



Appearance			
Sensing type		Diffuse reflection	
Sensing range		40~300mm	60~800mm
Repeat accuracy		2%	
Hysteresis		2%	
linearity error		≤3%	
Resolution		2mm	
Opening angle		7°± 2°	± 2°
Switch frequency		8Hz	5Hz
Response time (switch output)		12ms	80ms
Response time (analog output)		500ms	
Operating voltage		10~30V DC(± 5%)	
Temperature drift		≤5%	
Temperature compensation		Yes	
Voltage drop		2.2Vmax (1L= 100mA)	
Current consumption		≤35mA	
Max Load Current		100mA	
Leakage current		≤10 μ A@30VDC	
Sensitivity adjustment		External teach-in	
Time delay before availability		≤300ms (Switch); ≤900ms(Analog)	
Operating temperature		-20℃~+70℃	
Storage temperature		-35℃~+70℃(No freezing)	
Protective circuit		Reverse polarity protection, Short circuit (auto reset), Over voltage pulses protection	
Degree of protection		IP67	
Tightening torque		1Nm	
Housing material		PBT	
Sensing surface material		Epoxy-glass resin	
Weight		15g	
Analog output	Voltage	MS18-30V	MS18-90V
	Current	MS18-30I	MS18-90I
Switch output	NPN	MS18-30N	MS18-90N
	PNP	MS18-30P	MS18-90P

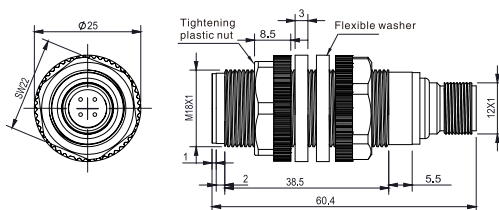
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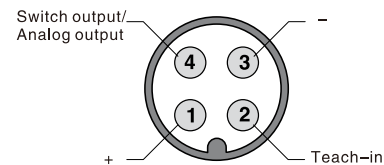
Ultrasonic
Cylindrical type
Solid liquid level switches type
Fork type liquid level switch type
Double-sheet detection sensor

Dimensions

Unit: mm



Wiring Diagram



Cylindrical Type

M18 Plastic Housing Series

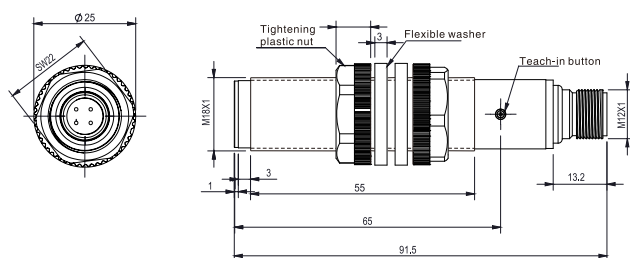


Appearance

Sensing type		Diffuse reflection			
Sensing range		50~400mm	100~900mm	150~1600mm	200~2200mm
Resolution		3mm	2mm	3mm	3mm
Repeat accuracy		0.5%			
Hysteresis		1%			
linearity error		1%			
Opening angle		± 8°	± 7°	± 8°	± 7°
Switch frequency		10Hz	4Hz	2Hz	1Hz
Response time		500ms	≤125ms	250ms	500ms
Operating voltage		15~30V DC(± 5%)			
Temperature compensation		Yes			
Temperature drift		5%			
Voltage drop		2.2V max.(1L=100mA)			
Current consumption		≤50mA			
Output current(Switch output)		100mA			
Min load resistance (Analog voltage)		3k Ω			
Leakage current		≤10 μ A@30V DC			
Sensitivity adjustment		Teach-in			
Time delay before availability (Switch output)		≤500ms; ≤900ms(Dual output)			
Time delay before availability (Analog output)		≤900ms			
Operating temperature		-20℃~-+60℃			
Storage temperature		-35℃~-+70℃ (No freezing)			
Protective circuit		Reverse polarity protection, Short circuit (auto reset), Over voltage pulses protection			
Degree of protection		IP67			
Tightening torque		50Nm			
Housing material		PBT			
Sensing surface material		Epoxy-glass resin			
Weight		26g			
Analog output	Voltage	MC18-40V	MC18-90V	MC18-160V	MC18-220V
	Current	MC18-40I	MC18-90I	MC18-160I	MC18-220I
Switch output	NPN	MC18-40N	MC18-90N	MC18-160N	MC18-220N
	PNP	MC18-40P	MC18-90P	MC18-160P	MC18-220P

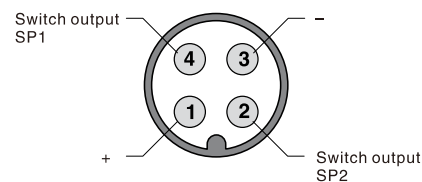
Dimensions

Unit: mm

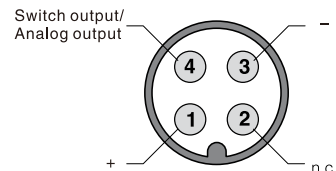


Wiring Diagram

Dual switch outputs:



Switch / Analog:





NEW!

Appearance

Detection methods		Diffuse reflection
Detection/reg		60~1000mm
ulation of blind areas		0~60mm
Standard Test Panel		100 × 100mm
Angle		± 7°
Sensor frequency		Approx. 200KHz
No-load Current in Response Delay		100ms
Working Voltage		9~30VDC, 10%V
Protection Circuit		Protection against back-connection and instantaneous overvoltage
No-load current		≤25mA
Rated operating current		200mA , Short circuit protection/overload protection
LED		Red light: no target detected in learning state, normal light; blue light: detected target, flicker in learning state; yellow light: switch state in normal working mode; green light: power indicator light, normal light
Resolution		0.5mm
Repetition accuracy		0.3% full range
Temperature drift		0.05%/° C (built-in temperature compensation)
Linearity		<1%
Operating temperature		-20℃~-+70℃ (253~343K)
Storage temperature		-40℃~-+85℃(233~358K)
Electromagnetic compatibility		GB/T17626.2-2006;GB/T17626.4-2008
Protection level		IP65
Connection method		V3 connector, 4-pin
Housing material		Copper nickel plating
Weight		62g
Line length		2m
Analog	Voltage output0-5V	MT18-100V
	Voltage output0-10V	MT18-100V2
	Current output4-20mA	MT18-100A
Switch	NPN	MT18-100N
	NPN Hysteresis mode	MT18-100N2
	PNP	MT18-100P
	PNP Hysteresis mode	MT18-100P2
numerical capacity	TTL output	MT18-100T

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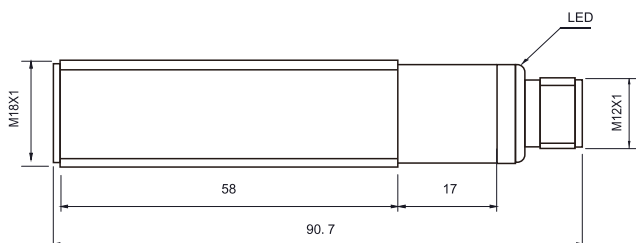
Guidance

Ultrasonic

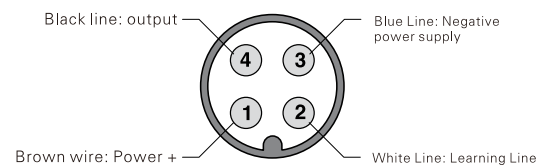
Cylindrical type
Solid liquid level switches type
Fork type liquid level switch type
Double-sheet detection sensor

Dimensions

Unit: mm



Circuit Diagram



Cylindrical Type

M18 Metal Housing Series

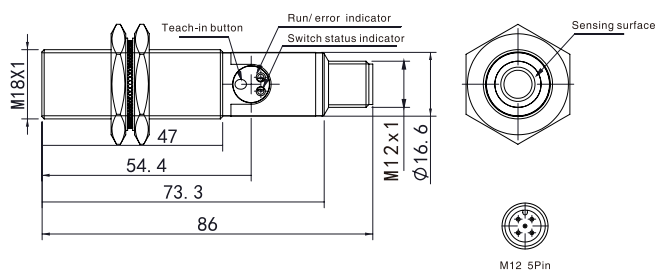


Appearance

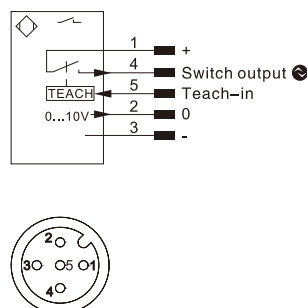
Sensing type	Diffuse reflection
Working range	50~400 mm
Sensing range	350 mm
Reproducibility max.	1 mm
linearity error	5 mm
Resolution	0.1mm
Ultrasonic frequency	300 kHz
Opening angle	< 12°
Service life(Tu=+25℃)	100000 h
Switch hysteresis	2 mm
Supply voltage	18~30 V DC
Current consumption(Ub=24V)	< 30 mA
Switch frequency	20 Hz
Response time	25 ms
Temperature range	-25~+60℃
Switch outputs	1
Switch output voltage drop	< 2.5 V
PNP switch output/ switch current	100 mA
Analog output	0~10V
Synchronous mode	Up to 40 sensors
Short circuit protection	Yes
Reverse polarity protection	Yes
Overload protection	Yes
Lockable	Yes
Interface	IO-Link
IO-Link version	1.0
Protection class	Class 3
Setting method	Teach-in display
Material	Stainless steel
Full encapsulation	Yes
Degree of protection	IP67
Connection	M12*1; 4/5 Pin
PNP NO/ NC switchable	Yes
Model No.	MD18-35V 

Dimensions

Unit: mm



Wiring Diagram





Appearance

Sensing type	Diffuse reflection	
Sensing range	250~3500mm	350~6000mm
Resolution	4mm	6mm
Repeat accuracy	1%	0.5%
Hysteresis	1%	
linearity error	1%	
Opening angle	± 7°	± 9°
Switch frequency	2Hz	1Hz
Response time	Switch:250ms, analog:600ms	Switch:500ms, analog:600ms
Operating voltage	12~30VDC , Analog voltage output: 15~30VDC(± 5%)	
Temperature compensation	Yes	
Temperature drift	± 8% (switch output) , ± 5% (analog output)	
Voltage drop	2.2V max.(1L=100mA)	
Current consumption	≤50mA	
Max Load Current	100mA	
Min.load resistance	3k Ω	
Leakage current	≤10 μ A@30V DC	
Sensitivity adjustment	Teach-in	
Operating temperature	-20℃~+70℃	
Storage tempeature	-35℃~+70℃(No freezing)	
Protective circuit	Reverse polarity protection,Short circuit (auto reset),Over voltage pulses protection	
Degree of protection	IP67	
Housing material	PBT	
Sensing surface material	Epoxy-glass resin	
Weight	140g	170g
Analog output	Voltage	MC30-350V
	Current	MC30-350I
Switch output	NPN	MC30-350N
	PNP	MC30-350P
Dual switch output	NPN	MC30-350N2
	PNP	MC30-350P2
Analog+ Switch	NPN+ Current	MC30-350NI
	PNP+ Current	MC30-350PI
	NPN+ Voltage	MC30-350NV
	PNP+ Voltage	MC30-350PV
		MC30-600N2
		MC30-600P2
		MC30-600NI
		MC30-600PI
		MC30-600NV
		MC30-600PV

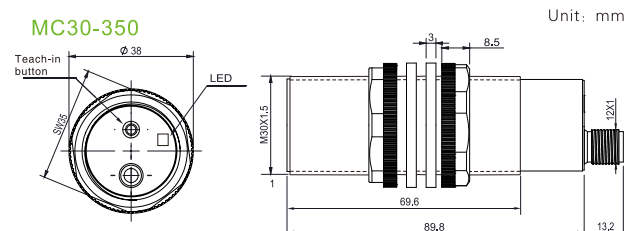
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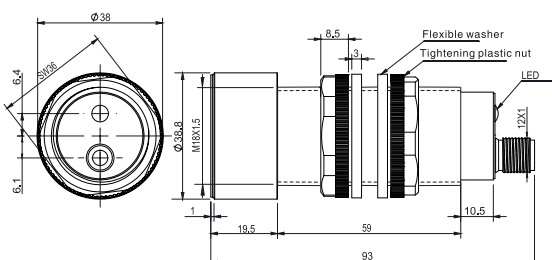
Ultrasonic

Cylindrical type
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Fork type liquid level switch type
Double-sheet detection sensor

Dimensions



MC30-600



Wiring Diagram

