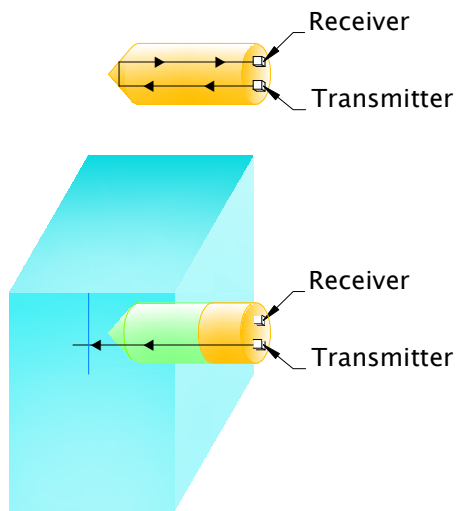


TECHNOLOGY



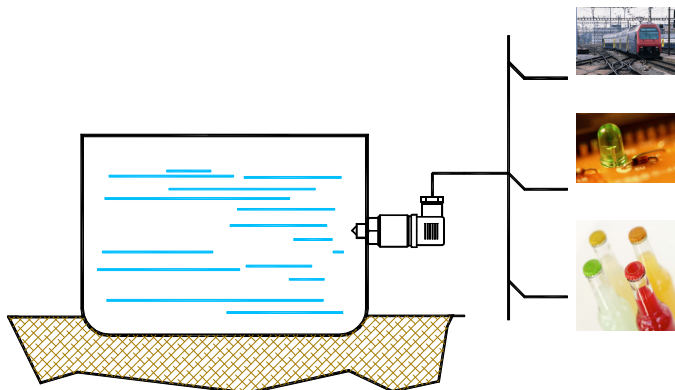
Optics

The optical system consists of a polysulfone prism, whose geometric shape, in the absence of liquid, is such as to reflect the infrared light beam generated by the emitter towards the receiver. By immersing the prism in a translucent liquid, the refraction condition around it will change, so that a great part of the infrared light beam, normally reflected to the receiver, will be dispersed in the liquid.

Electronics

The electronic circuit generates the infrared light beam to be sent to the prism. The beam, by its reflection, is processed by a receiver which, based on the amount of light reflected by the prism, defines the presence or absence of the liquid and consequently changes the state of the output circuit. The latter, being of push-pull type, allows the user to choose whether to activate the load, connected to the sensor, in presence or in absence of liquid.

FIELD OF APPLICATION



- Level monitoring of liquids, in tanks even small in size.
- Activation of audible or visible alarm
- Starting and stopping pumps
- Dosing and mixing
- Control of drinking water on boats
- Beverage Industry, control of, whether or not colored translucent liquids.
- Water treatment plants.

ADVANTAGES

- Rugged and simple device structure
- Long service life
- Maintenance-free
- Integrated electronics

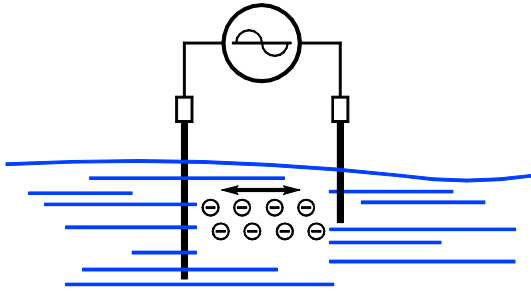
TECHNICAL DATA

Concept	Reflection of infrared light-beam
Process connection	3/8" o 1/2"
Type of connection	Parallel thread
Max. Work Pressure	PN200
Liquid temperature	- 40°C ÷ +85°C
Load driver	PUSH-PULL (15-35V / 3 W)
Materials	Brass - Stainless steel - polysulfone

CONSTRUCTION

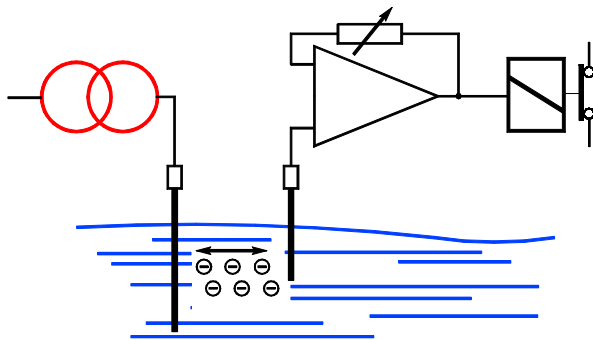
- **IP65 Protection**
DIN 43650A connector
- **IP67 Protection**
M12x1 Connector

TECHNOLOGY



Electrode

One or more electrodes made of stainless steel, properly coated in order to prevent malfunctions due to incrustation, when immersed in a conductive liquid and electrically powered, close an electrical circuit through the liquid itself.



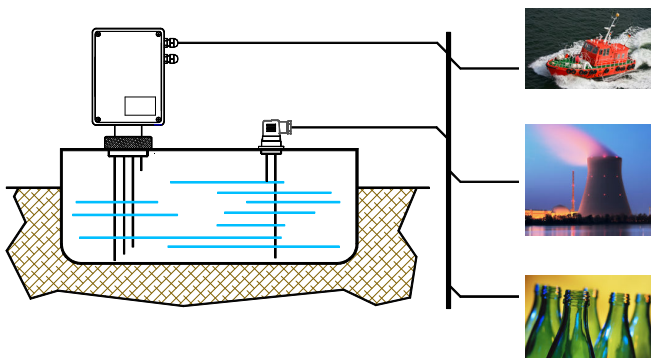
Electronics

A galvanically insulated power supply, provides an **AC voltage** to the electrodes for sensing the level.

An electronic circuit closes one or more electrical contacts through the actuation of a relay. The system measures the conductivity of the liquid to be controlled with low voltage alternating currents, in order to prevent the incrustation of the electrodes and the perforation of the tank caused by the use of direct currents that cause galvanic action on the materials.

The electronics can be either remote or integrated in the probe.

FIELDS OF APPLICATION

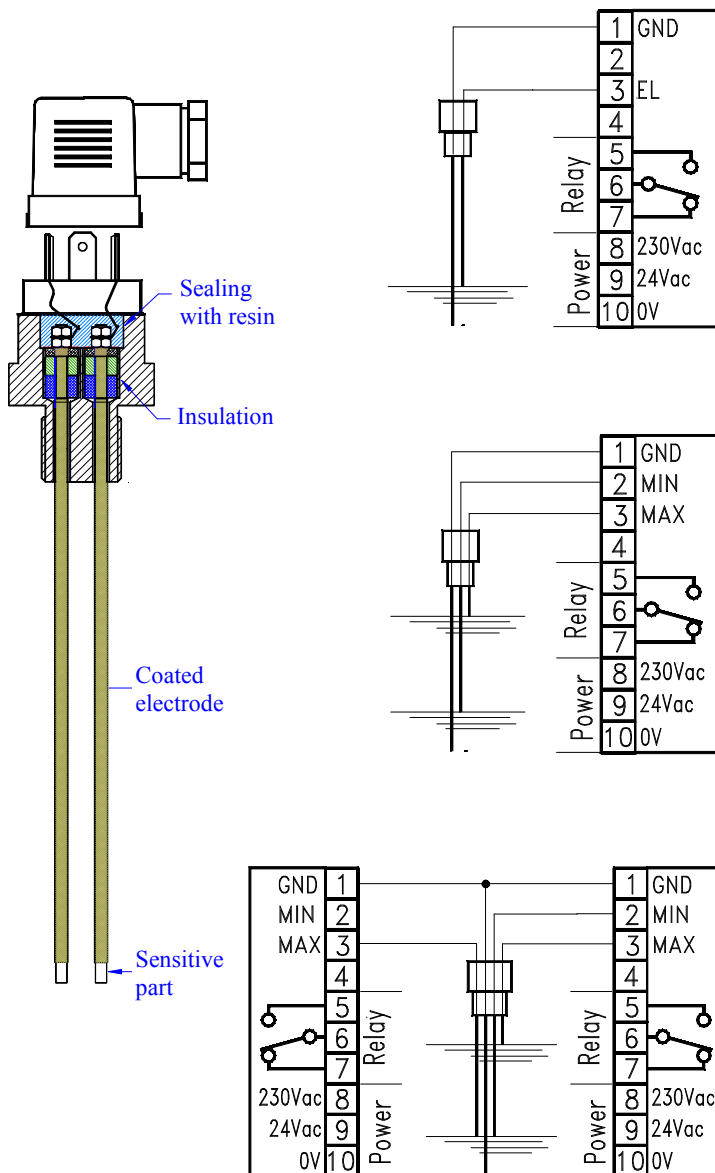


- Monitoring of liquid levels in storage tanks.
- Activation of audible or visible alarms.
- Starting and stopping pumps.
- Dosing and mixing.
- Control of drinking water on boats.
- Milk, beer and beverage industry.
- Water treatment plants.

ADVANTAGES

- Simple structure devices.
- Sizing the electrodes to individual needs.
- Long service life.
- Low maintenance.
- Remote or built-in electronics.

SYSTEM DESCRIPTION



Minimum or maximum level alarm.

Use of a 2-electrode probe.

The longer electrode is maintained constantly immersed in the liquid and acts as a ground (GND) reference. The second electrode is cut to the level of alarm wanted.

The power supply and control unit relay is activated when the liquid wets both electrodes. The relay is deactivated lowering of the level.

Automatic filling or dosing.

Use of a 3-electrode probe.

The longer electrode is maintained constantly immersed in the liquid and acts as a ground (GND) reference. The second and third electrodes are cut to the minimum and maximum level wanted.

The power supply and control unit relay is activated when the liquid does not wet most the minimum level electrode and is deactivated when the level reaches the upper electrode.

Start / Stop pump and min-max level alarm.

Use of a 4-electrode probe.

Is used for this configuration a 2-channel unit with both channels galvanically isolated from each other. The first channel is used to manage the alarm, while the second realizes automatic filling.

TECHNICAL DATA

Concept	Electrical conduction through the liquid
Process connection	1/4" ÷ 2" DN08 ÷ DN50
Type of connection	Threaded Flanged on request
PN	PN6
Max. temperature	100 °C 200 °C on request
Output signal	Relay – SPDT contact
Switch points	as per electrodes length
Materials	Brass – Stainless steel – PP

EXECUTIONS

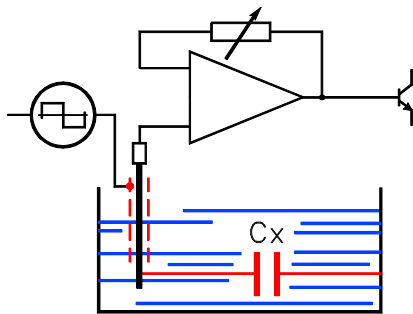
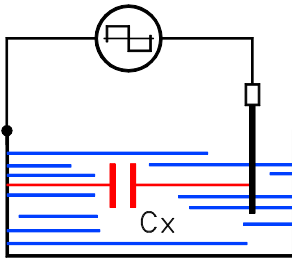
■ **IP65 protection**
DIN 43650A Plug.

■ **IP65 protection**
Cast aluminum housing epoxy painted on request.

■ **IP65 protection**
ABS housing with PG7 cable gland.
1 electrode probe with integrated electronics.

■ **IP56 protection**
ABS housing with PG7 cable gland.
4 electrodes probe with integrated electronics.

TECHNOLOGY



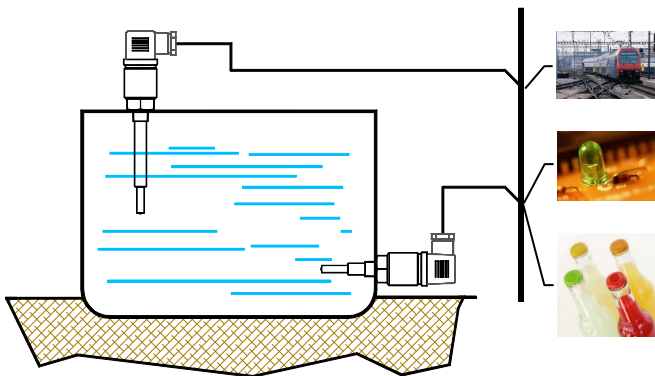
Electrode

The electrode, properly insulated and PTFE-coated in order to prevent malfunctions due to incrustation, when immersed in a liquid and powered by alternating current, acts as the armature of a capacitor whose capacity depends on the liquid itself.

Electronics

A power supply provides an **alternating current** to the electrode responsible for level detection. The system measures the electric capacity of the liquid to be controlled with low potential and with alternating currents. The control electronics is integrated in the body of the probe. An electronic circuit carries a transistor into conduction, which can be used for the actuation of relays or signal lamps.

FIELDS OF APPLICATION



- Level monitoring of liquids, in tanks even small in size.
- Activation of audible or visible alarm
- Starting and stopping pumps
- Dosing and mixing
- Control of drinking water on boats
- Beverage Industry, control of, whether or not colored translucent liquids.
- Water treatment plants.

ADVANTAGES

- Simple structure device.
- Sizing of the electrode on customer requirement.
- Long service life.
- Maintenance free.
- Built-in electronics

TECHNICAL DATA

Concept	Electrical capacity measurement
Process connection	1/4" o 1/2"
Type of connection	Threaded - NPT
PN	PN25
Media temperature range	- 30°C ÷ +125°C
Output signal	NPN - ON or OFF
Switch points	As per electrode length
Materials	Brass – Stainless steel

EXECUTIONS

- **IP65 Protection**
DIN 43650A Plug
- **IP65 Protection**
M12x1 Plug