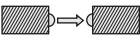
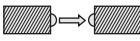


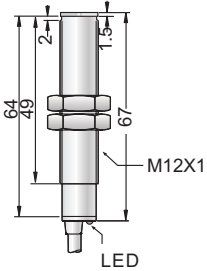
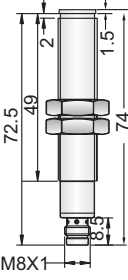
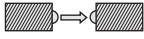


M12 DC PHOTOELECTRIC SENSORS

Type		M12	M12	
Sensing mode		Through-beam mode	Through-beam mode	
Sensing picture				
Switching distance(sn)		5.2m	5.2m	
Picture				
Nominal Voltage		10-30VDC	10-30VDC	
Residual Ripple		≤10%	≤10%	
Tolerance		±10%Sn	±10%Sn	
Hysteresis		10%	10%	
Emission		Infrared(880nm)	Infrared(880nm)	
Output		NPN or PNP	NPN or PNP	
Contact		Light on or Dark on	Light on or Dark on	
Max. Output Current		150mA	150mA	
No Load Current		30mA or less	30mA or less	
Voltage Drop(Sensor On)		≤2.5V	≤2.5V	
Response Time		1mS	1mS	
Short Circuit Protection		Yes	Yes	
Electric Protections		Yes	Yes	
Temperature Limits		-25 ~ +55°C	-25 ~ +55°C	
Ambient humidity		35 to 85% RH	35 to 85% RH	
Light Immunity		>10.000Lux	>10.000Lux	
Protection Degree		IP67	IP67	
Housing Material		PBT Plastic or Nickel plated brass	PBT Plastic or Nickel plated brass	
Sensing object		∅8mm or more	∅8mm or more	
Wiring diagram(see page 21-16)				
Brass Housing	Emitter:	F1CTM125200DEI2B2 A11	F1CTM125200DEIEB4 A13	F1CTM125200DEIPB4 A12
	NPN N.O.	F1CTM125200NLI3A2 A7	F1CTM125200NLIEA4 A10	F1CTM125200NLIPA4 A9
	NPN N.C.	F1CTM125200NDI3A2 A7	F1CTM125200NDIEA4 A10	F1CTM125200NDIPA4 A9
	PNP N.O.	F1CTM125200PLI3A2 A8	F1CTM125200PLIEA4 A10	F1CTM125200PLIPA4 A9
	PNP N.C.	F1CTM125200PDI3A2 A8	F1CTM125200PDIEA4 A10	F1CTM125200PDIPA4 A9
	NPN N.O.+N.C.			
Plastic Housing	Emitter:	F1CTP125200DEI2B2 A11	F1CTP125200DEIEB4 A13	F1CTP125200DEIPB4 A12
	NPN N.O.	F1CTP125200NLI3A2 A7	F1CTP125200NLIEA4 A10	F1CTP125200NLIPA4 A9
	NPN N.C.	F1CTP125200NDI3A2 A7	F1CTP125200NDIEA4 A10	F1CTP125200NDIPA4 A9
	PNP N.O.	F1CTP125200PLI3A2 A8	F1CTP125200PLIEA4 A10	F1CTP125200PLIPA4 A9
	PNP N.C.	F1CTP125200PDI3A2 A8	F1CTP125200PDIEA4 A10	F1CTP125200PDIPA4 A9
	NPN N.O.+N.C.			
Dimensions (unit: mm)				
Connect	2m PVC (∅3x0.15mm ²)	M12 Euro style	M8 Pico style	
Weight	Approx.67 g	Approx.40g	Approx.30 g	

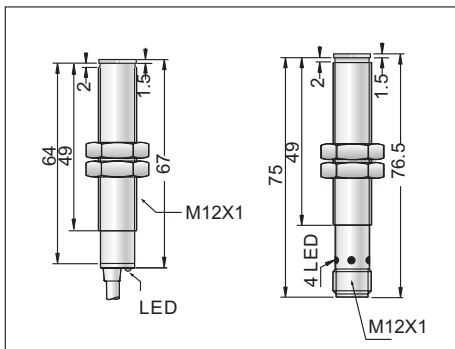
M12 DC PHOTOELECTRIC SENSORS

M12
Through-beam mode

10m

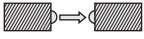


10-30VDC
≤10%
±10%Sn
10%
Infrared(880nm)
NPN or PNP
Light on or Dark on
150mA
30mA or less
≤2.5V
1mS
Yes
Yes
-25 ~ +55°C
35 to 85% RH
>10.000Lux
IP67
PBT Plastic or Nickel plated brass
φ8mm or more

F1CTM12010MDEI2B2 A11	F1CTM12010MDEIEB4 A13
F1CTM12010MNLI3A2 A7	F1CTM12010MNLIEA4 A10
F1CTM12010MNDI3A2 A7	F1CTM12010MNDIEA4 A10
F1CTM12010MPLI3A2 A8	F1CTM12010MPLIEA4 A10
F1CTM12010MPDI3A2 A8	F1CTM12010MPDIEA4 A10
F1CTP12010MDEI2B2 A11	F1CTP12010MDEIEB4 A13
F1CTP12010MNLI3A2 A7	F1CTP12010MNLIEA4 A10
F1CTP12010MNDI3A2 A7	F1CTP12010MNDIEA4 A10
F1CTP12010MPLI3A2 A8	F1CTP12010MPLIEA4 A10
F1CTP12010MPDI3A2 A8	F1CTP12010MPDIEA4 A10



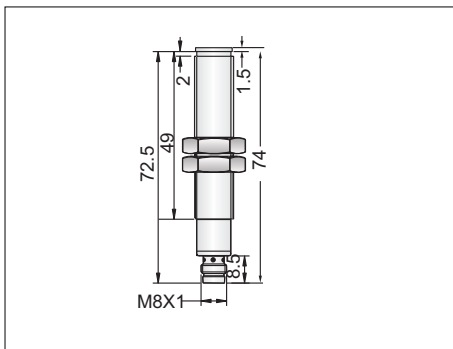
2m PVC (φ3x0.15mm ²) Approx.67 g	M12 Euro style Approx.40g
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M12
Through-beam mode

10m




10-30VDC
≤10%
±10%Sn
10%
Infrared(880nm)
NPN or PNP
Light on or Dark on
150mA
30mA or less
≤2.5V
1mS
Yes
Yes
-25 ~ +55°C
35 to 85% RH
>10.000Lux
IP67
PBT Plastic or Nickel plated brass
φ8mm or more

F1CTM12010MDEIPB4 A12	
F1CTM12010MNLIPA4 A9	
F1CTM12010MNDIPA4 A9	
F1CTM12010MPLIPA4 A9	
F1CTM12010MPDIPA4 A9	
F1CTP12010MDEIPB4 A12	
F1CTP12010MNLIPA4 A9	
F1CTP12010MNDIPA4 A9	
F1CTP12010MPLIPA4 A9	
F1CTP12010MPDIPA4 A9	



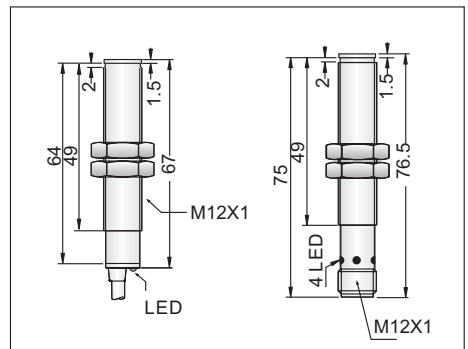
M8 Pico style Approx.30 g

M12
Diffuse mode

200mm







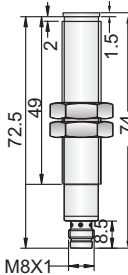
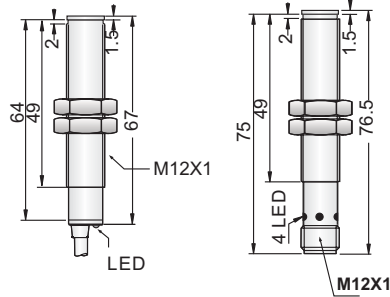
10-30VDC
≤10%
±10%Sn
10%
Infrared(880nm)
NPN or PNP
Light on or Dark on
150mA
30mA or less
≤2.5V
1mS
Yes
Yes
-25 ~ +55°C
35 to 85% RH
>10.000Lux
IP67
PBT Plastic or Nickel plated brass
10X10cm white paper

F1CDM120200NSI4A2 A14	F1CDM120200NSIEA4 A17
F1CDM120200PSI4A2 A15	F1CDM120200PSIEA4 A17
F1CDP120200NSI4A2 A14	F1CDP120200NSIEA4 A17
F1CDP120200PSI4A2 A15	F1CDP120200PSIEA4 A17







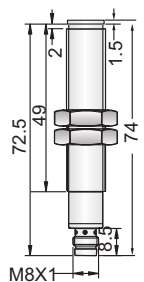
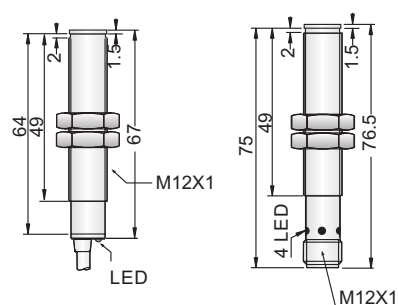
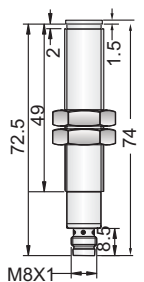


2m PVC (φ3x0.15mm ²) Approx.70g	M12 Euro style Approx.40g
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M12 DC PHOTOELECTRIC SENSORS

Type	M12	M12	
Sensing mode	Diffuse mode	Retro-reflective mode	
Sensing picture			
Switching distance(sn)	200mm	1.5m	
Picture	 CE	 CE	
Nominal Voltage	10-30VDC	10-30VDC	
Residual Ripple	≤10%	≤10%	
Tolerance	±10%Sn	±10%Sn	
Hysteresis	10%	10%	
Emission	Infrared(880nm)	Infrared(880nm)	
Output	NPN or PNP	NPN or PNP	
Contact	Light on & Dark on	Light on & Dark on	
Max. Output Current	150mA	150mA	
No Load Current	30mA or less	30mA or less	
Voltage Drop(Sensor On)	≤2.5V	≤2.5V	
Response Time	1mS	1mS	
Short Circuit Protection	Yes	Yes	
Electric Protections	Yes	Yes	
Temperature Limits	-25 ~ +55°C	-25 ~ +55°C	
Ambient humidity	35 to 85% RH	35 to 85% RH	
Light Immunity	>10.000Lux	>10.000Lux	
Protection Degree	IP67	IP67	
Housing Material	PBT Plastic or Nickel plated brass	PBT Plastic or Nickel plated brass	
Sensing object	10X10cm white paper	D51 Mirror	
Wiring diagram(see page 21-16)			
Brass Housing	Emitter:		
	NPN N.O.		
	NPN N.C.		
	PNP N.O.		
	PNP N.C.		
	NPN N.O.+N.C.	F1CDM120200NSIPA4 A16	F1CLM121500NSI4A2 A14 F1CLM121500NSIEA4 A17
PNP N.O.+N.C.	F1CDM120200PSIPA4 A16	F1CLM121500PSI4A2 A16 F1CLM121500PSIEA4 A17	
Plastic Housing	Emitter:		
	NPN N.O.		
	NPN N.C.		
	PNP N.O.		
	PNP N.C.		
	NPN N.O.+N.C.	F1CDP120200NSIPA4 A16	F1CLP121500NSI4A2 A14 F1CLP121500NSIEA4 A17
PNP N.O.+N.C.	F1CDP120200PSIPA4 A16	F1CLP121500PSI4A2 A16 F1CLP121500PSIEA4 A17	
Dimensions (unit: mm)			
Connect	M8 Pico style	2m PVC (Φ3x0.15mm ²)	
Weight	Approx.30 g	M12 Euro style Approx.40g	

M12 DC PHOTOELECTRIC SENSORS

M12 Retro-reflective mode	M12 Retro-reflective mode (With Polarizing Filters)	M12 Retro-reflective mode (With Polarizing Filters)
		
1.5m	500mm	500mm
		
CE	CE	CE
10-30VDC	10-30VDC	10-30VDC
≤10%	≤10%	≤10%
±10%Sn	±10%Sn	±10%Sn
10%	10%	10%
Infrared(880nm)	Red(660nm)	Red(660nm)
NPN or PNP	NPN or PNP	NPN or PNP
Light on & Dark on	Light on & Dark on	Light on & Dark on
150mA	150mA	150mA
30mA or less	30mA or less	30mA or less
≤2.5V	≤2.5V	≤2.5V
1mS	1mS	1mS
Yes	Yes	Yes
Yes	Yes	Yes
-25 ~ +55°C	-25 ~ +55°C	-25 ~ +55°C
35 to 85% RH	35 to 85% RH	35 to 85% RH
>10.000Lux	>10.000Lux	>10.000Lux
IP67	IP67	IP67
PBT Plastic or Nickel plated brass	PBT Plastic or Nickel plated brass	PBT Plastic or Nickel plated brass
D51 Mirror	D51 Mirror	D51 Mirror
F1CLM121500NSIPA4 A16	F1CLM120500NSR4A2/F A14 F1CLM120500NSREA4/F A17	F1CLM120500NSRPA4/F A16
F1CLM121500PSIPA4 A16	F1CLM120500PSR4A2/F A16 F1CLM120500PSREA4/F A17	F1CLM120500PSRPA4/F A16
F1CLP121500NSIPA4 A16	F1CLP120500NSR4A2/F A14 F1CLP120500NSREA4/F A17	F1CLP120500NSRPA4/F A16
F1CLP121500PSIPA4 A16	F1CLP120500PSR4A2/F A16 F1CLP120500PSREA4/F A17	F1CLP120500PSRPA4/F A16
		
M8 Pico style Approx.30 g	2m PVC (Φ3x0.15mm ²) Approx.70g	M12 Euro style Approx.40g
		M8 Pico style Approx.30 g