Emerson A6370D

01 Function and selected configuration

Product function

Emerson A6370D compares shaft-speed information with configured protection functions while its front display and indicators support local observation. Three monitors work with the selected A6371 backplane; the backplane version determines how the trip outputs reach the external protection circuit.

Selected configuration

A6370D is the display-equipped version. The A6370D/DP variant adds PROFIBUS DP and must not be treated as an identical communication option. One system uses the same monitor type across all three positions; the exact hardware and firmware revisions must remain compatible with the installed AMS 6300 SIS configuration.

Functional path

Speed pickup	A6370D channel	Configured function outputs	Backplane / external trip

Architecture	Three independent monitors per AMS 6300 SIS assembly
Interfaces	Two current outputs and three isolated pulse outputs per monitor
Configuration	USB 2.0 Type B; front display and status LEDs

Each monitor has two isolated current outputs with common ground, selectable as 0/4–20 mA or 20–4/0 mA. The maximum burden is 500 Ω. Three isolated open-collector pulse outputs operate up to 20 kHz, while the front TTL point provides a separate 0–5 V diagnostic signal. The front sensor buffer is unavailable when a variable-reluctance sensor is connected.

A6370D

02 Technical operating envelope

Monitor channels	One sensor input per monitor; three monitors per system
Current outputs	Two; 0/4–20 mA or 20–4/0 mA
Current-output burden	Maximum 500 Ω
Current-output accuracy	≤1% of measuring range
Isolated pulse outputs	Three per monitor; 0–20 kHz
Pulse-output limits	31.2 V maximum; 16 mA at 24 V

Front TTL output	0–5 V; 0–20 kHz
Binary inputs	Four; low 0–5 V, high 13–31.2 V
Binary outputs	Seven; maximum 25 mA
Configuration interface	USB 2.0 Type B
System supply	19–31.2 VDC; nominal 24 VDC
Ambient temperature	-20 to +55 °C unforced; up to +65 °C with forced cooling

The monitor output limits apply to their stated interface. Cooling, backplane voting and power are assembly conditions; do not assign a standalone safety integrity claim from these electrical ratings.

Signal interpretation

The front TTL and isolated open-collector outputs have different electrical interfaces. Front Sens. is a scaled sensor signal and provides no output for a connected VR pickup.

Interface boundary

Life Zero current suppression is available in 4–20 mA or 20–4 mA modes: system errors drive the selected current output to 0 mA. This must agree with the receiving system error interpretation.

A6370D

03 System integration and applications

Independent speed channels

Acquire three separate speed references through the full monitor assembly.

Local protection observation

Use the display, Channel OK and function LEDs to relate channel state to the configured output response.

Control-system current interfaces

Transmit configured characteristic values through two isolated current outputs with common ground.

Pulse distribution

Feed compatible downstream equipment from the isolated pulse interfaces without substituting the front TTL diagnostic connection.

System and supply context

Use three compatible A6370D monitors with the intended A6371 backplane and approved speed-sensor circuits. Backplane, sensors and external trip hardware are separate assembly items.

Application boundary

Configured overspeed, rotational-direction and function outputs belong to a complete machinery protection design with controlled testing and reset procedures.

Why can the front Sens. socket of A6370D remain without a signal?

The sensor-buffer output is not provided when a VR sensor is connected. This is distinct from the front TTL pulse output.

A6370D

04 Engineering selection decisions

Does A6370D include PROFIBUS DP communication?

No. A6370D is the display version; A6370D/DP is the separately identified PROFIBUS DP version.

How many current loops can A6370D supply?

Two electrically isolated outputs share a common ground. Each has a maximum 500 Ω burden and selectable ascending or descending current range.

Are the isolated pulse outputs of A6370D electrically identical to its TTL socket?

No. The three isolated outputs use open-collector optocouplers, with a maximum 31.2 V switching voltage and 16 mA at 24 V. The front TTL output is a separate 0–5 V interface.

Can one A6370D establish the complete system trip-voting behavior?

No. Three monitors and the selected A6371 backplane form the system. A6371/00 and A6371/10 have different trip-output arrangements, and external protection logic must match the installed arrangement.

Maintain cooling	Use the lower +55 °C upper limit unless the required forced cooling is provided.
Control test inputs	Use Test value, Enable and Reset inputs only under the approved protection-test procedure.

A6370D

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of A6370D is not confirmed. Product availability alone does not establish its lifecycle status.

Replacement assessment

Preserve the D monitor variant, hardware and firmware compatibility, sensor configuration, output ranges and installed trip-voting arrangement.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; it does not replace manufacturer instructions.

Technical basis

Emerson AMS 6300 SIS Operating Manual, MHM-97442 Rev. 2.09, October 2026.

Related product navigation

- Epro PR6423/002-001 CON041
- Epro PR6423/13R-040 CON021

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

Product enquiries