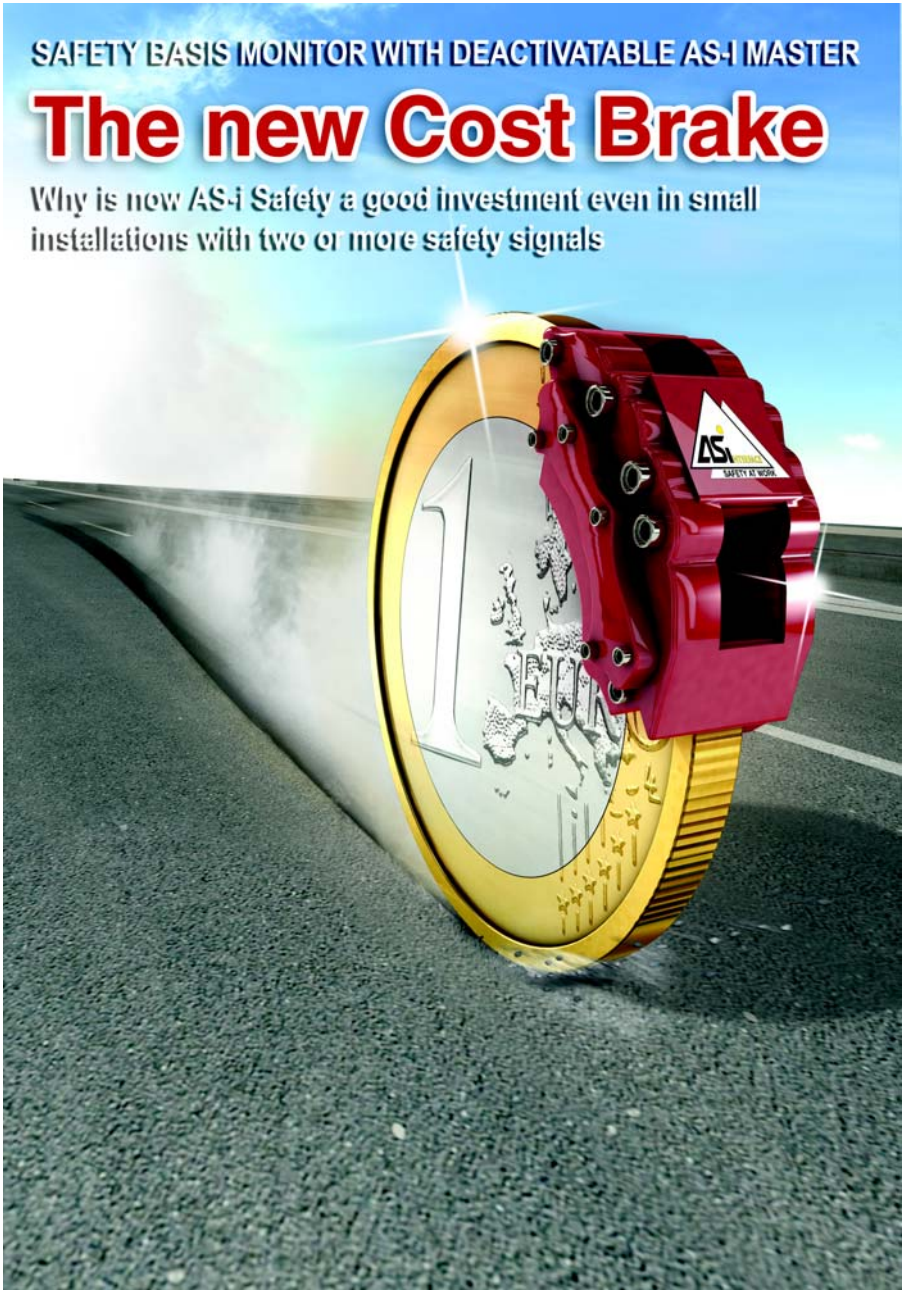
Bihl + Wiedemann

THE AS-INTERFACE MASTERS

SAFETY BASIS MONITOR WITH DEACTIVATABLE AS-I MASTER

The new Cost Brake

Why is now AS-i Safety a good investment even in small installations with two or more safety signals



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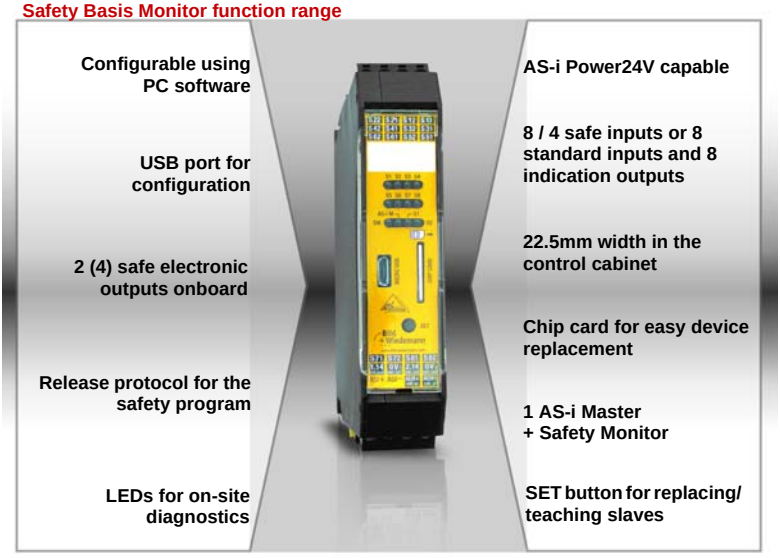
Safety Basis Monitor with on/offdeactivatable AS-i Master

The new Cost Brake

Everything is getting more expensive? Everything more complicated? Thanks to AS-i Safety at Work neither one nor the other applies to modern safety technology. In spite of a variety of performance explosions the system has remained what it always was: the simplest safety bus in the world. And after the latest technological move by Bihl+Wiedemann the safety version of AS-Interface decisively wins the competition against conventionally wired safety technology hands-down, even in modest applications with just two or more safe signals.

The last hour has finally struck – the end of parallel wiring. In the standard area of newly planned production equipment-plants this approach has long been in decline, since it has almost nothing to add to the efficiency of modern automation systems. Ever since AS-Interface Safety at Work succeeded in integrating safe signals into a completely normal bus network around the turn of the millennium, parallel wiring has been increasingly displaced in safety technology as well. And now it has been driven from its last refuge. Until now it has still been possible with conventional wiring, at least in small

Safety Basis Monitor function range



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systems with very few safety components, to achieve cost advantages with very few safety components. But this era too is coming to an end with the new Safety Basis Monitor with deactivatableon/off AS-i Master from Bihl+Wiedemann.

In past years the “AS-Interface Masters” from Mannheim have provided numerous performance explosions for AS-i Safety at Work. Their 2nd generation safety monitor premiered at HMI 2007, setting new standards for user friendliness with an integrated Master, safe remote outputs and various additional options for online diagnostics. A year later followed the Multimonitor for two AS-i networks, which handles 16 release circuits with no additional extra hardware, thereby simplifying the construction of complex systems. In addition Bihl+Wiedemann combined the safety monitor with various gateways for seamless communication with host systems – at first with all commonly used field buses and in the meantime with the addition of PROFINET.

"Reduce to the max": This was the slogan for the development of the Safety Basis Monitor with on/ offdeactivatable AS-i Master

By realizing all these innovations for medium-size and large systems, the AS-i specialists from Mannheim provided ideal prospects for the simplest bus system in the world, offering users absolute investment security while giving the company the change to think about the lower end of the application spectrum. Based on actual customer data a comprehensive cost analysis was first created to answer the mother of all user questions: in which safety applications is the use of AS-i Safety cost-effective, even if no AS-Interface is used otherwise in the system – and when is there no justification for abandoning conventional technology?

Although many monetary benefits of AS-i, such as the high flexibility when making changes to the machine or improved diagnostics functions, were not even taken into consideration, the results clearly showed the benefits of AS-Interface: AS-i Safety, in summary, is worthwhile even for machines with just one E-STOP button, four safety gates without interguard locks, a mode selection switch and a time-delayed E-STOP fromon a third-party machine. Only in considerably smaller-scale scenarios, such as just one safety gate without guard interlock and one E-STOP signal fromon the main machine, did parallel wiring stack up better.

It was precisely this last point that captured the attention of the safety pioneers at Bihl+Wiedemann. While attempting to lower the entry hurdle even further, a common trend among all AS-Interface members benefited the company: with the introduction of AS-i Power24V it was suddenly possible to removedo away with the separate AS-i power supply in very small applications. But even this wasn’t enough for the specialists in intelligent AS-i solutions. They researched further and decided on a functional strip tease with the safety monitor: all features which are irrelevant anyway in small applications with two, five or ten safe signals, they simply eliminated. “Reduce to the max” was the motto.

As little as possible, as much as necessary: the little brother comes from the same good parents when it comes to performance

What resulted is the new Safety Basis Monitor: a device which like its high-end version consists of a safety monitor and an deactivatableon/off AS-i Master, but which for example instead of a field bus interface comes simply with reporting outputs for communicating with a host controller, and with the internals enclosed in an IP20 plastic box instead of the rugged stainless steel housing. Even the compact size of 22.5 mm width indicates that this is more or less the little brother, but the performance data are an impressive reminder of the same good parentage.

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The Basis Monitor offers four safe 2-channel inputs as well as two safe, wear-free electronic outputs for managing even more signals than the first generation of AS-i safety monitors. The 2-channel safe inputs are also availablecan also be used as standard in- or outputs, either mixed with safe versions or all standard. For each safe input there are two standard inputs and two indication outputs available, for a grand total of eight standard inputs and eight indication outputs.

The Basis Monitor also emulates its bigger brother, the second generation Safety Monitor, when it comes to operating convenience. For example both the Master settings and the complete safety program can be conveniently loaded using the proven ASIMON PC software. The communication between Computer and Monitor is via USB. The device's data is stored redundantly in a chip card. In the case of exchanging the monitor this chip card will download all the parameters to the device.

When it comes to power supply, the user of a Basis Monitor can choose whether to exploit the cost advantages of the innovative AS-i Power24V technology for small applications or use an external AS-i power supply. For machines with less than ten safe signals the AS-i Power24V version is usually all that is needed: here the internal data decoupling performed by the Basis Monitor provides a total of 500 mA for the AS-i segment, eliminating the need for the external power supply.

One typical application for the new Safety Basis Monitor for small applications is as a head station for speed monitoring. Together with speed monitors from Bihl+Wiedemann up to eight safe axes can be processed without an additional AS-i power supply, or up to 40 when the external power supply is used. The inputs in such applications are responsible for processing muting signals from the controller and for the external device monitoringfeedback circuits in the safety program.

Safety Gateway in stainless steel BWU2187/BWU2002	**Safety Basis Monitor BW2441**
2 safety relay outputs 2 wear-free electronic outputs	2 wear-free electronic outputs
4 EDM inputs	8 / 4 safe inputs or optional 8 standard inputs + 8 indication outputs
Field bus interface	Indication outputs
1/2 AS-i circuits	1 AS-i circuit
Display for diagnostics and settings	LEDs for diagnostics
Rugged stainless steel housing	IP20 plastic housing
List price = 850€	List price = 390€
16 release circuits	8 release circuits
256 devices in the ASIMON program	128 devices in the ASIMON program
Chip card for easy device replacement	Chip card for easy device replacement
AS-i Power24V capable	AS-i Power24V capable

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