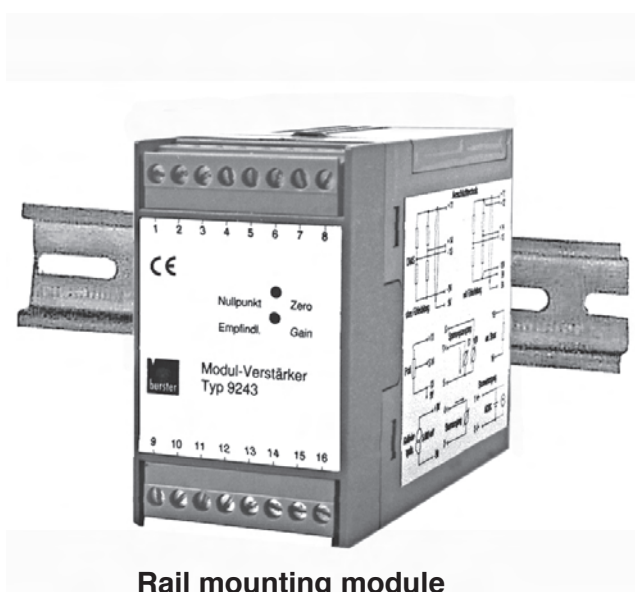


Amplifier Module for Strain Gage and Potentiometric Sensors

Model 9243

Code:	9243 E
Manufacturer:	burster
Delivery:	ex stock
Warranty:	24 months



Rail mounting module



IP 65 version

- Accuracy < 0.05 %
- Outputs ± 5 V, ± 10 V and 0 (4) - 20 mA
- 6-wire technique
- Isolation between signal and power supply
- Built-in calibration
- Configuration via DIP-switch

Application

The amplifier module model 9243 is used wherever measurement signals from strain gages or potentiometric sensors have to be converted into standard signals. Simply by mounting on conventional DIN-mount rails, it is possible to position the amplifier module on location, in the proximity of the sensor. The broad auxiliary power range and the choice between AC or DC permits operation on standard power supplies used in switch gear cabinets. A highly precise reference voltage source is built-in for calibration purposes. A calibrating shunt can also be connected via two separate terminals. This permits deliberate detuning of a strain gage sensor for calibration or merely to check the measuring chain.

Description

A highly accurate precision amplifier performs the amplification of the sensor signal being applied. The necessary gain factor is adjusted coarsely with DIP-switches while fine tuning is carried out by using a potentiometer. Current and voltage outputs are available simultaneously. The sensor supply is performed by the amplifier module itself so that no additional voltage source is required. It can also be set in steps of 2.5 V, 5 V, 10 V using DIP-switches. The maximum feed current of 35 mA permits parallel connection of several strain gages, e.g. for the addition of measurement variables. Measurement errors brought about by varying line lengths or due to temperature fluctuations effecting the sensor cable are avoided by having probe lines measuring the actual feed voltage directly on site at the sensor itself (6-conductor technology). Fluctuations are immediately corrected electronically. The limit frequency of the amplifier can be switched between 10 Hz and 1 kHz. The DIP-switches for configuring the entire device are found easily accessible, under a cover.

Technical Data

Connectable Sensors

Strain gages

Bridge resistance:	350 - 1000 Ω
Connection technology:	6-wire
Sensitivity:	> 0.1 mV/V
Excitation voltage:	2.5 V, 5 V, 10 V
Excitation current:	max. 35 mA

Potentiometer

Resistance:	1 k Ω - 5 k Ω
Connection technology:	3-wire
Measurement signal:	0 - 5 V
Excitation voltage:	5 V
Excitation current:	max. 35 mA
Zero shift:	selectable via DIP switches

Transmitter i.e. DC/DC

Measurement signal:	2.5 mV - 10 V
Excitation voltage:	2.5 V / 5 V / 10 V
Excitation current:	max. 35 mA

Sensor excitation

Voltage:	2.5 V, 5 V, 10 V via DIP switches
Current:	max. 35 mA

Analog output

Voltage output:	± 5 V and ± 10 V
Current output:	0 ... 20 mA or 4 ... 20 mA
Load:	200 ... 500 Ω
Output impedance:	with 10 V output 470 Ω with 5 V output 10 k Ω

General Amplifier Data

Gain:	0.5 - 50 000 (via DIP switches + potentiometer)
Shift zero point:	up to 100 % possible
Accuracy:	< 0.05%
Temperature coefficient:	< 50 ppm / K
Frequency response:	0 - 10 Hz / 0 - 1000 Hz (via DIP-switches)
Electrical isolation:	input and output with respect to power supply 50 V continuous 500 V test voltage
Power supply:	20 - 36 V DC 14 - 26 V AC < 3 VA
Stocking temperature:	- 25 $^{\circ}$ C ... 70 $^{\circ}$ C
Operating temperature:	0 ... 60 $^{\circ}$ C

Housing

Rail mounting module

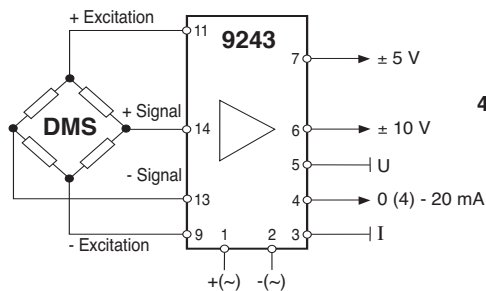
Connections:	terminal connector, 2 x 8 terminals
Dimensions (WxHxD):	45 x 75 x 108 [mm]
Material:	polyamide 6.6, color: green
Assembly:	on DIN EN 50 022 mount rails
Protection class:	IP 20
Weight:	approx. 250 g

IP 65 version

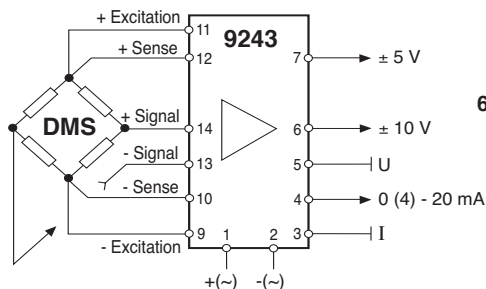
Connections:	terminal connector, 2 x 8 terminals
Dimensions (WxHxD):	160 x 100 x 65 [mm]
Material:	cast-aluminium
Assembly:	screw mounting
Protection class:	IP 65
Weight:	approx. 880 g
Screen distance:	143 X 63 mm
	shaft screw \varnothing 4.7 mm; screw head \varnothing 8.5 mm

Connection Schematic

- for strain gage sensors, e.g. force, pressure or torque sensors

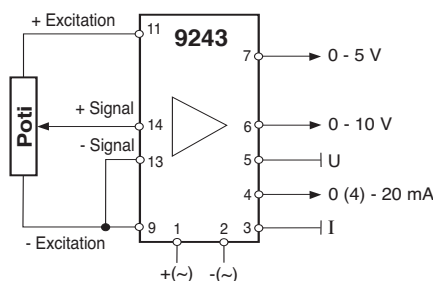


4-wire connection
for short
sensor cables



6-wire connection
for long
sensor cables

- for potentiometric sensors, e.g. displacement or angle sensors



Manufacturer's Default Settings

Excitation:	5 V
Filter:	1 kHz
Gain:	1320 \cong 1.5 mV/V
Integrated analog output:	10 V
Current output:	0 ... 20 mA

Order Information

Amplifier module (rail mounting version).	Model 9243
Amplifier module (IP 65 housing).	Model 9243-IP 65
Amplifier module (critical frequency).	Model 9243-V001

Calibration of Entire Measuring Chain

Consisting of sensor and amplifier model 9243

Order code **Model 9243-ABG**

Accessories

Rail mounting transformer	230 V AC (115 V AC) / 24 V AC	Model 9244-Z001
Power supply module	230 V AC / 24 V DC	Model 9243-Z002
12 VA for the power supply of max. 4 amplifier modules		Model 9900-V106
Dimensions (WxHxD):	60 x 50 x 50 [mm]	
(230 V version)		
(115 V version)		
Plug-in socket, 8 pins		

DMS Simulator

Support accessories for creating strain gauge source signals in order to adjust amplifiers and monitors.

Model 9405