MX5000

A DIFFERENT APPROACH TO VIBRATION MONITORING

API 670 Machinery Protection System
Simple Architecture
Hazardous Area Approvals
Safety Integrity Level (SIL 2)

Monitoring System Shown Includes:
- **One Rack Emulation Module (REM)**
- **Three Sensor Interface Modules (SIM)**
- **One Temperature Interface Module (TIM)**

The MX5000 is a vibration monitoring and protection system that is designed for new installations and to make rack replacement easy and affordable. Its modular design allows a user to take advantage of each module's standalone capacity, with the ability to combine systems with up to 7 modules and 24 vibration channels.

MX5000 Features

- Sized to fit in the void created by removing an older vibration monitoring system rack
- DIN rail mounted to facilitate easy modular construction
- 20-pin connector creates a continuous backplane between modules
- Existing wiring can easily be tied in for sensors, communications, 4-20 recorders and emergency shutdown systems
- Configuring the MX5000 is as easy as connecting your laptop to the USB
- Relay mapping is simple and intuitive, making voting logic easy to understand
- Configuration is password protected
- Configuration display software will be available on the Metrix website

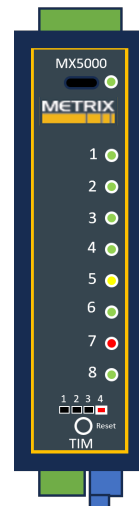# MX5000 MODULES

Sensor Interface Module (SIM)

- SIM can stand alone
- SIM may be paired with additional SIMs and TIMS
- 4 Channels
- Channel types (Voltage, Process Variables)
- Input types (Accel, Velocity, Proximity, Process)
- Allows redundant 24 VDC power supplies
- Output types (Modbus 485, 4-20 mA, Dynamic (Raw) Signal)
- Relays (4 Solid State)
- Configuration and Display Software (HMI)
- Hazardous area standards (Class 1 Div 2, Zone 2)
- SIL 2 capable

Temperature Interface Module (TIM)

- TIM can stand alone
- TIM may be paired with additional SIMs and TIMS
- 8 Channels
- Input types (RTD or TC)
- Requires 24 VDC power supply
- Output types (Modbus 485, 4-20 mA)
- Relays (4 Solid State)
- Configuration and Display Software (HMI)
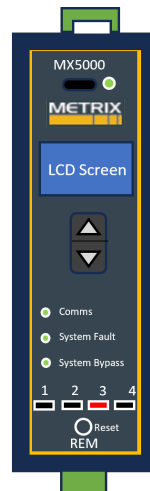- Hazardous area standards (Class 1 Div 2, Zone 2)
- SIL 2 capable

Rack Emulation Module (REM)

- API 670 Compliant
- Enables redundant 24 VDC power supplies
- Up to 6 SIMs and 1 TIM or 7 TIMs
- Selectable channel LCD screen
- Modbus over Ethernet TCP/IP communications
- Relays (4 Mechanical), with local reset
- Configuration and Display Software (HMI)
- LED system statuses
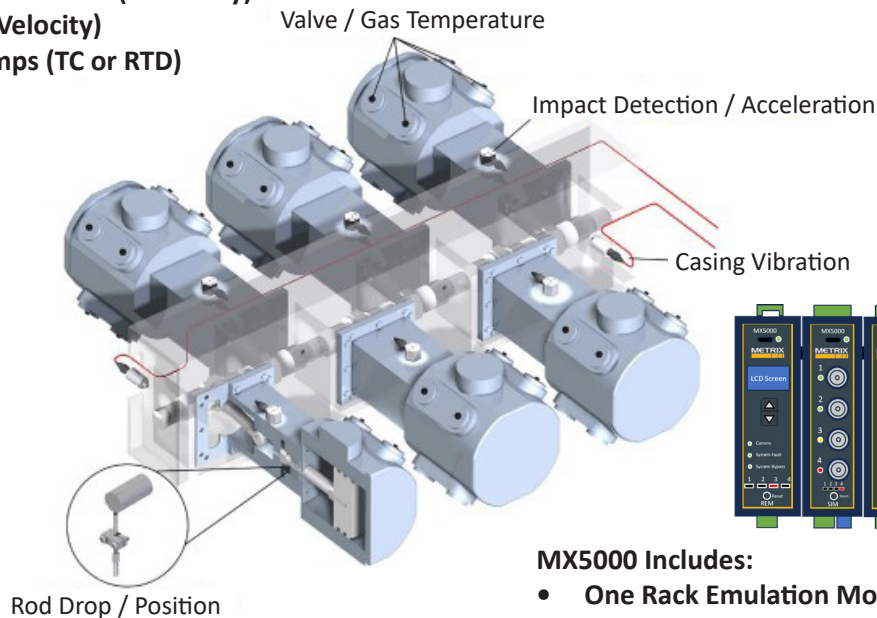- Hazardous area standards (Class 1 Div 2, Zone 2)
- SIL 2 capable

3

Reciprocating Compressor
Minimal Recommended Sensor Suite:
- **6 Crosshead Impact Sensors (Accelerometers)**
- **6 Rod Drop / Vibration Sensors (Proximity)**
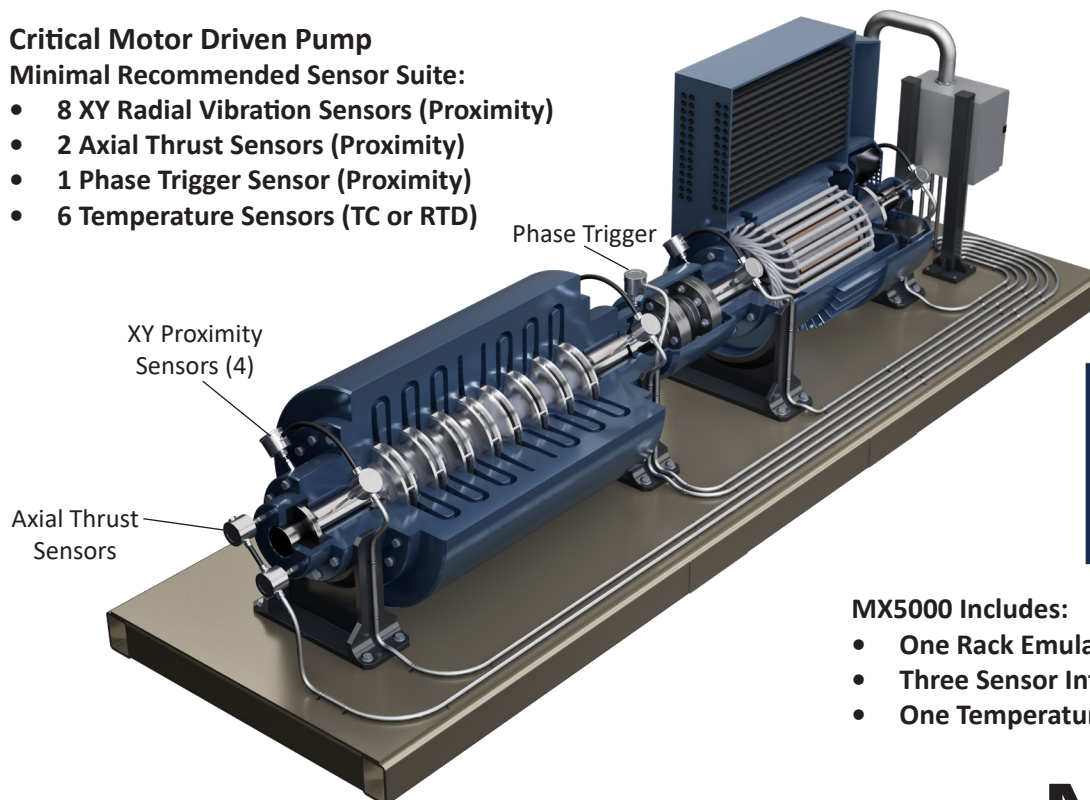- **2 Crankcase Sensors (Velocity)**
- **6 Cyclinder Outlet Temps (TC or RTD)**

Valve / Gas Temperature

Impact Detection / Acceleration

Casing Vibration

Rod Drop / Position

MX5000 Includes:
- **One Rack Emulation Module (REM)**
- **Four Sensor Interface Modules (SIM)**
- **One Temperature Interface Module (TIM)**

Critical Motor Driven Pump
Minimal Recommended Sensor Suite:
- **8 XY Radial Vibration Sensors (Proximity)**
- **2 Axial Thrust Sensors (Proximity)**
- **1 Phase Trigger Sensor (Proximity)**
- **6 Temperature Sensors (TC or RTD)**

Phase Trigger

XY Proximity
Sensors (4)

Axial Thrust
Sensors

MX5000 Includes:
- **One Rack Emulation Module (REM)**
- **Three Sensor Interface Modules (SIM)**
- **One Temperature Interface Module (TIM)**

METRIX