Multi-Function-Sensor
Automatic Voltage Detection

Product Information

A. u. K. Müller

Solenoid valves
Control valves
Special valves and systems

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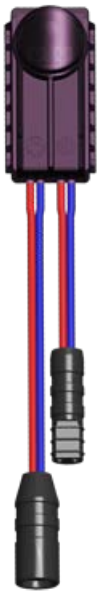
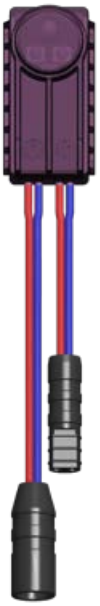
Series IRS-WT-MSx-x



IRS-WT-MSC
curved
window



IRS-WT-MSF
flat
window

Characteristics

- External IR-sensor with micro controller
- Compact design
- Voltage recognition 6V , 9V (battery) or 12V (power supply)
- Short circuit proof
- Integrated reverse polarity protection
- Check and switch off in case of low battery voltage or mains power failure (with power supply IRS-PS-Ux only)
- Battery low voltage signal
- Low quiescent current for elongated battery lifetime
- Easy to assemble and service
- Short response time on detection of user
- Automatic detection range adjustment to environment on Power-On
- Resin moulded electronic, protection type IP 65
- High operating safety through the use of high quality materials and 100% final testing of the products
- Default values changeable by optional available remote control

Applications

- Control unit for sanitary faucets
- Flushes
- Irrigation systems
- Industrial appliances

Description

Opto-electronic sensor unit available for use with bi stable cartridge valves having a nominal voltage of 6V DC (e.g. 50.005.101 or 50.007.101, see separate data sheets) to be integrated within faucets.

None contact activation by IR proximity sensor. A LED flashes each time to signal that the detection area has been entered or left.

The compact design allows easy integration of sensor at minimum required space.

The minimised power consumption allows, with common 6V or 9V batteries, a surpassing long durability and safe operation. Alternatively, a 12V plug-in power supply is also possible.

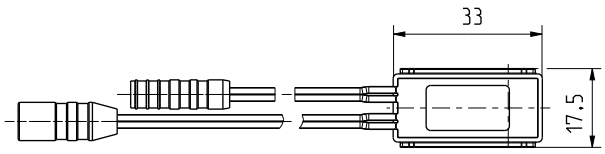
Individual settings may be achieved by an optional IR-remote control.

Easy assembly, service and check of battery.

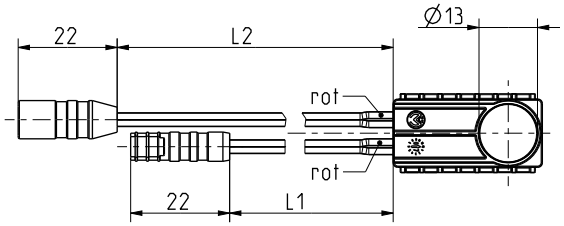
Using the sensor in conjunction with the miniature DN 5 mm orifice bistable cartridge valve (e.g. series 50.005.101), enables integration into applications where space is at a premium.

50.005.101

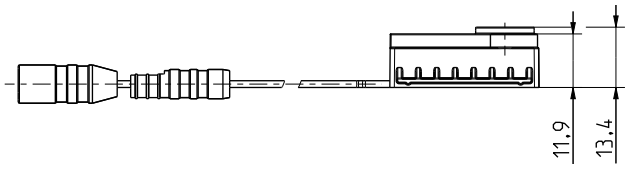
Series IRS-WT-MSx-x

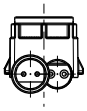


Back

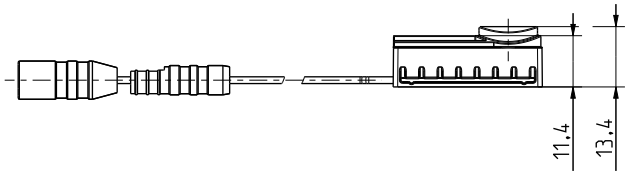


Front

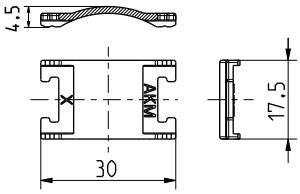




IRS-WT-MSF
with flat
window



IRS-WT-MSC
with curved
window



Resilient clip

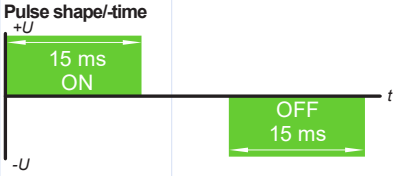
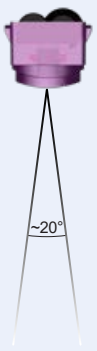
Materials

Enclosure with IR-window	PC
Resilient Clip	PC

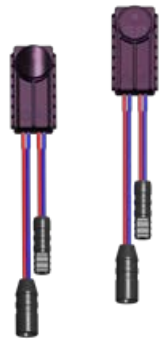
Options

			L1	L2
Valve connection	Double pole female connector	with leads / connector	85 ±5	85 ±5
Battery connection	Double pole male	with leads / connector	85 ±5	85 ±5

Technical Data

Typ	opto elektronical IR-sensor	
T-Ambient	60	°C max
Nominal Voltage * Un	6 9 12	V DC (battery) V DC (battery) V DC (power supply)
Apply only one of the mentioned voltages!		
Signal of low Voltage Level **Un: 6 VDC** **Un: 9 VDC** **Un: 12 VDC**	< 5,5 V DC LED flashing < 5,45 V DC valve will be closed permanently < 5,7 V DC LED flashing < 5,4 V DC valve will be closed permanently < 10,0 V DC valve will be closed permanently	
Voltage recognition	battery (6V or 9V): on each output pulse or every 24 h power supply: every 0,5 sec	
Output voltage ±*U*	5,5	V DC by fPWM 16 kHz
Pulse shape/-time		
Output Current max.	1,2	A
Load Resistance of Valve	>= 10	Ω
Protection Type	IP 65 according to EN 60529	
Lifetime of Battery	6 V Lithium (1.300 mAh) approx. 5 years ... 9 V Lithium (min. 600 mAh) approx. 3 years ... 9 V Alkaline Mangan (min. 600 mAh) approx. 1,5 years for 150 cycles / day	
Detection Angle	20 °	

Series IRS-WT-MSx-x



IRS-WT-MSx Faucet	Default Settings*		Optional Settings	
Response Time	≤ 0,5	s	-	-
Detection Range	140 (5.51)	mm ±15% (in)	40 - 400 *** (1.57 - 15.75)	mm (in)
Turn off Delay	1	s ± 0,5 s	configurable	s
Max. Time of Flow	120	s ± 25 %	configurable	s
Enforced Flushing **	every 24	h	configurable	h
Enforced Flushing Period	30	s	configurable	s

* Optional with cleaning or bucket filling mode by touch function or 2 button remote control.

** The time interval for the enforced flush is restarted after each flush pulse.

*** Adjustment range to set the opening of the valve, depending on the position of the water jet to the sensor system.

The sanitary fitting can be switched on and off by holding hands close to the sensor.
In order to avoid a continuous water flow, e.g. due to a deposited object in the detection range of the sensor system, the valve is forced to be switched off after 120s running time.

IRS-WT-MSx-OF Faucet ON/OFF Mode	Default Settings		Optional Settings	
Response Time	≤ 0,5	s	-	-
Detection Range	80	mm ±15%	configurable	mm
Max. Time of Flow	120	s ± 25%	configurable	s
Enforced Flushing	every 24	h	configurable	h
Enforced Flushing Period	30	s	configurable	s

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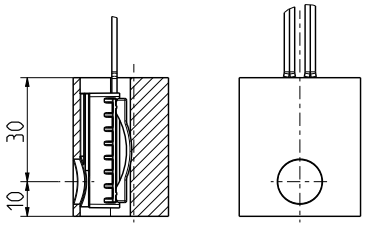
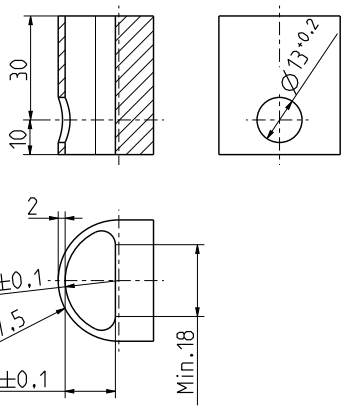
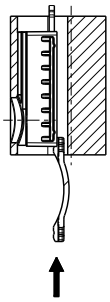
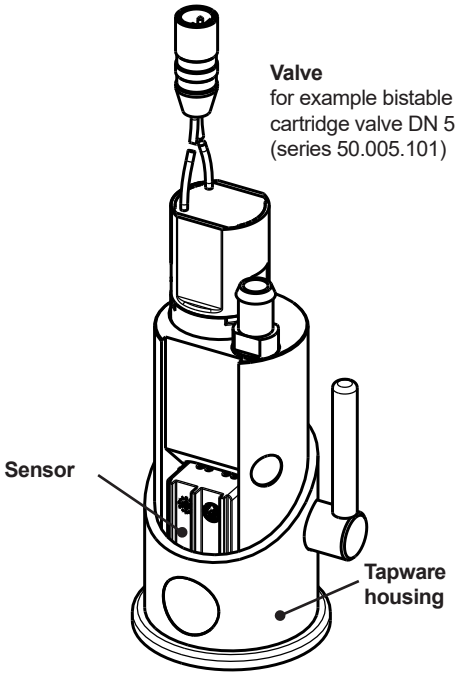


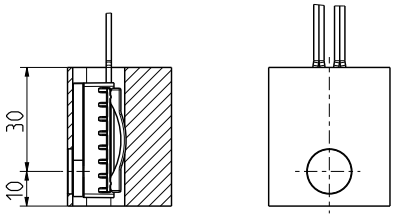


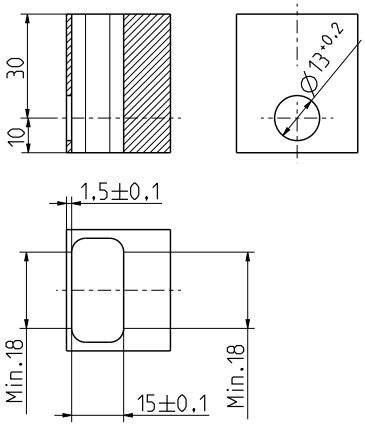
Assembly of resilient clip



IRS-WT-MSC
Installation example for sensor with curved window.







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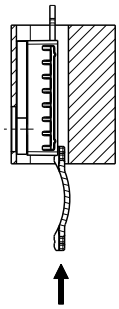
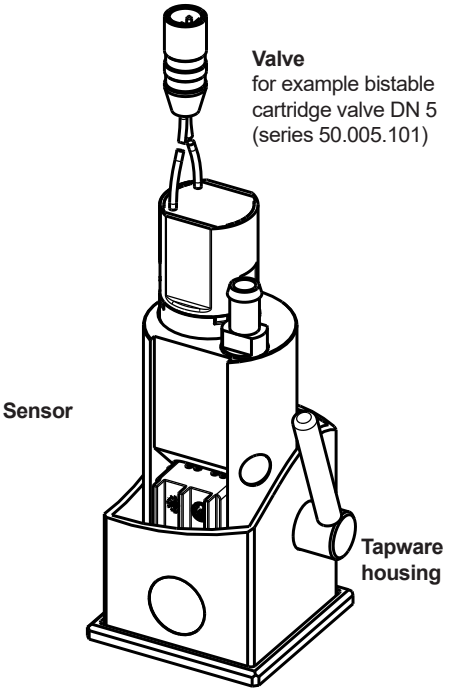


IRS-WT-MSF
Installation example for sensor with flat window



Series IRS-WT-MSx-x

Optional OFF/Cleaning Mode:

By covering the IR receiver diode for at least five seconds, the sensor is disabled for a preset time (factory-set) to perform cleaning work.
After this „OFF“ time, the normal function is resumed with the stored parameters.

Customer specific adaptations of sensor functions are possible. Please contact us for a specific request.

Power Supply

Please refer to separate data sheet IRS-PS-Ux (12 V DC).

⚠ Installation Note ⚠

When installing the sensor into the faucet it is to be ensured that the sensor window is not damaged.
Take care to guide the connecting cables away from sharp-edged parts and avoid kinking of the cables.

When placing the faucet into operation the following order should be followed:

a) mount faucet and connect hydraulically
b) create a functional water drain

⚠ ATTENTION ⚠

The valve may possibly be in the open position before starting assembly and water flows immediately when opening the right-angle stop cock. Remove live wires or water-sensitive objects from the area of the water outlet.

c) open right-angle stop cock
d) connect power supply
e) Wait for initialization. During initialization no object should be exposed in the detection area. The completion of the initialization process is indicated by a triple light signal.

Note concerning reflective and mirror surfaces:

The actual detection range depends strongly on the surface properties of the object to be detected. Problems can occur if the sensor, for example, is positioned without sufficient distance against a bright wall (reflecting tiles or mirrors). Also, an opposite IR sensor urinal could lead to interference.
To remedy this, shorten the ranges of the existing sensors to a reasonable extent or change the positioning of the faucets.

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