

- Two-wire connection, two independent relay outputs. Function of pump control
- Integrated power supply for supplying the sensors
- Optical state indication
- Simple operation and installation
- Wall-mounted case



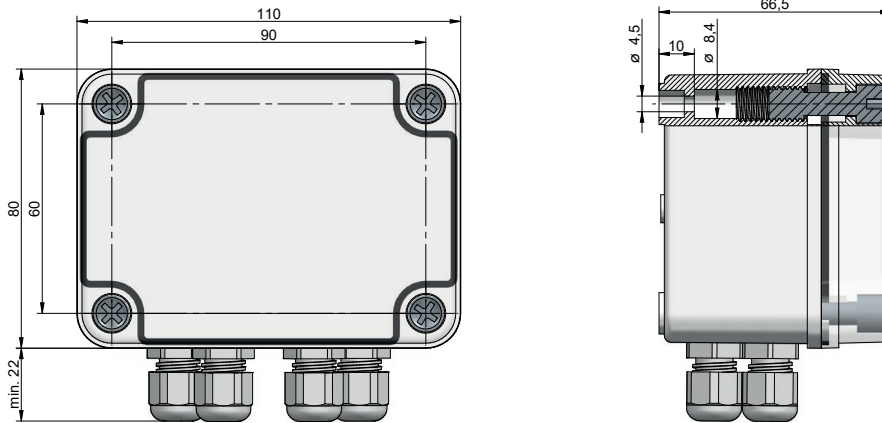
Switching units **SDSU-1222-W** and **DSU-1222-W** are designed to evaluate the states of the limit sensors. They include power supply 12 V DC (depending on the version) for supplying the sensors. The DIP switches enable to select a basic mode (an independent function of two limit sensors) or the level control mode between the maximum and minimum level (pump control).

### FEATURES OF VARIANTS

- DSU-1222-W** For limit sensors with **two or three-wire connection** (e.g. CLS, CPS, DLS type). Function of pump control.
- SDSU-1222-W** For connection of **third wire programmable** sensors (e.g. FLD-48 "Meduse" type). It includes programming buttons for easy setting up of the sensor. Function of pump control.

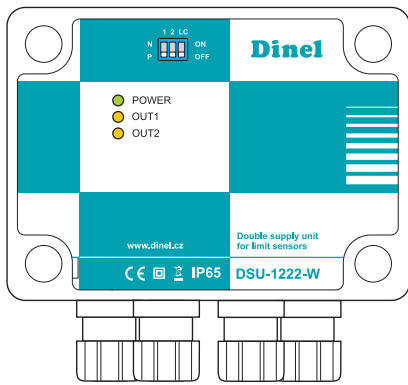
TECHNICAL SPECIFICATIONS		
Nominal supply voltage		230 V / 50 Hz (± 10 %)
Nominal power demand		4 VA
Output voltage to supply sensors		12 V DC (± 10 %)
Maximum output current (include input IN1,2)		Max. 50 mA
Output short circuit current		Typ. 300 mA
Input (short circuit) current		Max. 6 mA
Max. duration of output short-circuit		Unlimited
No. of connecting sensors		1 or 2
No. of switching channels		2
Input currents	<ul style="list-style-type: none"> <li>– To switch on</li> <li>– To switch off</li> <li>– Threshold current</li> </ul>	<ul style="list-style-type: none"> <li>Min. 2 mA</li> <li>Max. 1 mA</li> <li>Typ. 1.5 mA</li> </ul>
Zatížitelnost kontaktů	<ul style="list-style-type: none"> <li>– Max. load current</li> <li>– Max. switching voltage</li> <li>– Max. switching power</li> </ul>	<ul style="list-style-type: none"> <li>2 A</li> <li>250 V</li> <li>500 VA</li> </ul>
Max. switching frequency at maximum load		360 / h
Contact life at maximum load		Min. 10 <sup>6</sup> cycle
Ambient temperature range		-20 ... +50 °C
Maximum / recommended conductor size		2.5 mm <sup>2</sup> / 0.14 ... 0.5 mm <sup>2</sup>
Protection class		IP65
Weight		Approx. 0.35 kg

# DIMENSION DRAWING

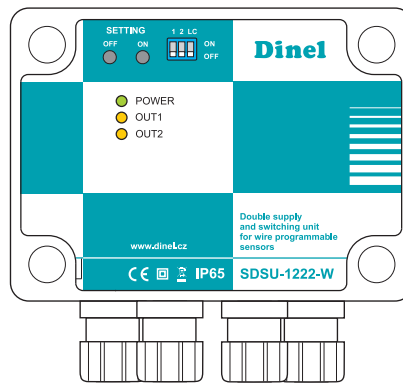


## FRONT PANEL AND TERMINAL BLOCK

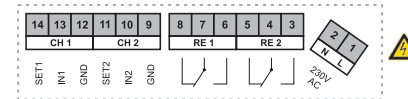
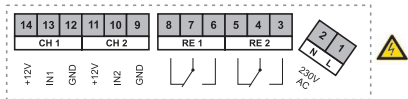
DSU-1222-W



SDSU-1222-W

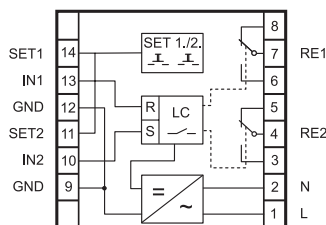


Terminal	DSU	SDSU
1	L (230 V)	L (230 V)
2	N (230 V)	N (230 V)
3	RE2	RE2
4	RE2	RE2
5	RE2	RE2
6	RE1	RE1
7	RE1	RE1
8	RE1	RE1
9	GND	GND
10	IN2	IN2
11	+12V	SET2
12	GND	GND
13	IN1	IN1
14	+12V	SET1

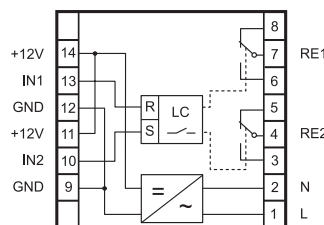


Note: Due to the safety protection, both relay outputs (RE1 and RE2) must be connected to the same voltage level (such as 230V and 230V or 24V and 24V).

## INNER BLOCK DIAGRAMS



SDSU-1222-W



DSU-1222-W

### Legend:

- +12V** – Sensor supply
- SET1** – Setting sensor No. 1
- SET2** – Setting sensor No. 2
- IN1** – Sensor No. 1
- IN2** – Sensor No. 2
- GND** – Ground
- RE1** – Relay No. 1 contacts
- RE2** – Relay No. 2 contacts
- L, N** – Supply voltage input (230 V AC)

Note: The relays are released in inner block diagrams.

## TYPE OF SENSORS OUTPUT

### DSU-1222-W \*

- **2-wire connection:** Type of sensor output S (SO, SC)
- **3-wire connection:** Type of sensor output NPN and PNP (NO, NC, PO, PC)

### SDSU-1222-W

- **2-wire connection:** Type of sensor output S (SO, SC) + third programming wire

\* The sensor type selection on the unit is performed by switching the DIP switch to P position (sensors PO, PC) or to N position (other types of sensors). Mutual combination of PO, PC sensors with other types is not permissible. Combining sensors NO, NC, with SO and SC is possible.

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## OPERATING ELEMENTS

### DSU-1222-W

- **Switch “CH1”, “CH2”**
  - *position P:* The unit reacts to the current flowing **into** the input terminals (10, 13). Designed for **PNP** type sensors.
  - *position N:* The unit reacts to the current flowing **from** the input terminals (10, 13). Designed for **NPN** and **S** type sensors.
- **Switch “LC”**
  - *position OFF:* Activation of the basic mode.
  - *position ON:* Activation of the pump control mode.

### SDSU-1222-W

- **Switch “CH1”, “CH2”**
  - *position OFF:* Sensor 1 (“CH1”) or 2 (“CH2”) is not ready to set by buttons “SETTING”
  - *position ON:* Sensor 1 (“CH1”) or 2 (“CH2”) is ready to set by buttons “SETTING”
- **Switch “LC”**
  - *position OFF:* Activation of the basic mode.
  - *position ON:* Activation of the pump control mode.
- **Button “SETTING ON”:** Setting the selected sensor to open state.
- **Button “SETTING OFF”:** Setting the selected sensor to closed state.

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## FUNCTION DESCRIPTION

### Basic mode – LC switch in OFF position

- Activation the sensor connected to IN 1 input causes closing the output relay RE 1 (terminals 7-6 are closed) and shining LED indicator “OUT 1”.
- Activation the sensor connected to IN 2 input causes closing the output relay RE 2 (terminals 4-3 are closed) and shining LED indicator “OUT 2”.

### Pump-up function – “LC” switch in ON position

- When the level drops below the sensor connected to IN 1 (MIN) input, the output relay RE 1 closes (terminals 7-6 are closed), LED indicator “OUT 1” start shining. This starts the active device (pump, valve, etc.) and the level goes up. When the level reaches the position of the sensor connected to IN 2 (MAX) input, the output relay RE 1 opens (terminals 7-6 are open). This stops the active device and the level goes down. LED indicator “OUT 1” darkens

### Pump-down function – “LC” switch in ON position

- When the level drops below the sensor connected to IN 2 (MAX) input, the output relay RE 1 opens (terminals 7-8 are closed), LED indicator “OUT 1” darkens. This starts the active device (pump, valve, etc.) and the level goes down. When the level reaches the position of the sensor connected to IN 1 (MIN) input, the output relay RE 1 closes (terminals 7-8 are open). This stops the active device and the level goes up. LED indicator “OUT 1” start shining.

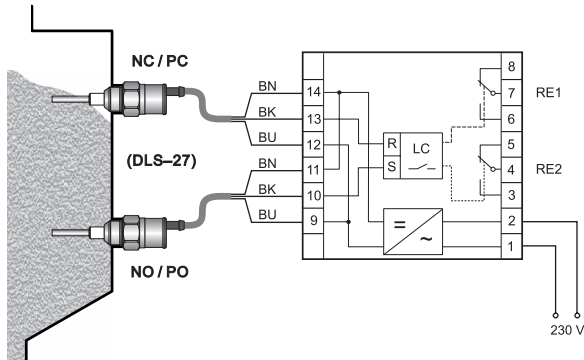
Note: DSU-1222-W and SDSU-1222-W units in pump function mode:

- For **minimum** level, select such sensor, which is **open** when the liquid level is not present (PO, NO, SO).
- For **maximum** level, select such sensor, which is **closed** when the liquid level is not present (PC, NC, SC).

# STATUS SIGNALIZATION

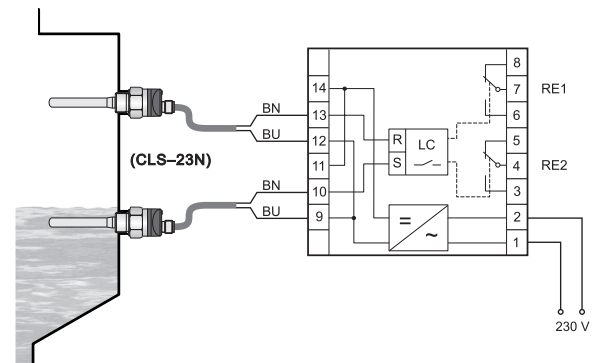
LED indicators	Colour	Function
„POWER“	Green	<b>Shines</b> – Device connected to supply voltage, correct function <b>Dark</b> – Power loss or internal failure
„OUT1“	Orange	<b>Shines</b> – The output relay RE 1 is closed <b>Dark</b> – The output relay RE 1 is open
„OUT2“	Orange	<b>Shines</b> – The output relay RE 2 is closed <b>Dark</b> – The output relay RE 2 is open

## WIRING EXAMPLES

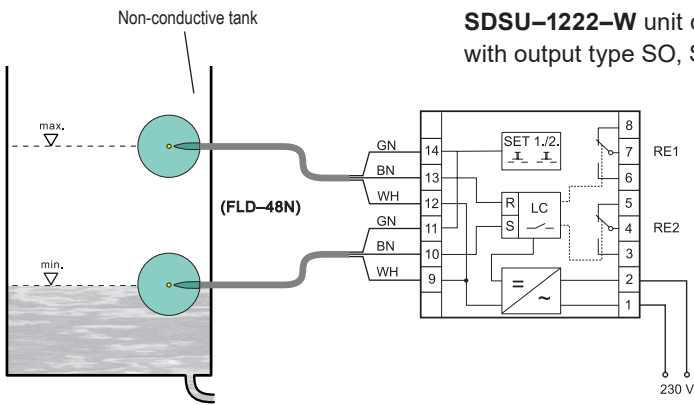


**DSU-1222-W** unit for 3-wires connection to limit sensors with output type NO, NC or PO, PC.

**DSU-1222-W** unit for 2-wires connection to limit sensors with output type SO, SC.



The sensor type selection on the unit is performed by switching the DIP switch to P position (sensors PO, PC) or to N position (other types of sensors). Mutual combination of PO, PC sensors with other types is not permissible. Combining sensors NO, NC, with SO and SC is possible.



**SDSU-1222-W** unit connection to the **third wire** programmable limit sensors with output type SO, SC (FLD-48N "Meduse").

- Legend:**
- BN – Brown
  - BU – Blue
  - BK – Black
  - GN – Green
  - WH – White

It is possible to connect in terminals 9,10,11 of units DSU-1222-W or SDSU-1222-W the one separate sensor. The "LC" switch in units must be in OFF position.

## SAFETY, PROTECTION AND COMPATIBILITY

Evaluation switching units are equipped with protection against current overload. Units are sheltered by fuse T 50 mA. Electrical equipment of protection group II. Electrical safety according to EN 61010-1.

Electromagnetic compatibility according to EN 55022, EN 61000-4-2, -3, -4, -5, -6, -11 and EN 6100-6-2.

The manufacturer reserves the right to change the specifications and appearance of the product without prior notice.



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