

## HWM11 microwave level switch



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## Overview

The microwave level switch determines the capacitance value at the end of the sensor and the dielectric constant value of the medium through a high-frequency electric field. Since the dielectric constant value of air is different from that of the medium, two states can be identified: covered and uncovered. Under normal circumstances, the indicator light is off to indicate uncovered, and the indicator light is always on to indicate covered, and the switch is switched. This product has the characteristics of compact structure, strong anti-hanging performance, good stability, and wide application of media.

## Features

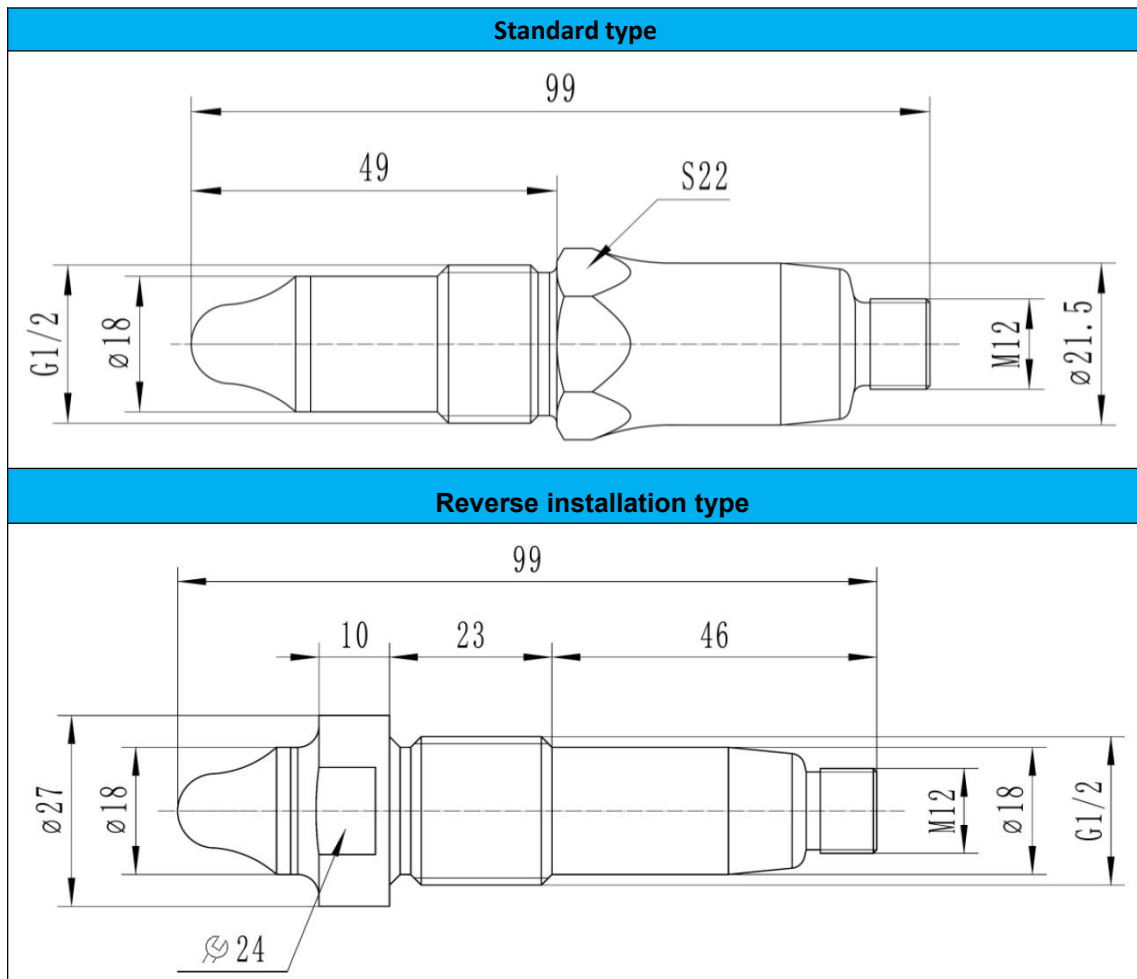
- ◆ Not affected by foam, can detect foam, and can also penetrate foam to detect liquid under the foam, stable detection.
- ◆ Can use the handheld operator to set the alarm threshold on site and view the measured value
- ◆ Can effectively detect adhesive conductive slurry, pure water, metal powder, plastic powder, ultra-fine powder, etc.

## Technical Parameters

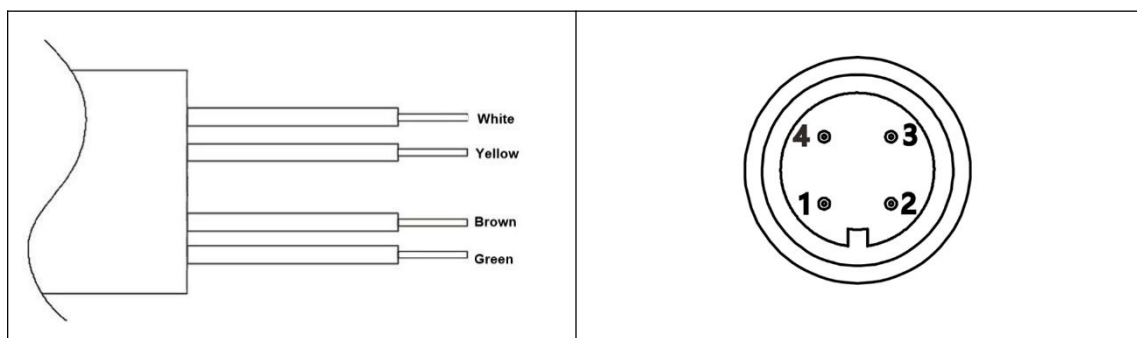
General Performance	
Measurement principle	sweep frequency
Measurement hysteresis	±1mm
Medium characteristics	DC≥1.5
Response time	0.2s
Damping time	0~5s (Configurable)
Repeatability	±5mm
Working Conditions	
Medium Working temperature	-20~80℃(standard) High temperature type up to 235℃(customized)
Working pressure	-0.1~ +10MPa
Process Connection	
Installation type	Standard installation; Reverse installation;
Surface roughness in contact with liquid	Ra< 0.8 μm
Wetted material	PEEK +SS304 /316L
Installation thread	G1/2" (M) or customized
Probe length (include thread)	For standard type only: 50mm, 100mm, 150mm, 200mm, 250mm
Environmental Conditions	
Protection level	IP67
Humidity	<98% RH, with condensation
Ambient temperature	Cable outlet type: -25~70 ℃ M12 connector type: -40~85 ℃
Storage temperature	Cable outlet type: -25~70 ℃

	M12 connector type: -40~85 °C
<b>Output Signal</b>	
<b>Output signal</b>	NPN , PNP , Relay SPST
<b>Output voltage drop</b>	PNP: 1.5 ±0.5V , Rload=10k NPN: 1.5 ±0.5V , Rload=10k
<b>Output current</b>	20mA(typical); 150mA(optional)
<b>Leakage current</b>	<100uA
<b>Output short circuit protection</b>	with
<b>Electrical Connection</b>	
<b>Electrical connection</b>	M12-4P, with connecting cable 4x0.5mm <sup>2</sup>
<b>Power supply</b>	
<b>Power supply</b>	12~30VDC
<b>Start-up time</b>	<1s
<b>Supply current (no load)</b>	8mA (typical) ; 40mA (maximum)
<b>Wetted surface roughness</b>	Ra< 0.8 μm
<b>Electrical connection</b>	M12-4P
<b>Output signal</b>	NPN /PNP 1.5 ±0.5V , Rload=10k Relay SPST
<b>Reverse polarity protection</b>	Yes
<b>Dielectric strength</b>	500VAC
<b>Default Factory Setting</b>	
<b>Damping time</b>	0s
<b>Alarm point parameter AL1</b>	250 (low dielectric constant medium) 550 (water-based medium) 720 (conductive slurry) Output alarm when ≥AL1
<b>Measurement value PV</b>	0~1000, after calibration: 100: Probe in air 800: Probe in tap water
<b>Alarm hysteresis</b>	25
<b>Protection</b>	Parameters cannot be modified before being unlocked

## Product dimensions (unit: mm)

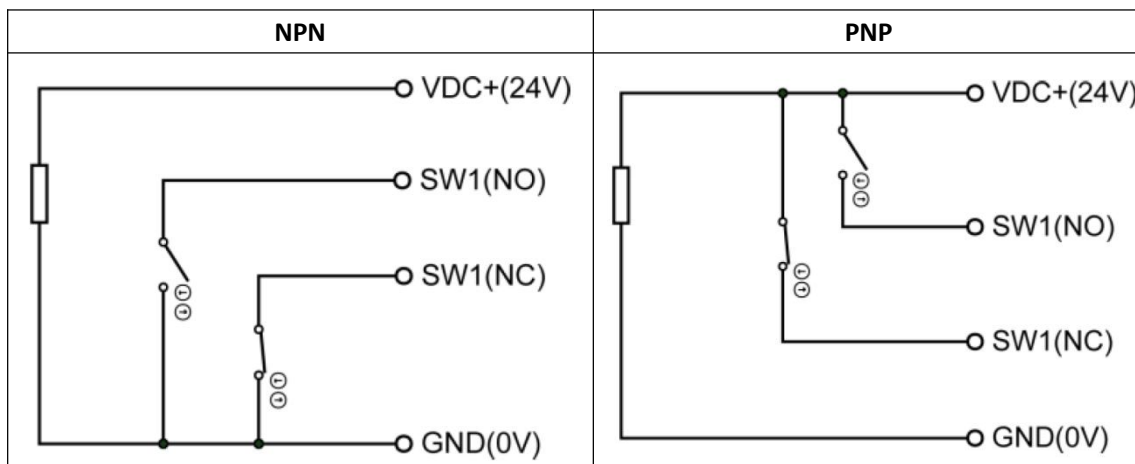


## Electrical wiring



Definition	Cable outlet	M12
VDC+	White	1
SW1 (NO)	Yellow	4
SW1 (NC)	Brown	2
GND (0V)	Green	3

## Electrical connection



## Ordering Guide

Model No.	Type					
HWM11	Microwave level switch					
	Code	Output Signal				
	B9	Relay				
	B10	NPN				
	B11	PNP				
	Code	Housing Material				
	S4	SS304				
	S6	SS316L				
	Code	Process Connection				
	G12	G1/2 male, standard type				
	RG12	G1/2 male, reverse type				
	X	Other thread				
	Code	Electrical Connection				
	C2	Cable outlet				
	C5	M12x1, 4 pin				
	Code	Sealing ring				
	0	NA				
	FE	PTFE				
	FK	FKM				
	EP	EPDM				
	NB	NBR				
	Code	Factory setting / measuring medium				
	0	Aqueous solutions				
	1	Foam				
	2	Viscous conductive media				
	3	Oils and greases				
	4	Low-moisture solid particles				
	5	High-moisture solid particles				
eg:HWM11	B10	S4	G12	C5	NB	1