

Product Information

Transmitter DMS50Ex



PROFIBUS

- **Weight – Force – Pressure – Torque with DMS strain gauges**
- **Bridge sensitivity 0.500..5.000 mV/V**
- **Teach-in function**
- **Tare function**
- **Min- and Max peak storage (not voltage safe)**
- **Integrated bridge supply 2.5 V, 5 V max. 40 mA**
- **Bus-interface Modbus / Profibus**

Characteristics

The DMS50Ex converts the output signal of standard strain gauges (DMS measuring bridges) into a standard signal 0/4..20 mA or 0/2..10 DC. The bridge supply and an external control input for the tare function are integrated.

If several strain gauges are required in an application, these must be connected parallel. The bridge current must not exceed 40 mA in this case.

Technical data

Power supply

Supply voltage : 230 V AC ±10 %; 115 V AC ±10 %
 24 V DC ±15 %
 Um = 253 V AC or 125 V DC

Power consumption : max. 5 VA

Operating temperature : -10..+55 °C

CE- conformity : ATEX- directive 94/9/EG
 (certificate DMS50ATEX.001)
 EN 60079-0:2006 EN 60079-11:2007
 EN 61241-0:2006 EN 61241-11:2006
 IEC 61326 05/2004, IEC 61000-4-2,
 IEC 61000-4-3, IEC 61000-4-4,
 IEC 61000-4-5, IEC 61000-4-6,
 IEC 61000-4-8, IEC 61000-4-11,
 CISPR16-1/16-2

Explosion protection

Certification : Ex II (1) G [Ex ia] IIC/IIB or
 Ex II (1) D [Ex iaD]

Approval : TÜV 08 ATEX 554171

Input

DMS

Bridge supply : 2.5 V / 5 V DC programmable,
 max. 40 mA

Bridge sensitivity : 0.500..5.000 mV/V

Sense line : compensated line resistance
 of max. 10 Ω

Accuracy : < 0.025 % ±2 digit

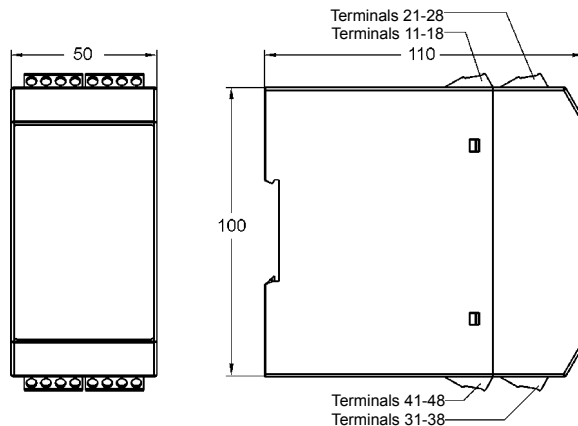
Max. no load voltage U₀ : 14.5 V

Max. short circuit curr. I₀ : 163 mA

Max. power consump. P₀ : 590 mW

Explosion protection	Ex ia / IIC	ia / IIB
Max. external inductivity	: 100mH	100mH
Max. external capacity	: 25 µF	120 µF
Internal capacity	: negligible	
Internal inductivity	: negligible	
Tare-function	: external contact	
Display	: graphic LCD-Display 128x64 pixel, with back-light white	
Indicating range	: ±9999 Digit	
Outputs		
Relay SPDT A1-A2	: < 250 V AC < 250 VA < 2 A cos φ ≥ 0.3 < 300 V DC < 40 W < 2 A	
Analog output	: 0/4..20 mA burden ≤ 500 Ω; 0/2..10 V burden > 500 Ω, isolated output changes burden depending	
Accuracy	: 0.2 %; TK 0.01 %/K	
<i>Fault indication at error in the DMS measuring circuit</i>		
→ Analog output 0 mA, < 3.6 mA or >21.5 mA, programmable		
→ Alarm contact(s) min. or max. programmable		
Bus system		
Modbus	: RS485, RTU or ASCII max. 38400 Bd	
Profibus	: Profibus DP	
Connection	: 9 pole D-SUB connector in the front	
Case	: Polyamide (PA) 6.6 , UL94V-0, acc. to DIN EN 60715, DIN rail TS35	
Weight	: approx. 450 g	
Connection	: screw terminals 0.14..2.5 mm ² AWG 26..AWG14	
Protection class	: case IP30, terminals IP20 acc. to BGV A3	

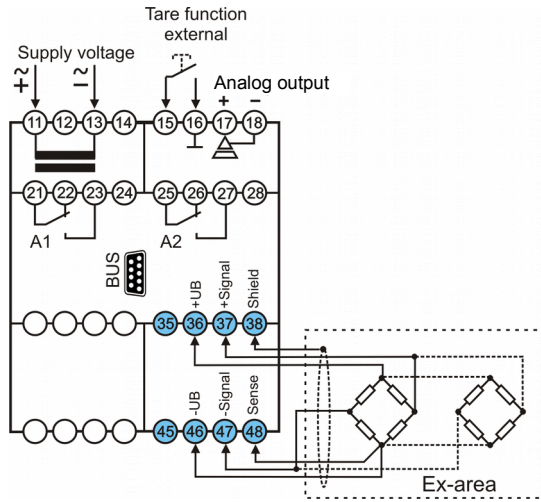
Dimensions



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Product Information

Connection diagram



Bridge supply max. 40 mA

Ordering code

DMS50Ex - 1. - 2. - 3. - 4. - 5. - 6.

1. Model	
1	input DMS strain gauge, input external tare-function via contact, voltage free, intrinsically safe ATEX II (1) G [Ex ia] IIC/IIB ATEX II (1) D [Ex iaD]
2. Alarm outputs	
00	not installed
2R	2 relay SPDT A1, A2
3. BUS configuration	
00	not installed
MB	Modbus RS485 RTU, ASCII
PB	Profibus DP
4. Analog output	
AO	0/4..20 mA; 0/2..10 V DC
5. Supply voltage	
0	230 V AC ±10 % 50-60 Hz
1	115 V AC ±10 % 50-60 Hz
5	24 V DC ±15 %
6. Options	
00	without option

Bus connection

Modbus		
PIN	Signal	EIA / TIA-485 name
5	D1	B / B'
9	D0	A / A'
1	Common	C / C'
Profibus		
3	RxD / TxD-P	
5	DGND	
6	VP / +5V max 10 mA	
8	RxD / TxD-N	

9 pole D-Sub connector
in the front

