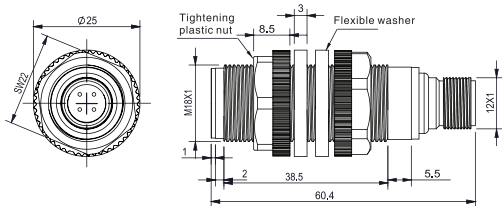




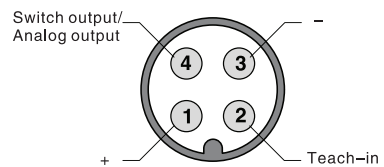
Appearance			
Sensing type	Diffuse reflection		
Sensing range	40~300mm		60~800mm
Repeat accuracy	2%		
Hysteresis	2%		
Linearity error	≤3%		
Resolution	2mm		
Opening angle	7°±2°		±2°
Switch frequency	8Hz		5Hz
Response time (switch output)	12ms		80ms
Response time (analog output)	500ms		
Operating voltage	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 μA@30VDC		
Sensitivity adjustment	External teach-in		
Time delay before availability	≤300ms (Switch); ≤900ms(Analog)		
Operating temperature	-20°C~+70°C		
Storage temperature	-35°C~+70°C(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

Dimensions

Unit: mm



Wiring Diagram



Cylindrical Type

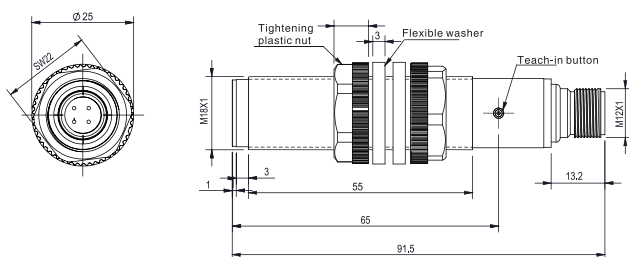
M18 Plastic Housing Series



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°C~+60°C				
Storage temperature	-35°C~+70°C (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

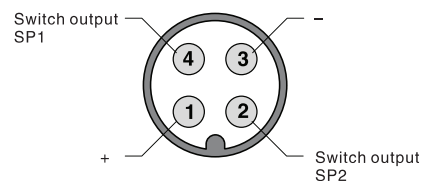
Dimensions

Unit: mm

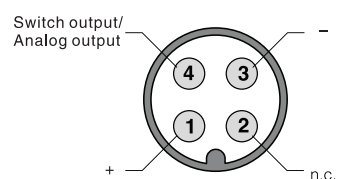


Wiring Diagram

Dual switch outputs:



Switch / Analog:



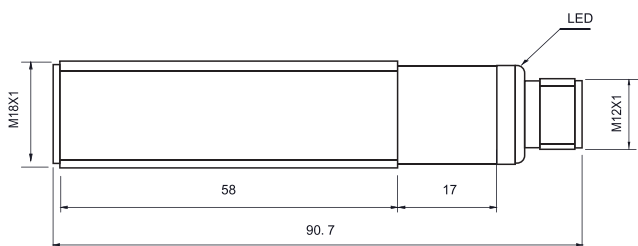


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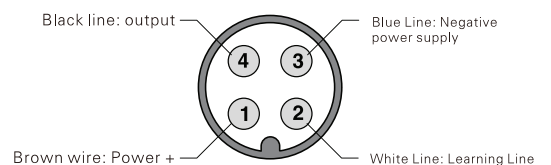
Appearance		
Detection methods		Diffuse reflection
Detection/reg		60~1000mm
Elimination of blind areas		0~60mm
Standard Test Panel		100 x 100mm
Angle		± 7°
Sensor frequency		Approx. 200KHz
No-load Current in Response Delay		100ms
Working Voltage		9~30VDC, 10%V
Protection Circuit	Protection against back-connection 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°C~+70°C (253~343K)
Storage temperature		-40°C~+85°C(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

Dimensions

Unit: mm



Circuit Diagram



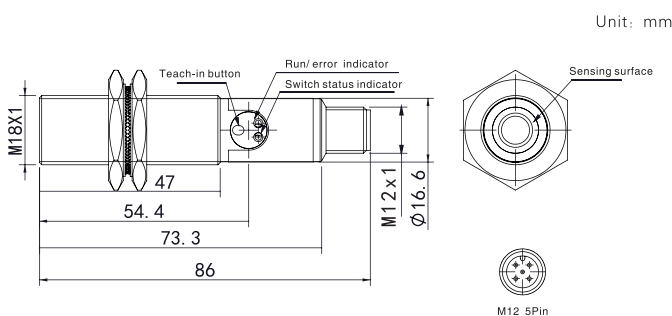
Cylindrical Type

M18 Metal Housing Series

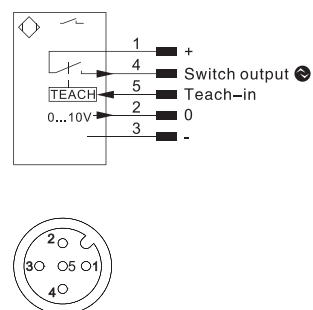


Appearance	
Sensing type	Diffuse reflection
Working range	50~400 mm
Sensing range	350 mm
Reproducibility max.	1 mm
linearity error	5 mm
Resolution	0.1mm
Ultrasonic frequency	300 kHz
Opening angle	< 12°
Service life(Tu=+25°C)	100000 h
Switch hysteresis	2 mm
Supply voltage	18~30 V DC
Current consumption(Ub=24V)	<30 mA
Switch frequency	20 Hz
Response time	25 ms
Temperature range	-25~+60°C
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



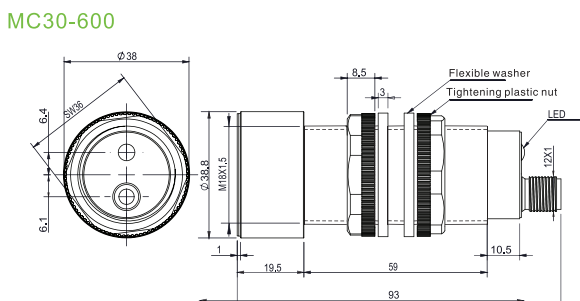
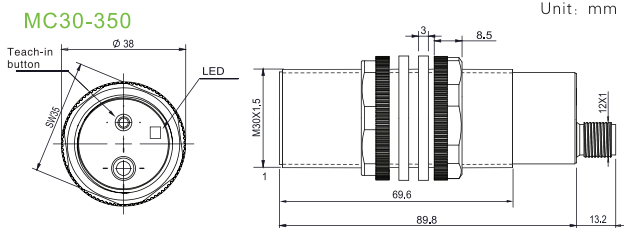
Wiring Diagram





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°C~+70°C	
Storage temperature	-35°C~+70°C(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

Dimensions



Wiring Diagram

