mounting
- Remote access — enables monitoring from central location via dial-up, Ethernet or RS232
- Alarm reporting — configurable to report to users via pagers, SNMP, TCP/IP, TL1/x.25, TL1/IP and e-mail
- Web pages — system can host its own user-configurable web page for all system information
- Open architecture — simple command line interface for integration into large scale NMS software
- Complies with industry standards — NEBS level 3 certified and UL Listed

Vertiv's NetSure™ LMS1000 Monitoring System is the field-proven industry standard, offering a complete remote monitoring solution with input/output (I/O) networking capability and a fully integrated Ethernet port.

Its low profile, extended temperature range and plug-in I/O cards make the LMS1000 well suited for smaller, outdoor applications. However the free-topology I/O networking capability allows the unit to monitor over 1,600 I/O points, making it ideal for larger sites.

Application

Alarm Mediation

Built-in logic and timers allow you to use the LMS1000 as an alarm concentrator to filter out unwanted or nuisance alarms. You can also convert conventional relay alarms to SNMP traps, e-mail or TL1 autonomous messages.

Battery Management

Use digital temp sensors to detect battery thermal runaway, or use the high precision bipolar analog cards to detect high battery float current and/or voltage imbalance conditions.

Capacity Management

Set threshold alarms on plant capacity and critical branch distributions to prevent equipment outages as a result of poorly charged batteries or blown fuses. Notify by relay closure, modem report, pager, SNMP trap or TL1 autonomous message — all from the same device!

Diagnostics

Use alarm history data, event data, and channel statistics to reconstruct events leading up to outages.

Energy Management

Control rectifiers to match the on-line capacity to the actual load.

Routine Engine Cycling

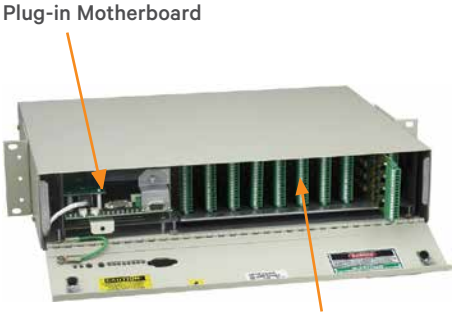
Automatically routine engines on specific days and times.

Power Metering

Compute and store power consumption (kWh) data for branch distributions and commercial AC.

Rectifier Sequencing

Limit and/or delay rectifier turn-on for applications with limited standby engine capacity.



Specifications

MAIN CHASSIS	
Dimensions	(H x W x D) 3.5" (2U) x 17" x 13.5"
Mounting	19" or 23" relay rack
Power	+24 VDC or -48 VDC
Wiring	Accessible from the front
CPU	Flash downloadable, 8 user defined LEDs, watchdog circuit
I/O card cage	Holds up to 10 user selectable cards
LOCAL DISPLAY	
VFD	4 line by 23-character display with 12 key keypad. Local access to channel values, alarm and event logs, statistics and battery discharge information.
INPUT/OUTPUT CARDS	
4-input analog	Transformer isolated, high precision (15-bits), bipolar, general purpose input card for sensing current loop transducers (e.g. 4–20 mA) and voltages from shunts (mV) up to 60 VDC. Accuracy of each input is better than 0.1%.
8-input temperature	Input card utilizes digital temperature sensor technology having ± 0.5 °C resolution. Sensors are available in a 1/4" or 5/16" single hole lug.
8-input shunt	(8) common return 0 mv to 50 mv DC inputs
12-input battery cell	(12) 0 V to 5 V analog inputs
4-output relay	Form-C contacts for each output rated at 0.5 A at 110 VDC and 2.0 A at 30 VDC
4-input binary	Double-ended, optically isolated inputs (60 VDC Max)
8-input binary	Single-ended, optically isolated inputs accept either plus or minus battery (60 VDC maximum), individually selectable by a jumper.
COMMUNICATIONS	
RS232	Local craft port provides complete access for programming and querying using any standard terminal software. Command set is similar to DGU and Vortex Smart, therefore no special communications software is required.
Ethernet port	Fully integrated 10 Base-T Ethernet connection. Unlike other Ethernet solutions that employ a 3rd party serial port converter, the LMS1000 Ethernet port is derived directly from the main processor. This approach ensures the fastest remote communications when compared to conventional serial port converter speeds like 9600 bps.
56K modem	An optional modem plugs onto the CPU motherboard and provides remote access connection identical to local craft port.
TL1	TL1 capability over X.25 or IP. All 36 commands of the Telcordia TA-1360 are supported.
SNMP	Query using a standard SNMP MIB-Browser or issue SNMP traps for alarm reporting.
E-mail	Standard feature, configurable to report alarms and data via e-mail messages.
Multitasking	All four ports may be accessed at the same time.
SOFTWARE HIGHLIGHTS	
Digital power ready	When used in conjunction with a digital power system such as Lorain® or Vortex®, a simple communications link between the two provides the ultimate in low-cost monitoring. Hundreds of I/O points inside the digital power system are automatically mapped over to the LMS1000 providing a seamless monitoring solution. In addition, all advanced voltages) are made available, thus providing full remote control capability to the power plant.
Function channels	Use these 64 virtual channels to perform calculations such as total plant current, power, battery current/voltage imbalance, etc.
Remote upgrades	Future upgrades to the software can be done remotely over Ethernet or modem.

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