Let GEMS Keep an "Eye" on Your Liquid Level

Compact, Electro-Optic Liquid Level Switches and Controllers

- Small size
- Economically priced
- Built-in, solid-state electronics
- No moving parts
- Simple, one-unit installation

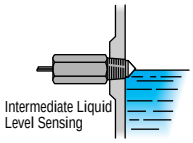
ELS Series Level Switches are low cost, compact, optical level sensors with built-in switching electronics. With no moving parts, these small units are ideal for a variety of point level sensing applications — especially where dependability and economy are a must.

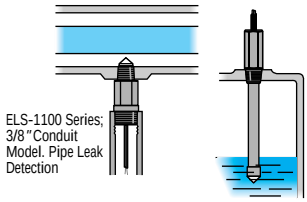
The sensor offers ±1mm repeatability and broad liquid compatibility. They are not recommended for use in any liquid that crystallizes or leaves a solid residue.

Level switches are suitable for high, low or intermediate level detection in practically any tank, large or small. Installation is simple and quick through the tank top, bottom or side. Solid state-switching ensures dependability over long service life.

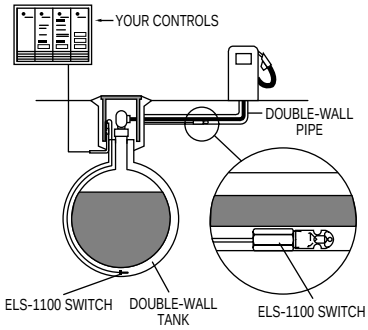
Typical Applications

Medical laboratory • Food and beverage systems • Pharmaceuticals • Petrochemicals • Leak detection • Hydraulic reservoirs • Machine tools

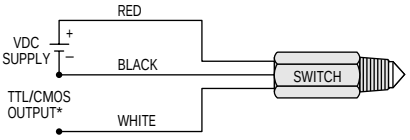




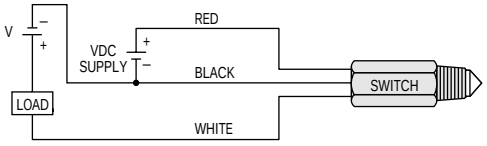
ELS-1100 Series; High Liquid Level Sensing



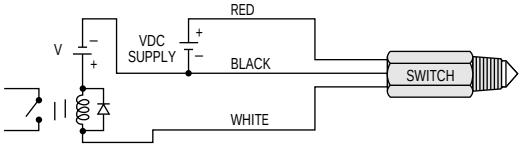
Typical Wiring Diagrams—ELS-1100 and ELS-300 Series



*For CMOS levels greater than 5 volts, a 10K pull-up resistor is required at the output.



Max. Spec. = 40mA Sink @ 30VDC

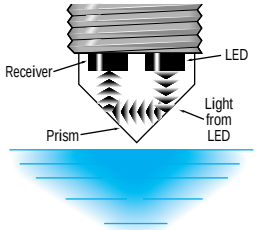


Max. Spec. = 40mA Sink @ 30VDC

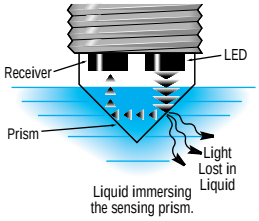
Simple Operating Principle

The electro-optical sensor contains an infrared LED and a light receiver. Light from the LED is directed into a prism which forms the tip of the sensor.

With no liquid present, light from the LED is reflected within the prism to the receiver. When rising liquid immerses the prism, the light is refracted out into the liquid, leaving little or no light to reach the receiver. Sensing this change, the receiver actuates electronic switching within the unit to operate an external alarm or control circuit.



Liquid below the sensing prism.



Liquid immersing the sensing prism.

Reflective Surface

Any optical sensor may be affected by reflective surfaces. Consult Gems if prism is to be less than 2 inches from any reflective surface.