

Key Features

- Interface Device to connect Actuators and Sensors to an AS-Interface Bus
- Conforms to AS-Interface Spec. V2.11
- 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-Bit Slave Address and Settings
- 2 LED Outputs to optically flag Slave Unit Operation Status
- Operating Temperature Ta: -25 °C ... +85 °C
- Operating Supply Voltage / Bus DC Voltage: typ. 30 V
- Operating Current (Osc. on, Outputs idle): ≤ 6 mA
- Supply for Sensors / Actuators: typ. 24 V, ≤ 35 mA
- Package: SOIC 20 for full Functionality;
SOIC 16 for Applications not requiring the Parameter Port

General Description

AS2702 (SAP4.1) is a new generation AS-interface slave device conforming to AS-interface-specification V2.11, 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 power extraction and serial bidirectional data communication.

AS2702 regulates the nominal dc bus voltage of 30V internally down to 5V to supply its internal circuitry including a 16 x 8 bits EEPROM, as well as down to a

nominal supply level 24V with a max. loading of 35 mA for the actuators and sensors connected to it at the field side. Serial bidirectional data communication 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 Vpp of between 3V and 8V on top of the bus' dc voltage of nominally 30V.

At the field side each slave device AS2702 may interface to up to 4 sensors and 3 actuators.

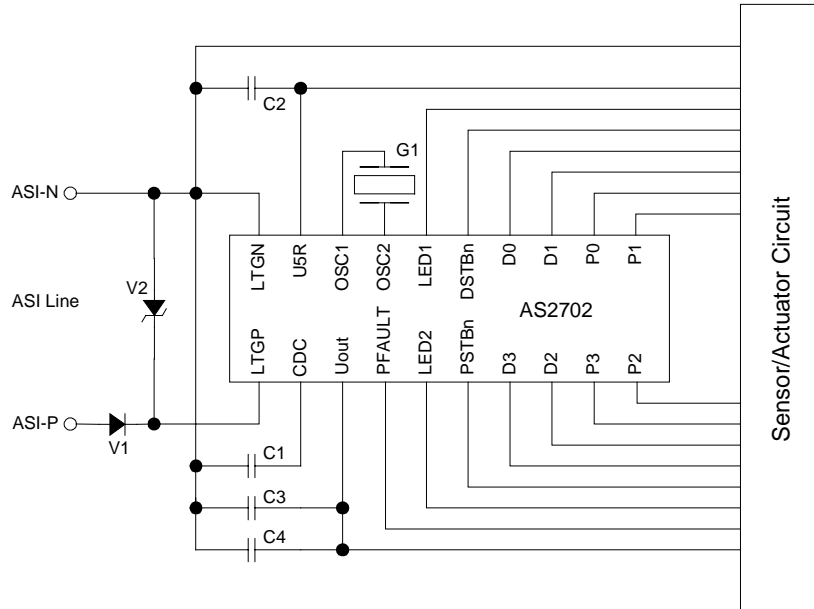
An AS-interface bus system based on AS2702 may hence link as many as 248 sensors and 186 actuators to a single master unit.

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.

Application Example 1

Sensor/actuator circuit supplied by the AS-Interface Slave IC (UOUT) for supply current needs $\leq 35\text{mA}$.



C1 = 100nF/35V

C2 = 470nF/6V

C3 = 22 ... 470uF/30V

C4 = 22 ... 100nF/30V

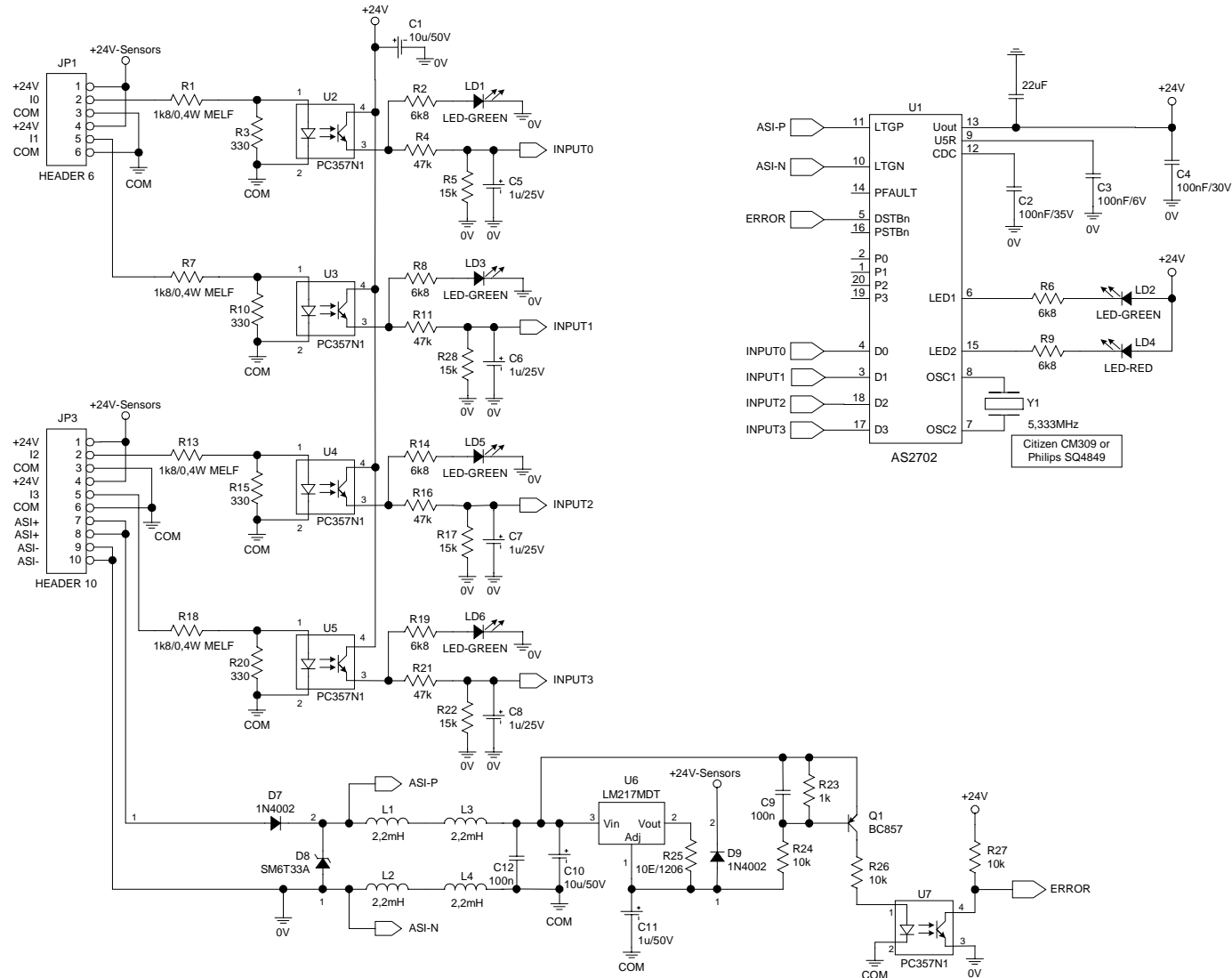
V1 = 1N4002 or equivalent

V2 = TGL 41-39A or equivalent

G1 = AS-Interface Crystal 5.333MHz

Application Example 2

for supply current >35mA



Application Support

For general information and documentation on the AS-Interface concept you may contact the AS-Interface Association:

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Ordering Information

AS2702-20T	Package:	SOIC 20; delivery: tape & reel
AS2702-16T	Package:	SOIC 16W; delivery: tape & reel; no parameter port available
AS2702-20	Package:	SOIC 20; delivery: tubes
AS2702-16	Package:	SOIC 16W; delivery: tubes; no parameter port available

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