

A6120

AMS 6500 dual-channel case-seismic vibration monitor

Two differential electrodynamic velocity-sensor inputs with processed vibration, current, voltage and raw-signal outputs

PRODUCT SNAPSHOT

BRAND

Emerson

FAMILY

AMS 6500 machinery protection system

PART

A6120

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PRODUCT OVERVIEW

Two differential electrodynamic velocity-sensor inputs with processed vibration, current, voltage and raw-signal outputs

1

Processes two independent case-seismic channels

2

Accepts PR9266/PR9267/PR9268 differential inputs

3

Provides selectable filtering and vibration ranges

4

Supports hot-swap service in an AMS 6500 rack

SYSTEM COMPONENTS

AMS 6500 system rack

PR9266, PR9267 or PR9268 sensors

A6500-UM universal measurement card platform

Relay, analog-output and CSI interface connections

TECHNICAL NOTE

Record both channel configurations, filters, ranges, sensor lifting currents and alarm logic; after insertion, verify raw signal, analog outputs, diagnostics and protection voting before service.

TECHNICAL DATA

PARAMETER	VALUE
Monitor channels	2 independent
Input type	Electrodynamic differential
Compatible sensors	PR9266; PR9267; PR9268
Input resistance	>100 kOhm
Input voltage range	-5 to +15 V DC
Lower cutoff	1 Hz or 5 Hz
Upper cutoff	50 to 2000 Hz adjustable
Velocity RMS metric range	5 to 100 mm/s
Displacement metric range	+/-25 to +/-500 um
Velocity RMS English range	0.197 to 3.937 in/s
Displacement English range	+/-0.984 to +/-19.685 mils
Standard frequency range	10 to 1000 Hz

PARAMETER	VALUE
Selectable frequency bands	5-50; 10-50; 50-1000; 50-1600 Hz
Lifting-coil current	0 to 8 mA in 40 uA steps
Maximum load at 2 mA	3.4 kOhm
Dynamic input	311 to 9500 mV p-p
Current output	0/4 to 20 mA per channel
Current-output load	<500 Ohm
Voltage output	0 to 10 V DC
Buffered raw output	0 to 12 V p-p
Raw-output bandwidth	0.1 Hz to 15 kHz (-3 dB)
Module format	3U; one slot
Service feature	Hot swappable
Protection standard	API 670

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
5X00121G01	Related Emerson product	View 5X00121G01 page
5X00119G01	Related Emerson product	View 5X00119G01 page
KJ3222X1-BA1-12P2532X122	Related Emerson product	View KJ3222X1-BA1-12P2532X122 page
KJ4006X1-BD1	Related Emerson product	View KJ4006X1-BD1 page
KC4011X1-BZ1	Related Emerson product	View KC4011X1-BZ1 page
KC4011X1-BW1	Related Emerson product	View KC4011X1-BW1 page
KJ2201X1-BA1	Related Emerson product	View KJ2201X1-BA1 page
3900-02-10	Related Emerson product	View 3900-02-10 page

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Turbine case-vibration protection

Processes two independent case-seismic channels

Compressor housing monitoring

Accepts PR9266/PR9267/PR9268 differential inputs

Motor and gearbox seismic channels

Provides selectable filtering and vibration ranges

Hydro-generator structural vibration

Supports hot-swap service in an AMS 6500 rack

PRODUCT PRECAUTIONS

- 1 Confirm the complete A6120 identity and assigned AMS 6500 rack slot before work.
- 2 Place both monitored machines or channels in the approved maintenance and bypass state.
- 3 Record sensor type, filter band, measuring range, lifting current and alarm settings for both channels.
- 4 Use ESD controls and protect the 3U card edge and front-panel connectors during handling.
- 5 Confirm PR9266/PR9267/PR9268 wiring polarity and differential-input continuity before insertion.
- 6 Restore only the approved channel database and verify card plus rack diagnostics after hot-swap.
- 7 Check buffered raw output and the configured 0/4-20 mA or 0-10 V output on each channel.
- 8 Prove alarm, relay and shutdown action with controlled test signals before removing bypasses.

ENGINEER FAQ

Q1 Does A6120 match AMS 6500 system rack in a Turbine case-vibration protection installation?

Verify the complete A6120 marking, the documented AMS 6500 machinery protection system position and the installed AMS 6500 system rack before fitting the assembly.

Q2 How should A6120 be wired when it must processes two independent case-seismic channels?

Isolate the circuit, identify every terminal and reproduce the approved polarity, shield and channel assignment for A6120; then continuity-test the affected path.

Q3 Which AMS 6500 machinery protection system records should be captured before removing A6120?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with A6120 before disconnection.

Q4 What controlled test confirms that A6120 can accepts pr9266/pr9267/pr9268 differential inputs?

Apply the approved field or simulated stimulus, observe the AMS 6500 machinery protection system indication and confirm the intended response without bypassing the normal interlocks.

Q5 Which PR9266, PR9267 or PR9268 sensors condition should be checked when A6120 reports an abnormal state?

Check the PR9266, PR9267 or PR9268 sensors supply, seating and connection first, then compare channel diagnostics with the recorded A6120 baseline.

Q6 Can A6120 be moved directly into Compressor housing monitoring without validating Relay, analog-output and CSI interface connections?

No. Confirm the Relay, analog-output and CSI interface connections, revision, connection scheme and AMS 6500 machinery protection system configuration before transferring A6120 to that duty.

Q7 What maintenance evidence is required after A6120 is used for Motor and gearbox seismic channels?

Retain the nameplate record, corrective action, final diagnostics and a controlled motor and gearbox seismic channels functional-test result for A6120.

Q8 How should A6120 be returned to service in Hydro-generator structural vibration?

Restore power under control, verify provides selectable filtering and vibration ranges, exercise the intended signal path and release A6120 only after the AMS 6500 machinery protection system remains in its approved operating state.

SOURCE Emerson AMS 6500 Protection Cards Classic Reference Manual | A6120 section, November 2017

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