

A²SI

Advanced AS-Interface IC

Features

- AS-i Complete Specification V2.11 compliant
- Integrated EEPROM
- Additional addressing channel using an opto-electronic interface
- Extended address mode operation as programmable option (up to 62 slaves)
- High impedance AS-i line input, additional pins for further impedance optimizations
- DC voltage output, approximately 24 volts, not stabilized
- 5 volt DC voltage output, stabilized, CMOS logic can be supplied directly (e.g. μC)
- LED status indicator output (compliant with the standard indication recommendation)
- Integrated watchdog
- Temperature range -25°C to $+85^{\circ}\text{C}$

Description

A²SI is a monolithic CMOS integrated circuit certified for AS-i (Actuator Sensor-interface) networks. AS-i networks are intended for industrial automation.

The main advantage of AS-i solutions is that actuators and sensors are connected using a two-wire unshielded cable that is easy to install. This cable transports both power and information/data.

AS-i network communication is based on the master-slave principle. The network can be extended (to cable lengths greater than 100m) by using the A²SI in the repeater mode configuration. A²SI is furthermore used as slave interface to sensors / actuators and as master interface.

AS-i is a standard for the automation industry based on IEC 62026-2 and EN 50295.

The device is available in a 28-pin SSOP (5,3 mm) package.

Block Diagram

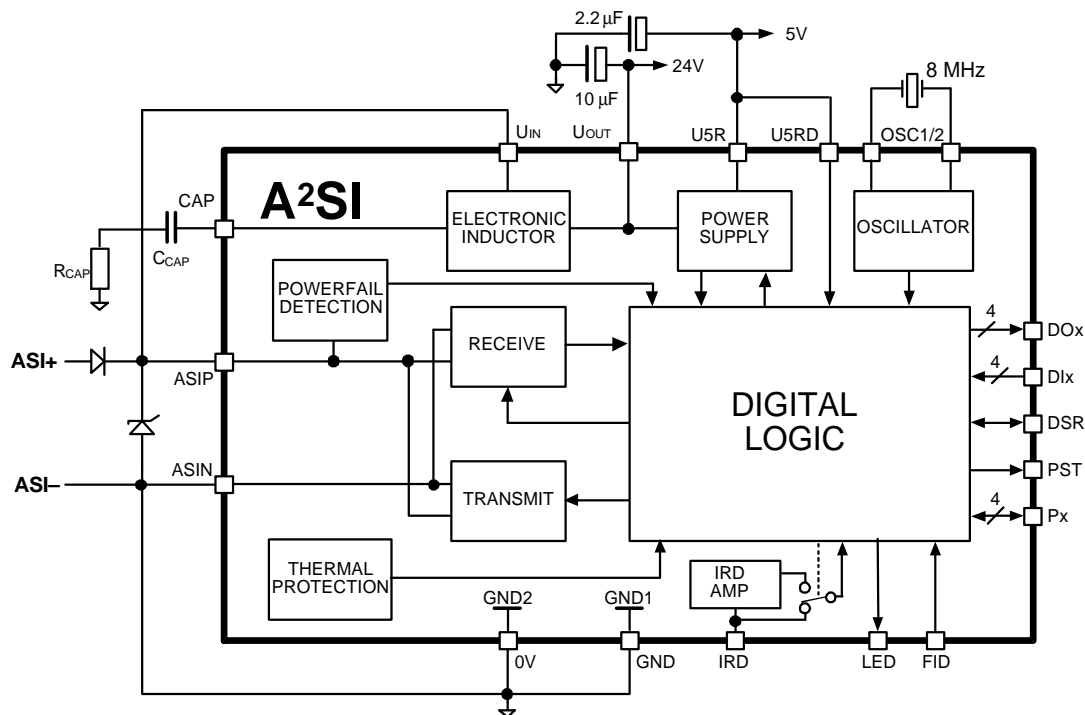


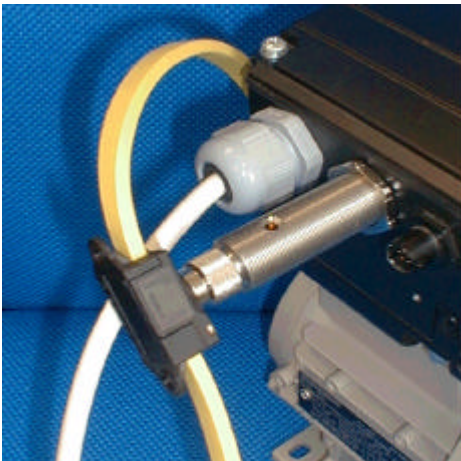
Figure 1: Block Diagram

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Application

The relatively small package of the A²SI integrated circuit allows to integrate the AS-interface electronic circuit within the housing of the sensor or actuator.



Integrated electronic AS-I actuator
in stainless steel sleeve
Bihl+Wiedemann GmbH
Mannheim, Germany

For applications that require higher ambient temperatures or for applications that lead to a higher power dissipation of the integrated circuit (master and/or repeater applications) ZMD provides the same silicon die within a 28-pin SOP package (A²SI-E).

Ordering Information

Ordering Code	Description	Operating Temperature Range	Package Type	Device Marking	Shipping Form
A2SI-ST	Standard version of A ² SI	-25°C to 85°C	28-pin SSOP	A ² SI	Tubes (47 parts/tube)
A2SI-SR	Standard version of A ² SI	-25°C to 85°C	28-pin SSOP	A ² SI	Tape-and-Reel (1500 parts/reel)
A2SI-MT	Pre-programmed master function	-25°C to 85°C	28-pin SSOP	A ² SI + yellow dot	Tubes (47 parts/tube)
A2SI-MR	Pre-programmed master function	-25°C to 85°C	28-pin SSOP	A ² SI + yellow dot	Tape-and-Reel (1500 parts/reel)

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