



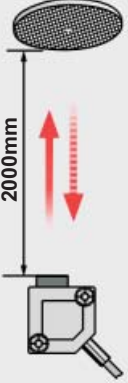





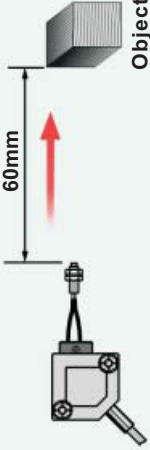



Through-beam sensor AND Reflex sensor (Standard)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Through-beam mode Sensing distance 6000mm Infrared 880nm</p>		10-36VDC	Emitter	RP30-T6000D-EX9C3U2
			NPN light-ON	RP30-T6000N-LX9C3U2
			NPN dark-ON	RP30-T6000N-DX9C3U2
			PNP light-ON	RP30-T6000D-LX9C3U2
			PNP dark-ON	RP30-T6000D-DX9C3U2
		10-36VDC	Emitter	RP30-T6000D-EX9P4UP
			NPN light-ON	RP30-T6000N-LX9P4UP
			NPN dark-ON	RP30-T6000N-DX9P4UP
			PNP light-ON	RP30-T6000D-LX9P4UP
			PNP dark-ON	RP30-T6000D-DX9P4UP
		10-36VDC	Emitter	RP30-T6000D-EX9Q4UP
			NPN light-ON	RP30-T6000N-LX9Q4UP
			NPN dark-ON	RP30-T6000N-DX9Q4UP
			PNP light-ON	RP30-T6000D-LX9Q4UP
			PNP dark-ON	RP30-T6000D-DX9Q4UP
 <p>Retro-reflective mode with polarizing filter Sensing distance 2000mm LED red polarized 660nm</p>		10-36VDC	NPN light-ON	RP30-L2000N-LX6C3U2-PF
			NPN dark-ON	RP30-L2000N-DX6C3U2-PF
			PNP light-ON	RP30-L2000P-LX6C3U2-PF
			PNP dark-ON	RP30-L2000P-DX6C3U2-PF
		10-36VDC	NPN light-ON	RP30-L2000N-LX6P4UP-PF
			NPN dark-ON	RP30-L2000N-DX6P4UP-PF
			PNP light-ON	RP30-L2000P-LX6P4UP-PF
			PNP dark-ON	RP30-L2000P-DX6P4UP-PF
		10-36VDC	NPN light-ON	RP30-L2000N-LX6Q4UP-PF
			NPN dark-ON	RP30-L2000N-DX6Q4UP-PF
			PNP light-ON	RP30-L2000P-LX6Q4UP-PF
			PNP dark-ON	RP30-L2000P-DX6Q4UP-PF

Diffuse sensor AND diffuse sensor with background suppression (Standard)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Diffuse mode Sensing distance 600mm Infrared 880nm</p>		10-36VDC	NPN light-ON	RP30-D0600N-LX9C3U2
			NPN dark-ON	RP30-D0600N-DX9C3U2
			PNP light-ON	RP30-D0600P-LX9C3U2
			PNP dark-ON	RP30-D0600P-DX9C3U2
		10-36VDC	NPN light-ON	RP30-D0600N-LX9P4UP
			NPN dark-ON	RP30-D0600N-DX9P4UP
			PNP light-ON	RP30-D0600P-LX9P4UP
			PNP dark-ON	RP30-D0600P-DX9P4UP
		10-36VDC	NPN light-ON	RP30-D0600N-LX9Q4UP
			NPN dark-ON	RP30-D0600N-DX9Q4UP
			PNP light-ON	RP30-D0600P-LX9Q4UP
			PNP dark-ON	RP30-D0600P-DX9Q4UP
 <p>Diffuse mode with background suppression Sensing distance 15-150mm LED red 660nm</p>		10-36VDC	NPN light-ON	RP30-D0150N-LX6C3U2-BS
			NPN dark-ON	RP30-D0150N-DX6C3U2-BS
			PNP light-ON	RP30-D0150P-LX6C3U2-BS
			PNP dark-ON	RP30-D0150P-DX6C3U2-BS
		10-36VDC	NPN light-ON	RP30-D0150N-LX6P4UP-BS
			NPN dark-ON	RP30-D0150N-DX6P4UP-BS
			PNP light-ON	RP30-D0150P-LX6P4UP-BS
			PNP dark-ON	RP30-D0150P-DX6P4UP-BS
		10-36VDC	NPN light-ON	RP30-D0150N-LX6Q4UP-BS
			NPN dark-ON	RP30-D0150N-DX6Q4UP-BS
			PNP light-ON	RP30-D0150P-LX6Q4UP-BS
			PNP dark-ON	RP30-D0150P-DX6Q4UP-BS


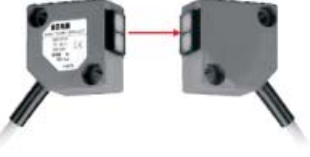


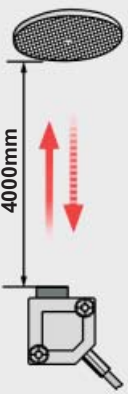



Fiber-optic amplifier (Standard)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number	
 <p>Fiber-optic amplifier Diffuse mode Sensing distance 60mm LED red 660nm</p>		10-36VDC	NPN light-ON	RP30-FPFN-LX6C3U2/60	
			NPN dark-ON	RP30-FPFN-DX6C3U2/60	
			PNP light-ON	RP30-FPFP-LX6C3U2/60	
			PNP dark-ON	RP30-FPFP-DX6C3U2/60	
		10-36VDC	NPN light-ON	RP30-FPFN-LX6P4UP/60	
			NPN dark-ON	RP30-FPFN-DX6P4UP/60	
			PNP light-ON	RP30-FPFP-LX6P4UP/60	
			PNP dark-ON	RP30-FPFP-DX6P4UP/60	
		10-36VDC	NPN light-ON	RP30-FPFN-LX6Q4UP/60	
			NPN dark-ON	RP30-FPFN-DX6Q4UP/60	
			PNP light-ON	RP30-FPFP-LX6Q4UP/60	
			PNP dark-ON	RP30-FPFP-DX6Q4UP/60	

Sensors specifications (Standard)

Item	Type Model No.	Through-beam	Diffuse reflective		Retro-reflective mode with polarizing filter	Fiber-optic amplifier
				With background suppression		
		RP30-T6000x-xxxxxx	PR30-D600x-xxxxxx	RP30-D0150x-xxxxxx-BS	RP30-L2000x-xxxxxx-PF	RP30-FPFx-xxxxxx-xx
Sensing range		6000mm	600mm	15-150mm	2000mm	60mm
Sensing object		—	200x200mm white	100x100mm white	Reflector type RE-D82	100x100mm white
Hysteresis	10% typ.					
Supply Voltage	10-36VDC					
Max. ripple content	20%					
Output current	200mA max.					
No-load supply current	15mA Typ.					
Output voltage drop	2.0V max. At 200mA					
Max. Switching frequency	1000Hz/500Hz					
Short-circuit protection	Yes					
Reverse polarity protection	Yes					
Overload current protection	Yes					
Switching time(and)	0.5msec/1msec					
Operation indicator	The yellow LED lights up when the output is switched . The green LED lights up when sufficient light is available for reliable operation (approx.80% of the maximum operating distance).					
Sensitivity setting	The sensitivity can be very finely adjusted by means of the built-in 12-turn potentiometer. The potentiometer cannot be turned too far. Turning clockwise increases the sensitivity					
Protection	IP67(IEC)					
Ambient temperature	-25 to 55°C					
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)					
Emitting element	Infrared 880nm	Infrared 880nm	LED red 660nm	LED red polarized 660nm	LED red 660nm	
Cable	cable 2m or 9m long					
Pigtail type	M8 Pico 4pin+6" cable					
Connection type	M8 Pico 4pin					
Weight(cable/connector model)	150/34g	75/17g	75/17g	80/18g	78/17g	

Through-beam sensor AND Reflex sensor (Long range)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Through-beam mode Sensing distance 12m Infrared 880nm</p>		10-36VDC	Emitter	RP30-T012MD-EX9C4U2
			NPN light-ON	RP30-T012MN-LX9C4U2
			NPN dark-ON	RP30-T012MN-DX9C4U2
			PNP light-ON	RP30-T012MD-LX9C4U2
			PNP dark-ON	RP30-T012MD-DX9C4U2
		10-36VDC	Emitter	RP30-T012MD-EX9P4UP
			NPN light-ON	RP30-T012MN-LX9P4UP
			NPN dark-ON	RP30-T012MN-DX9P4UP
			PNP light-ON	RP30-T012MD-LX9P4UP
			PNP dark-ON	RP30-T012MD-DX9P4UP
		10-36VDC	Emitter	RP30-T012MD-EX9Q4UP
			NPN light-ON	RP30-T012MN-LX9Q4UP
			NPN dark-ON	RP30-T012MN-DX9Q4UP
			PNP light-ON	RP30-T012MD-LX9Q4UP
			PNP dark-ON	RP30-T012MD-DX9Q4UP
 <p>Retro-reflective mode with polarizing filter Sensing distance 4000mm LED red polarized 660nm</p>		10-36VDC	NPN light-ON	RP30-L4000N-LX6C4U2-BS
			NPN dark-ON	RP30-L4000N-DX6C4U2-BS
			PNP light-ON	RP30-L4000P-LX6C4U2-BS
			PNP dark-ON	RP30-L4000P-DX6C4U2-BS
		10-36VDC	NPN light-ON	RP30-L4000N-LX6P4UP-BS
			NPN dark-ON	RP30-L4000N-DX6P4UP-BS
			PNP light-ON	RP30-L4000P-LX6P4UP-BS
			PNP dark-ON	RP30-L4000P-DX6P4UP-BS
		10-36VDC	NPN light-ON	RP30-L4000N-LX6Q4UP-BS
			NPN dark-ON	RP30-L4000N-DX6Q4UP-BS
			PNP light-ON	RP30-L4000P-LX6Q4UP-BS
			PNP dark-ON	RP30-L4000P-DX6Q4UP-BS

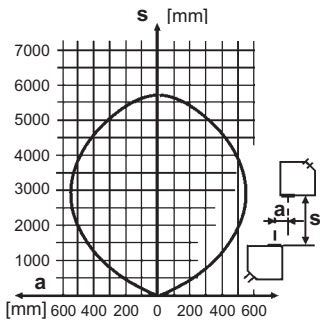
Diffuse sensor AND Fiber-optic amplifier (Long range)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Diffuse mode Sensing distance 1200mm Infrared 880nm</p>		10-36VDC	NPN light-ON	RP30-D1200N-LX9C4U2
			NPN dark-ON	RP30-D1200N-DX9C4U2
			PNP light-ON	RP30-D1200P-LX9C4U2
			PNP dark-ON	RP30-D1200P-DX9C4U2
		10-36VDC	NPN light-ON	RP30-D1200N-LX9P4UP
			NPN dark-ON	RP30-D1200N-DX9P4UP
			PNP light-ON	RP30-D1200P-LX9P4UP
			PNP dark-ON	RP30-D1200P-DX9P4UP
		10-36VDC	NPN light-ON	RP30-D1200N-LX9Q4UP
			NPN dark-ON	RP30-D1200N-DX9Q4UP
			PNP light-ON	RP30-D1200P-LX9Q4UP
			PNP dark-ON	RP30-D1200P-DX9Q4UP
 <p>Fiber-optic amplifier Diffuse mode Sensing distance 120mm LED red 660nm</p>		10-36VDC	NPN light-ON	RP30-FPFN-LX6C4U2/120
			NPN dark-ON	RP30-FPFN-DX6C4U2/120
			PNP light-ON	RP30-FPFP-LX6C4U2/120
			PNP dark-ON	RP30-FPFP-DX6C4U2/120
		10-36VDC	NPN light-ON	RP30-FPFN-LX6P4UP/120
			NPN dark-ON	RP30-FPFN-DX6P4UP/120
			PNP light-ON	RP30-FPFP-LX6P4UP/120
			PNP dark-ON	RP30-FPFP-DX6P4UP/120
		10-36VDC	NPN light-ON	RP30-FPFN-LX6Q4UP/120
			NPN dark-ON	RP30-FPFN-DX6Q4UP/120
			PNP light-ON	RP30-FPFP-LX6Q4UP/120
			PNP dark-ON	RP30-FPFP-DX6Q4UP/120

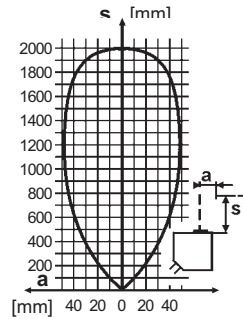
Sensors specifications (Long range)

Item	Type	Through-beam	Retro-reflective mode with polarizing filter	Diffuse reflective	Fiber-optic amplifier
	Model No.	RP30-T6000x-xxxxxx	RP30-L2000x-xxxxxx-PF	PR30-D600x-xxxxxx	RP30-PPFx-xxxxxx-xx
Sensing range		12m	4000mm	1200mm	120mm
Sensing object		—	Reflector type RE-D82	200x200mm white	100x100mm white
Hysteresis	10% typ.				
Supply Voltage	10-36VDC				
Max. ripple content	20%				
Output current	200mA max.				
No-load supply current	15mA Typ.				
Output voltage drop	2.0V max. At 200mA				
Max. Switching frequency	1000Hz/500Hz				
Short-circuit protection	Yes				
Reverse polarity protection	Yes				
Overload current protection	Yes				
Switching time(↑ and ↓)	0.5msec/1msec				
Operation indicator	The yellow LED lights up when the output is switched . The green LED lights up when sufficient light is available for reliable operation (approx.80% of the maximum operating distance).				
Sensitivity setting	The sensitivity can be very finely adjusted by means of the built-in 12-turn potentiometer. The potentiometer cannot be turned too far. Turning clockwise increases the sensitivity				
Protection	IP67(IEC)				
Ambient temperature	-25 to 55°C				
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2. 3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)				
Emitting element	LED red 660nm	LED red 660nm	LED red 660nm	LED red 660nm	LED red polarized 660nm
Cable	cable 2m or 9m long				
Pigtail type	M8 Pico 4pin+6" cable				
Connection type	M8 Pico 4pin				
Weight(cable/connector model)	150/34g	75/17g	80/18g	78/18g	

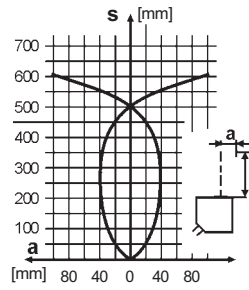
Characteristic curve (Standard))



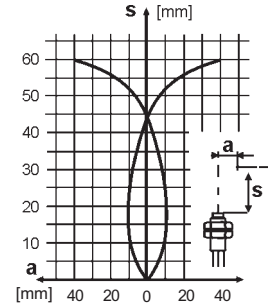
Through-beam sensor



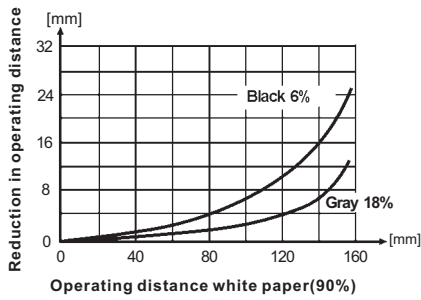
Retro-reflective sensor (with polarizing filter)



Diffuse sensor

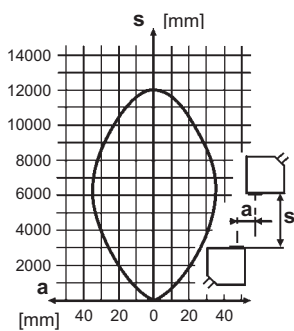


Fiber-optic amplifier

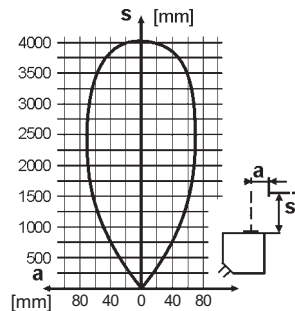


Diffuse sensor with background suppression

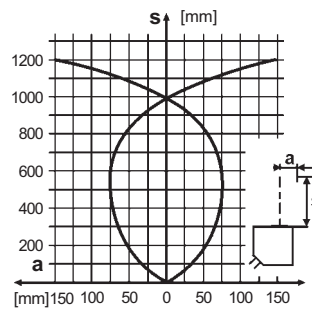
Characteristic curve (Long range)



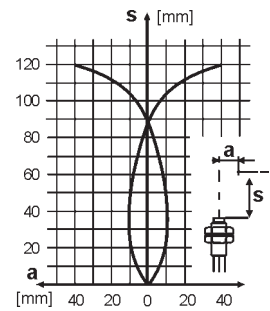
Through-beam sensor



Retro-reflective sensor (with polarizing filter)

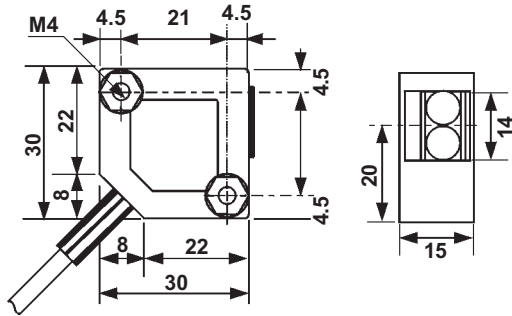


Diffuse sensor

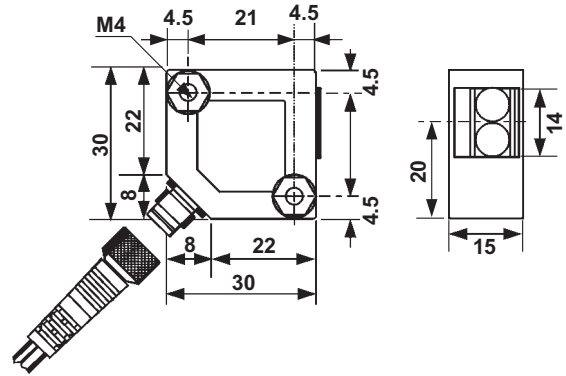


Fiber-optic amplifier

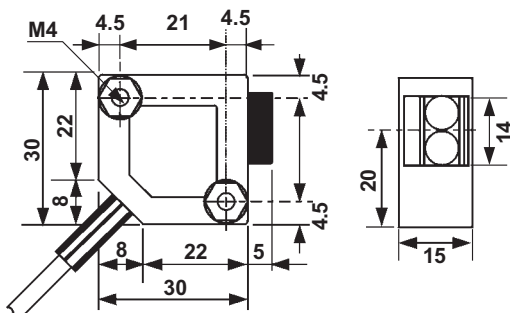
■ Dimensions



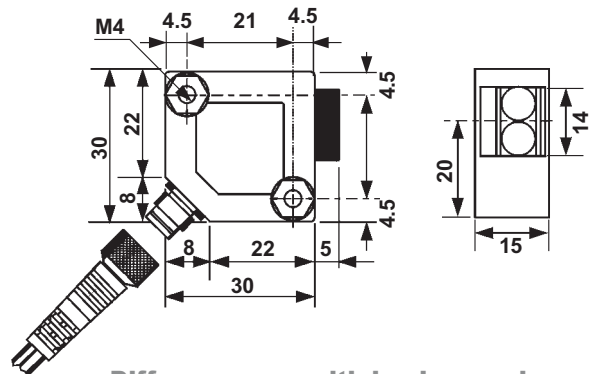
Through-beam sensor/cable
Diffuse sensor/cable



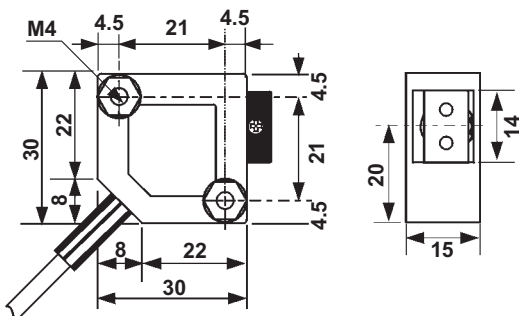
Through-beam sensor/connector
Diffuse sensor/connector



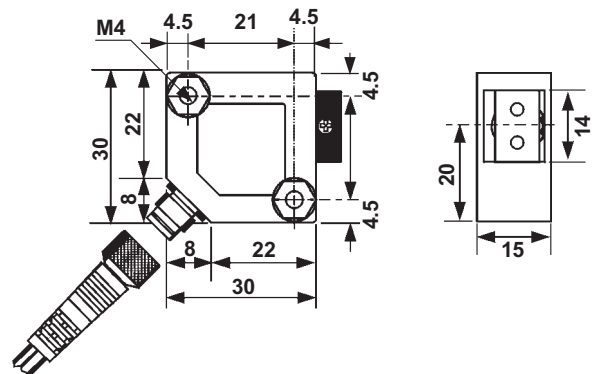
Diffuse sensor with background suppression/cable
Reflex sensor/cable



Diffuse sensor with background suppression/connector
Reflex sensor/connector



Fiber-optic amplifier/cable

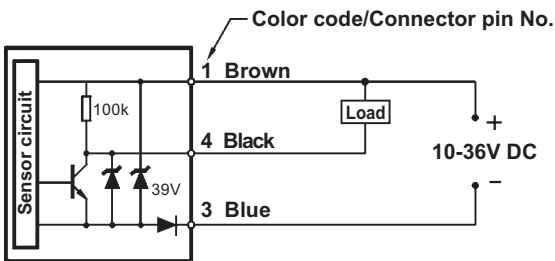


Fiber-optic amplifier/connector

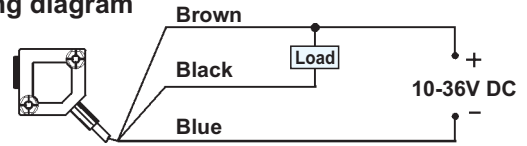
NPN output type

1 NPN light-ON/dark-ON output

I/O circuit diagram

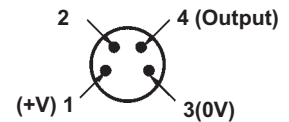


Wiring diagram

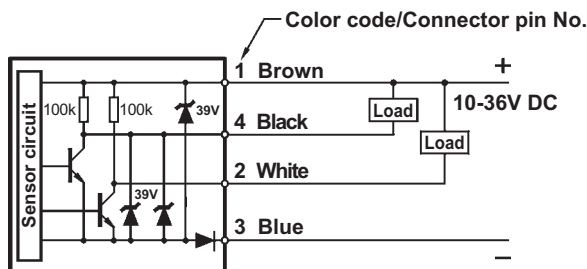


Connector pin position

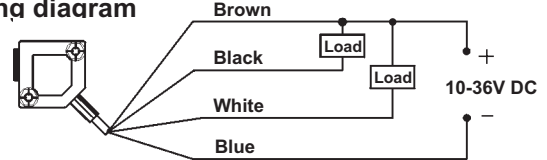
Pico-Style



2 NPN changeover outputs

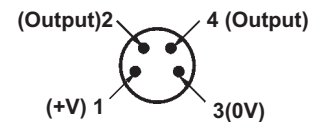


Wiring diagram



Connector pin position

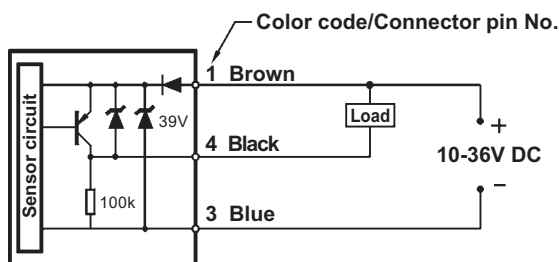
Pico-Style



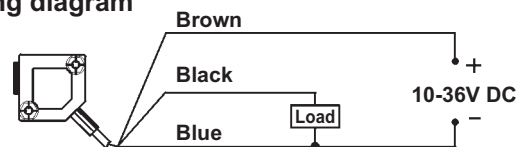
PNP output type

1 PNP light-ON/dark-ON output

I/O circuit diagram

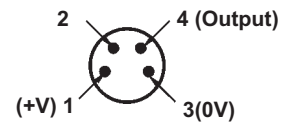


Wiring diagram

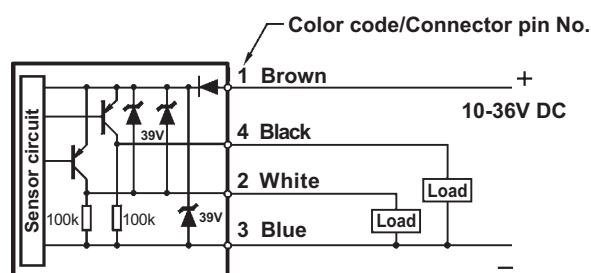


Connector pin position

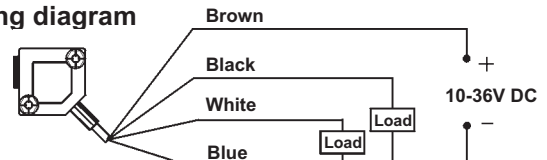
Pico-Style



2 PNP changeover outputs

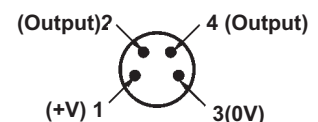


Wiring diagram



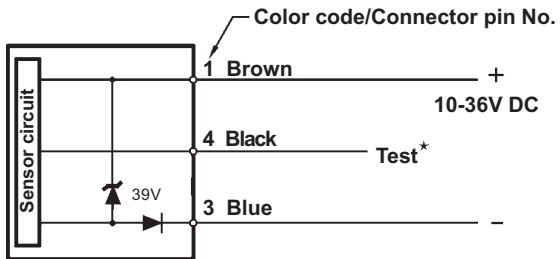
Connector pin position

Pico-Style



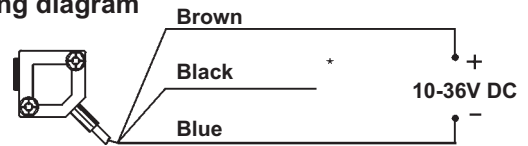
Emitter

I/O circuit diagram



*: Test(black wire)=0V, Emitter off.

Wiring diagram



Connector pin position

Pico-Style

