

Fieldbus Controller for the 9250 Instrumentation Amplifier series

MODEL 9251 NEW



Highlights

- PROFINET, EtherCAT and EtherNet/IP
- High measurement speed
- Up to 8 model 9250 instrumentation amplifiers can be modularly connected
- Automatic measurement channel detection

Options

- Analog input ± 10 V DC

Applications

- Automation technology
- Production
- Research and development
- Mechanical engineering
- Test-bench equipment



Product description

The new 9250/9251 amplifier generation unites all the features that make modern measurement data acquisition actually possible for the first time. Network-compatible, high-precision, user-friendly, smart and versatile: the combined system of amplifier module and Fieldbus controller can be integrated into any existing setup.

The model 9250 instrumentation amplifier together with the model 9251 Fieldbus controller delivers all signals exactly where they are needed, to be combined, checked and linked. With the available Fieldbus interfaces, you are flexible, perfectly connected and you save time, costs and other resources when linking to and integrating into existing systems.

Up to 8 bus-compatible model 9250 instrumentation amplifiers can be cascaded on the model 9251 Fieldbus controller. Automatic detection and addressing of the instrumentation amplifier modules allows easy expansion. The optional analog input for voltage measurement with a measurement range of ± 10 V is implemented as an additional measurement channel, so in the fullest configuration a total of 9 measurement channels are available.

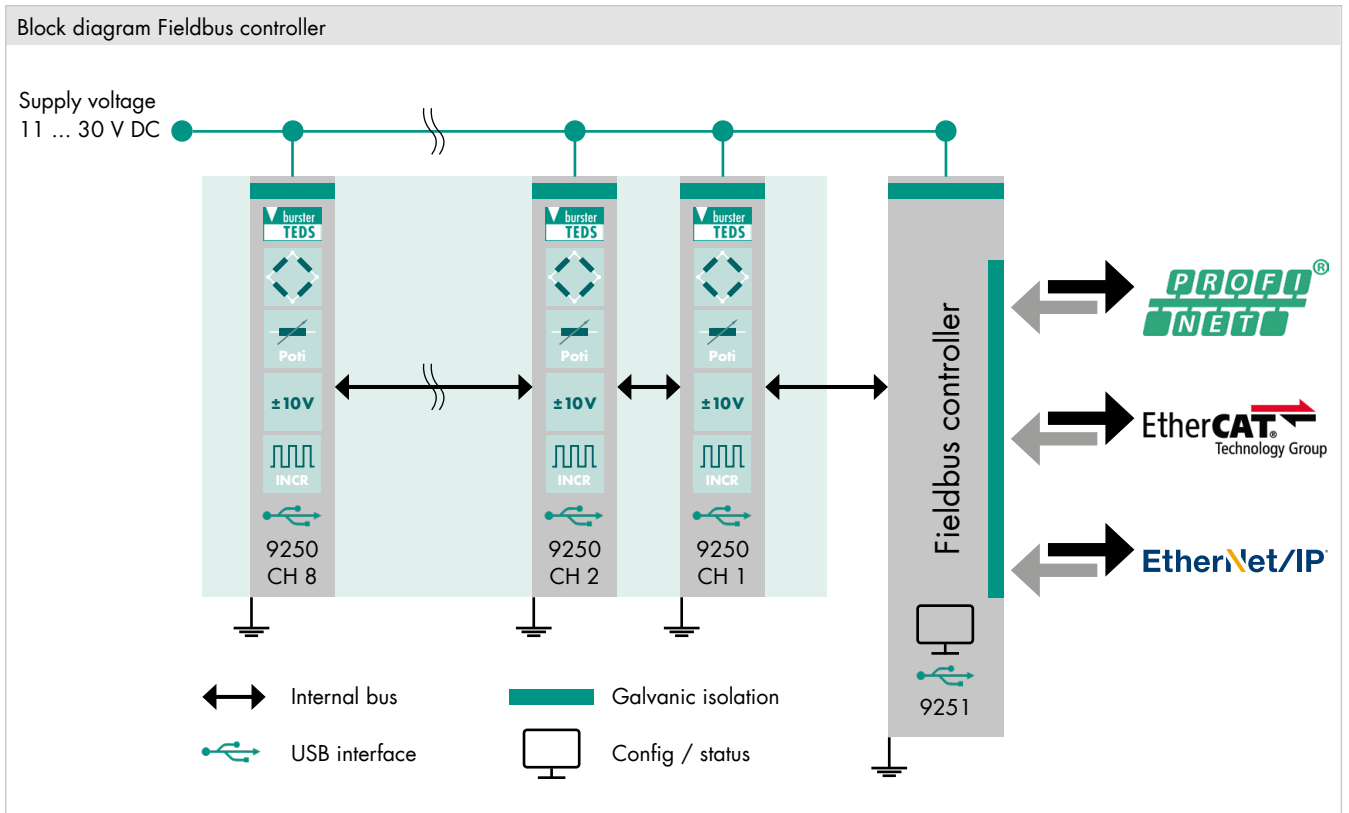
Some applications require large amounts of measurement data to be acquired and transmitted within a very short time. Very fast PLC communication with high update rates is needed. To optimize data throughput, the model 9251 Fieldbus controller can transmit a whole data array with the last 32 measured values per channel. The scaled measured values are read simultaneously in the real-time data of the Fieldbus link.



Fieldbus controller 9251 with up to 8 instrumentation amplifiers 9250

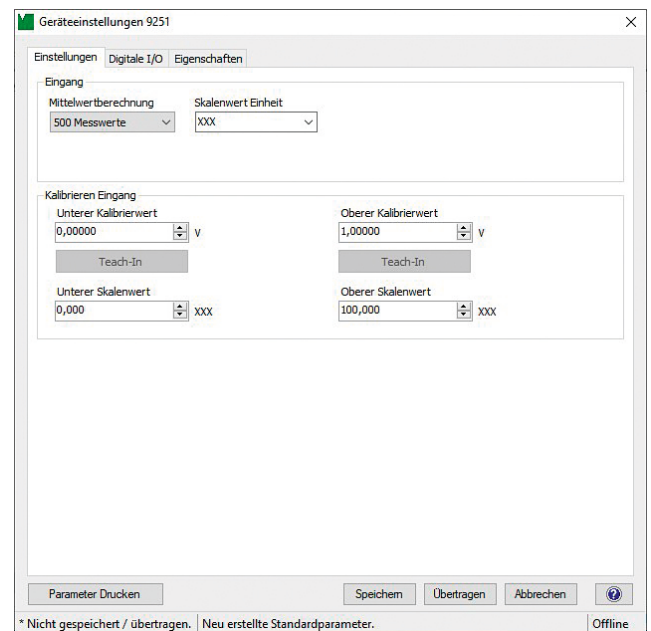
Technical data

Interfaces		
PROFINET		
Connection		2 x RJ45, 10/100 Mbit/s
Communication		RT communication Cyclical real-time process data <i>Short mode:</i> Transmission of each individual measured value for slow measurements or very fast PLC communication <i>Extended mode:</i> Simultaneous transmission of 32 measured values for high measurement speed Acyclical parameter data
EtherCAT		
Connection		2 x RJ45, 10/100 Mbit/s
Communication		PDO – Process Data Objects Transmission of each individual measured value for slow measurements or very fast PLC communication Simultaneous transmission of 32 measured values for high measurement speed SDO – Service Data Objects
EtherNet/IP		
Connection		2 x RJ45, 10/100 Mbit/s
Communication		cyclical data transmission (implicit messaging) acyclical data transmission (explicit messaging)
Internal communication bus to the 9250 modules		
Transmission speed		3.6 kHz
Number of devices (model 9250)		Up to 8
PLC I/O (in connection with the analog input option)		
Two inputs		PLC level DIN 61131
Function		Tare, reset tare, limits reset
Response time		20 ms
Two outputs		PLC level DIN 61131, p-switched, max. 500 mA, 24 V external supply required, inputs and outputs galvanically isolated from amplifier, function configurable via USB
Function		Above limit, below limit, window mode
Response time		< 0.5 ms
Compatible sensors		
Voltage measurement		
Measurement range		±10 V
Input impedance		1 MOhm
Resolution		16 bit
Accuracy		0.05 % of full scale
Cut-off frequency		8 kHz
Sampling rate		10000/s (in standalone mode) 1000/s (per channel when cascading of 1 to 8 model 9250 instrumentation amplifiers)
Housing		
Material		Polyamide
Dimensions (WxHxD)		22.5 x 110 x 115 mm
Weight		Approx. 210 g
Protection class		IP20 to EN 60529
Connections		Screw clamps, up to 2.5 mm, RJ45, USB
General data		
Supply voltage		11 ... 30 V DC, galvanic isolation, inverse polarity protection, overvoltage protection
Power consumption		Approx. 3 W
Operating temperature range		0 °C ... +50 °C
Storage temperature range		-25 °C ... +70 °C
Humidity		0 ... 70 % non-condensing
Installation		Grounded mounting rail 35 mm to DIN EN 50022
Interfaces		2 x RJ45, Micro-USB for configuration, USB Type-A master port (function in preparation), internal bus interface for cascading up to 8 bus-compatible model 9250 instrumentation amplifiers
Display		1 x status LED, 3 x fieldbus-specific LEDs



DigiVision PC software

- Freely available at www.burster.com
- Convenient device configuration via front-panel USB port
- Automatic recognition of amplifier modules in DigiVision
- Backup facility for storing settings
- Analogue output configuration
- Scaling of output values
- Configuration of PLC I/O outputs
- Device information



Accessories

Order code	
9900-K358	USB cable for configuration
9250-Z001	1 set of terminals (supplied with device)

Calibration of the measuring chain

Calibration of measuring chain	
92ABG	Calibration of the measuring chain in sensor's reference direction
92ABG-S	Calibration of the measuring chain according to customer request

Calibration certificates for instrumentation amplifiers

Standard factory calibration certificate for instrumentation amplifiers (WKS)

On request	Our standard factory calibration certificate includes 11 measurement points spread evenly in 20 % steps over a measuring range.
------------	---

German-accredited DAkkS calibration certificate for instrumentation amplifiers (DKD)

On request	Our DAkkS-certified calibration laboratory provides calibration certificates.
------------	---

Calibration certificates for measurement chains

Standard factory calibration certificate for measurement chains (WKS)

Optionally available	Our standard factory calibration certificate includes 11 measurement points, starting at zero, spread evenly in 20 % steps over the full measuring range, for increasing and decreasing loads under the same installation conditions.
----------------------	---

Special factory calibration certificate for measurement chains (WKS)

On request	We are happy to calibrate sensors and measurement chains to the customer's specification.
------------	---

German-accredited DAkkS calibration certificate for measurement chains (DKD)

Optionally available	Our DAkkS-certified calibration laboratory provides calibration certificates to DIN EN ISO 376. The calibration certificate includes 21 measurement points, starting at zero, spread evenly in 10 % steps over the measuring range, for increasing and decreasing loads under the same installation conditions.
----------------------	---

Example order

PROFINET 4-channel instrumentation amplifiers with pressure force sensors

4 x	Miniatur compression load cell	Model 8402-6005-N000S000
1 x	Fieldbus controller	Model 9251-V3000
4 x	Universal instrumentation amplifier	Model 9250-V000010
4 x	Compensation of measurement chain	92ABG

Order Code

9	2	5	1	-	V			0	0
---	---	---	---	---	---	--	--	---	---

Fieldbuses

■ EtherCAT	1
■ PROFINET	3
■ EtherNet/IP *	4

Analog input signals

■ None	0
■ Standard signal ±10 V	1

* in preparation