







	PressureController	TemperatureController	LevelController	LevelTempController	OilTankController
Range of applications					
	pressure display and monitoring	temperature display and monitoring	level display and monitoring	level/temperature display and monitoring	
	<ul style="list-style-type: none"> ✓ compact ✓ resistant to pressure peaks ✓ shock and vibration-proof 	<ul style="list-style-type: none"> ✓ temperature display ✓ modular design suitable for control panel and tank construction ✓ high pressure version 	<ul style="list-style-type: none"> ✓ level display ✓ practice-oriented monitoring through window function ✓ continuous level measurement 	<ul style="list-style-type: none"> ✓ level display ✓ temperature display ✓ continuous level measurement ✓ one bore 	<ul style="list-style-type: none"> ✓ level display ✓ temperature display ✓ continuous level measurement ✓ one bore ✓ filling coupling connection ✓ Connector breath filter
Measurement range	4/10/16/60/100/250/400/600 bar	-50 °C to +150 °C -40 °C to +100 °C	250/370/520 mm	250/370/520 mm -50 °C to +150 °C	250/370/520/800/1000 mm -50 °C to +150 °C
Connection to medium	G1/4 BSPP internal/external thread	G1/2 BSPP M10x1	G1/2 BSPP	G1/2 BSPP	mounting opening to DIN 24557 part 2
Probe length	-----	100/150/250 mm	250/370/520 mm	250/370/520 mm	250/370/520/800/1000 mm
Accuracy	< ± 0,5 % FS	< ± 1 % FS	5 mm	5 mm	< 520 mm = 5 mm > 520 mm = 10 mm
Electrical connections	M12x1 DIN EN 175301-803 form A	M12x1 DIN EN 175301-803 form A	M12x1	M12x1	M12x1
Electrical outputs	<u>Version 1</u> 2 switching outputs <u>Version 2</u> 1 switching output + analogue pressure signal (mA) <u>Version 3</u> 2 switching outputs + analogue pressure signal (mA)	<u>Version 1</u> 2 switching outputs <u>Version 2</u> 1 switching output + analogue temperature signal (mA) <u>Version 3</u> 2 switching outputs + analogue temperature signal (mA)	<u>Version 1</u> 2 switching outputs <u>Version 2</u> 1 switching output + analogue level signal (mA) <u>Version 3</u> 2 switching outputs + analogue level signal (mA)	<u>Version 1</u> 2 temperature-switching outputs + 2 level-switching outputs <u>Version 2</u> 1 temperature-switching output + analogue temperature signal (mA) + 1 level-switching output + analogue level signal (mA) <u>Version 3</u> 2 temperature-switching outputs + analogue temperature signal (mA) + 2 level-switching outputs + analogue level signal (mA) <u>Version 4</u> 2 temperature-switching outputs + 2 level-switching outputs + safety control	
	Application: from inspection stands to process technology, materials-handling and lifting technology and general machine construction through to pneumatic and hydraulic plant construction 				
Order codes	SCPSD-xxx-x4-xx	SCTSD-150-xx-xx	SCLSD-xxx-x0-07	SCLTSD-xxx-x0-07	SCOTC-xxx-x0-07
See pages	40-45	46-57	58-63	64-69	70-75

4.4 SCLTSD LevelTempController

- ✓ Proven measurement system
- ✓ Rotatable
- ✓ Level display
- ✓ mm/inch/% display
- ✓ High & low display
- ✓ Analogue output
- ✓ Switching outputs
- ✓ Only one bore
- ✓ No surge tube required
- ✓ Genuine 5 mm resolution
- ✓ Replaces several mechanical switches



With the **LevelTempController** it is now possible to set and display separately both temperature and level on a common platform. It is in tank monitoring that the integration of level and temperature opens up possibilities for you in a unique way.

The LevelTempController combines the functions of a level/temperature switch, a level/temperature sensor and a level/temperature display:

- ✓ Level/temperature display (thermometer/sight glass)
- ✓ Switching outputs
- ✓ Analogue signal

Level

The position of the float is continually captured in fine steps (≥ 5 mm) and shown on the display in mm or inches. Because of continual capture of the level, there is no longer the danger from „stickiness“ of individual mechanical contacts. This substantially increases the operational safety of the installation being monitored.

With the selectable percentage display, the fullness status is shown in a uniform manner to the operator independently of the tank shape. An offset (difference from probe to tank bottom) can also be input so that the level up from the tank bottom can be shown realistically.

With the menu-driven level switching points, the most varied of applications can be conveniently achieved, or be subsequently corrected.

Because switching points no longer have to be notified at the time of ordering, this reduces the large variety of mechanical level switches which are usually needed.

Temperature

The temperature of the medium is continually captured and shown on the display. Just as with the LevelController, all the switching outputs can be set individually. In this connection, all the convenient switch functions such as window and hysteresis, normally-closed and normally-open contacts and also an analogue output for temperature, are of course available.

Reliable/safe

A password enables unauthorised parameter changes to be avoided.

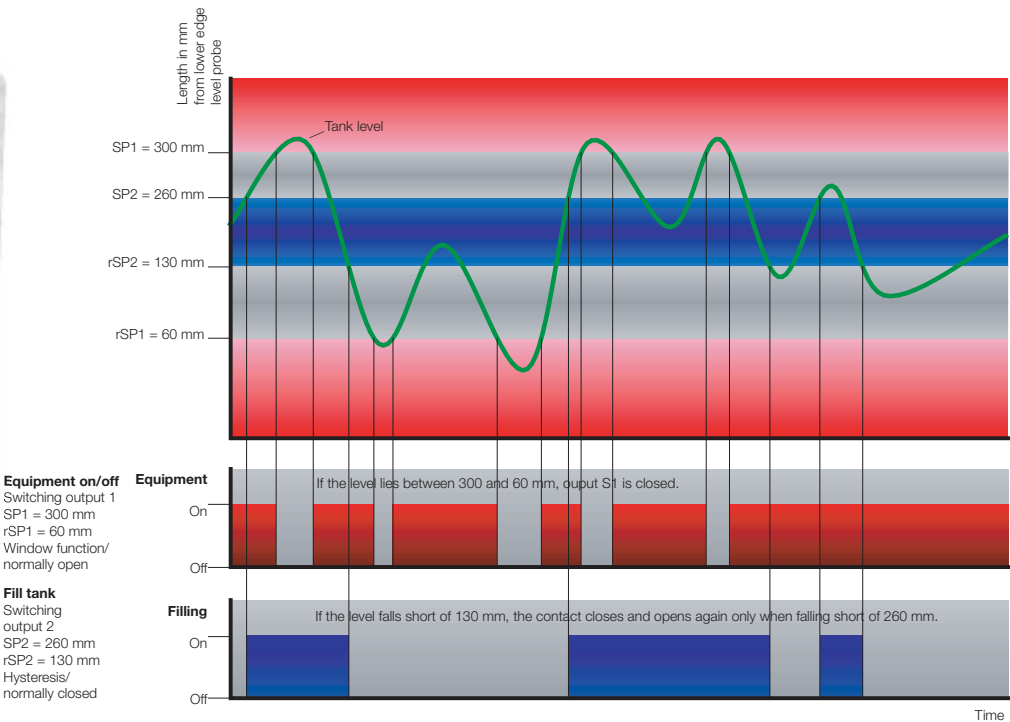
Universal

In combination with convenient switch functions such as hysteresis and window, and normally closed and normally open contacts, intelligent settings can be achieved with the **LevelController**; these are not possible with mechanical level switches. This means that several switches can be replaced by a single Controller. In addition, with the optional analogue outputs there is the possibility of monitoring levels even more conveniently with a single control.

Level: eg. leakage monitoring

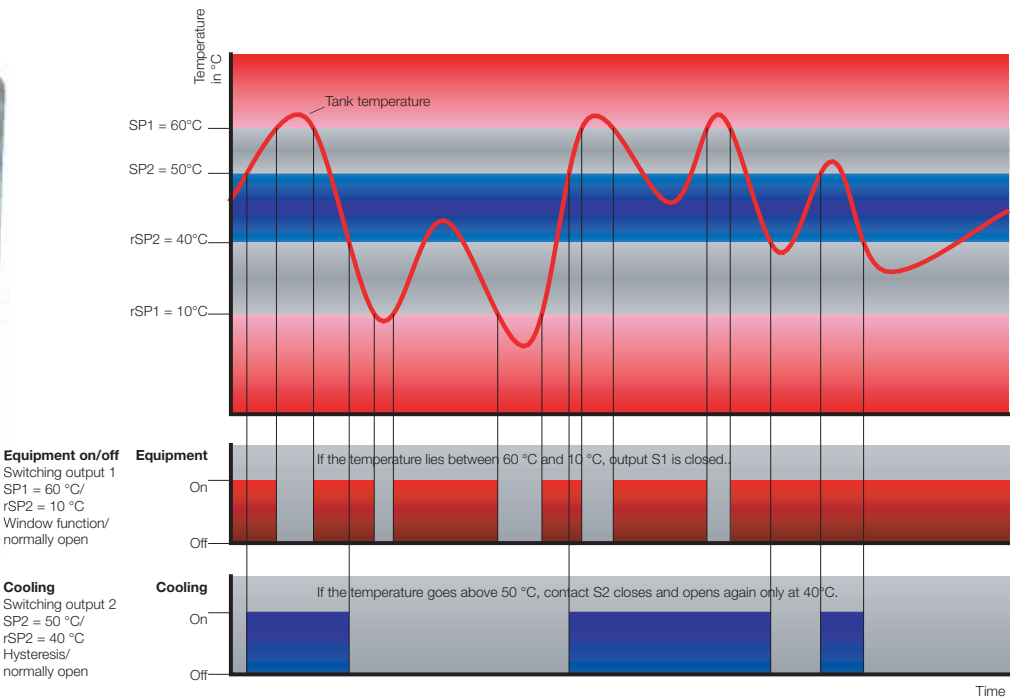
Temperature: eg. cooler, heating, warning, switch off.

SCLSD



Application example
see page 59.

SCTSD



Application example
see page 47.

- ✓ Optical interface
- ✓ Switch status display

Everything in view

- ✓ Angled display
- ✓ Digital display
 - ✓ Large
 - ✓ Luminescent
- ✓ Display
 - ✓ mm/inch/%
 - ✓ Actual level
- ✓ High & low display
- ✓ Temperature display
 - ✓ °C/°F
 - ✓ Actual temperature

Easy to operate

- ✓ 3 large keys
- ✓ Display of units

Connect as required

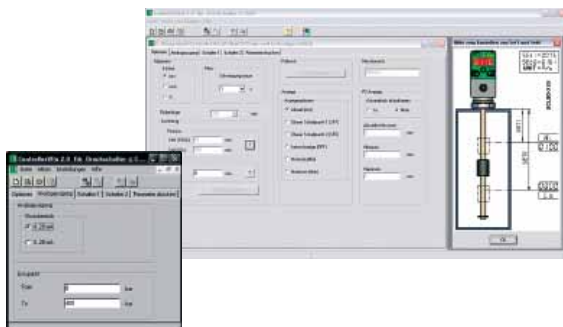
- ✓ 2 switching outputs
- ✓ Analogue output
- ✓ 0...20 or 4...20 mA
- ✓ Freely programmable
- ✓ Scaleable
- ✓ M12 plug –in connector



Rugged

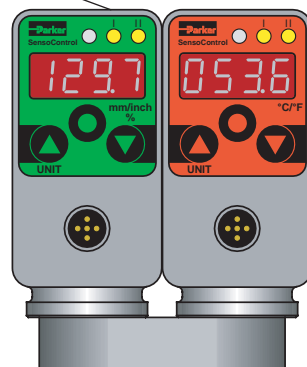
- ✓ Metal housing
- ✓ Watertight
- ✓ High interference resistance
- ✓ Vibration-proof
- ✓ Shock-proof

- ✓ Settable with ControllerWIN software



Twin concept

- ✓ 2 in 1



Connect as required

- ✓ One connecting bore
- ✓ Compact
- ✓ 290° rotatable
- ✓ G3/4 BSPP
- ✓ DIN flange

Level

- ✓ Proven measurement system
- ✓ High float dynamics
- ✓ Small construction
- ✓ Universal applicability

No surge tube required

- ✓ Electronic damping
- Damping settable

Temperature probe

- ✓ integrated into rod end



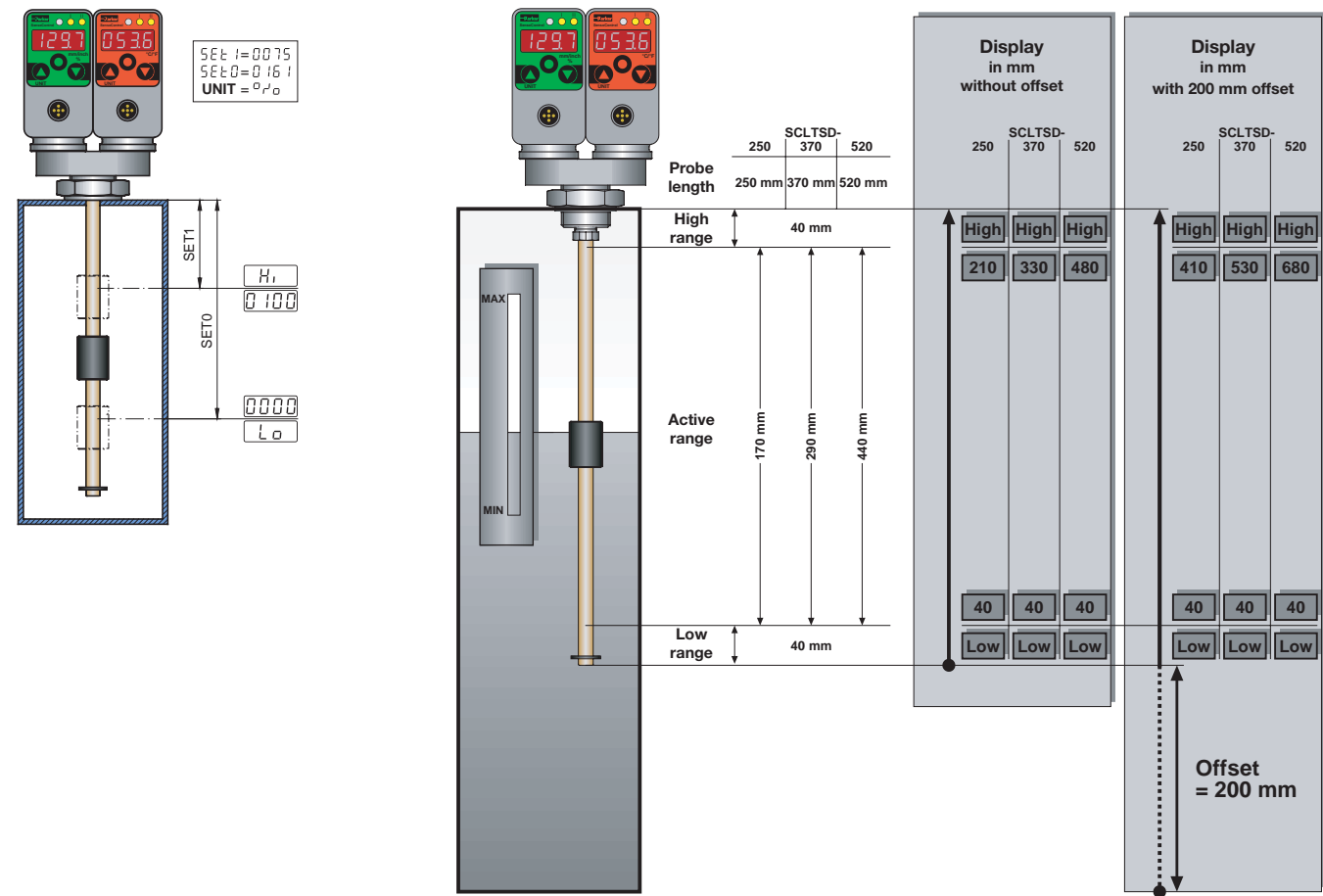
Electrical connection	
power supply	15...30 VDC nominal 24 VDC; protection class 3
electrical connection	M12x1; 4-pole; 5-pole; with gold-plated contacts
short circuit protection	yes
reverse polarity protection	yes
overload protection	yes
current consumption	< 100 mA
Housing	
	directionally adjustable up to 290°
material	zinc die-casting Z 410; painted
foil material	polyester
display	4-figure 7-segment LED; red; digit height 9 mm
protection class	IP67 DIN EN 60529
Environmental conditions	
Environmental temperature range	-20...+85 °C
storage temperature range	-40...+100 °C
EM compatibility	
interference emissions	EN 61000-6-3
interference resistance	EN 61000-6-2
Outputs	
switching outputs	2 MOSFET high side switches (PNP)
contact functions	normally-open/normally-closed; window/hysteresis; function freely settable
switch voltage	power supply -1,5 VDC
switch current max.	0,5 A per switch
short circuit current	2,4 A per switch
analogue output	0/4...20 mA; programmable; freely scaleable; RL ≤ (power supply - 8 V)/ 20 mA (≤ 500 Ω)

Level	
Input quantities	
measurement element	resistance reed array with float
connection thread	G3/4 BSPP; nickel-plated brass; ED soft seal NBR*
parts in contact with media	brass; nickel-plated brass; NBR*
temperature range of medium	-20...+85 °C
media compatibility	water; lubricating oil; hydraulic oil; acids; alkalis
Output quantities	
switch point accuracy	± 1 % FS at 25 °C
display accuracy	± 1 % FS ± 1 digit at 25 °C
response speed	≤ 700 ms
resolution	7,5 mm
Float	
material	NBR
dimensions	Ø 18 mm, length 35 mm
Level rod	
material	brass
dimensions	Ø 8 mm
working pressure	1 bar
Temperatur	
Input quantities	
display range	-50...150 °C; (-58...+302 °F)
probe input	PT1000
probe connection	M12x1; 4-pole
Output quantities	
switch point accuracy	± 0,35 % FS bei 25 °C
display accuracy	± 0,35 % FS ± 1 digit at 25 °C
response speed	≤ 300 ms

*other seal materials (FKM, EPDM etc.) on request

Percentage display example

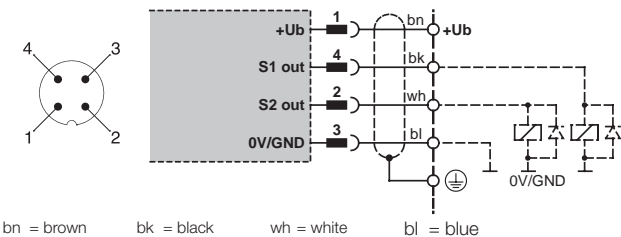
mm display example



L1 Probe length measurement range	L2 Active range	Display resolution increment	Increment	Smallest reverse switch value RSP	Greatest switch value SP	Smallest settable distance between SP and RSP (SP-RSP)
250 mm	40...210 mm	1 mm	5 mm	40	210	5 mm
370 mm	40...330 mm	1 mm	5 mm	40	330	5 mm
520 mm	40...480 mm	1 mm	5 mm	40	480	5 mm

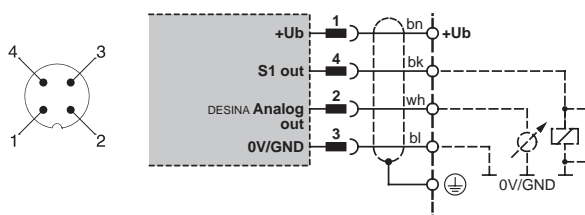
Connection designation

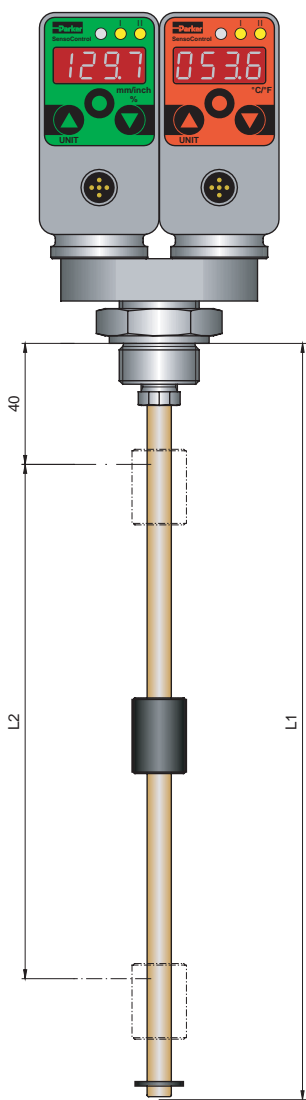
SCLTSD-xxx-00-07 temperature/level respectively
2 switching outputs;
M12x1; 4-pole



bn = brown bk = black wh = white bl = blue

SCLTSD-xxx-10-07 temperature/level respectively
1 switching output; 1 analogue output;
M12x1; 4-pole

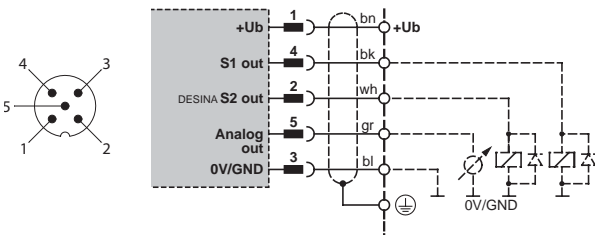




L1 = probe length
L2 = active range

SCLTSD-xxx-10-05 temperature/level respectively

2 switching outputs; 1 analogue output;
M12x1; 5-pole



SCLTSD LevelTempController

built-in length (L1)

250/370/520 mm

level

2 switching outputs; without analogue output
M12x1; plug-in connector; 4-pole

Temperature

2 switching outputs; without analogue output
M12x1; plug-in connector; 4-pole

SCLTSD-xxx-00-07

Level

1 switching output; with analogue output
M12x1; plug-in connector; 4-pole

Temperature

1 switching output; with analogue output
M12x1; plug-in connector; 4-pole

SCLTSD-xxx-10-07

Level

2 switching outputs; with analogue output
M12x1; plug-in connector; 5-pole

Temperature

2 switching outputs; with analogue outputs
M12x1; plug-in connector; 5-pole

SCLTSD-xxx-10-05

Accessories

PC Programming kit

Flange adaptor, 6-hole connection DIN 24557, part 2

SCSD-PRG-KIT

SCAF-3/4-90

Connecting cable & separate plugs

Connecting cable, made up

(open cable end)

SCK-400-xx-xx

Cable length in m

02 2 m

05 5 m

10 10 m

Plug-in connector

45 M12 cable socket; straight

55 M12 cable socket; 90° angled

Separate plugs

M12 cable socket; straight

M12 cable socket; 90° angled

SCK-145

SCK-155