



Remote Monitoring of Electromagnetic Fields

2600 Series Area Monitor System



- ◆ **50 Hz to 18 GHz Range – dependent on probe selected**
- ◆ **Stable, Reliable Results – even at very low levels**
- ◆ **Continuous Monitoring Results Stored – 18-month memory capacity**
- ◆ **Remote Unit Automatically Communicates Alarm Condition**
- ◆ **2600 Software**
 - **Allows automatic system operation with user-defined settings**
 - **Supports individual configuration of each 2600 Station in your system**
- ◆ **Powered by Solar Panel and Integrated Back-Up Batteries**
- ◆ **Bi-Directional Communication via GSM Network**

Description

The 2600 Series provides a complete solution for the remote monitoring of electromagnetic field strength at any location. Typically positioned near antenna installations, the system consists of one or more 2600 Station field monitors, an electric or magnetic field probe that matches your application for each monitor and the associated 2600 Software running on a PC.

2600 Station

The 2600 Station unit monitors the field strength over a wide frequency band. A variety of isotropic probes is available to meet the frequency and level range requirements of your application.

DATA ACQUISITION AND MEMORY

The actual field strength is continuously monitored. The time-averaging may be set according to common standards. All results are internally stored for further processing. The oversized memory capacity allows a storage period up to 18 months. Programmable text “bookmarks” can be used to identify individual sub-sets of these results.

ALARM

A flexible alarm circuit permanently checks the field strength results as well as the station’s status. Two field strength limits may be set independently. Whenever an alarm condition is met, the remote unit can automatically establish a link to initiate further actions.

The implemented SMS function allows direct calls to a set of predefined cellular phone users, for example, to the safety- or site-manager. Also included is a daily result and status report for the 2600 Station unit.



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COMMUNICATION

The bi-directional link is provided via the GSM phone network. The communication protocol is optimized for reliable operation. Results are usually downloaded automatically and periodically, e.g. every 24 hours depending on the individual setting. The maximum field strength in a given period of time may be sent to any phone as a brief report.

CONFIGURATION

Various parameters of the 2600 Station monitor may be configured by the 2600 Software. These settings include two adjustable field-strength thresholds, the detection mode, the average time, and the internal memory storage rate. All messages from the 2600 Station may be enabled or disabled. A subset of these configuration parameters may be directly set by any cellular phone via SMS messages.

OPERATION

The 2600 Station monitor operates autonomously. It is powered by a combination solar panel and integrated back-up batteries. Typically, the monitor will be mounted on a mast which is available as an accessory.

2600 Software

The 2600 Software provides full remote control of the system's operation. Programmable schedules may be set separately with each 2600 monitor to control the periodic data transfer.

After downloading the results, a powerful display tool allows a graphic display of every available result. Results acquired during GSM modem activities are highlighted to avoid misleading interpretation. In addition to receiving automatically programmed data, the user may query each monitor to download stored data manually or to monitor the instantaneous existing field strength.

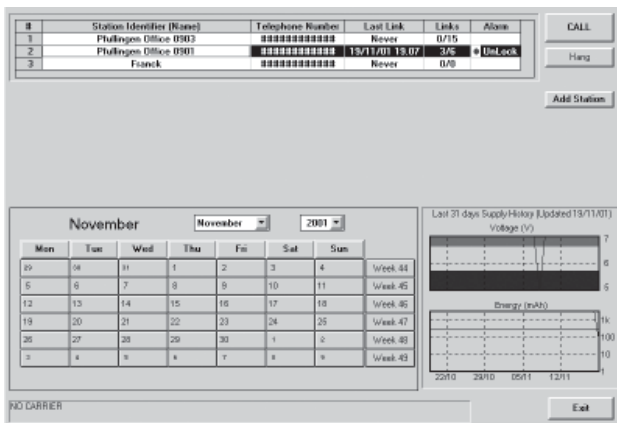
DATA VALIDATION AND DOCUMENTATION

The integrated post-averaging tool allows calculation of an averaged result over six minutes based on the downloaded data.

Easy-to-operate zoom and marker functions allow a complete examination of the results. Diagrams may be printed and copied to different documents. For further processing and presentation, all information is stored in individual folders for every remote unit. Data is easily distinguished by date or week at any time by activating the system's calendar feature. This data may be exported to other applications, e.g., into powerful databases. Possible applications could include reporting and internet presentation (not included).

CONFIGURATION SECTION

The 2600 Software supports complete and individual configuration of every 2600 Station monitor in the system. The set of parameters is included in the 2600 Station section on the next page.





Specifications

2600 STATION	
Sensor	Diode based, isotropic
Frequency/Measurement Range	Depending on probe Refer to Ordering Information
Detection Mode, selectable	Average Peak (extra) X, Y, Z (extra) Update Rate: 1 / second
Average Time, programmable	1 minute to 10 minutes
Storage Rate, selectable	5 seconds to 6 minutes
Memory Capacity	45 hours to 18 months Depending on Storage Rate and Detection Mode Selected
ALARM SECTION	
Alarm-criteria, selectable	Field Strength exceeds and/or falls below thresholds Internal Temperature High Battery Low Probe Malfunction Case Open Dual Field Strength threshold, adjustable separately
Alarm Notification, selectable	To Computer (data) Data: to one out of 10 computers
DATA SECTION	
Data Download to Computer, selectable	Automatic (periodical) Event Triggered (alarm) Individual – Scheduler Programmable
Result & Status Report to cellular phone	Automatic (periodical) – To a maximum of 10 cellular phones, simultaneously Individual – Scheduler Programmable
GENERAL	
Modem, implemented	GSM Dual Band, WiFi Bands according to Ordering Information
SIM Card	Data-Service: incoming, outgoing SMS-Service: incoming, outgoing Note: not included with delivery
Power Supply	Solar Panel, Buffered by Internal Battery Pack On Request: External Power Supply
Operating Time	7 days (approx.) in darkness
Operating Temperature Range	-10°C to +50°C
Self Test	Automatic during Power-On Periodically every 7 days
Calibration Interval	24 months recommended



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2600 Software Specifications

CONFIGURATION / DOWNLOAD SECTION	
Parameter Setting	Meter & Result Storage mode Alarm Criteria & Notification mode Scheduler Phone Number Bookmarks, Plot Colors Individual for each 2600 Station
Download Management, programmable	Date, time From last download, until now Between bookmarks Refer to Data Section
EVALUATION & DOCUMENTATION SECTION	
Result Presentation	Line Diagram
Special Feature	Marker Zoom Data highlighted if acquired during modem activity
Export Format	File: ASCII table Clipboard: bitmap
STATUS SECTION	
On Screen Display	Alarm status from last communication Battery voltage, solar energy history of last month
GENERAL	
Dimensions	29"H x 8"W x 8"D (73.6 cm H x 20.3 cm W x 20.3 cm D) 11 lbs. (5 kg)
Result Database Capacity	Restricted by computer's hard disk capacity
Operating Language	English
Hardware Requirements	Pentium processor, Microsoft® Windows® 95 or above, 16 MB RAM, 10 MB hard disk, data modem

Ordering Information

Narda Area Monitor 2600 Software	2600/01
Narda Area Monitor 2600 Station including: GSM 900/1800 modem, solar panel, battery charger, operating manual, accessory Note: SIM card required for GSM communication, not included with delivery	2600/11
Probe* (select one)	
E-field probe, Type 330 500 kHz to 3 GHz 0.3 V/m to 300 V/m	2600/90.20
E-field probe, Type 309 1 MHz to 18 GHz 0.8 V/m to 800 V/m	2600/90.22
H-field probe, Type 305 20 Hz to 3 kHz 10 nT to 40 µT	2600/90.48
Accessory (optional) Fiberglass pole (height 2 meters), including base	2600/91.01

*Other probes on request