STAR COOPERATION®

Your Partners in Excellence

FlexIO-S Analog

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BENEFITS

- 4 configurable measuring inputs for voltages up to ±60 V
- 4 differential measuring inputs with 50 V common-mode range
- 2 analog outputs up to ±10 V
- Supply voltage of 6 V to 60 V

CAN ANALOG MEASUREMENT MODULE

The main application of FlexIO-S Analog is to evaluate voltages and to send the measured values to the CAN bus. However, FlexIO-S Analog can also recreate voltages of up to ±10 V and supply sensors.

For communications purposes, the device hardware comes with CAN, LIN, SENT and USB interfaces (LIN and SENT on demand). Two interfaces with two single-ended inputs each as well as two differential analog inputs are available. Each analog interface also has a sensor supply of 5 V and an analog output. With a large supply voltage range, FlexIO-S Analog is suitable for on-board networks from 12 V to 48 V. The analog inputs' measuring range can be configured independently: the 4 single-ended inputs from ±15 V up to ±60 V and the four differential inputs from ±0.25 V up to ±10 V. The analog outputs can be adjusted from 0-5 V up to ±10 V.

For quick and easy configuration, the FlexIO-S Analog hardware includes a graphic PC surface. With this, the user can embed a DBC file and set-up the measuring and output ranges as well as additional digital filters for each channel. All adjustments can thereby be transferred to the device via USB and permanently saved there. There is no PC connection necessary for the actual operation.

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FlexIO-S Analog

FIELDS OF APPLICATION

- Experiment and test set-ups with analog sensors
- Test benches/individual measuring tasks
- Signal and voltage monitoring
- HIL set-ups with FlexIO-S Digital (digital counterpart)

CHARACTERISTICS

- Precise measuring of voltages up to ±60 V
- Recreation of voltages up to ±10 V
- PC surface for configuration via USB
- Easy integration of DBC files
- 48 V supply suitable for on-board networks from 6 to 60 V
- Supply of 5 V sensors with up to 100 mA
- Adjustable digital filters via the PC surface

ORDER NUMBER

70007856

SCOPE OF DELIVERY

- FlexIO-S Analog (device)
- Configuration software for Windows
- Supply cable: 2 m LEMO on banana plugs
- USB connector cable
- Manual (German)

ACCESSORIES (OPTIONAL)

- Calibration
- Standard cable set
- Customer-specific connector cable
- Customer-specific software implementation for
  - · LIN bus interface
  - · SENT bus interface
  - · TEDS interface
  - · Analog current output

TECHNICAL DATA

Name	FlexIO-S Analog
Supply voltage	6 – 60 Vdc
Power consumption	Max. 100 mA + sensor supply current if used
Communications interfaces	1x CAN bus (Highspeed ISO 11898-2A and ISO 11898-2B) 1x LIN bus (on demand) 1x SENT bus (on demand)
Analog in- and outputs	4x single-ended analog inputs 4x differential analog inputs 2x analog outputs
Sensor supply	5 Vdc ± 1 % 2 connectors, 100 mA each
Resolution measuring inputs	16 Bit
Measuring ranges single-ended inputs	Unipolar: 0-30 V/0-60 V Bipolar: ±15 V/±30 V/±60 V
Measuring ranges differential inputs	Unipolar: 0-0.5 V/0-1 V/0-5 V/0-10 V Bipolar: ±0.25 V/±0.5 V/±1 V/±2.5 V/±5 V/±10 V
Common-mode range differential inputs	±50 V
CMRR differential inputs	Min. 70 dB
Input impedance	≥100 kΩ
Bandwidth	1 kHz (2nd degree filter, additional digital filters adjustable)
Sample Rate	Per channel: internal: 8 kSPS - external: adjustable from 0 to 2 ksps
Measuring precision (@ Tu= 25°C)	Single-ended: ±0.1 % + 3 mV differential: ±0.1 % +10 mV for measuring ranges ≤1 V; ±0.1 % +2 mV for measuring ranges ≥2.5 V
Temperature drift measuring inputs	Max. 20 ppm/K (Offset + Gain)
Resolution analog outputs	16 Bit
Analog output ranges	Unipolar: 0-5 V / 0-10 V Bipolar: ±5 V / ±10 V
Precision analog outputs (@ Tu= 25°C)	±0.02 % of end of range value
Temperature drift analog output	Max. 7 ppm/K (Offset + Gain)
Slew-rate analog outputs	0.5 V/µs
Maximum current analog outputs	10 mA (load resistance > 1 kΩ), max 500 nF
Configuration interface	USB 2.0
Operation temperature	-40°C to +85°C
Type of safety	IP 51
Dimensions	95 x 140 x 35 mm

*Each measuring input max. 60 V against mass (KL31)