Overview

AS-Interface Safety at Work is a safety bus system based upon the open standard of AS-International. It is a simple yet flexible solution to quickly, efficiently and cost-effectively integrate a vast safety system.

The basis of all AS-Interface installations is an AS-Interface master, a power supply, and the distinctive AS-Interface yellow cable. Safety components are connected to the central AS-I cable, which carries both power and system signals, which eliminates the need to run parallel wires to each component. Connections are made by an Insulation Displacement Connection (IDC) so there is no cutting and stripping of wires during installation. Once connected to the system, components are configured in the safety monitor using a drag and drop software. No settings are required at each of the safety devices. This central cable, IDC connectors, and easy programming means that the safety circuit can easily be configured, and in the future can be reconfigured, adding or removing components without having to rewire the whole system.

The communication protocol for safety relevant applications is based on the AS-Interface Standard transmission. With each AS-Interface master call, each safety device answers in return with a preset data telegram. A safety monitor analyses all transmitted information from each safety device on the AS-Interface network and in case of a deviation from the pre-set values such as a safety device being activated or a fault in one of the safety devices, the safety monitor immediately opens enabling paths to create a safe condition. The maximum response time for a safe shutdown is 40 ms.

AS-Interface supports the user with integrated system diagnosis. It provides detailed information about the cause and place of the failure, and enables the user to quickly find and analyze a malfunction and therefore minimize machine downtime. An AS-I system can stand alone or be connected via Safety Gateways to conventional field bus interfaces such as PROFINET, EtherNet/IP or ModbusTCP. AS-Interface fulfils the safety requirements to the highest standards - up to PLe/category 4 in accordance with EN ISO 13849-1 or SIL 3 in accordance with IEC 61508.

The AS-Interface is an open system, allowing integrators to realize individual safety solutions with components from multiple suppliers. SCHMERSAL offers a diverse range of compatible safety devices with integrated AS-Interface. Included are a variety of keyed interlocks, solenoid interlocks, safety sensors, E-Stop button, control panels, limit switches, and safety light curtains.

Available Literature

AS-I System Solutions
40 pages

Contact
Schmersal USA
15 Skyline Drive
Hawthorne, NY 10532
Tel: 914-347-4775
Fax: 914-347-1567
E-mail: salesusa@schmersal.com

Schmersal Canada
29 Centennial Road, Unit 1
Orangeville ON L9W 1R1
Tel: 519-307-7540
Fax: 519-307-7543
E-mail: salescanada@schmersal.com

AS-I Integrated Devices
These AS-I versions are installation ready due to their integrated connector and internal AS-I logic:
AZ16 AS  Keyed interlock
AZ201 AS  Keyed interlock
AZM161 AS  Solenoid interlock
AZM170 AS  Solenoid interlock
AZM201 AS  Solenoid interlock
AZM300 AS  Solenoid interlock
MZM100 AS  Electromagnetic lock
RSS36 AS  RFID Safety sensor
RSS260 AS  RFID Safety sensor
BNS260 AS  Coded Magnet sensor
BNS36 AS  Coded Magnet sensor
BNS16 AS  Coded Magnet sensor
BDF200 AS  Control station
NAS311 AS  Emergency Stop
Z/T 235 AS  Limit switch
Z/T 236 AS  Limit switch
Z/T 335 AS  Limit switch
Z/T 336 AS  Limit switch
SLC440 AS  Safety light curtain
SLG440 AS  Safety light grid

Other safety devices which can be incorporated into the AS-I Safety circuit through an ASIM connection module:
PS116  Limit switch
PS215  Limit switch
PS216  Limit switch
PS226  Limit switch
PS315  Limit switch
PS316  Limit switch
BNS-B20  Coded Magnet sensor
BNS303  Coded Magnet sensor
BNS40S  Coded Magnet sensor
TESK  Hing switch
BDF100  Control button