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**ESD Sensing &
 Process Monitoring**

Critical Process ESD Monitoring

NOVX SERIES 7000

The Novx Series 7000 Process Monitor is a multi-purpose microprocessor based instrument for monitoring critical ESD related parameters in work station and process environments. The six dedicated use channels provide the flexibility to customize the instrument for the monitoring capability and communication required at each location. Module options include field voltage detection/Ionizer balance and/or decay testing, ESD event/EMI detection, body voltage/current detection or ground monitoring, and airborne laser particle counting.

The instrument is programmable through Calibrator Reader Software, allowing the user to set thresholds and alarms, define datalogging parameters and automate alarm notifications. The time stamped graphical interface provides the ability to cross-correlate events to sensor measurements.

Features and Benefits

- Smart Signal Processing
- Multiple sensor and antenna styles
- Daisy chainable; RS-485, Modbus, Ethernet, Wireless, or USB output
- Separate EMI noise levels and ESD event detection tracking
- Passive antennas for field voltage monitoring
- User-programmable alarm set-points with automated messaging
- Closed-loop control to tool controller
- Plug-in modules allow factory upgrades
- Discriminates ESD events from other events background noise
- Adapts to a variety of process applications, environmental conditions, and configurations
- Ability to connect multiple units with a single output or IP address
- Logs and graphs events separately
- Provides ability to monitor in explosive and flammable environments
- Customize each sensor location; ensures prompt alarm notifications
- Provides ability to shut down tool when thresholds are exceeded
- Provides flexibility to reconfigure monitors for processes with differing requirements

Specifications

NanoPulse	
Spectral Range	1 MHz - 8 GHz
Field Sensing and Decay Testing	
Input Voltage Range*	±15 - ±5000V
Voltage Out, Full-scale*	0 - ±5.0
Input Impedance	>100 GΩ
Bandwidth with Filter	5 Hz
Accuracy	±1V for <20V; ±5% for >20V
Decay Start Voltage*	+5 - ±150V
Decay Stop Voltage*	±1V min.
Proximity Alarm Set-point*	1 - 150V
Peak Hold*	OFF, ON
EMI and ESD Detection	
EMI Sensitivity*	CDM, HBM, MM Adj
EMI Indication	Event Count/Peak Voltage
ESD Event Magnitude (type)*	V/M, mV/M, V
ESD Event Duration	Factory Settable
Particle Counter Sensing Interface	Data acquisition and power available for most popular sensor models
Body Voltage or Current Detection	
Applied Voltage (dual-wire)*1	<0.5V
Adjustable Alarm (1 and 2)*	1 - 10V
Accuracy*	±.5V
Wrist-strap Voltage Threshold*	0.1 - 10V
Applied Voltage (single-wire)*	0V
Wrist-strap Current Threshold*	0.1 - 4 nanoAmps
Wrist-strap Alarm Delay*	1 - 25 sec
Ground Monitoring	
Range	1W - 20Ω
Accuracy	0.5Ω
Applied Voltage (open circuit)	<0.5V
Applied Current (short circuit)	<1 mA
GND 1 Threshold	1 to 20Ω
GND 2 Threshold	1 to 20Ω
Antennas	
Passive*	±.1V - ±5000V max
Active*	±150V max
EMI and ESD Event Detection	Programmable
General	
Novx Com	RS-485, Modbus, Ethernet, Wireless Ethernet (802.11a/b/g), USB
Critical Alert Notifications	Cellular, Pager, Email
LED Display Scale	1 - 5000V
Digital Display	4-Digit
Audible Alarms	Off, High, Low
Power Supply	100-240 VAC, 50/60 Hz
Dimensions	2.7" W x 7" H x 5.5" D
Weight	2.5 lb
Enclosure	Stainless Steel

* = Programmable. 1 = Open circuit voltage measured with Fluke 45 meter.

Module Options

LED Proximity Display: A visual field voltage level indicator with choice of Red/Yellow/Green display (Standard) or a Red only display.

Field Voltage Detection, Ionizer Balance and/or Decay Testing:

1. A passive antenna to monitor localized field voltages or ionizer balance. This module can also provide closed-loop feedback control of specific ionizers,
2. An active antenna to monitor ionization balance and perform programmable decay testing,
3. The Remote Voltage Sensor (RVS) to measure field voltage for varying distance applications such as area wide monitoring and in-tool monitoring.

NanoPulse ESD Event/EMI Detection: This module combines detection technology with specialized antennas to count and record events with their magnitudes. Dynamic Threshold Analysis determines the ambient noise level and discriminates the onset of an ESD pulse event.

Communication: Choose from RS-485, Ethernet, Wireless Ethernet (802.11a/b/g), and USB.

Body Voltage or Current Detection and Ground

Monitoring: This module provides current detection that is achieved with zero applied voltage to the operator and offers your choice of:

1. Dual-channel, dual-wire body voltage/current and ground detection through the dual connector wrist-strap.
2. Single-channel and single-wire current and ground detection.

Particle Counter Interface: This module will power and collect output data from most generally available laser airborne particle counters and provides system status with data logging.

Other Options

Novx Process Environment Monitoring Software (PEMS) connects any of up to 1024 Novx monitoring devices for a factory wide monitoring system. Data can be exported for SPC analysis and reporting. Multiple instruments can be integrated with the Novx PEMS Software for a factory wide monitoring system.

Novx Serial Process Interface (SPI) D/A converter that allows the digital Series 7000 Process Monitor to be used with older analog equipment.



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