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Standard-Signal-Meter S 1010

Industry standard signals - integrated transmitter-supply

Features

- LED-Display 14.2mm red
- Indicating range ±9999(0) Digit
- Indicating range and decimal point free programmable
- Max. 2 Alarm outputs
- Analog output 0/4 ... 20mA, 0/2 ... 10V DC
- Field case with snap lid, 2 x M16x1.5 other cable glands see Option 09 or on request
- Protection IP65

General

The Standard-Signal-Meter S1010 has been designed for measuring industry standard signals 0/4 ... 20mA or 0 ... 10V DC. The device offers an integrated transmitter supply for direct connection of 2- and 3-wire transmitters for e.g. pressure or temperature. Indicating range and decimal point are free programmable in the range ± 9999(0)git.

Short information

Programming	Parameters are programmed via front-side membrane keypad.
Alarm outputs	Switching performance for the alarm outputs is programmable as minimum or maximum function.
Digital filter	With activated digital filter last 16 measured values will be averaged continuously and the result shown in the display.
Analog output	Proportional to the input signal an analog output signal 0 ... 20mA / 0 ... 10V DC or 4 ... 20mA / 2 ... 10V DC can be generated. Output changed automatically from current signal to voltage signal depending on burden.

Technical data

Supply power

Supply voltage	:	230V AC ±10%; 115V AC ±10%, 24V AC ±10% or 24 V DC ±15%
Power consumption	:	max. 3.5VA, with analog output 5VA
Operating temperature	:	-20 ... +55°C Standard (extended temperature range on request)
Rated voltage	:	250V~ acc. VDE 0110 between input / output / supply voltage over-voltage categoric III
Test voltage	:	4kV-, between input / output / supply voltage
CE - conformity	:	EN55022, EN60555, IEC1000-3/4/5/11/13

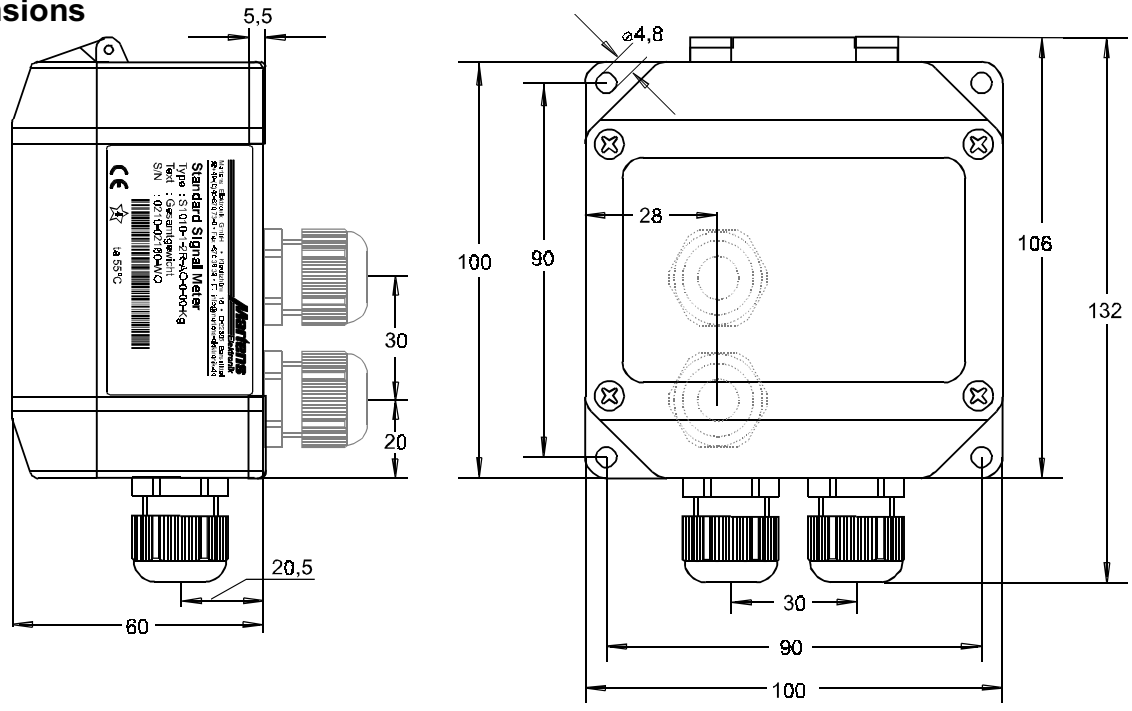
Input

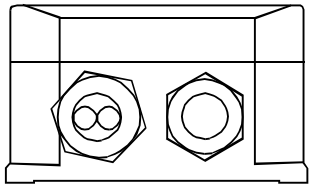
Current input	:	0/4 ... 20mA Ri = 10Ω
Voltage input	:	0 ... 10V Ri = >100kΩ
Accuracy	:	< 0.1% ±2 Digit
Temperature coefficient	:	0.004% / K
Transmitter-supply	:	U_0 appr. 24V, Ri appr. 150Ω, max.50mA (25mA with relay and analog output)
Display	:	LED red, 14.2mm
Display range	:	±9999(0) with leading zero suppression
Parameter display	:	LED 2-digit red, 7mm (parameter - and output indicator)

Output

Relay	:	SPDT, <250V AC<250VA<2A, <300V DC<50W<2A
Analog output	:	0/4 ... 20mA burden ≤500Ω; 0/2 ... 10V burden >500Ω, not isolated to the input automatic output changing (burden dependent)
Accuracy	:	0.1%; TK 0.01% / K
Field case	:	Case polyamide, with fibre-glass PA6-GF 15/15, Keypad polyester
Weight	:	max. 450g
Electrical connection	:	Clamp terminals, 2mm² single wire, 1mm² flexible wire, AWG14
Protection	:	IP65, terminals IP20, fingersafe acc. German BGV A2

Dimensions

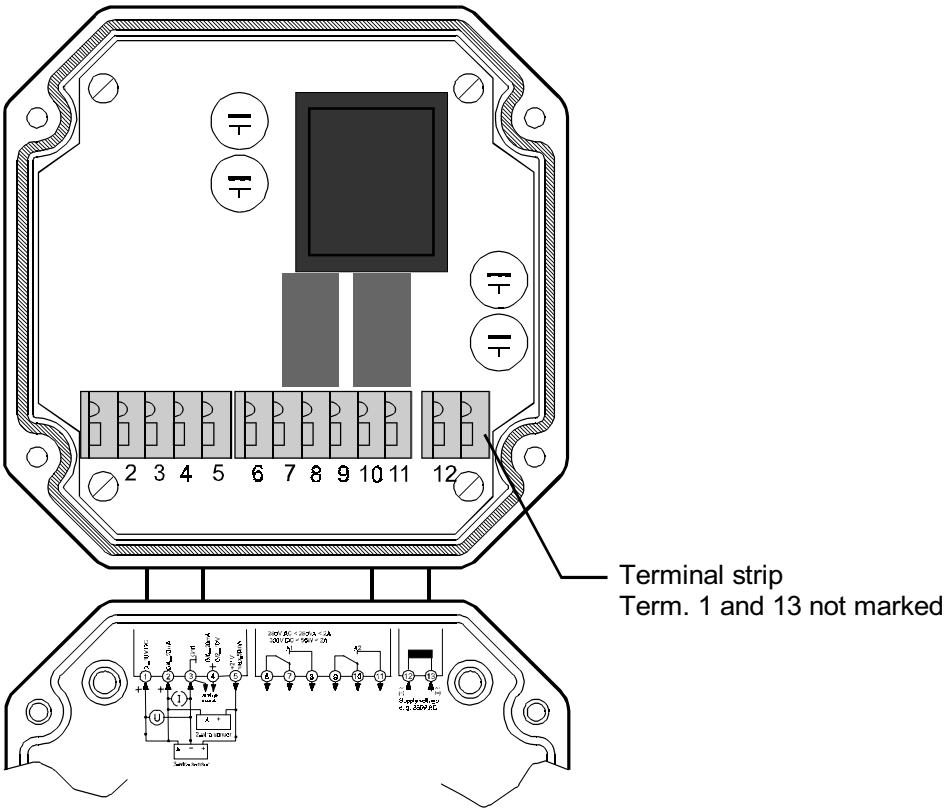




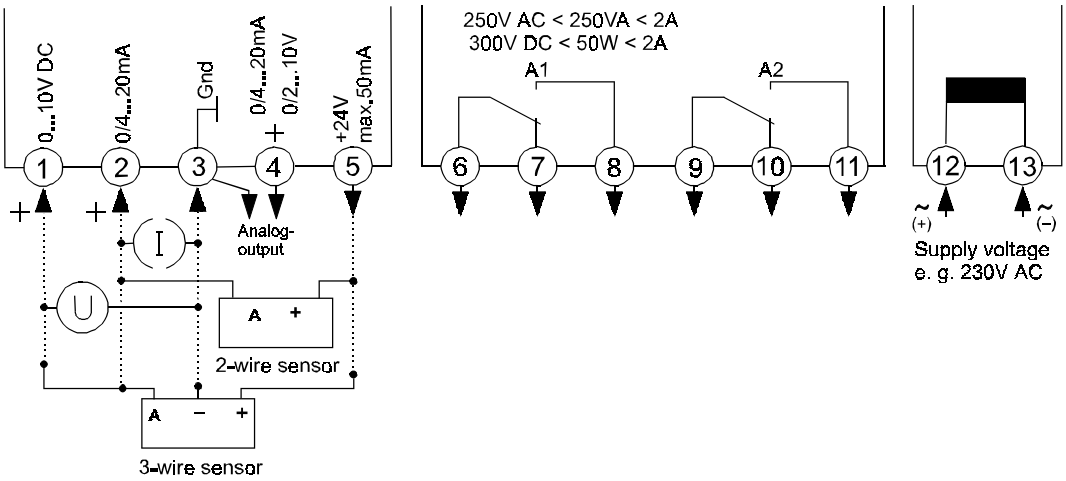
Option 09
1 x M20x1.5 Multi (2xd=6mm)
1 x M20x1.5

2 x M16x1.5 cable glands
(In the base on request)

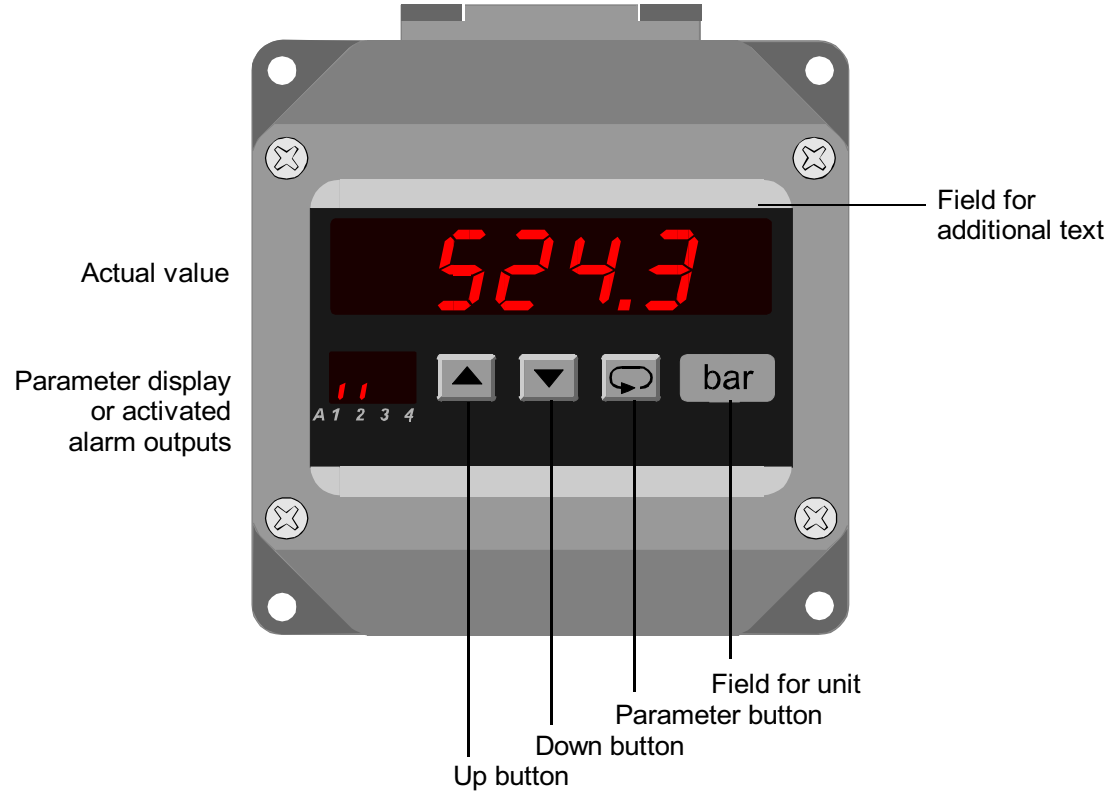
Legend (opened lid)



Connection diagram



Controls and indicators



Description

Operating of the device is arranged in 2 levels. The requested parameter can be called by button. Selection within a parameter or entering data, use buttons and . Parameters are stored zero-voltage safe in the EEPROM.

After switching on the supply voltage, the device initializes itself. The display shows the message *Init*. After the initializing procedure the device is working in the **Working level**. Set points of the alarm outputs can be preselected if available.
Activating the button for more than 2 seconds, the program is jumping into the **Configuration level**. Now all the parameters defining the function of the device can be programmed.

After finishing the configuration or when longer than 2 minutes no button was pushed, the program jumps back to the working level. Leaving the configuration level is possible at any time when pushing the button for 2 seconds.

Error codes:

Display flashes	If the input signal is more than 3% outside of the programmed measurement range the A/D- converter is over driven and the display flashes with appr. 1Hz
Error!	EEPROM test. Reading this message, a program error has been occurred. When pushing the button a copy of the EEPROM will be reloaded and the device will work with the factory settings. If this copy does not work, please ship the device to factory for repair service.
Loc	Program lockout. See configuration page 7.

Start-up note:
Before the device can be used, it must be configurated for the intended use ⇒ see page 6

Notes to representation

Parameter is only displayed when configurated

Parameter is only displayed when feature is included (see order code)

Please note: All parameters can be called if they are not blocked by other programmed parameters and if they are available. Factory settings are shown in **[ ]**.

Working level

Button	Display	Description
	4123	Actual value.
	4123	Alarm output indication (only if installed and activated).
	4123	Display brightness (permanent changing possible) Setting possible in 9 steps with buttons ▲ and ▼ .
	8450 PP	Display maximum reading. Reset with buttons ▲ or ▼ , or at every power off.
	15 nP	Display minimum reading. Reset with buttons ▲ or ▼ , or at every power off.
	125 A1.	Setpoint output A1. Setting possible from St... En with buttons ▲ and ▼ . St(start value) ... En (end value)
	745 A2.	Setpoint output A2. Setting possible from St... En with buttons ▲ and ▼ . St(start value) ... En (end value).

Configuration level

Button	Display	Description	*[Factory settings]*
press 2 seconds	oFF F1	Digital filter. oFF, on Averaging of the last 16 measured values continously. Selection with buttons ▲ and ▼.	*[oFF]*,
	0 Sc	Indicating correction. Setting possible from -99 ... 99 digit with buttons ▲ and ▼.	*[0]*
	0-10 In	Input signal. 0-10; 0-20; 4-20 Selection with buttons ▲ and ▼.	*[0-10]*
	no F0	Fixed Zero 0, 3690+0. no; YES Selection with buttons ▲ and ▼.	*[no]*
	0 dP	Decimal point position. 0. .0 .00 .000 Selection with buttons ▲ and ▼.	*[0.]*
	0 St	Start value for indicating range and analog output. Setting possible from -9999 ... 9999 digit with buttons ▲ and ▼. In case of modification new configuration of the alarm outputs is necessary.	*[0]*
	1000 En	End value for indicating range and analog output. Setting possible from -9999 ... 9999 digit with buttons ▲ and ▼. In case of modification new configuration of the alarm outputs is necessary. If St> En, output works with a decreasing characteristic.	*[1000]*
	oFF A1	Switching performance output A1. Function oFF; on L (min); or on J (max). If activated the start value will be loaded for set point Selection with buttons ▲ and ▼.	*[oFF]*

continue page 7

Button	Display	Description	*[Factory setting]*
↓	10 A1	Set point output A1. Setting possible from St (start value) ... En (end value) with buttons ▲ and ▼ .	*[0]*
↻			
↓	0 A1.	Hysteresis A1. Setting possible from 1 ... 9999 digit with buttons ▲ and ▼ . **Note:** Switching performance and setpoint of the alarm outputs A1 to A2 are identical.	*[10]*
↻			
↓	0-20 Ao	Analog output. 0 - 20 mA (0 - 10 V DC) or 4 - 20 mA (2 - 10 V DC). Changing from current to voltage output is load-dependent (≤ 500Ω = current output, > 500Ω = voltage output). Selection with buttons ▲ and ▼ .	*[0-20]*
↻			
↓	0 AS	Analog output Start value (Option 08) Setting possible from St... En of the display range with buttons ▲ and ▼ .	*[0]*
↻			
↓	1000 AE	Analog output End value (Option 08) Setting possible from St... En of the display range with buttons ▲ and ▼ .	*[1000]*
↻		**Note:** If the display range would be changed afterwards, the range of the analog output get the same values. Start- and end value of the analog output can be set anywhere in the display range. If AE < AS the output works with a decreasing characteristic.	
↓	00 Co	Code for factory settings.	
↻			
↓	oFF Lc	Program lockout. oFF = no lock Conf. = configuration level locked ALL = all parameters locked Selection with buttons ▲ and ▼ .	*[oFF]*
↻			
	4123 ''''	Return to the working level.	

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Order code

	1.	2.	3.	4.	5.	6.	7.
S1010 -	☐	- ☐	- ☐	- ☐	- ☐	- ☐	- ☐

1. Input

1	Input standard signals 0/4 ... 20mA, 0 ... 10V DC, integrated transmitter-supply 24V DC max. 50mA	

2. Alarm output

00	not installed	
2R	2 alarm outputs	relay

3. Analog output

00	not installed	
AO	Analog output	0/4 ... 20mA, 0/2 ... 10V DC, not isolated

4. Supply voltage

0	230V 50/60Hz	±10%
1	115V 50/60Hz	±10%
4	24V 50/60Hz	±10%
5	24V DC	±15%

5. Option

00	without option
01	Min-and Max-value hold
07	Display brightness programmable
08	Analog output free programmable
09	1 x M20x1.5 multi (2x6mm⌀); 1 x M20x1.5

6. Unit (appears in the unit field)

7. Additional text (will be placed in the field for additional text
max. 3mm x 70mm HxW)