



MP Series modular sensors enable users to customize a sensing solution for almost any application. For this reason, the components of this series are sold separately. Refer to pages 594-595 for instruction on how to assemble an MP Series sensor.

MP Series Modular Photoelectric Sensors

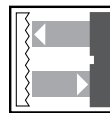
- Harsh Duty
- Modular design
 - Exchangeable rotatable heads
 - Limit switch and mini style plug-in bases
 - Screw terminal, preleaded, and connector version receptacles
- Withstands 1200 psi washdown, IP69K
- 6 A SPDT and 5 A DPDT relay models
- Multifunction timer/logic cards available
- DC, AC, AC/DC models



Diffuse Mode

Sensing Ranges: 300 mm, 450 mm, 760 mm, 900 mm, 1.3 m, 1.8 m, 3 m

Outputs: Dependent on base selected



Retro-Reflective Mode

Features:

- Polarization filter to detect shiny objects

Sensing Ranges: 4.5 m, 6 m, 9 m

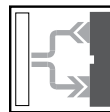
Outputs: Dependent on base selected



Thru-Beam Mode

Sensing Ranges: 36 m, 60 m

Outputs: Dependent on base selected



Fiber Optic Mode

Sensing Ranges: Dependent on fibers selected

Outputs: Dependent on base selected

See page 610-620 for MP Series sensing characteristics, wiring, dimensions and accessories.



STANDARD HEADS (pages 596-597)		Models
	Diffuse: 450 mm range, 1 ms response, plastic lens, infrared	MPD6HD ⚡
	Diffuse: 3 m range, 10 ms response, glass lens, infrared	MPD1HD •
	Diffuse: 3 m range, 10 ms response, plastic lens, infrared	MPD2HD ⚡
	Diffuse: 900 mm range, 10 ms response, plastic lens, infrared	MPD4HD ⚡
	Diffuse: 1.3 m range, 10 ms response, plastic lens, infrared	MPD8HD
	Polarized Retro-Reflective: 4.5 m range, 1 ms response, glass lens, visible red	MPP6HD ⚡
	Polarized Retro-Reflective: 6 m range, 10 ms response, glass lens, visible red	MPP1HD •
	Retro-Reflective: 9 m range, 1 ms response, glass lens, infrared	MPL16HD
	Retro-Reflective: 9 m range, 1 ms response, plastic lens, infrared	MPL6HD •
	Retro-Reflective: 9 m range, 10 ms response, glass lens, infrared	MPL1HD
	Retro-Reflective: 9 m range, 10 ms response, plastic lens, infrared	MPL2HD ⚡
	Thru-Beam: 60 m range, transmitter, glass lens, infrared	MPE1HD •
	Thru-Beam: 60 m range, transmitter, plastic lens, infrared	MPE2HD ⚡
	Thru-Beam: 60 m range, receiver, 1 ms response, glass lens, infrared	MPR16HD
	Thru-Beam: 60 m range, receiver, 1 ms response, plastic lens, infrared	MPR6HD ⚡
	Thru-Beam: 60 m range, receiver, 10 ms response, glass lens, infrared	MPR1HD •
	MPF Fiber Optic: 1 ms response, infrared	MPF6HD ⚡
	MPF Fiber Optic: 5 ms response, visible red	MPF2HD
	MPG Fiber Optic: 1 ms response, infrared	MPG6HD •

ANALOG HEADS (page 598)		Models
	MPF Fiber Optic: infrared	MPF5HD

2-WIRE AC HEADS (pages 598-600)		Models
	Diffuse: 300 mm range, plastic lens, infrared	MP2D7HD
	Diffuse: 760 mm range, plastic lens, infrared	MP2D4HD ⚡
	Diffuse: 1.8 m range, glass lens, infrared	MP2D1HD
	Diffuse: 1.8 m range, plastic lens, infrared	MP2D2HD •
	Polarized Retroreflective: 4.5 m range, glass lens, visible red	MP2P1HD
	Retroreflective: 9 m range, glass lens, infrared	MP2L1HD
	Retroreflective: 9 m range, plastic lens, infrared	MP2L2HD ⚡
	Thru-Beam: 36 m range, transmitter, glass lens, infrared	MPE3HD
	Thru-Beam: 36 m range, transmitter, plastic lens, infrared	MPE4HD
	Thru-Beam: 36 m range, receiver, plastic lens, infrared	MP2R2HD
	MPF Fiber Optic: infrared	MP2F1HD
	MPF Fiber Optic: visible red	MP2F2HD

2. SELECT A BASE

3. SELECT A RECEPTACLE

PLUG-IN BASES (pages 602-603)		Models
AC/DC	10.8-140 VDC/18-140 VAC 4-wire FET w/output indicator	MPS18HD ⚡
DC	10-30 VDC emitter base only	MPS30HD
	10-30 VDC NPN and PNP, 4-wire DC	MPS33HD ⚡
	10-30 VDC NPN N.O./N.C., 4-wire DC	MPS31HD ●
	10-30 VDC PNP, 3-wire DC	MPS32HD ●
AC	198-264 VAC 4-wire solid state AC relay 1 A max.	MPS12HD
	198-264 VAC emitter base only	MPS13HD
	92-132 VAC 4-wire bilateral FET (AC/DC) 100 mA max.	MPS17HD ●
	92-132 VAC 4-wire solid state AC relay 1 A max.	MPS11HD ⚡
	92-132 VAC emitter base only	MPS10HD ●

RECEPTACLE	Models
Standard 4-terminal, 1/2" NPT conduit thread	MPB20 ⚡
5-pin mini connector	MPB22 ●
4-pin micro connector	MPB27 ○

AC DPDT RELAY BASE (page 603)		Model
RELAY	DPDT, 92-132 VAC, 5 A, output indicator	MPSD11HD ⚡

DPDT RECEPTACLE	Models
8-terminal, 1/2" NPT conduit hole	MPB23 ●
8-terminal, 3/4" NPT conduit hole	MPB24

SPDT RELAY BASES (page 604)		Models
DC	SPDT, 10-30 VDC, 6 A	MPV31HD ●
SPDT RELAY AC	SPDT, 103-132 VAC, 6 A	MPV11HD
	SPDT, 192-264 VAC, 6 A	MPV12HD
	SPDT, 20-260 VAC/VDC, 6 A	MPV14HD ●
	SPDT, 22-26 VAC, 6 A	MPV13HD

NO RECEPTACLE NEEDED

MINI STYLE BASES (pages 605-607)		Models
3-WIRE DC	10-30 VDC, 2 m preleaded cable, emitter base only	▲ MPT30HD
	10-30 VDC, NPN N.O., 2 m preleaded cable	▲ MPT31HD ●
	10-30 VDC, PNP N.O., 2 m preleaded cable	▲ MPT32HD
	10-30 VDC, NPN and PNP, N.O., 2 m preleaded cable	▲ MPT33HD ⚡
4-WIRE AC	92-132VAC, 2m preleaded cable, emitter base only	▲ MPT10HD
	92-132 VAC, 4-wire bilateral FET (AC/DC), 100 mA max., 2 m preleaded cable	▲ MPT17HD
	92-132 VAC, 4-wire solid state AC relay, 0.5 A max., 2 m preleaded cable	▲ MPT11HD
AC/DC	22-26 VAC/VDC, 4-wire bilateral FET, 100 mA max., 2 m preleaded cable	▲ MPT16HD ●
MICRO CONNECT. DC	10-30 VDC, NPN N.O., 4-pin micro connector	○ MPT41HD-CM
	10-30 VDC, PNP N.O., 4-pin micro connector	○ MPT42HD-CM ●
	10-30 VDC, NPN and PNP, N.O., 4-pin micro connector	○ MPT43HD-CM ⚡
	10-30 VDC, 4-pin micro connector, emitter base only	○ MPT40HD-CM
MINI CONNECT. DC	10-30 VDC, NPN and PNP, 4-pin mini connector	● MPT43HD ⚡
	10-30 VDC, NPN N.O., 4-pin mini connector	● MPT41HD
	10-30 VDC, PNP N.O., 4-pin mini connector	● MPT42HD ●
MINI CONNECT. AC	92-132 VAC, 3-pin mini connector, emitter base only	● MPT20HD
	92-132 VAC, 4-wire solid state AC relay, 0.5 A max., 5-pin mini connector	● MPT21HD ●
	92-132 VAC, 4-wire bilateral FET (AC/DC), 100 mA max., 5-pin mini connector	● MPT27HD ●
MINI AC/DC	10.8-140 VDC/18-140 VAC, 4-wire FET w/output ind., 5-pin mini connector	● MPT28HD
MINI RELAY AC	92-132 VAC, 6 A, SPDT relay, 2 m preleaded cable	▲ MPW11HD ●
	92-132 VAC, 6 A, SPDT relay, 5-pin mini connector	● MPW21HD

ELECTRICAL CONNECTION KEY

■	Terminal connectors
●	Mini connectors
○	Micro connectors
▲	Preleaded cable

NO RECEPTACLE NEEDED

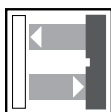
ANALOG PLUG-IN BASE (page 608)		Model
ANALOG	12-24 VDC analog output (0-5 VDC or 4-20 mA)	MPS35HD

RECEPTACLE	Models
Standard 4-terminal, 1/2" NPT conduit thread	MPB20 ⚡
5-pin mini connector	MPB22 ●

2-WIRE PLUG-IN BASES (page 609)		Models
DC	10-30 VDC emitter base only	MPS30HD
2-WIRE AC	92-132 VAC emitter base only	MPS10HD ●
	198-264 VAC emitter base only	MPS13HD
	22-26 VAC/VDC emitter base only	MPS14HD
	22-260 VAC plug-in base	MP2S11HD ⚡

- ⚡ Stocked item
 - Typical delivery 4 weeks or less
- Consult factory for all other models

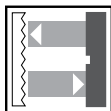
STANDARD HEADS



Diffuse Mode

Specifications	Infrared			
	450 mm	900 mm	1.3 m	3 m
SENSING RANGE	450 mm	900 mm	1.3 m	3 m
SENSITIVITY ADJUSTMENT	Yes	Yes	Yes	Yes
MODEL NUMBER(S)	MPD6HD	MPD4HD	MPD8HD	MPD1HD
	—	—	—	MPD2HD
RESPONSE TIME*	≤ 1 ms	≤ 10 ms	≤ 10 ms	≤ 10 ms
HOUSING MATERIAL	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
	LENS Plastic	Plastic	Plastic	Glass (1HD)/plastic (2HD)
ADDITIONAL DATA	<i>See page 601</i>			

*NOTE: Total response time is the sum of the sensor head and base response times.



Retro-Reflective Mode

Specifications	Visible Red		Infrared	
	4.5 m	6 m	9 m	9 m
SENSING RANGE	4.5 m	6 m	9 m	9 m
SENSITIVITY ADJUSTMENT	Yes	Yes	Yes	Yes
POLARIZED FILTER	Yes	Yes	No	No
MODEL NUMBER(S)	MPP6HD	MPP1HD	MPL1HD	MPL16HD
	—	—	MPL2HD	MPL6HD
RESPONSE TIME*	≤ 1 ms	≤ 10 ms	≤ 10 ms	≤ 1 ms
HOUSING MATERIAL	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
	LENS Glass	Glass	Glass (1HD)/plastic (2HD)	Glass (16HD)/plastic (6HD)
ADDITIONAL DATA	<i>See page 601</i>			

*NOTE: Total response time is the sum of the sensor head and base response times.

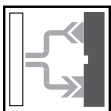
STANDARD HEADS



Thru-Beam Mode

Specifications		Infrared		
SENSING RANGE		60 m	60 m	60 m
SENSITIVITY ADJUSTMENT		Yes	Yes	Yes
MODEL NUMBER(S)	Transmitter	MPE1HD	MPE1HD	MPE2HD
	Receiver	MPR1HD	MPR16HD	MPR6HD
RESPONSE TIME*		≤ 10 ms	≤ 1 ms	≤ 1 ms
HOUSING MATERIAL		Polycarbonate	Polycarbonate	Polycarbonate
LENS		Glass	Glass	Plastic
ADDITIONAL DATA		<i>See page 601</i>		

*NOTE: Total response time is the sum of the sensor head and base response times.



Fiber Optic Mode

Specifications		Visible Red	Infrared
SENSING RANGE		Determined by cable†	Determined by cable†
SENSITIVITY ADJUSTMENT		Yes	Yes
MODEL NUMBER(S)		MPF2HD	MPF6HD
		—	MPG6HD
RESPONSE TIME*		≤ 5 ms	≤ 1 ms
HOUSING MATERIAL		Polycarbonate	Polycarbonate
ADDITIONAL DATA		<i>See page 601</i>	

*NOTE: Total response time is the sum of the sensor head and base response times.



†See pages 761-796 for fiber optic lengths and specifications.