

Compliance

ENVIRONMENTAL TEST

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|---------------|---|
| CEI IEC 60529 | Degrees of protection provided by enclosures |
| ISO 20653 | Degrees of protection of electrical equipment against foreign objects, water and access |
| EN 60068 | Damp Heat Tests |
| ASTM B117 | Corrosion Test |
| EN 60068 | Shock Test Storage |
| EN 60068 | Temperature Test (Hot Soak, Cold Soak) |
| ISO 15003 | Temperature Cycle Test |
| ISO 15003 | Particle Impact and Vibration Test |

ELECTRICAL TEST

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|------------|--|----------------|
| SAE J 1455 | Operation Voltage | 12V+24V System |
| SAE J 1455 | Over Voltage | 12V+24V System |
| SAE J 1455 | Reverse Polarity | 12V+24V System |
| SAE J 1455 | Short Circuit to GND/VDC | 12V+24V System |
| SAE J 1455 | Power Up Operational - Supply Voltage Ramp | 12V+24V System |
| ISO 16750 | Momentary Drop in Supply Voltage | 12V+24V System |
| ISO 16750 | Reset Behavior | 12V+24V System |

EMC - ELECTROMAGNETIC COMPATIBILITY TEST

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|---------------|---|
| ISO 7637 | Road Vehicles - Electrical disturbances from conduction and coupling for 12V supply voltage |
| ISO 14982 | Agricultural and forestry machinery - Electromagnetic Compatibility |
| ISO 11452 | Road Vehicles - Electrical disturbances from narrowband radiated electromagnetic energy |
| CISPR 25-2008 | Vehicles, Boats and internal combustion engines - Radio Disturbance Characteristic |
| SAE J 1113-22 | Electromagnetic Compatibility - Immunity to radiated magnetic field |

ESD - ELECTROSTATIC DISCHARGE TEST

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|-----------|--|
| ISO 10650 | Road Vehicles - Test method for electrical disturbances from electrostatic discharge |
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LIFE TEST

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|----------------|--|
| Customer Specs | Endurance Test on Cylinder with Sensor |
| Customer Specs | Mud Test on Cylinder with Sensor |
| Customer Specs | More than 10 Million Cycles reliability test on Sensor |



The Ognibene Optical Sensors series called "O-sensor" uses a non-contacting surface sensing optical technology for the detection of a defined position in hydraulic actuators, not only for steering cylinders to detect the correct alignment of the machine axles, but also suitable to be integrated into different actuators where improved functions are requested.

The embedded intelligence and the last generation microcontroller, integrated with an optical device inside the sensor, detect a black ring marked with a special process on the cylinder's rod surface. Thanks to intensive testing plan and manufacturing process control, 'O-Sensor' represents reliable and cost-effective turnkey solutions available in mass production of smart hydraulic actuators with integrated functions.



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 Ognibene India Private Limited (India)
 Ognibene Hydraulic Components (Suzhou) Co. Ltd. (China)
 Ognibene North America LLC (USA)
 Opower Japan K.K. (Japan)
 Opower GmbH (Germany)



"O-Sensor" series

Optical Position Sensors

for Hydraulic Actuators



KEY FEATURES

- Designed according to the major OEM requirements
- Cost effective solution
- EMC and ESD compliance
- Ultra small footprint
- 100% Tuned and tested by factory
- No tuning required
- Low power consumption
- Wide operating and storage temperature range
- Easy integration and installation
- Robust package for harsh environment
- Embedded traceability
- Dual output changeover available



TECHNICAL CHARACTERISTICS

MECHANICAL

Housing: PA6+Glass Fiber
 Cable Gland: Brass or PA6 GF
 Cable Length: 250/500/600/750 mm
 Mounting: M5 screws (2 pcs)
 Weight: 40 g
 Shape: 180°, 90°, Cableless

ELECTRICAL

Supply Voltage: 8V ÷ 30V
 Output Voltage: 0 ÷ Supply Voltage
 Output Configuration: PNP
 Output Current: 800mA Continuous
 1000mA Peak
 Current Drain: 1.6mA ÷ 2mA
 Jump Start: 36V
 Over Load Protection: 700mA ÷ 2400mA
 Over Voltage Protection: (GND-VDC)
 Polarity Protection: (GND-VDC)

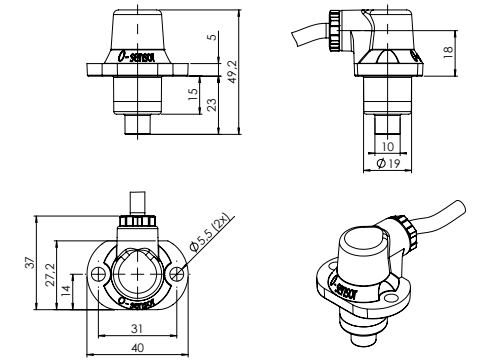
ENVIRONMENTAL

Storage Temperature: -40°C ÷ +85°C
 Operating Temperature: -40°C ÷ +85°C
 Protection Grade: up to IP69K
 Chemical Resistance: Diesel
 Hydraulic Oil
 Fertilizer NPK

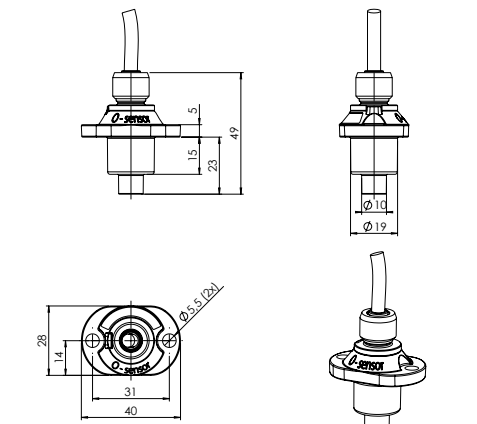


CONFIGURATIONS (drawing dimensions in mm)

90° CONFIGURATION

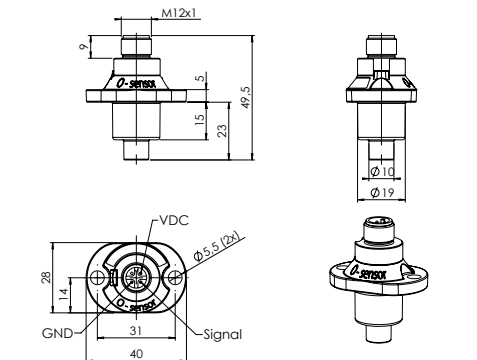


180° CONFIGURATION



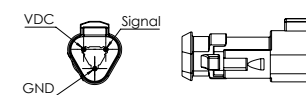
CABLELESS

(BINDER 713)

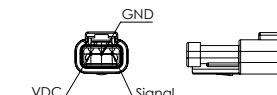


CONNECTIONS

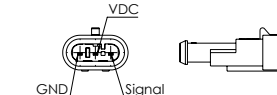
Deutsch DT04-3P



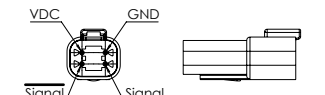
Deutsch DTM04-3P



AMP Super Seal



Deutsch DT04-4P
Dual Output Changeover



* other connectors available on request