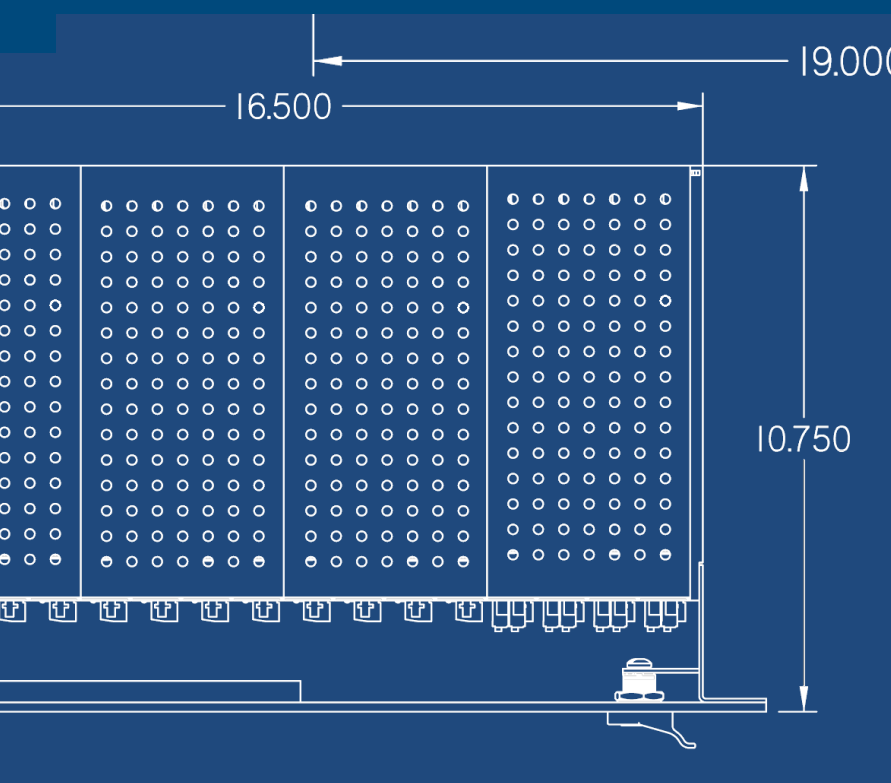
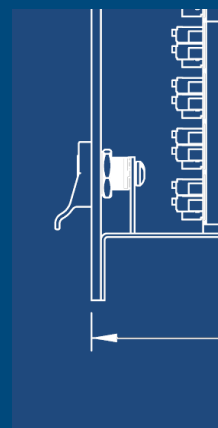
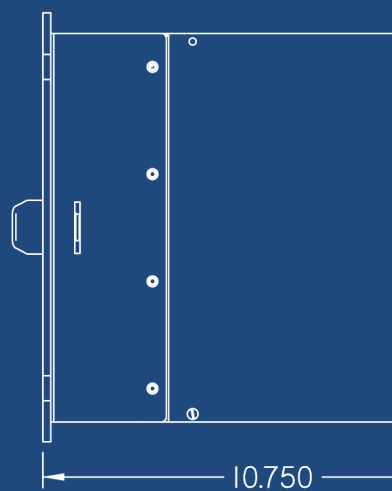
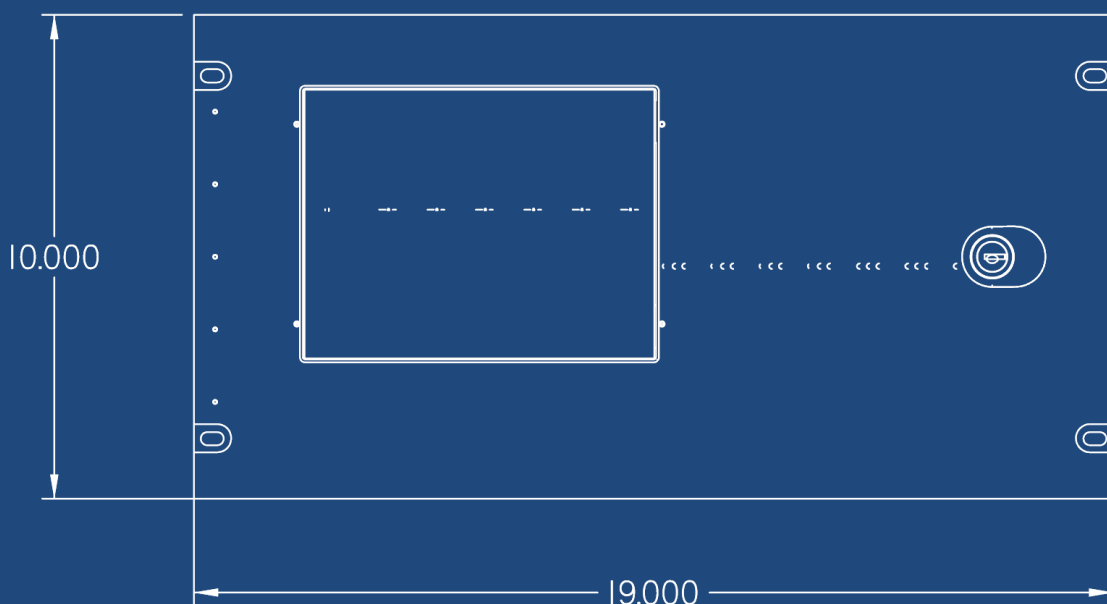


# SETPOINT™

MACHINERY PROTECTION SYSTEM



**METRIX**  
Experience Value

# Setting a new standard...



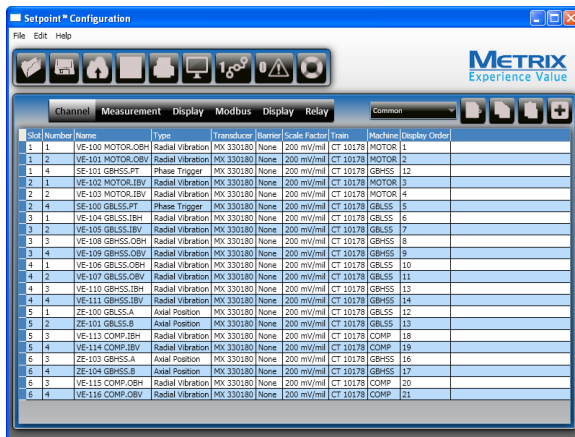
The SETPOINT™ system from Metrix sets a new industry standard for quality, reliability, and value. Completely engineered from the ground up to deliver everything you expect from an API 670-compliant machinery protection system, it also delivers something you might not expect: **affordability**.

## Value

Simple, yet incredibly powerful. Engineered for unsurpassed reliability. Easy to install, easy to service. Totally open, for enhanced connectivity. And designed to sell for considerably less than competing alternatives, yet without sacrificing one iota of quality. It's the Metrix SETPOINT system and it takes your ability to experience value to a whole new level.

## Experience

Metrix has deep experience designing monitoring products, building on our 45-year legacy of innovation and expertise. We've also rigorously adhered to the best practices and field-tested recommendations in API Standard 670, widely recognized as the definitive embodiment of monitoring system functionality. Finally, we've consulted extensively with you, our customers, to ensure this system reflects exactly what you need. In short, we've combined our experience with users' experience to produce a system that works – simply, reliably, and affordably.



The SETPOINT system's tabular configuration environment shows the entire rack, allowing changes to multiple channels simultaneously. The result is a fast and simple configuration experience.

## Simplicity

The majority of API 670 systems in use today are configured to provide a remarkably simple function: alarm on overall vibration, thrust position, and bearing temperature. While this deployed functionality may be simple, the necessary configuration is often just the opposite: enormously complex.

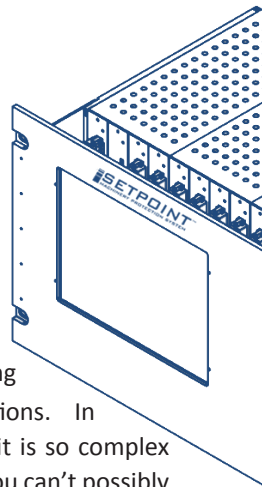
A user can be faced with a dozen or more alarm settings for each channel, requiring a bewildering array of configuration options. In fact, you may have been convinced that it is so complex to configure and maintain a system that you can't possibly do it alone, with an expensive contractual service agreement from the manufacturer as the only viable alternative.

At Metrix, we've taken a different approach. It's called simplicity. Sure, we deliver the advanced functionality you need, but we don't overwhelm you with it. The SETPOINT system is simple: Simple to use, simple to configure, simple to connect, and simple to maintain.

We scale our service offerings to your needs, whether you want full turnkey installation and ongoing maintenance, whether you prefer to do it all yourself, or whether you require something in between.

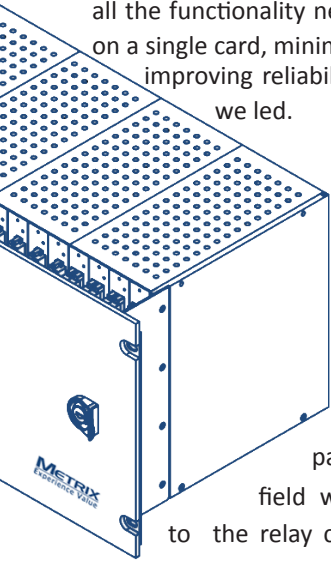
## Quality

One look at the build quality of the SETPOINT system and you'll know this is a serious product for serious professionals. Machined aluminum. Ultra-rugged touchscreen display built to automotive-quality standards. Premium-grade industrial connectors throughout.



## Innovation

The SETPOINT system is the perfect combination of out-of-the-box thinking and deep experience. We started by placing all the wiring connections in the front, where they're easily accessible both during installation and maintenance. Then, we concealed them behind a sleek, professional front panel with the most attractive user interface in the business. We put all the functionality needed for monitoring 4 or 6 channels on a single card, minimizing backplane communications and improving reliability. Quite simply, we didn't follow – we led.



## Reliability

The simplicity of the SETPOINT system is the key to its reliability. For example, every critical-path connection to transition from the field wiring through the monitor circuitry to the relay contacts represents a potential point of failure. The SETPOINT system contains just three

critical-path connections, a significant reduction over other systems. In addition, every monitor module in the SETPOINT system is entirely self-contained. Just supply 24Vdc power and each module can act as a stand-alone monitor with self-contained signal processing, relays, input connectors, and alarm annunciators for 4 channels of vibration, speed, phase, or thrust – or 6 channels of temperature. We've also given special attention to system power requirements. Because power supplies are significant sources of heat, we placed them outside the rack.

We also asked ourselves if they were truly necessary in many cases. After all, standard 24 Vdc instrument powers readily available in most plants. We came to the obvious – yet innovative – conclusion that a system built to run natively on 24 Vdc could eliminate the need for (and cost of) special power supplies altogether in most installations, while still providing optional provisions for AC power when required. It's just another example of how the SETPOINT system's simplicity enhances its reliability and value.

## Connected

Communications are integral to the SETPOINT system with full Modbus® connectivity as required by API standard 670. But we also provide full access to the dynamic waveform data captured by the system. How? Keep reading.

## Open

The status quo approach to dynamic data access can be summarized in one word: closed. It requires expensive proprietary software that supports only that vendor's hardware and is typically used by only a few people in the plant. It can easily double or even triple your total installed cost.

At Metrix, we did something truly revolutionary: we opened this protocol, allowing it to be used by anyone. Then, we went even further. Through our partnership with OSIsoft, you can connect the SETPOINT system directly to their PI® System process historian software, allowing the display of both static data (such as supplied through a Modbus interface) and dynamic data (such as typically supplied through a proprietary interface). Because the PI System is the most widely used software of its kind, it's very likely that your plant is already using it. Imagine being able to simply connect your SETPOINT rack to the PI System rather than purchasing yet another special-purpose software package. With the SETPOINT system, you can.



The SETPOINT system features an integral 8-inch touchscreen display that provides simultaneous at-a-glance visibility for every channel in the rack.

# Selected Specifications

## AVAILABLE MODULE TYPES\*

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### Universal Monitoring Module (UMM)

Accepts 4 channels of vibration (displacement, velocity, and acceleration), speed, phase trigger, or thrust position; provides 4 configurable SPDT relay contacts per module, individual 4-20mA outputs for each channel, and status LEDs.

### Temperature Monitoring Module (TMM)

Accepts 6 channels of RTD and/or TC inputs; provides 4 configurable SPDT relay contacts per module, individual 4-20mA outputs for each channel, and status LEDs.

### System Access Module (SAM)

Provides independent communications ports for Modbus®, dynamic data, system configuration, and touchscreen display.

### Rack Connection Module (RCM)

Provides connection to redundant power, OK relay, system-wide contacts (inhibit, bypass, etc.), and buffered outputs.

\* Additional module types supporting applications such as Turbine Supervisory Instrumentation (TSI) will be introduced following initial product release for the API 670 market.

## DISPLAY

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**Size:** 8.4 inch (measured diagonally)

**Type:** TFT color LED backlit touchscreen

**Resolution:** 800 x 480

## RACK CAPACITY

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**Slots:** 16 (slot 1 reserved for Rack Connection Module; slots 2 and 3 available for monitor modules or optional System Access Module(s); slots 4-16 available for monitor modules).

**Channels:** Up to 56 vibration channels or 84 temperature channels, in any mix (up to 60 vibration or 90 temperature channels when optional System Access Module is not needed).

## MOUNTING

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Adaptable to 19" rack mounting, panel cutout mounting, or bulkhead mounting requirements.

## CONFIGURATION

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Individually via USB port on each monitor module, or rack-wide when optional System Access Module is installed.

## APPROVALS (pending)

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**CSA:** CI 1, Div 2, Grps A-D, T4@ -20C<Ta<+65C

**ATEX:** Ex nA[nL] IIC T4@ -20C<Ta<+65C

**CE**

## PHYSICAL\*

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**Width:** 19.0 in (482.6 mm)

**Height:** 6U 10.47 in (265.9 mm)

**Depth:** 10.75 in (273.1 mm)

**Weight:** 30 lbs (11.2 kg) with all slots occupied

\*Dimensions shown are for a full-size 16-position rack.  
A half-size 8-position rack is also available.

## ENVIRONMENTAL

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**Temp:** -20 to +65C (operating)  
-40 to +85 C (storage)

**Humidity:** 5% to 95% non-condensing

## BUFFERED OUTPUTS\*

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Available at front of each 4-ch monitor module via RJ45 connector. Each monitor also provides buffered output signals to the backplane where they are available via a single 50-pin connector on the Rack Connection Module.

\* An option for conventional BNC connectors on the front panel will be available later in 2011.

## Product Availability

Quotations for the SETPOINT system are available now, in time for your 2011 budget planning. Contact your nearest Metrix representative or our factory in Houston. To find the location nearest you, visit [www.metrixvibration.com](http://www.metrixvibration.com) and click on "find local rep."

Production release for the SETPOINT system is March 30, 2011, with first shipments available in 2Q2011.