

General Description

The OIS31 optical liquid level switch is based on emitter-receiver optical technology. The device is based on an optical prism, that in absence of liquid, allows the emitted light to be received on an optical receiver. This optical channel is perturbed with liquid presence, that allows the light to be lost into the liquid, causing absence of signal on the receiver. This technology is highly accurate and reliable. The sensors plastic housing is in polysulphone material, that provide excellent media compatibility. With their miniature threaded housings the sensors are very easy to install.

The polysulphone housing is suitable for medical equipments, HVAC, compressors, hydraulic reservoirs, machine tools and leak detection as well as food, beverage and pharmaceutical processing.

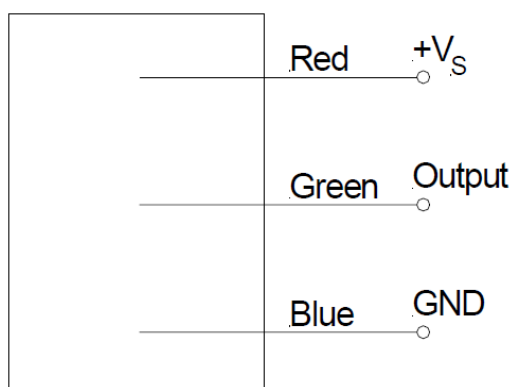


Applications

Hydraulic reservoirs
 Oil tanks
 Water leakage sensor
 Beverage reservoirs
 Pumps, engines

Features

- Small size
- Simply installation
- Modular level sensing
- Robust optical technology
- High media compatibility



Electrical connection

Pin Functions

Color	Name	Function
Red	+Vs	Power Supply
Green	Output	TTL compatible output
Blue	GND	Ground

Ordering Information

OIS31-P	Optical level switch, polysulphone housing
OIS31-T†	Optical level switch, Trogamid® housing

† Trogamid® is compatible for applications in fuel or in acetone, contact the factory for availability

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min	Max	Unit
T _A	Operating Temperature Range	-25	80	°C
V _{CC}	Supply Voltage Range	4.5	15	V
T _s	Storage Temperature	-25	80	°C

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.

PERFORMANCES CHARACTERISTICS

T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T _A	Operating Temperature Range		-25	-	80	°C
V _{CC}	Supply Voltage Range		4.5	-	15	V
I _{CC}	Device current consumption		-	2.5	-	mA
V _{OUTH}	Output voltage high		-	-	V _s - 1	V
V _{OUTL}	Output voltage low		-	-	0.5	V
I _{OUT}	Output current		-	-	100	mA
R _p	Repeatability		-	-	±1	mm
Hys	Hysteresis	Depending on liquid	-	-	1	mm
t _R	Response time rising liquid		-	-	50	us
t _F	Response time falling liquid	Ethanol	-	-	1	s

MECHANICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
IP	Protection class		-	IP67	-	-
Pr	Pressure range		-	-	7	bar
Es	Dielectric strength		-	4	-	kV
FT	Fixing thread		-	M12	-	-
Trq	Fixing torque		-	-	1.5	N/m

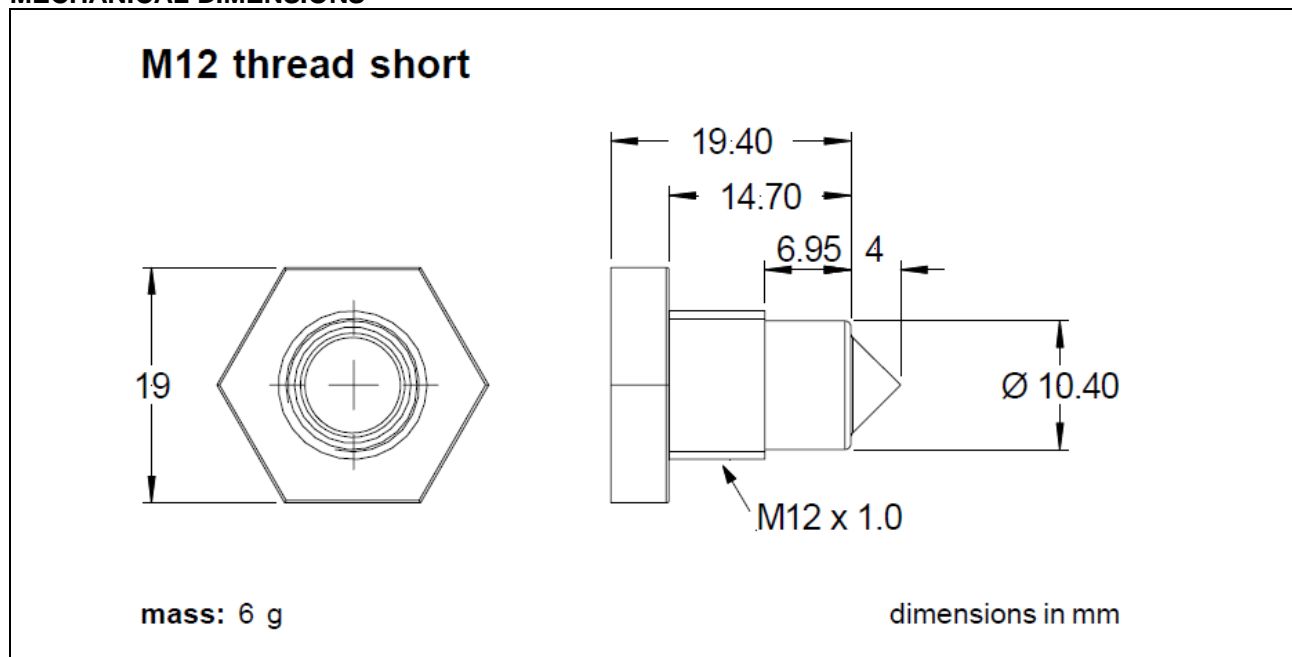
MECHANICAL DIMENSIONS

Figure 1 OIS31 mechanical dimensions

APPLICATION CIRCUIT

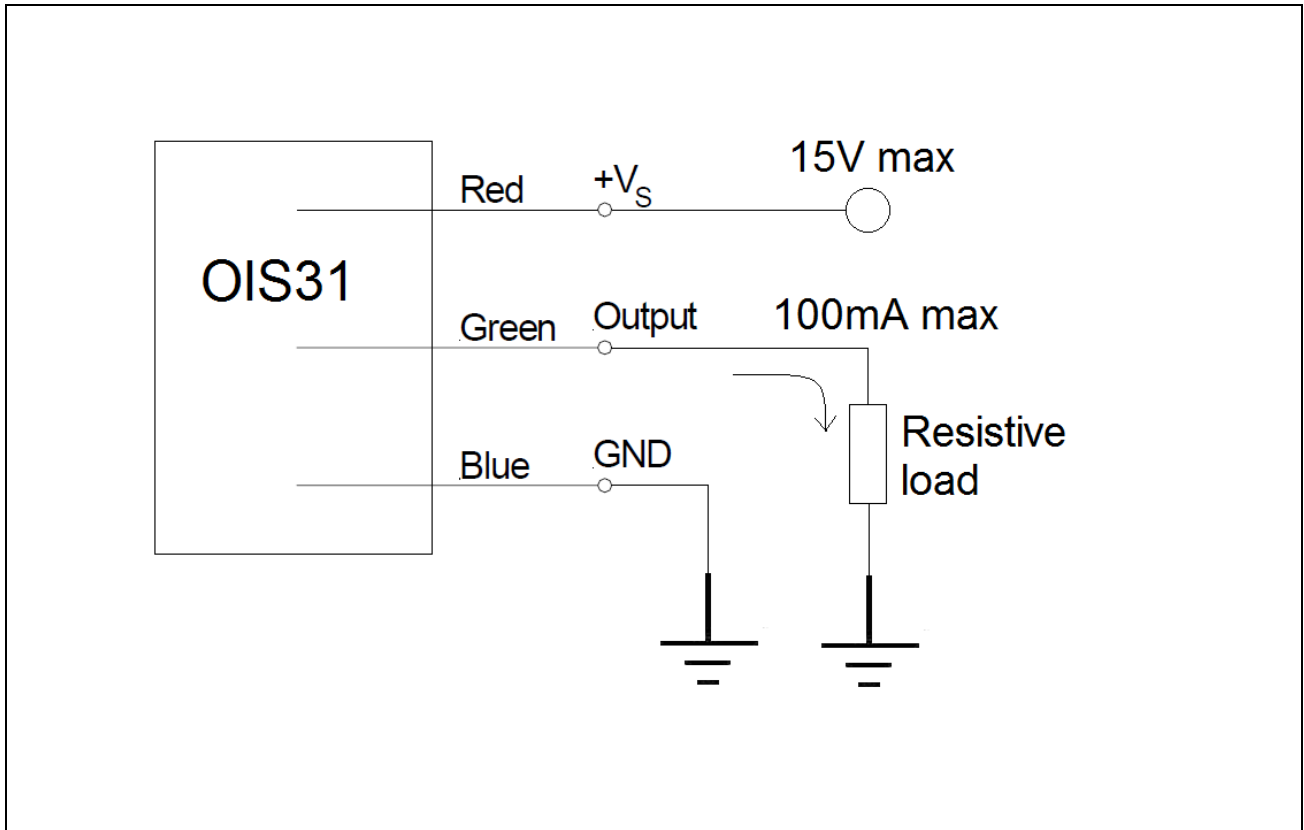


Figure 2 OIS31 typical application circuit with resistive load