Emerson A6312

01 Rack and functional identity

Exact card version

A6312 is the dual-channel speed/key version for IMR 6000/10 and IMR 6000/30. A6312-8 is separately specified for AMS 6500.

Processing roles

Inputs support speed, phase, zero-speed and combined direction or differential-speed functions.

Inputs	Two differential eddy-current channels
Probe families	6422 / 6423 / 6424 / 6425
Drivers	CON 011/91, 021/91, 041/91

Technical basis: Emerson Protection Cards for AMS 6500 Classic Systems, A6312 specifications, November 2017. This is an Apter Power-authored technical reference, not an original manufacturer manual.

A6312

02 Pulse acquisition

Frequency conversion

Input frequency is converted to rpm using the configured trigger count. The same frequency can represent different shaft speeds.

Stable phase reference

Use a once-per-revolution mark for repeatable phase. Multiple reference marks can alter the selected phase after startup.

Input voltage	0 to ±27.3 VDC
Input frequency	0–20 kHz
Trigger count	1–255
Speed range	Up to 65,535 rpm

A6312

03 Timing and redundancy

Zero-speed timing

The monitor evaluates the time between pulses rather than assuming that a missing instantaneous sample means a stopped shaft.

Redundant transfer

Sensor gap and pulse comparison supervise the primary and backup references; both must share the same axial plane.

Zero-speed interval	1–1700 s configurable
Direction	Combined phase-shifted inputs
Difference measurement	Two wheel speeds, difference in rpm

A6312

04 Electrical outputs

Processed and buffered paths

Pulse and proportional current outputs serve different receivers. Front buffered output preserves the reduced raw signal for inspection.

Loading

Check the connected receiver impedance against the selected interface rather than applying one burden limit to all outputs.

Current	0/4–20 mA, ±1% full scale, <500 Ω
Pulse	0–20 kHz, >10 kΩ
Front buffered	Factor 0.15, 0–16 kHz (-3 dB)
Output settling	0–10 s configurable

A6312

05 Health and environmental limits

Supervision

The card supervises supply, sensor, cable, internal temperature, overload and watchdog conditions.

Alarm handling

Alert and danger are individually configured; remote multiplier and trip-bypass inputs require controlled use.

Operation	0 to +65 °C
Humidity	5–95%, non-condensing
Power	Maximum 6 W, 250 mA at 24 VDC
Configuration	RS-232 Mini DIN, password protected

Related product navigation

- Emerson PR6423/00R-101 CON031
- Emerson PR6423-002-030

These are related references, not confirmed substitutes or an automatically approved assembly.