

AMS 6300 SIS

Digital Overspeed Protection System

- API 670 compliant overspeed protection system
- SIL certification according to latest relevant standards
- SIL 3 capable overspeed protection
- SIL 2 rotational direction detection function
- Integrated Proof-Test function
- 3-year warranty



AMS 6300 SIS Digital Overspeed Protection System

Overview

Overspeed conditions on critical rotating equipment are potentially damaging to the equipment and to plant personnel around it. In addition, damaged equipment is expensive and time-intensive to repair or replace.

Research shows that while 10% of time is spent in a transient condition, 50% of all safety incidents occur during this period.

New, stricter regulations have made compliance and insurance requirements even more difficult to meet and maintain. And proof tests to ensure reliable safety systems require resources and can introduce new problems.

You need an overspeed protection system that easily integrates with your existence systems and meets all the latest regulatory standards – like Safety Integrity Levels (SIL), API 670, IEC 61508:2010, and the European Machine Directive 2006/42/EG.

Insurance and regulatory requirements dictate the presence of an overspeed system for critical rotating equipment, but not all systems are the same. More advanced systems will not only ensure protection against overspeed conditions, but can deliver additional value to your facility.

Regulatory requirements have changed recently and existing equipment is no longer compliant when major changes are done to the asset, based on the new stricter standards.

Without compliant equipment, you risk higher insurance rates, regulatory sanctions, and not getting the approval to start up the asset.

Start up and shutdown periods are when the majority of equipment issues can occur. Imbalance or excess vibration can cause equipment to trip, you can miss or lose your load, or your pumps for example can begin rotating in the wrong direction. Significant events can cause extensive equipment damage and delay or halt your return to production.

False trips interrupt production and introduce risk during restart. At the same time, you need the confidence every day that your overspeed system will work if needed. Proof tests are conducted infrequently and require focus from your limited resources.

Fully Compliant with Multiple Standards

Emerson's AMS 6300 SIS Digital Overspeed Protection System is TUV-certified for SIL 3 and complies with the latest versions of industry safety standards IEC 61508:2010 and European Machine Directive 2006/42/EG. The entire system also meets the API 670 standard for machinery protection systems. The AMS 6300 SIS implemented the stricter development regulations during production to actively ensure compliance.

In addition, the AMS 6300 SIS rotational direction detection functionality is certified for SIL 2 and the speed sensors also comply with SIL 2 requirements and are capable for SIL 3 in a 2003 configuration.

SIL-rated Rotational Direction Detection Functionality

The rotational direction detection functionality available with the AMS 6300 SIS uses the same sensors that measure overspeed to detect rotational direction at start up. Used mainly on pumps, this capability helps operators and maintenance personnel to verify that equipment is functioning correctly – or to take corrective action to avoid equipment damage and process upsets.

When paired with the AMS 6500 Machinery Health Monitor, the AMS 6300 SIS not only helps ensure safe start up of equipment, but will also deliver a transient recording of the start up process so that reliability analysts can review and determine the root cause of any issues.

Proven Expertise and Certifications establish System Reliability

The AMS 6300 SIS is designed and certified for reliability for the lifetime of the system (20 years). Without conducting a single proof test, the system maintains its TUV certification for SIL 3. However, you can also conduct periodic proof tests on the AMS 6300 SIS to improve the safety number of the entire chain to maintain your SIL certification. This can enable you to extend the life of older equipment in the chain.

Special input signal filtering functionality in the AMS 6300 SIS ensures the system's accuracy while helping you to avoid false trips. False trips not only interrupt your production, but require you to send a technician to the field to manually check on the machine. Eliminating these upsets and keeping your resources focused on other issues improves your entire process.

Instrumentation

AMS 6300 SIS Overspeed Protection System components:

A6370D

- 1 Channel Overspeed Protection Card
- Display
- Configurable (USB)

A6370D/DP

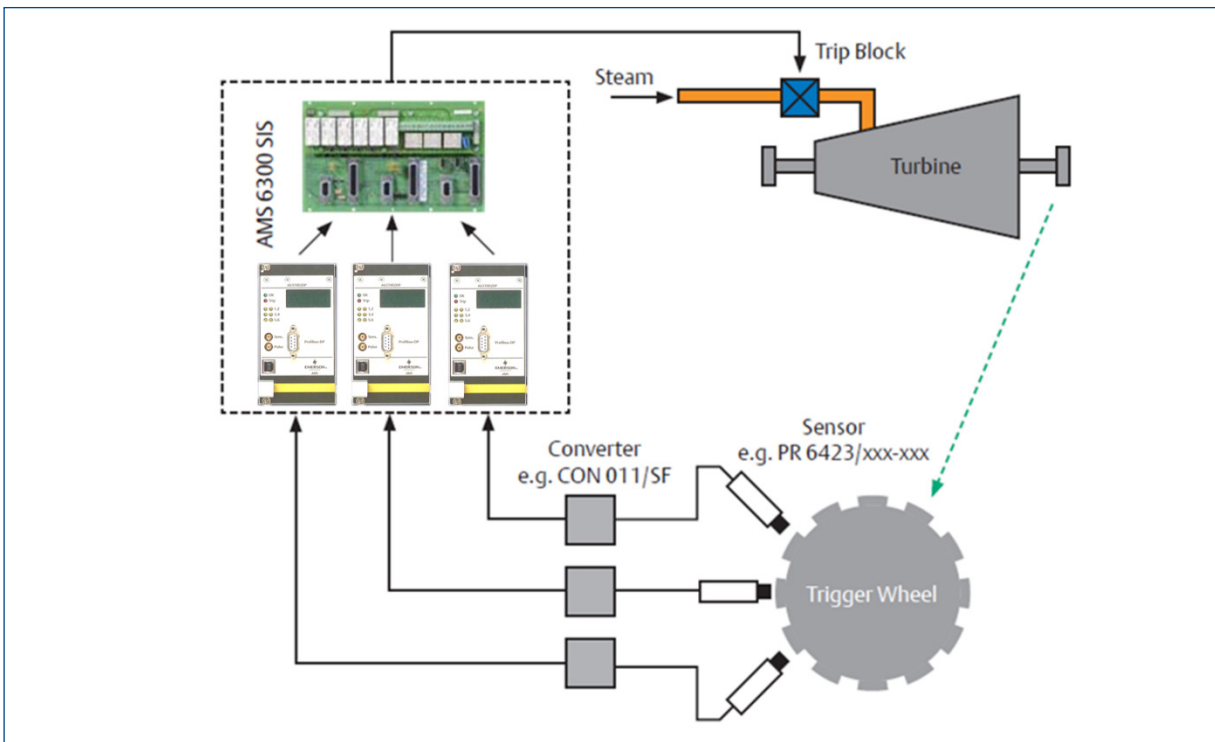
- 1 Channel Overspeed Protection Card
- Display
- Profibus DP
- Configurable (USB)

A6371/00

- Backplane with slots for 3 measurement cards
- Trip voting intern

A6371/10

- Backplane with slots for 3 measurement cards
- Trip voting external



Ordering Information

Model Number	Product Description
A6370 *	AMS 6300 SIS - MONITOR, 1 CH SPEED WITH PROFIBUS OPTION
A6371/xx *	AMS 6300 SIS - BACKPLANE, TRIP VOTED OR TRIP NOT VOTED OPTION

* Please see individual component spec sheets for specific model number coding.

System Packages

Model Number	Product Description	Content
A6300/P1	AMS 6300 SIS - PACKAGE: VOTED	(3x) A6370D (1x) A6371/00 (3x) A6380 & (3x) A6381 (3x) A6384 & (3x) A6386 (3x) A6385 & (3x) A6387 (1x) A6352 & (1x) A6000/BLP-3U-42HP (1x) A6910
A6300/P2	AMS 6300 SIS - PACKAGE: NOT VOTED	(3x) A6370D (1x) A6371/10 (3x) A6380 & (3x) A6381 (3x) A6384 & (3x) A6386 (3x) A6385 & (3x) A6387 (1x) A6352 & (1x) A6000/BLP-3U-42HP (1x) A6910
A6300/P3	AMS 6300 SIS - PACKAGE: VOTED, PROFIBUS	(3x) A6370D/DP (1x) A6371/00 (3x) A6380 & (3x) A6381 (3x) A6384 & (3x) A6386 (3x) A6385 & (3x) A6387 (3x) A6363 (1x) A6352 & (1x) A6000/BLP-3U-42HP (1x) A6910
A6300/P4	AMS 6300 SIS - PACKAGE: NOT VOTED, PROFIBUS	(3x) A6370D/DP (1x) A6371/10 (3x) A6380 & (3x) A6381 (3x) A6384 & (3x) A6386 (3x) A6385 & (3x) A6387 (3x) A6363 (1x) A6352 & (1x) A6000/BLP-3U-42HP (1x) A6910

Emerson
Reliability Solutions
835 Innovation Drive
Knoxville, TN 37932 USA
☎ +1 865 675 2400
🌐 www.emerson.com/ams

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