

General Description

AS2702 (SAP4.1) is a new generation AS-interface slave device, which supports AS-interface bus systems with up to 62 slave modules.

Each slave module is equipped with an AS2702 device, which interfaces the module to the unshielded 2-wire AS-interface bus for serial bidirectional data communication and power extraction.

Data communication over the AS-interface takes place in master slave fashion, which foresees that all slave devices AS2702 connected to the bus are sequentially and cyclicly addressed by a single, central master unit. Data on the AS-interface bus are Manchester encoded and can be found as sin2-pulses with a V_{pp} of between 3V and 8V on top of the bus' dc voltage of nominally 30V.

AS2702 regulates the nominal dc bus voltage of 30V **internally** down to 5V to supply it's internal circuitry including a 16 x 8 bits EEPROM, as well as down to a nominal supply level 24V with a max. loading of 35mA for the actuators and sensors connected to it at the field side.

Each slave device AS2702 may interface to up to 4 sensors or 3 actuators. An AS-interface bus system based on AS2702 may hence link as many as 248 sensors and 186 actuators to a single master unit.

Slave device AS2702 (SAP4.1) is system compatible with predecessor device AS2701A (ISA3+): slave modules equipped with AS2702 (SAP4.1) will run in existing AS-interface bus systems based on AS2701A (ISA3+).

The AS-interface concept is well established as a standardized digital bus system for industrial automation.

Key Features

- Interface Device to connect Actuators and Sensors to an AS-Interface Bus
- DC Power Extraction from the AS-Interface Bus
- Serial bidir. Data Communication with the Bus
- Data Communication Watchdog
- 4-Bit bidir. Data Port plus Strobe to poll the Sensors and control the Actuators connected
- 4-Bit Parameter Port plus Strobe to provide Settings to the Sensors and Actuators
- 24V Power Supply for the Sensors and Actuators
- Periphery Fault Input to signal Hardware Failure of the Sensors and Actuators
- Integrated 16 x 8 Bit EEPROM to store (5 + 1)-Bit Slave Address and Settings
- 2 LED Outputs to optically flag Slave Unit Operation Status
- Operating Temperature T_a :
- 25°C ... + 85°C
- Operating Supply Voltage/Bus DC Voltage:
typ. 30V
- Operating Current (Osc. on, Outputs idle):
 $\leq 6\text{mA}$
- Supply for Sensors/Actuators:
typ. 24V, $\leq 35\text{mA}$
- Package:
SOIC 20 for full Functionality;
SOIC 16 for Applications not requiring the Parameter Port