



Emerson A6500-UM

AMS 6500 ATG universal measurement card

Product scope

- Two universal sensor channels cover eddy-current, piezoelectric, seismic, Hall/LVDT and low-frequency inputs.
- Five digital inputs, six solid-state outputs and two current outputs support protection logic and plant integration.
- RS-485 links the card to A6500-CC for Modbus RTU/TCP data and USB configuration access.

Manufacturer source

Emerson AMS 6500 ATG A6500-UM official datasheet.

This English web copy combines exact-model specifications with detailed function, system role, operating principle, application scenarios and installation boundaries.

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Email: info@apterpower.com Phone: +86 18106909650 apter.com/inquiry.php	Emerson A6500-UM	

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Emerson A6500-UM

AMS 6500 ATG universal measurement card

Verified technical specifications

Values below apply to the exact model or nameplate identified on this page; adjacent family variants are not merged.

Measurement channels	2 sensor channels
Supported transducers	Eddy-current, piezoelectric, seismic, low-frequency, Hall, LVDT and dynamic-pressure interfaces
Digital inputs	5
Digital outputs	6
Analog outputs	2 x 0/4 to 20 mA
Internal communication	RS-485 to A6500-CC
External protocols	Modbus RTU and Modbus TCP through the communication card
Local service	USB through the communication card
Enclosure protection	IP20
Operating temperature with forced air	-20 to +70 deg C
Operating temperature without fan	-20 to +55 deg C
Storage temperature	-40 to +85 deg C
Relative humidity	5 to 95 percent, non-condensing
Maximum power	6 W
Form factor	3U, 6 HP
Board size	100 x 160 mm
Mass	Approximately 200 g
Eddy-current input range	-1 to -22 V, 0 to 18,750 Hz
Eddy-current sensor supply	-23.25 to -26 V, 35 mA, +/-1%
Piezoelectric input range	+1 to +23 V, 0 to 18,750 Hz
Piezoelectric sensor supply	0 to 8 mA, +/-3.5%
Seismic input range	-10 to +15 V, 0 to 2000 Hz
Low-frequency input range	-11 to +11 V, 0 to 1000 Hz
Hall/LVDT input range	+1 to +22 V; extended 0 to 30 V for speed
Digital-input low level	0 to 3 V
Digital-input high level	13 to 32 V or open
Key inputs	2 inputs, 0 to 2000 Hz
Analog-output load	Less than 500 ohm
Digital-output rating	6 solid-state outputs, 19 to 32 V DC, 100 mA
Digital-output response	Less than 5 ms
Pulse outputs	2 opto-coupled outputs, 19 to 32 V DC, 30 mA, 0 to 2000 Hz

Vibration test	IEC 60068-2-6
Shock	150 m/s ²

Product function and system role

Exact configuration

Emerson A6500-UM is a two-channel universal measurement card for the AMS 6500 ATG machinery protection system. It supports multiple vibration, displacement, speed and dynamic-pressure sensor interfaces in an A6500-SR rack.

A6500-UM conditions two machinery-sensor channels and processes them into protection and monitoring values inside the AMS 6500 ATG platform. Supported interfaces cover eddy-current probes, piezoelectric and seismic sensors, low-frequency signals, Hall devices, LVDTs and dynamic-pressure transducers.

Functional role

Its front end conditions the selected sensor signal, calculates configured machine variables and drives alarm, current and communication outputs.

The present item is the 3U, 6 HP universal measurement card for the A6500-SR machinery-protection rack.

Key operating characteristics

- Two universal sensor channels cover eddy-current, piezoelectric, seismic, Hall/LVDT and low-frequency inputs.
- Five digital inputs, six solid-state outputs and two current outputs support protection logic and plant integration.
- RS-485 links the card to A6500-CC for Modbus RTU/TCP data and USB configuration access.

Operating principle and application guidance

Working principle

The card also provides five digital inputs, six solid-state digital outputs and two 0/4–20 mA analog outputs. Measurement and status data travel by RS-485 to the A6500-CC communication card, which exposes Modbus RTU, Modbus TCP and local USB service access to higher-level systems.

Match sensor supply, measurement range, channel wiring, cooling condition and stored configuration before placing the rack back in protection service.

Application scenarios

- Rotating equipment trains can monitor shaft relative vibration or axial position with compatible eddy-current probe systems.
- Bearing housings can use seismic or piezoelectric sensors for absolute vibration protection and condition monitoring.
- Specialized channel programs can supervise case expansion, valve position, eccentricity, speed or dynamic-pressure pulsation.

Integration and replacement boundary

A replacement must match the configured measurement program and physical sensor interface, not only the module label. Verify A6500-LC wiring, probe bias and sensitivity, alarm logic, rack airflow, communication-card revision and voting or trip design before the channels are enabled.

Critical technical check

Before inserting A6500-UM, prove the connected sensor type and bias range for both channels and restore the exact measurement configuration; an incorrect interface selection can suppress a real vibration alarm or create a false trip.

Manufacturer evidence used

- Emerson AMS 6500 ATG A6500-UM official datasheet.
- Official source: <https://www.emerson.com/is/content/emerson/en/systems-and-software/ams/forms-and-specs/documents/a6500-um-universal-measurement-card.pdf>

Exact product identity checked: Emerson A6500-UM



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