

# Setpoint adjuster SG 1010

Output standard signals 0/4 ... 20mA and 0/2...10V DC

## Features

- LED-Display 14.2mm rot
- Indicating range  $\pm 9999(0)$  digit
- Indicating range and decimalpoint programmable
- Setpoint adjustment with front buttons or extern. signals 0/24V
- Setpoint high and low level programmable
- Max. 2 alarm outputs, relay SPDT
- Analog output 0/4 ... 20mA, 0/2 ... 10V DC
- Field case with snap lid, 2 x PG11 other cable glands see Option 09 or on request
- Protection IP65



Field case 100x100x60mm  
with 2 cable glands PG11

## General

The Set point adjuster SG1010 has been designed for generating adjustable set point value signals 0/4... 20mA and 0/2... 10V DC. Any display value can be assigned to the respective output signal. The operator can work with real values. The adjustment speed is programmable

## Short information

Programming	Parameters are programmed via front-side membrane keypad.
Alarm outputs	Switching performance of the alarm output is programmable as minimum or maximum function.
Int. setpoint adjustment	The setpoint can be adjusted with front buttons. The adjustment is running dynamically, i.e. the regulating speed increases with operation time of the buttons.
ext. setpoint adjustment	The setpoint can be adjusted with external signals. The adjustment is running dynamically or linear. In the linear adjustment mode the speed is constant, i.e. the output signal changes linear. The adjustment time is programmable from 1 to 100s.
Power-on-reset	Setpoint can be set to the last stored value or to a programmed reset value.
Analog output	Proportional to the display value an isolated analog output signal 0 ... 20mA / 0 ... 10V DC or 4 ... 20mA / 2 ... 10V DC will be generated. The output signal is limited to the range of the minimum and maximum value. Output changed automatically from current signal to voltage signal depending on burden.

## Technical data

### Power supply

Supply voltage	: 230V AC $\pm 10\%$ ; 115V AC $\pm 10\%$ ; 24V AC $\pm 10\%$ or 24V DC $\pm 15\%$
Power consumption	: 5VA,
Operating temperature	: -20 ... +55°C
Rated voltage	: 250V~ acc VDE 0110 between input / output / supply voltage, overvoltage categoric III
Test voltage	: 4kV-, between input / output / supply voltage
CE - conformity	: EN55022, EN60555, IEC1000-4-3/4/5/11/13

### Input

Control input	: 0 / 24V DC Ri 6.3kOhm <4V low, > 8.5V high, Hysteresis >2.5V, max. 35V DC
Switch contact supply	: 24V DC (pnp), Ri appr. 150 Ohm, max. 50mA

### Display

Indicating range	: LED red, 14.2mm
Add. display	: $\pm 9999(0)$ digit
	: LED 2-digit red, 7mm (Parameter - und status indicator)

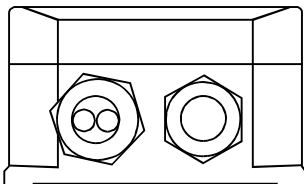
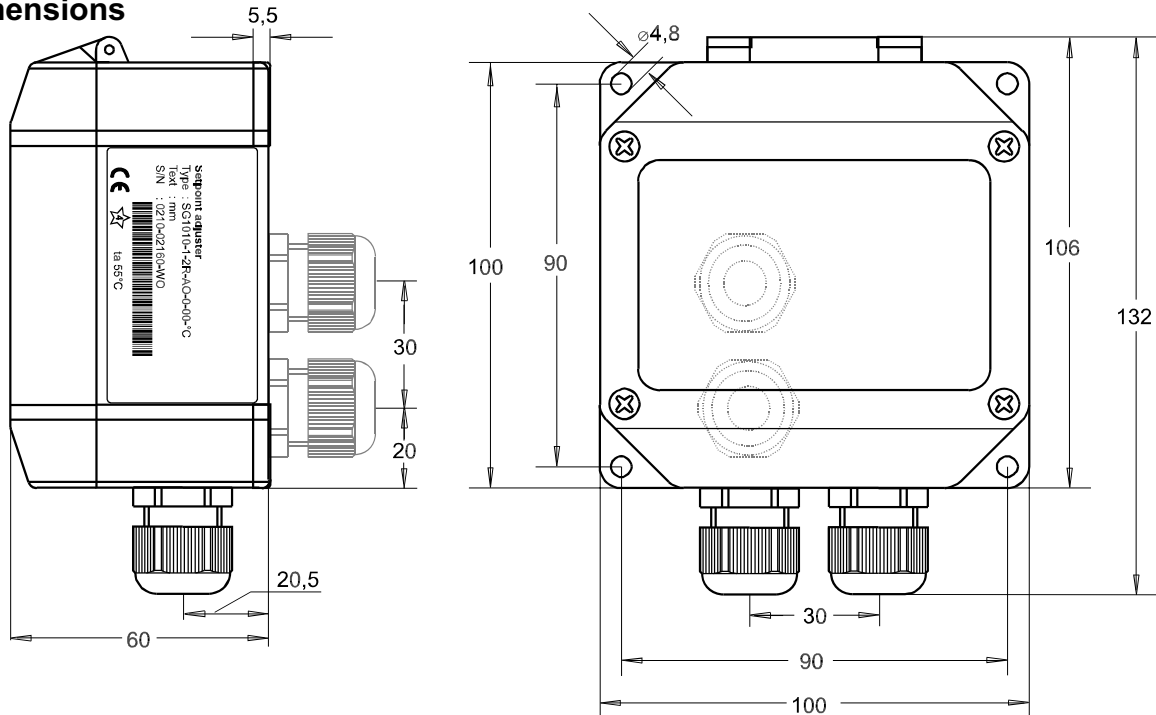
### Output

Relay	: SPDT <250V AC<250VA<2A, <300V DC<50W<2A
Analog output	: 0/4 ... 20mA burden $\leq 500\Omega$ ; 0/2 ... 10V burden >500 $\Omega$ , isolated output changes burden dependant
-accuracy	: 0.1%; TK 0.01% / K

### Case

Material	: Field case with snap lid
	: Case Polyamide with fibre-glass PA6-GF/GK 15/15 keypad polyester, UV-stable
Weight	: max. 450g
Electrical connection	: Clamp terminals, 2mm <sup>2</sup> single wire, 1mm <sup>2</sup> flexible wire, AWG14
Protection	: IP65, terminals IP20, fingersafe acc. German BGV A2 (old VBG4)

## Dimensions

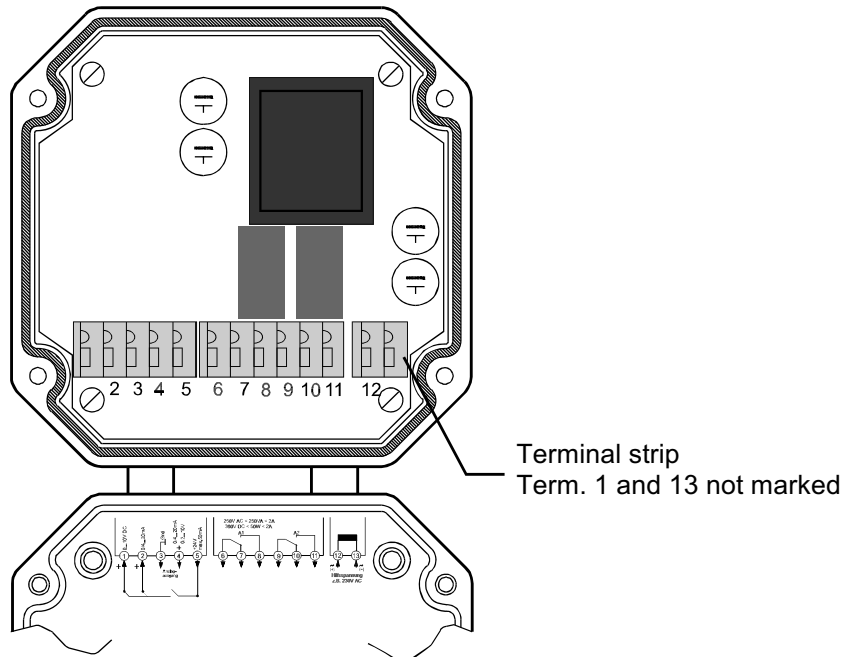


### Option 09

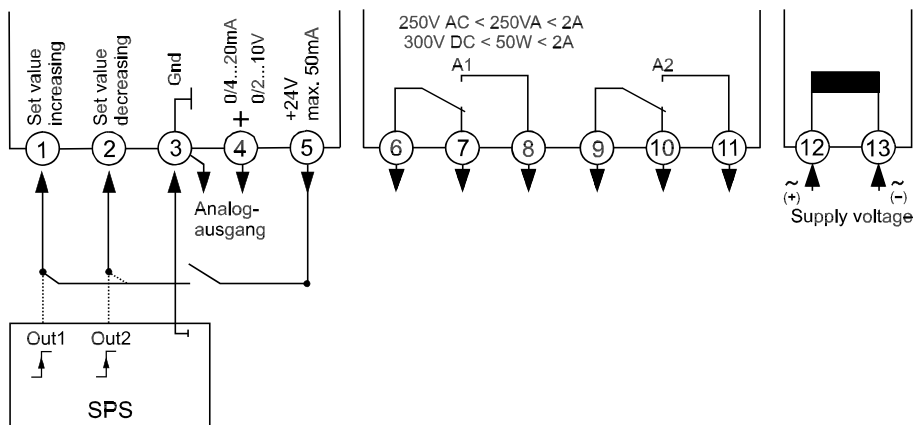
1 x PG16 multi (2xd=6mm)  
1 x PG13.5

2 x Pg11 cable glands  
(In the base on request)

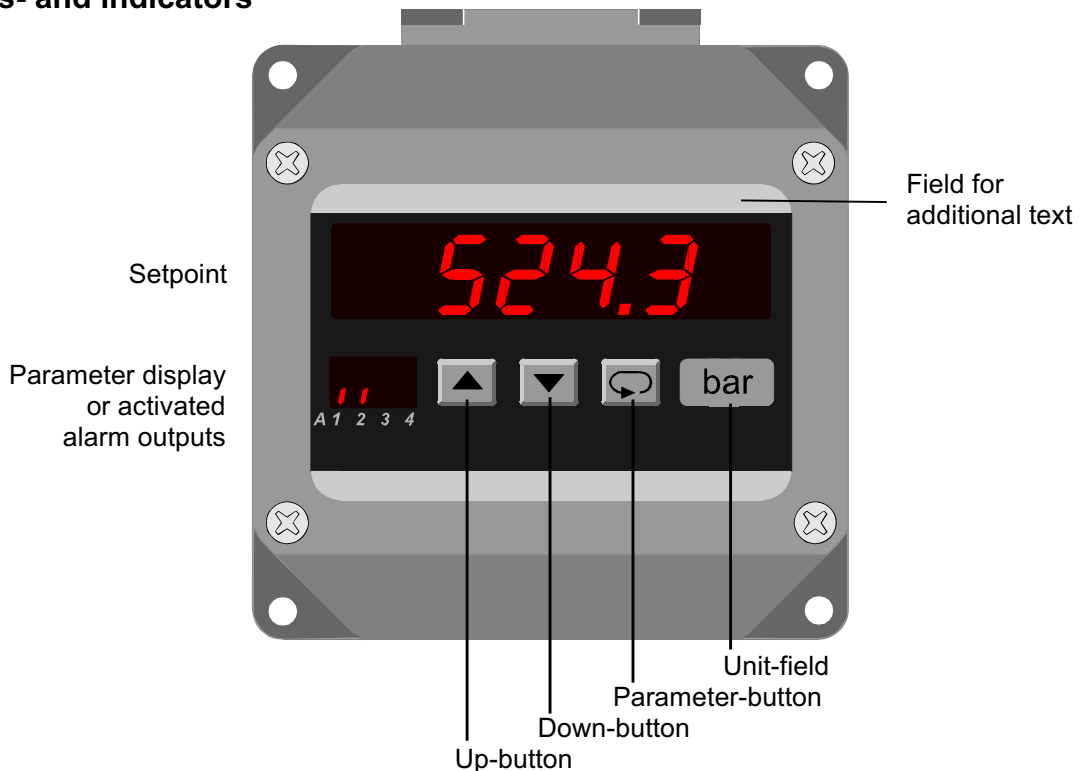
## Legend (open lid)



## Connection diagram



## Controls- and indicators



## Description

Operation of the device is arranged in 2 levels. The requested parameter can be called by button. Selection within a parameter or entering data use button and .

Button combinations:

- + one parameter back
- + setting parameter to zero or minimum value

After switching on the supply voltage the device is working in the **Working level**. Setpoint can be adjusted.

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:

**PE** Reading this message in the parameter display a parameter failure has been occurred. Display flashes. When pushing one of the buttons the error code will be deleted and the counter works with factory settings. Configuration and function of the counter must be checked. If error occurs again, please ship the counter to factory for repair service.

**Lo c** Programming lock active. See configuration page 7.

**o F** Overflow

## Start-up note:

Before the device can be used, it must be configured for the intended use.

⇒ see page 5

## Notes to representation




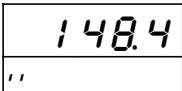



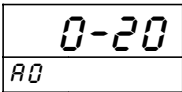



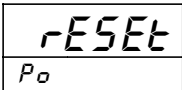



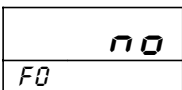



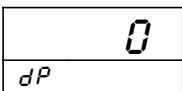



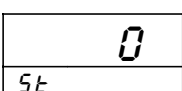



Parameter is only displayed when configured



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 [ ].







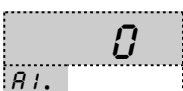









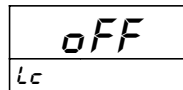



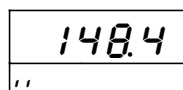
## Configuration

Button	Display	Description	[ Factory settings ]
 press 2sec		<b>Actual setpoint value</b> Setting with buttons  and  . Output indication (only if installed and activated)	
		<b>Configuration level</b> Analog output. 0 - 20 mA (0 - 10 V DC) 4 - 20 mA (2 - 10 V DC). Changing from current to voltage output is load-dependent ( $\leq 500\Omega$ = current output, $> 500\Omega$ = voltage output). Selection with buttons  and  .	[ 0 - 20 ]
		Setpoint value after power-on. rESEt = loading reset value (rE) ( $\Rightarrow$ see page 6) rESEt0r = set point stored zero-voltage safe tESEt = only for factory settings Selection with buttons  and  .	[ rESEt ]
		Fixed zero 0, e.g. 3690+0. no; YES Selection with buttons  and  .	[ no ]
		Decimal point position. 0. 0 .00 Selection with buttons  and  .	[ 0. ]
		Start value for indicating range (setpoint) Setting possible from -9999 ... 9999 digit, with buttons  and  .	[ 0 ]
			

continue  
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Button	Display	Description	[ Factory settings ]
↓		End value for indicating range (set point) Setting possible from -9999 ... 9999 digit, with buttons ▲ and ▼ . If $S_t > E_n$ , the output works with a decreasing characteristic.	[ 100 ]
↻			
↓		Setpoint limit on - off Selection with buttons ▲ and ▼ .	[ OFF ]
↻			
↓		Low setpoint limit Setting possible from -9999 ... 9999 digit, with buttons ▲ and ▼ .	[ 0 ]
↻			
↓		High setpoint limit Setting possible from -9999 ... 9999 digit, with buttons ▲ and ▼ .	[ 100 ]
↻			
↓		Reset value, after power-on or reset more details see parameter $P_0$ page 5 Setting possible from -9999 ... 9999 digit, with buttons ▲ and ▼ .	[ 0 ]
↻			
↓		Adjustment function (only external adjustment) $lin$ the setpoint adjustment is running linear in range of the programmed time (see following parameter) $dyn$ the setpoint adjustment is running dynamically. The regulating speed increases with operation time. Selection with buttons ▲ and ▼ .	[ dyn ]
↻			
↓		Adjustment time increasing ( $S_t \dots E_n$ ) Setting possible from 1 ... 100 s with buttons ▲ and ▼ .	[ 10 ]
↻			
↓		Adjustment time decreasing ( $E_n \dots S_t$ ) Setting possible from 1 ... 100 s with buttons ▲ and ▼ .	[ 10 ]
↻			

continue  
page 7

Button	Display	Description	[ Factory settings ]
↓ 		Switching performance output A1 Function <i>oFF</i> ; <i>on L</i> (min); or <i>on U</i> (max). If activated the start value will be loaded for setpoint Selection with buttons  and  .	[ <i>oFF</i> ]
			
↓ 		Setpoint output A1 Setting possible from <i>St</i> (start value) ... <i>En</i> (end value) with buttons  and  .	[ <i>0</i> ]
			
↓ 		Hysteresis output A1 Setting possible from <i>1</i> ... <i>9999</i> digit, with buttons  and  .	[ <i>10</i> ]
		<b>Note:</b> Switching performance and setpoint of the alarm outputs A1 to A2 are identical	
↓ 		Program lockout <i>oFF</i> = no lock <i>[onF.</i> = configuration level locked <i>ALL</i> = configuration level and front buttons locked <i>[AL</i> = only for factory settings Selection with buttons  and  .	[ <i>oFF</i> ]
			
		Return to the working level	

## Order code

SG1010 -  1. -  2. -  3. -  4. -  5. -  6. -  7.

### 1. Setpoint adjustment

- 0 setpoint adjustment with front buttons, regulating time dynamic, power-on-reset of the last stored value or a programmed reset value
- 1 as 0, but 2 additional control inputs for external setpoint adjustment. Operating speed programmable dynamically or linear.

### 2. Alarm output

- 00 not installed
- 2R 2 Alarm output Relay

### 3. Analog output (standard)

- AO Analog output 0/4 ... 20mA or 0/2 ... 10V DC, isolated to supply voltage

### 4. Supply voltage

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

### 5. Option

- 05 without option
- 09 1 x PG16 multi (2x6mm $\varnothing$ ); 1 x PG13.5

### 6. Unit (appears on the unit field)

### 7. Additional text (appears on the face plate in the field for additional text max. 3mm x 70mm HxW)

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**SCHRIEVER & SCHULZ** & Co. GmbH Ing.- und Verkaufsbüro \* Eichstr. 25 B, D - 30880 Laatzen  
Tel ++49 (0) 511 86 45 41 / Fax ++49 (0) 511 86 41 56 \* [www.schriever-schulz.de](http://www.schriever-schulz.de) | [info@schriever-schulz.de](mailto:info@schriever-schulz.de)