

Alta Solutions

System features and AS-6000 Overview

MONITORING AND ANALYSIS SOLUTIONS FOR MANAGING PLANT MACHINERY

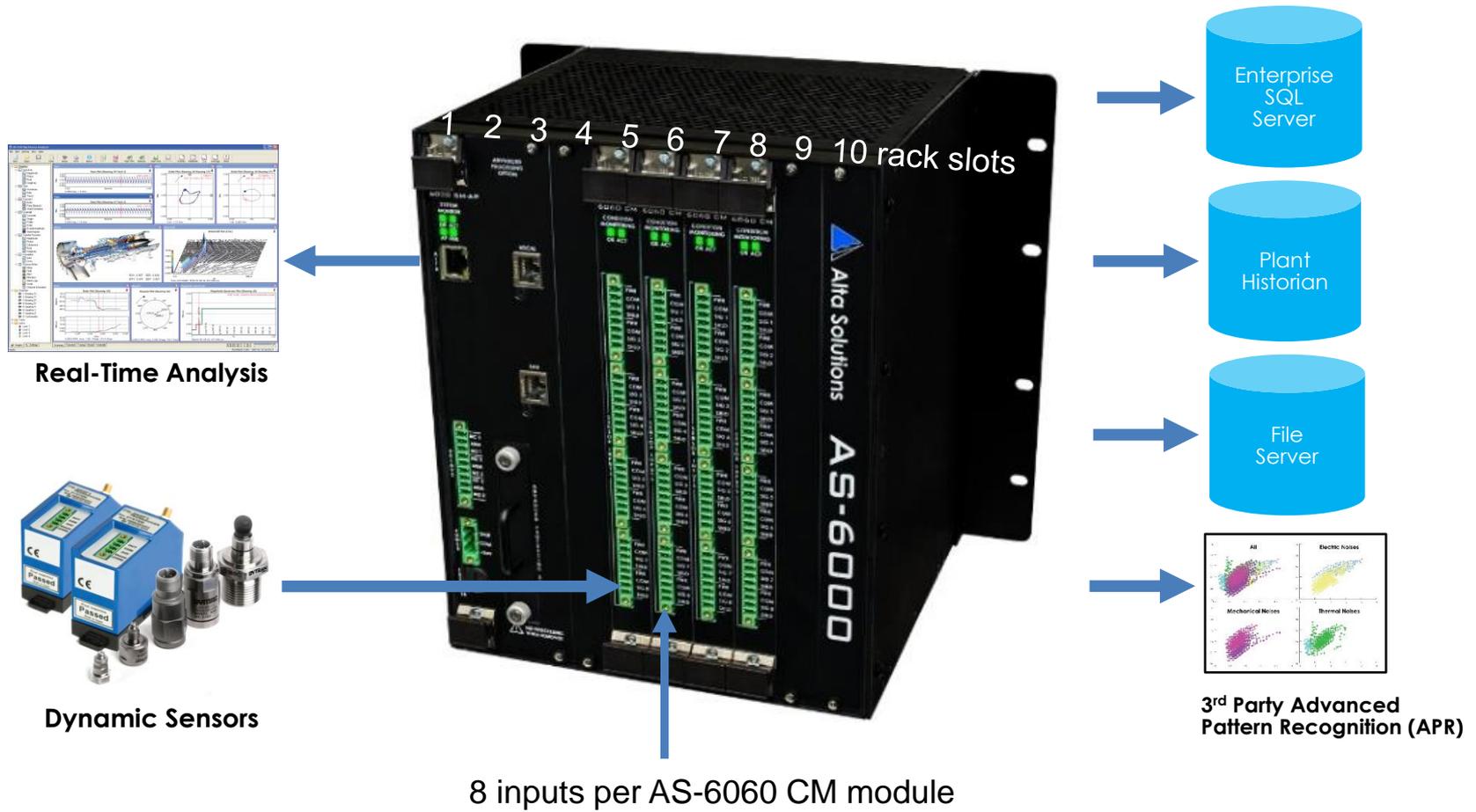


Real-Time Analysis and Monitoring

Portable and Permanent
Monitoring and Protection

AS-6000 Condition Monitoring System

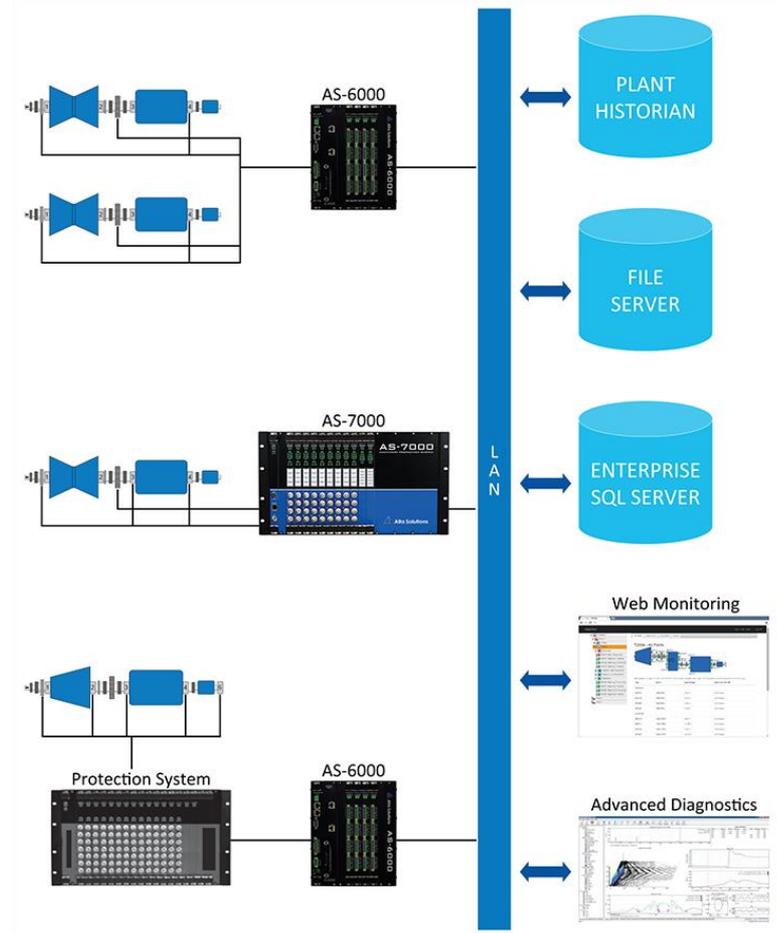
Architecture, Features, Installation Details



Integration with Existing Infrastructure

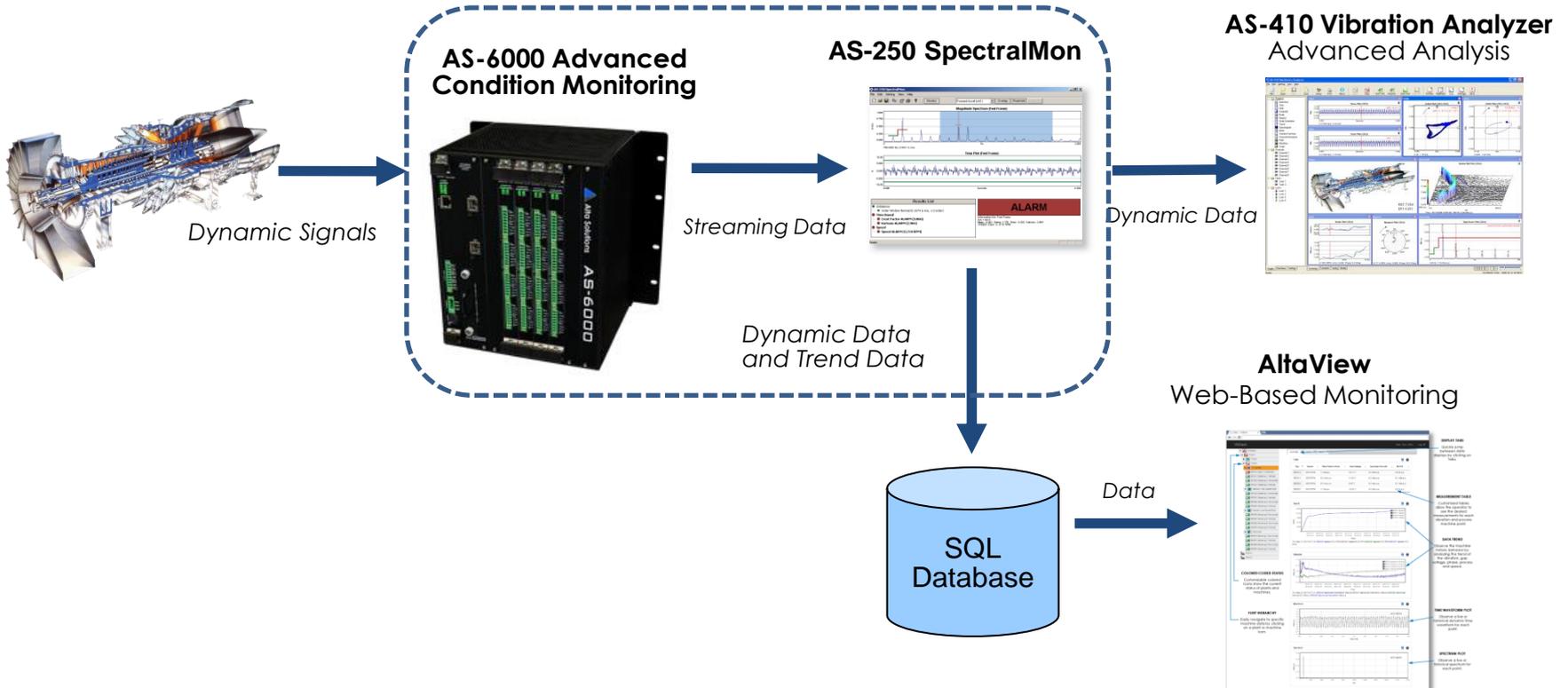
2 way communications of process and vibration data

- Designed to interface with third party hardware and software products
- Leverage existing resources
 - Existing BN3300/BN3500 systems
- Reduce system training
- Import and export data with plant historian and DCS
- Examples of software Alta interfaces with:
 - OSI PI Historian
 - InStep eDNA Historian
 - GE Proficy
 - RA EMonitor
 - Modbus RTU/TCP
 - Email/HTTP
 - Digital Inputs/Electronic Relay
 - SQL
 - Spreadsheet



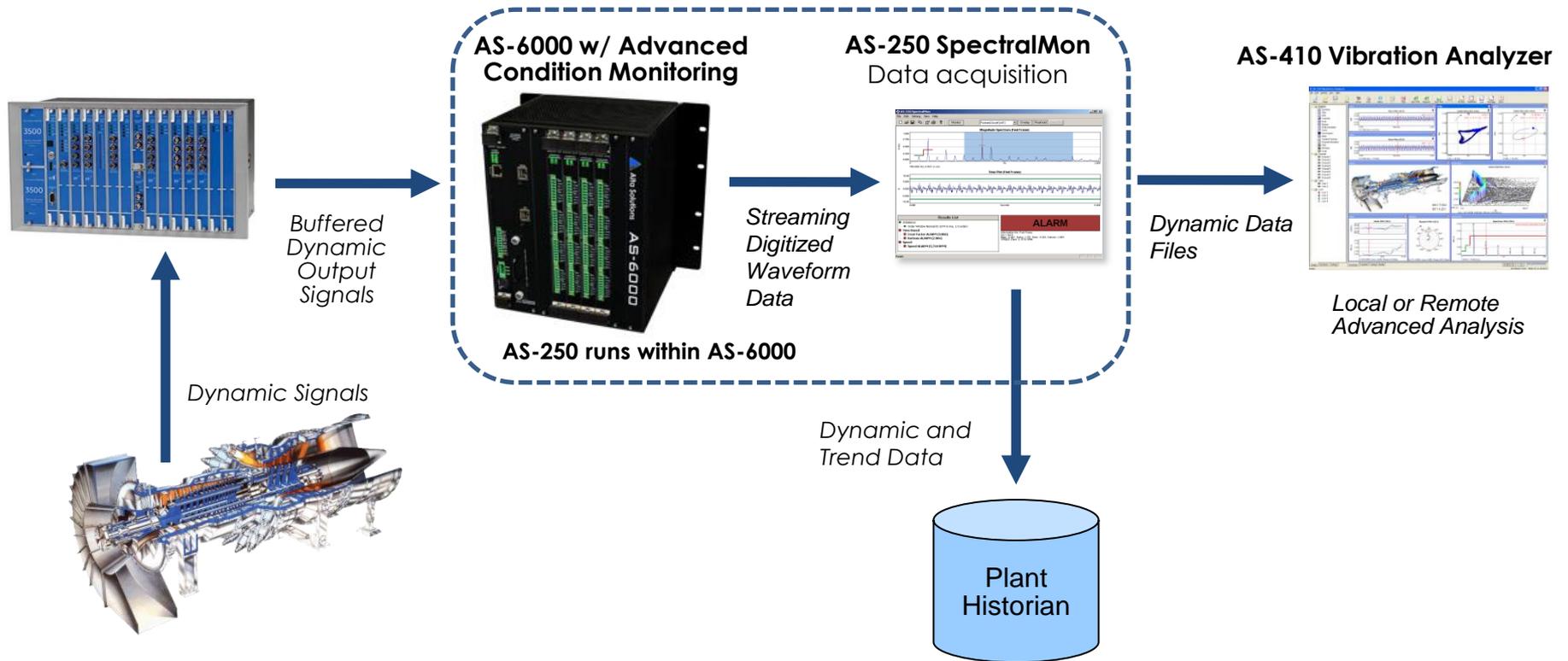
Real-Time Machinery Condition Monitoring

Vibration Sensors powered by AS-6000 CMS



Real-Time Machinery Condition Monitoring

Connected to machinery protection system

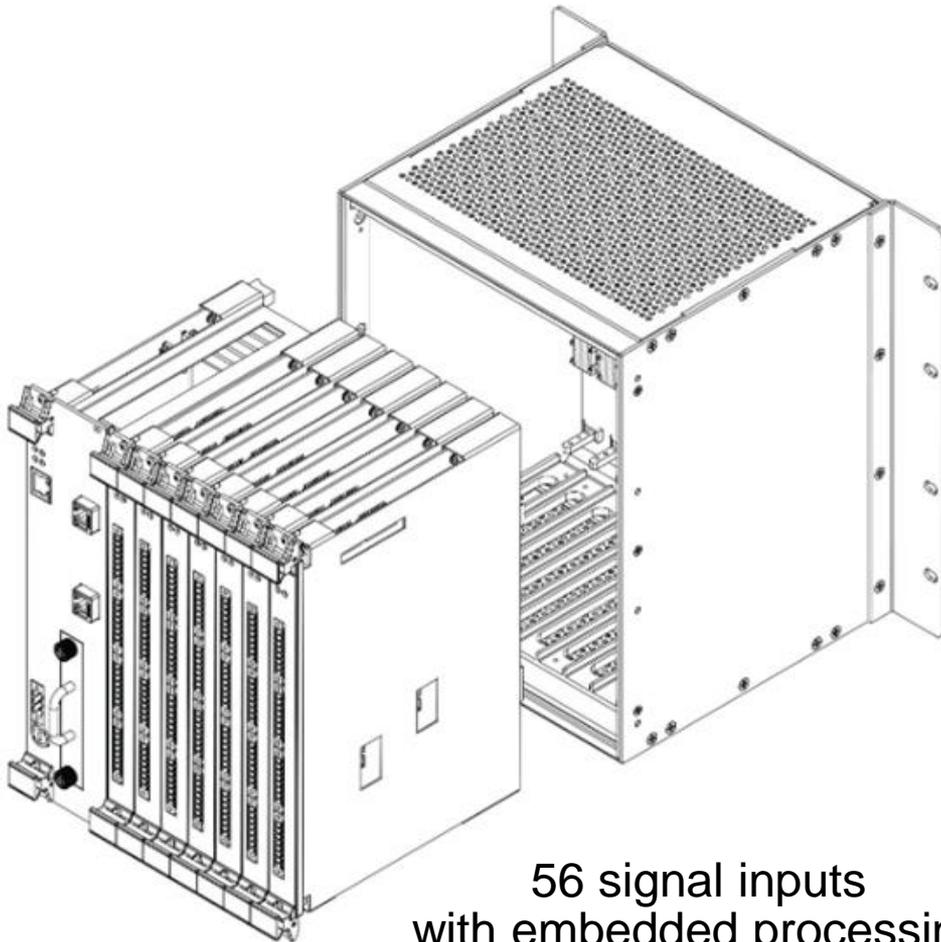


AS-6000 CMS - by the numbers

- AS-6000 Inputs and Outputs
 - 10 slot rack,
 - 3 slots for System/ AP module
 - 56 vibration inputs, w/ AP option
 - 8 inputs per 6060 CM module
 - 1 SSD for CMS app and data storage
 - 2 Speed/ phase inputs per 6060 CM
 - 1 Local port, configuration/ local access
 - 1 LAN port, data to DCS and NAS
 - 1 Alta port, streams gapless analysis data
 - 3 DO's , system OK, Hi, and Hi Hi alarms
 - 1 Input power, +24Vdc



Modular System



56 signal inputs
with embedded processing
and data storage



1 2 3 4 5 6 7 slots
(8 inputs per card slot)

Mounting Options

Chassis height

10.5 inch (6U)
266.7 mm



Bulk-Head



Bulk-Head With Power Supply

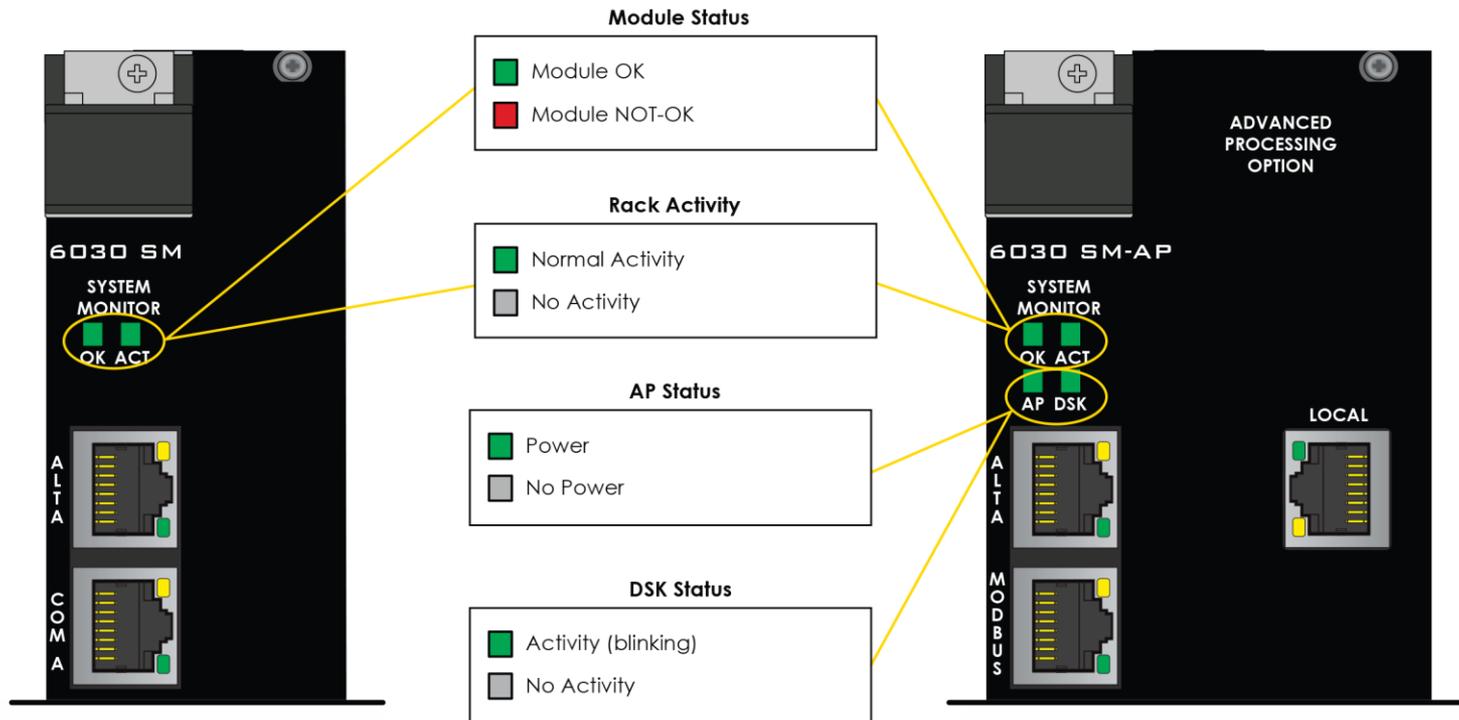


Rackmount - Flush

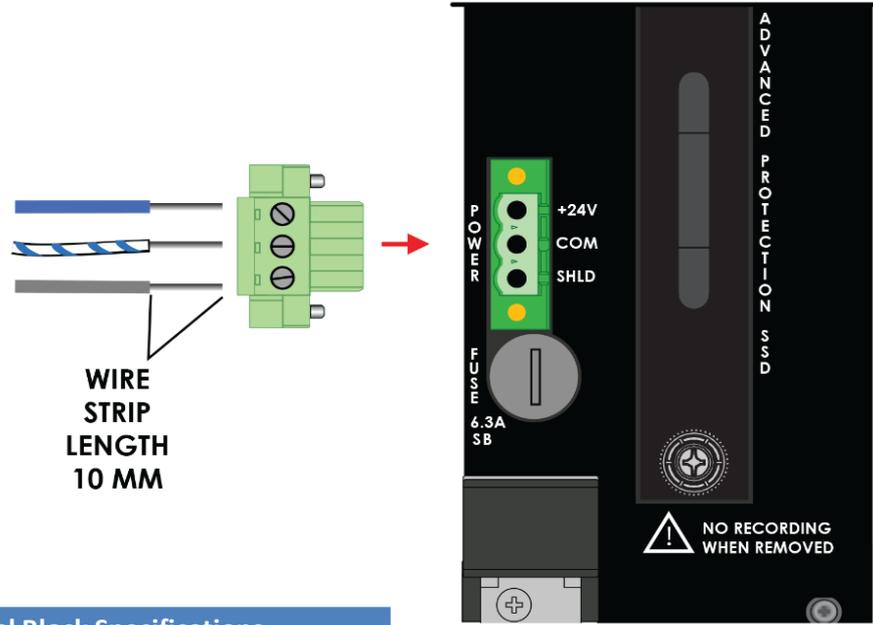


Rackmount Recessed

6030 LED Indicators

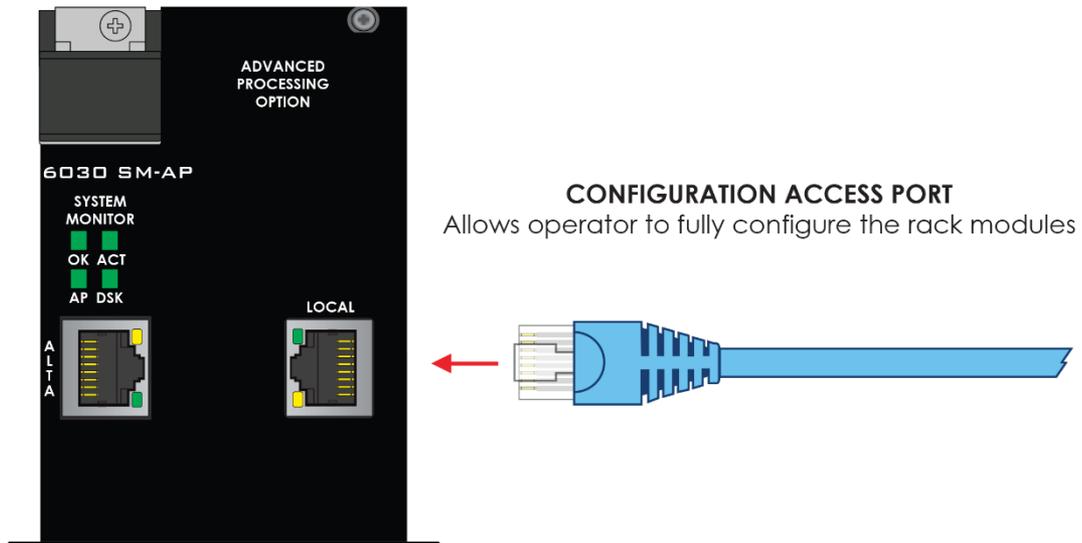


Power Inlet



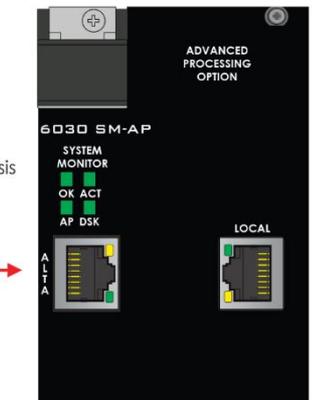
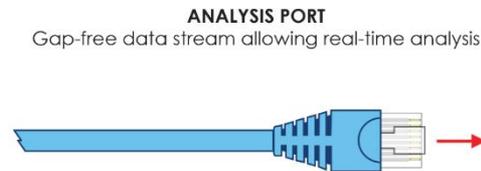
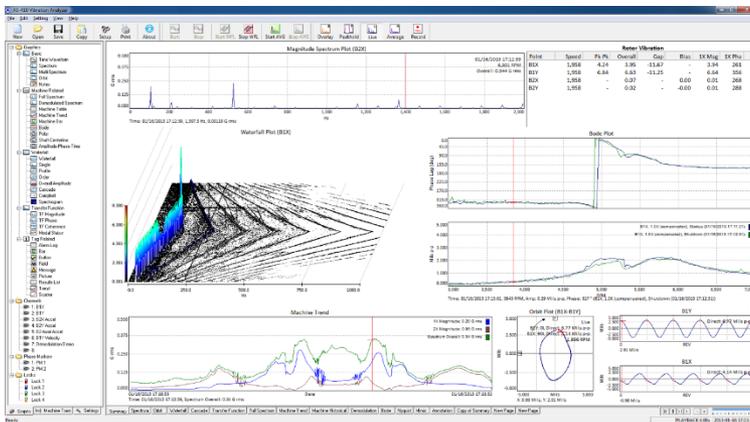
Removable Terminal Block Specifications	
Plug Pitch	5.08 mm
Connection Method	Screw with tension sleeve
Wire Gauge	24-12 AWG
Current Rating	16A
Voltage Rating	320V
Flammability Rating	UL 94 VO
Tightening Torque	0.5Nm – 0.6Nm

Configuration Port



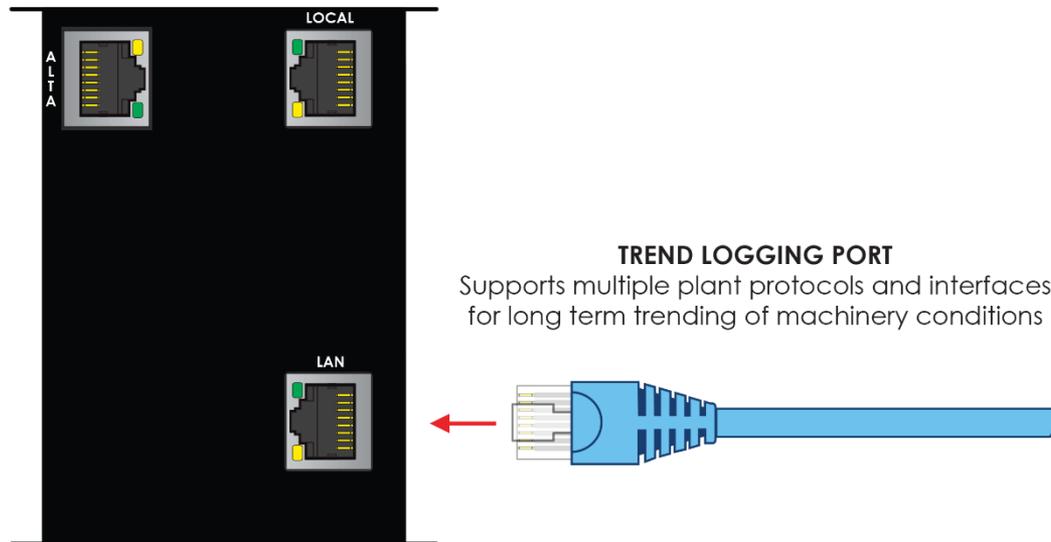
ALTA Port – Real-Time Data Streaming

- Access to real-time data streaming to avoid the need to connect external data acquisition for transient data capture and local troubleshooting

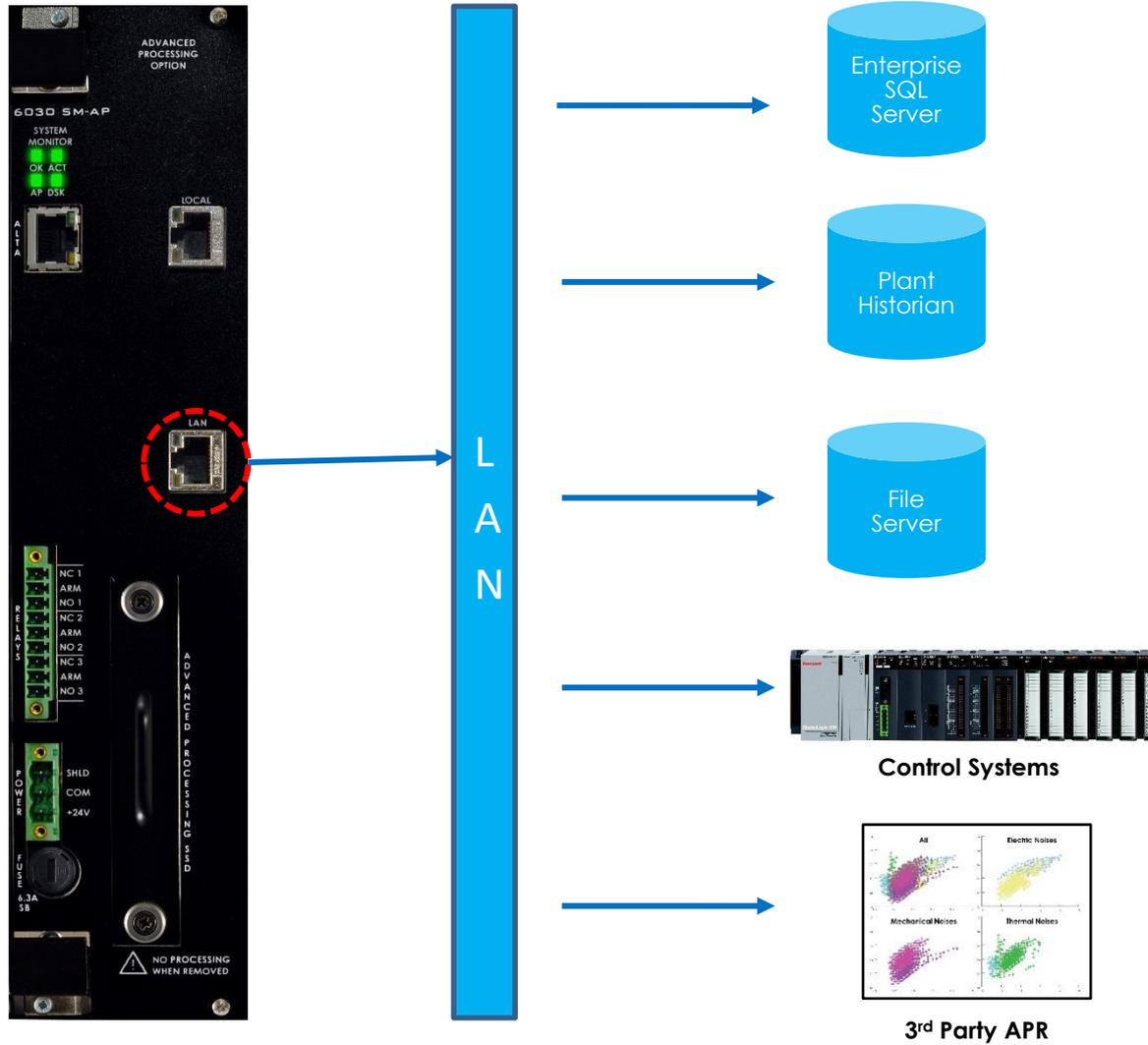


LAN Port

- Allows 6000 system to log data to external databases and historians



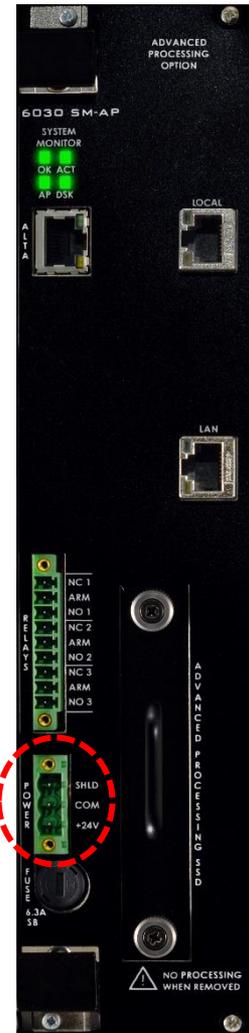
Seamless Plant Integration



Off-The-Shelf Powers Supplies

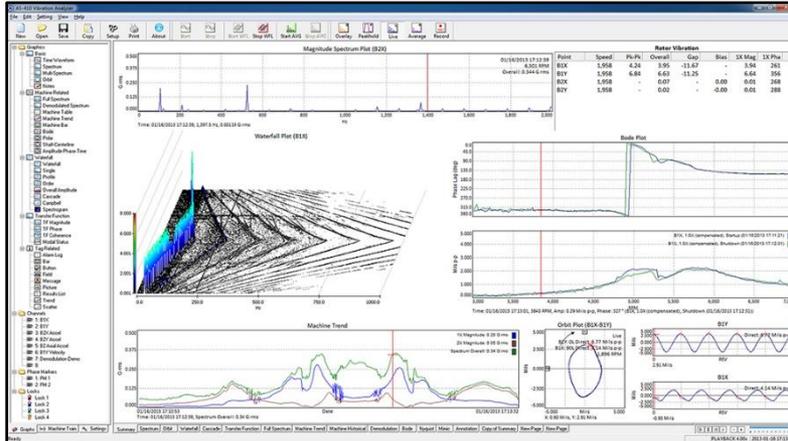


Nominal +24Vdc Power
(+18Vdc to +30Vdc Range)

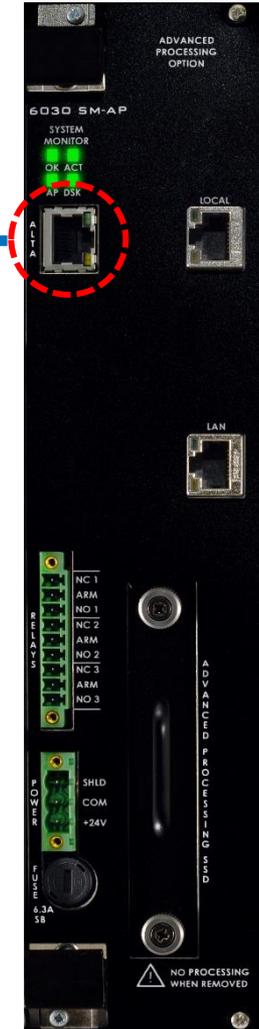


Built-In Data Diode Feature

REAL-TIME ANALYSIS SOFTWARE



One-Way Data Transfer



- Dedicated Ethernet interface provides “one-way” data transfer, thereby complying with cyber security requirements: **CIP COMPLIANT**

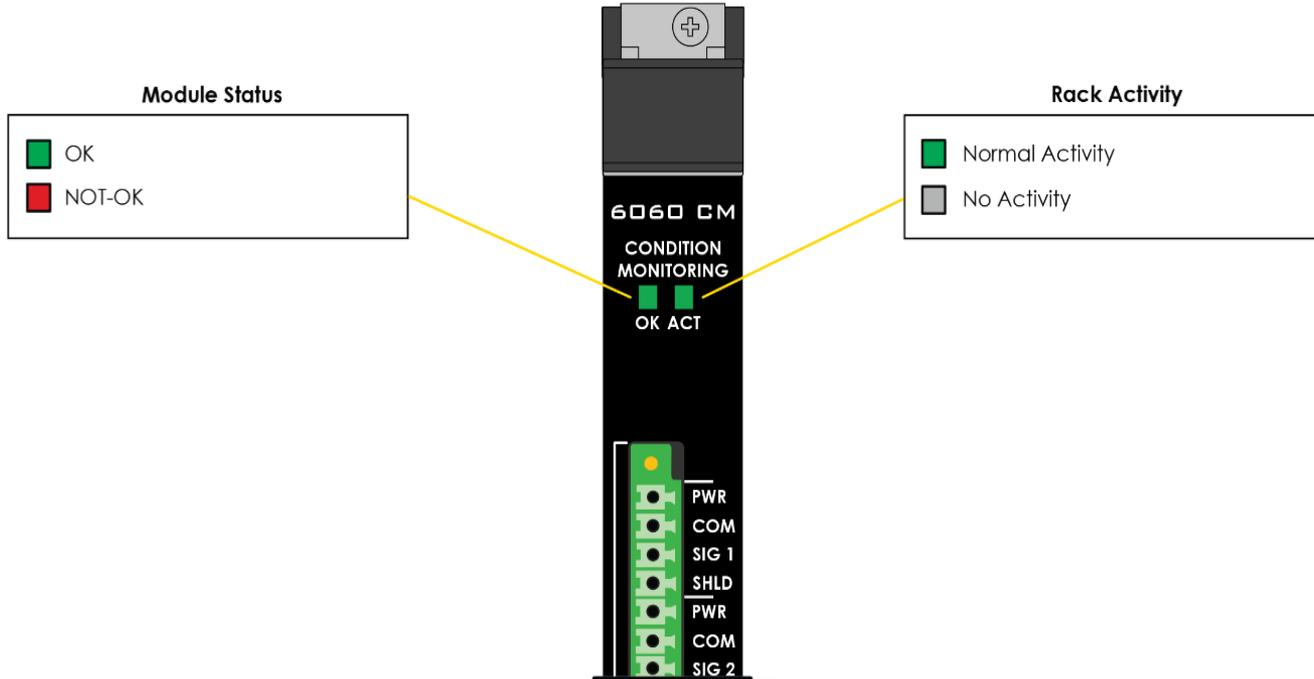
Built-In Data Storage and Recording



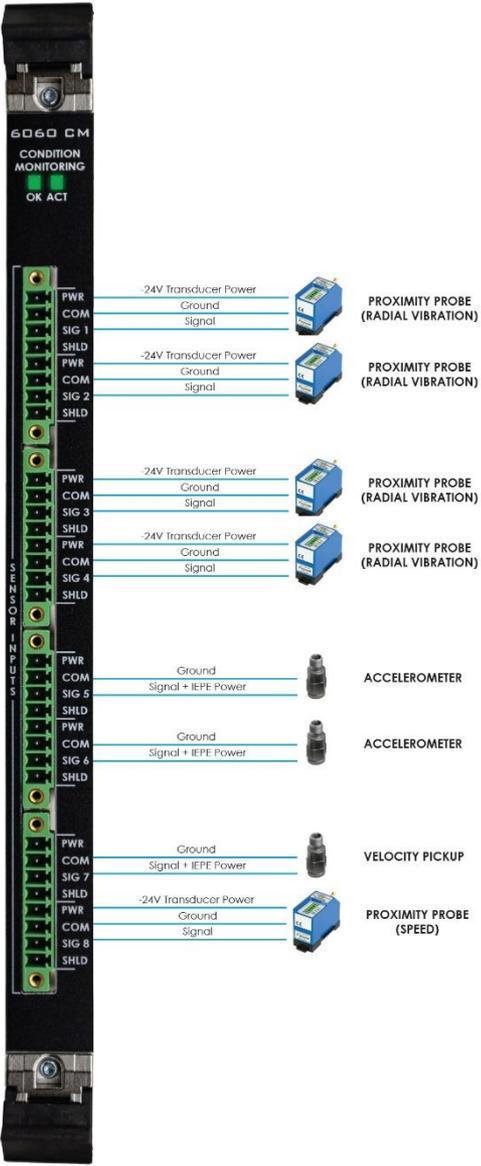
- Removable solid state hard drive
- Provides “black-box” recorder functionality to capture high-resolution waveform data for diagnostics and analysis by experts



6060CM LED Indicators

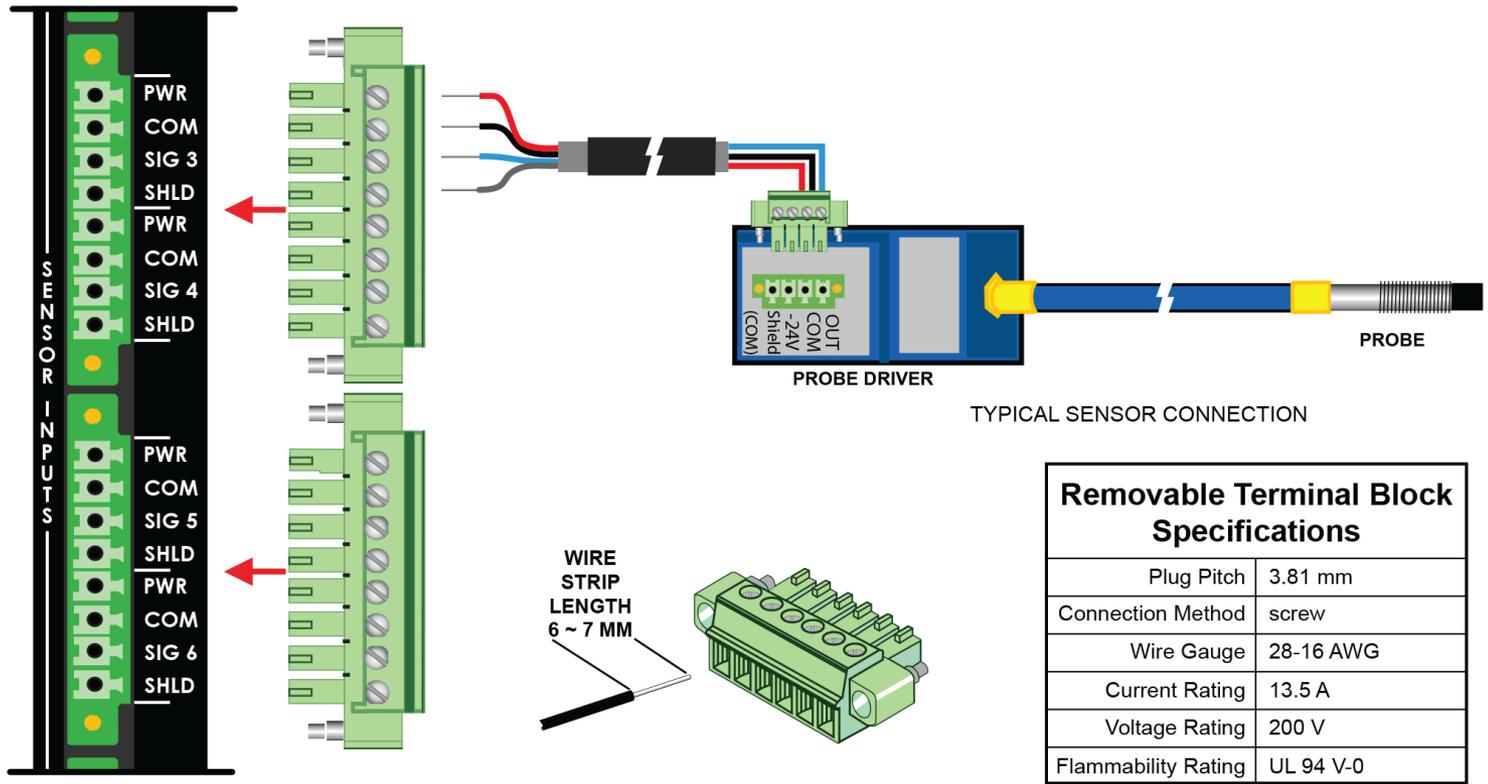


Multiple Sensor Support



- Supports a wide range of industrial sensors
 - Accelerometers
 - Displacement (proximity) probes
 - Velocity Pickups
 - Pressure Transducers
 - Speed Sensors
 - Air Gap

Sensor Inputs

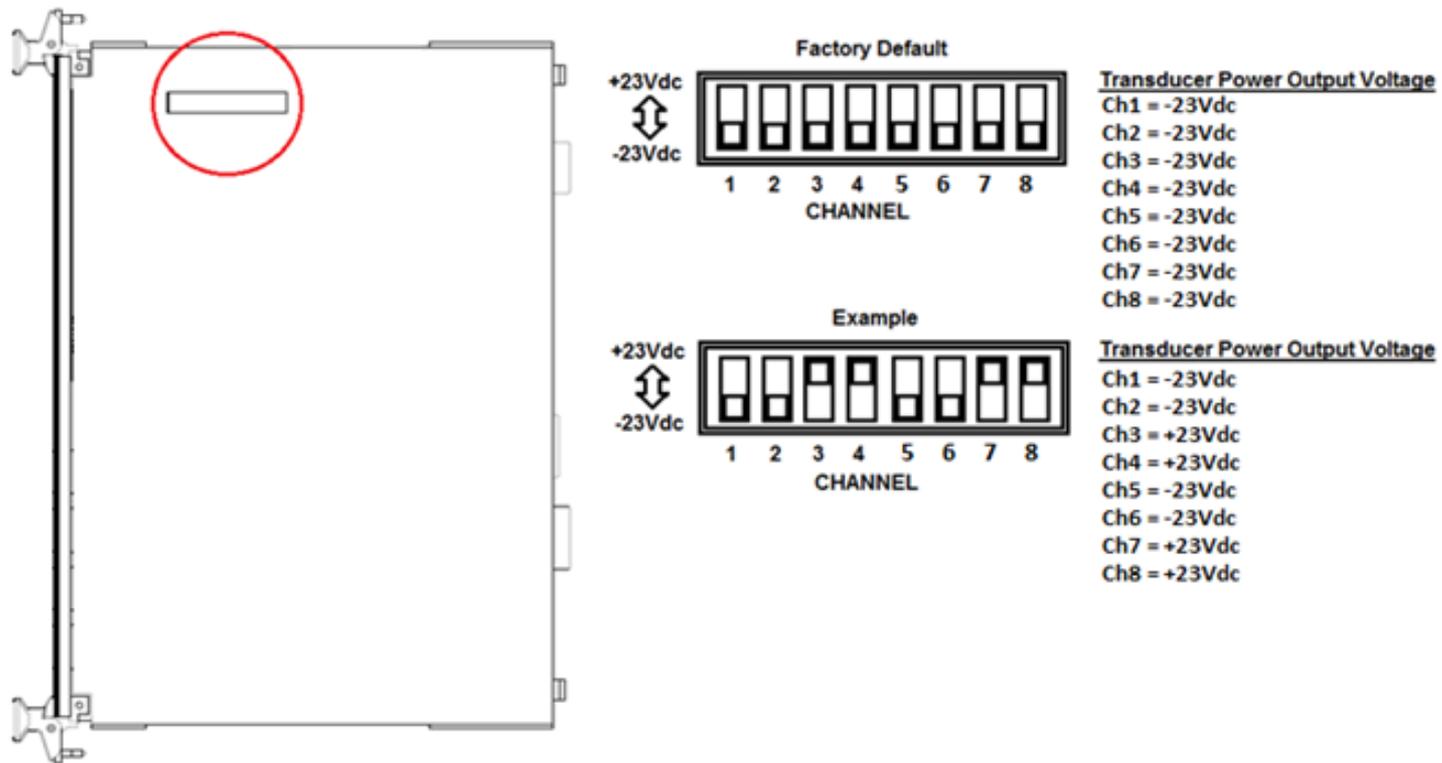


Removable Terminal Block Specifications

Plug Pitch	3.81 mm
Connection Method	screw
Wire Gauge	28-16 AWG
Current Rating	13.5 A
Voltage Rating	200 V
Flammability Rating	UL 94 V-0

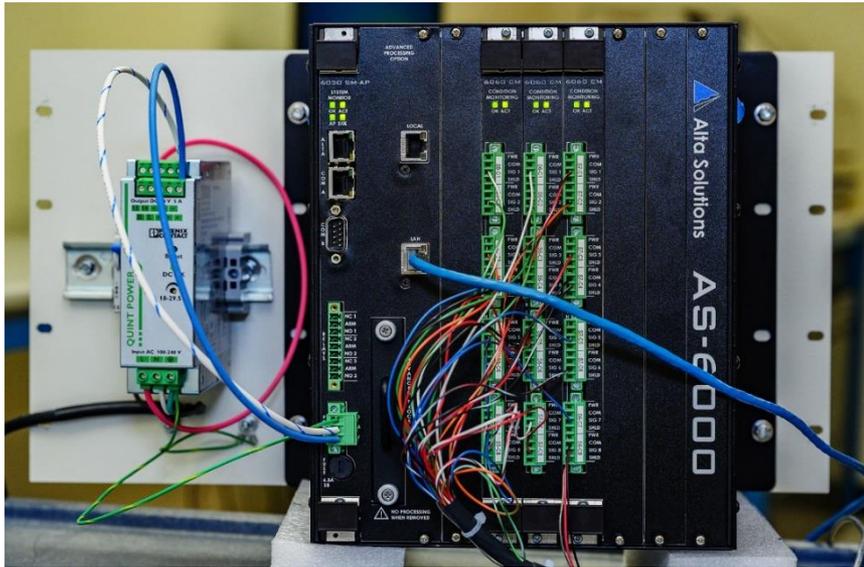
+ or - 24Vdc Transducer Power

- The 6060CM module supplies transducer power for each sensor channel and is available at the sensor input PWR terminal. Transducer power for each channel is switch selectable between -23Vdc and +23Vdc (ships with factory default selection of -23Vdc). An 8-channel dip switch selector is accessible through the module protective shield cutout.

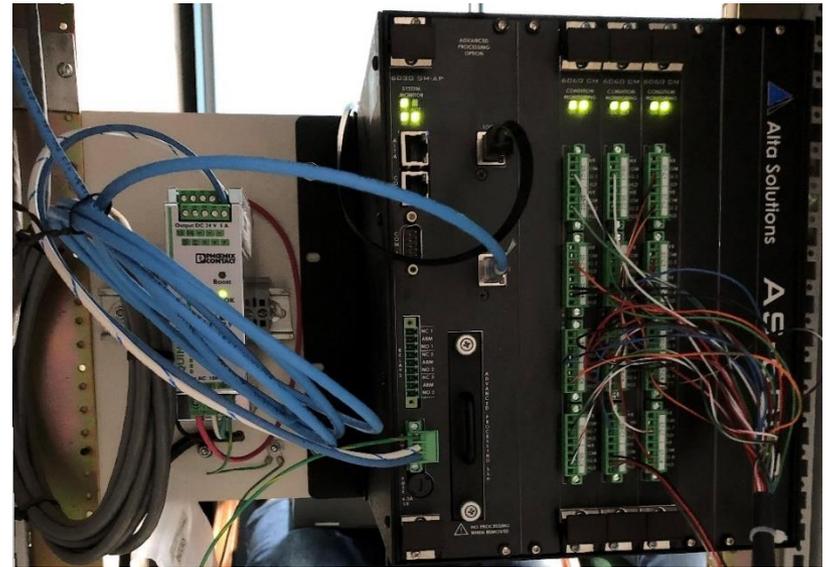


Installation time when connection to existing MPS

- AS-6000 installation with proper site preparation and Alta project engineering
- 30 minutes to install AS-6000 panel, connect 3500 to AS-6000 inputs, and power
- 60 minutes for IT details and connection to corporate LAN
- CMS Installation for 1 machine is complete



During bench check at Alta

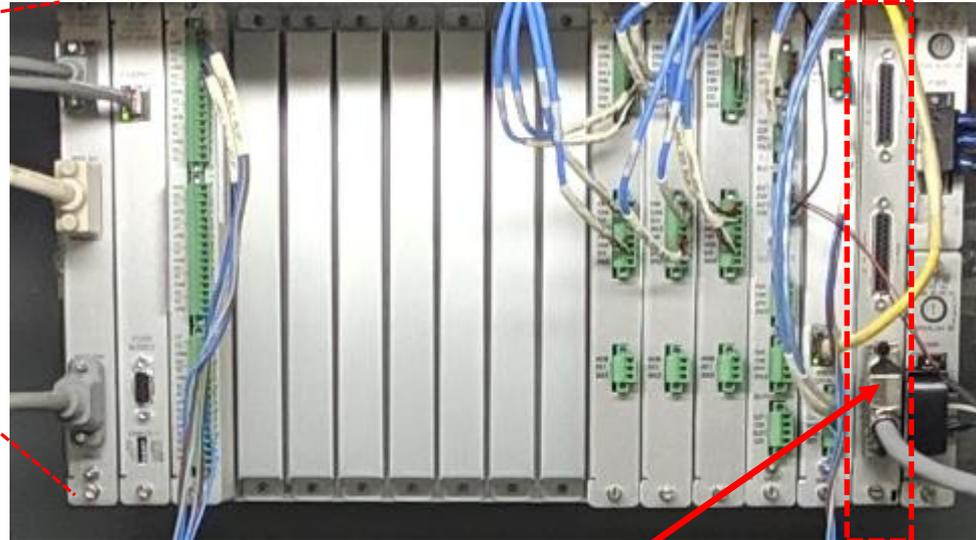
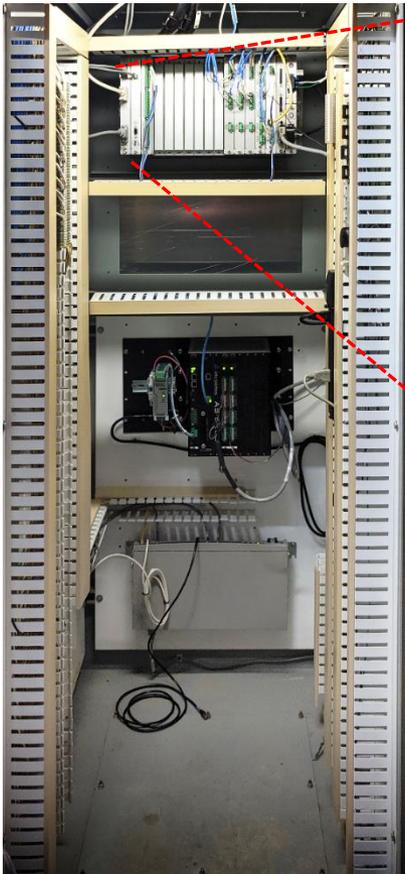


Installed in rack at process plant

Location of 3500 rear panel Buffered Output Module



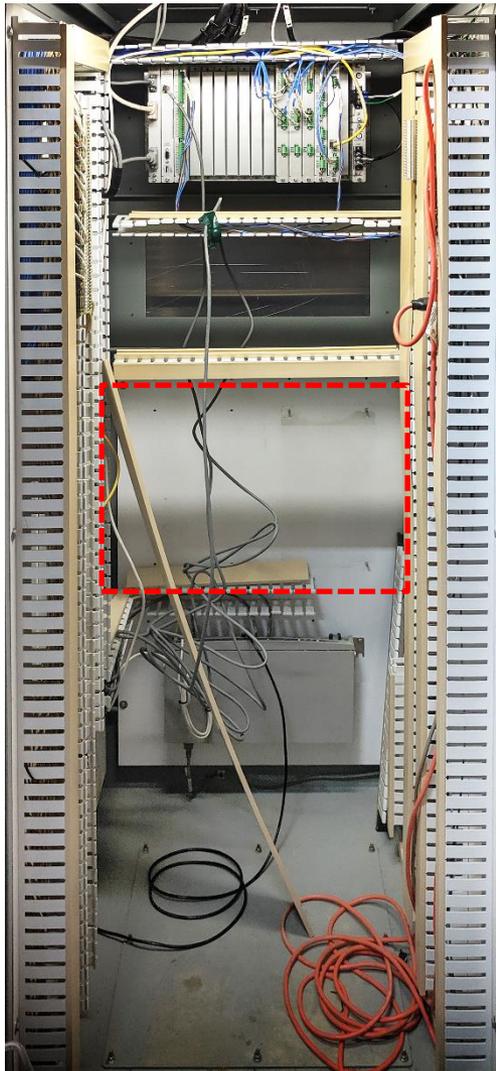
AS-6000 Interface to BN3500



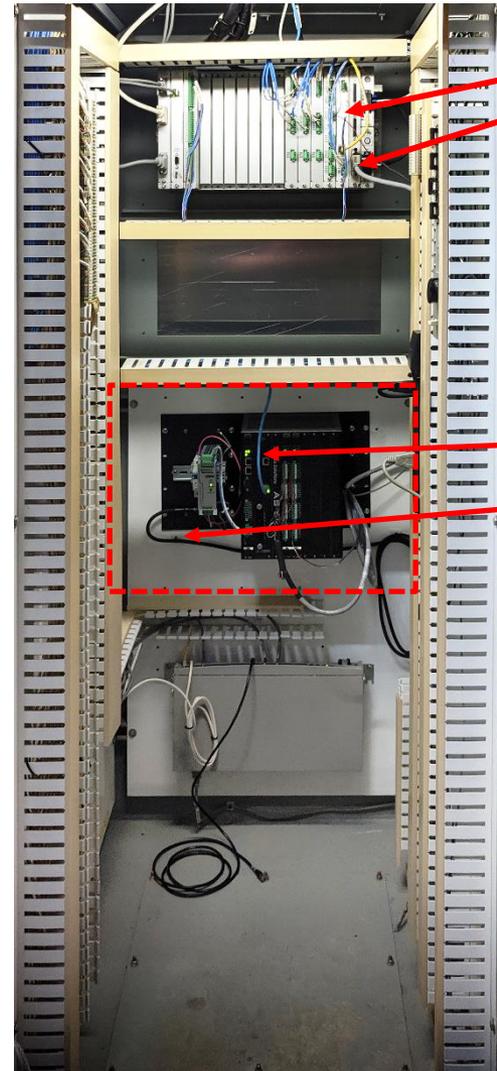
- Buffered Output Module enables connections to BN 3500 rear panel buffered outputs.

AS-6000 connections to 3500 rack

Before



After



- BN3500 Connection
- Keyphasor
- Buffered Output

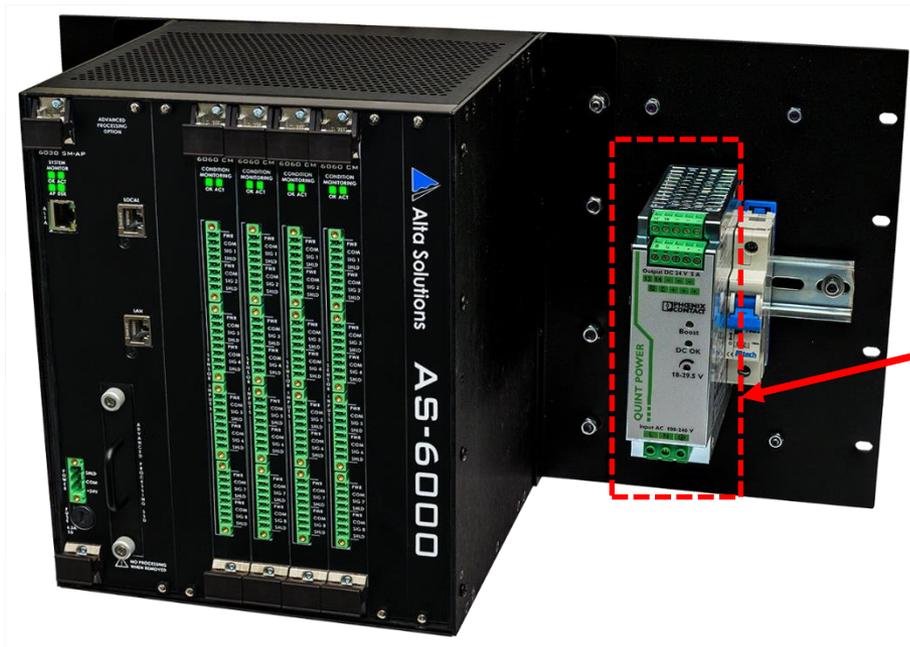
Cable connecting the MPS buffered outputs to the AS-6000 inputs should be 25 feet or less

AS-6000 Installation

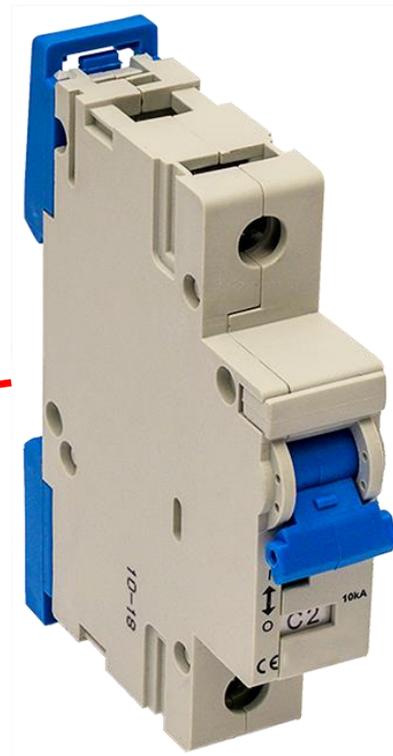
- Within existing cabinet
- Ethernet to Corporate Network
- AC Power input

Power Supplies

- DIN Rail mounted AC to DC 24V Power Supply



Circuit Breaker Switch



Power to AS-6000 controlled by Alta installed or existing power breaker. AC breaker shown, DC rated breakers used for DC applications.

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