CLS-23S

Dinel®

CAPACITIVE LEVEL SENSORS

Sensor for level detection of water in bores, wells and sumps

CE

- **Plastic protective crown avoids mechanical damages of electrode**
- **Two-wire connection directly to the relay circuit or PLC input (current switch)**
- **Very easy installation without any adjustment**

TECHNICAL SPECIFICATIONS	
Supply voltage	6 ... 30 V DC
Supply current – OFF state	Max. 0.6 mA
Switched current (min / max)	3.3 / 40 mA
Remanent voltage – ON state	Max. 6 V
Output time delay	0.1 s
Ambient temperature range	-20 ... +80°C
Housing material	Plastic PP
Protective crown material	plastic PP
Protection class	IP68 (1 MPa)
Cable	PVC 2x 0.75 mm
Weight (without cable)	Approx. 0.2 kg

BASIC FEATURES AND USE

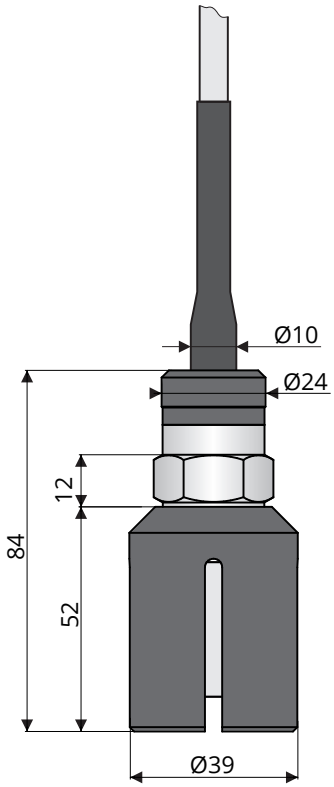
Submersible levela sensor CLS–23S is developed as reliable and low-cost solution for limit level sensing of water (or water solutions) with miniature outer dimensions without the needs of any adjustment. It fully replaces the old type CLS–18S. The connection is done by means of two wires directly to a circuit with relay or to binary input of control system.

VARIANTS

code	type
CLS–23S–11	**Insulated (coated) short bar electrode** with plastic protection crown. Possible submersion down to 100 m, electrode length 30 mm.

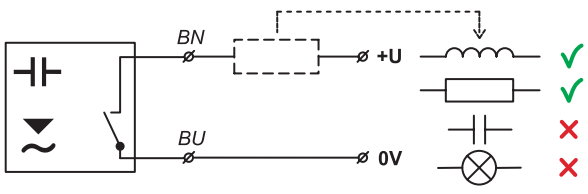
DIMENSIONS

CLS-23S



ELECTRICAL CONNECTION

Positive pole (+ U) of power supply is connected through a load (relay) to brown wire, negative pole (0V) is connected to white wire. The sensor output is protected against short circuit. Capacity loads and loads with low sleep resistance (bulb) evaluates the sensor as a short circuit. In the case of connection to evaluation unit or to binary input of the PLC the load is not applied.



Wiring colours: BN – brown
BU – blue

Note: The sensor is equipped with unshielded cable. In the case of strong electromagnetic interference, or parallel lead with power lines, we recommend to use shielded cable, or contact the manufacturer. In case of installation in remote locations with long cable lead it is needed to insert appropriate surge protection to the line.

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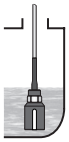
INSTALLATION AND RECOMMENDATIONS

Installation of the sensor is done from the top by hanging by the cable. The sensor can operate in any position. The maximum immersion depth is 100 m. The protective crown prevents pollution and damage of the electrode. It is fixed with thread and can be, if necessary (cleaning, etc.), removed.

TYPE OF OUTPUT

	Level state	Mode	Output state
Minimum level sensing		CLS–23S–11–D–**SO**	**CLOSED**
		CLS–23S–11–D–**SO**	**OPEN**

	Level state	Mode	Output state
Maximum level sensing		CLS–23S–11–D–**SC**	**CLOSED**
		CLS–23S–11–D–**SC**	**OPEN**

For security reasons, we recommend to use SO variant (normally open, sensor closes when immersed) for minimum level detection. Any failure of the sensor or wiring is equally apparent as the emergency level state. Analogously – for the maximum level detection is recommended to use SC variant (normally closed, sensor opens when immersed).

AREAS OF APPLICATION

Detection of water and water solutions in boreholes, wells, reservoirs etc.

ORDER CODE AND CORRECT SPECIFICATION EXAMPLE

ORDER CODE

CLS-23S-11-D-S

OUTPUT STATE AT NON ACTIVATED ELECTRODE

O open
C closed

PROCESS CONNECTION

M18 metric thread M18x1,5

ELECTRODE LENGTH

E30 30 mm

LENGTH OF CABLE IN M

K length of cable in m

CLS-23S-11-D-S - O - M18 - E30 - K 15 **EXAMPLE OF CODING**

SAFETY, PROTECTIONS AND COMPATIBILITY

The level sensor is equipped with a protection against electric shock on electrode, polarity, overvoltage and short-term current overload on the output.
Electromagnetic compatibility is provided by conformity with standards EN 55011 / B, EN 61326-1, EN 61000-4-2 (8 kV), -4-3 (10 V/m), -4-4 (2 kV), -4-5 (1 kV) and -4-6 (10 V).

ACCESSORIES

protection crown	included in the price	
cable (over 2 m)	at extra cost	

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

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