

Q50 SERIES PHOTOELECTRIC SENSOR (10-30VDC)

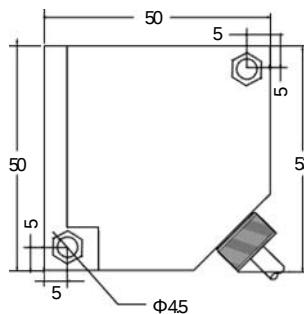
Series	Q50	Q50
Sensing Mode	Diffuse	Diffuse
Sensing Schematic		
Sensing Range	100mm~400mm	200mm~1000mm
Supply Voltage	10-30VDC (±10%)	10-30VDC (±10%)
Absorption At 30VDC	40mA	40mA
Max. Load current	200mA	200mA
Voltage Drop (Sensor ON)	≤2.0V (I=100mA)	≤2.0V (I=100mA)
Switching Hysteresis	<10%(Sr)	<10%(Sr)
Output	PNP or NPN	PNP or NPN
Output Operation	Light On or Dark On	Light On or Dark On
Response Time	5ms	5ms
Start Up Delay	100ms	100ms
Emitting Element	Infrared (880nm)	Infrared (880nm)
Protection Category	IP65	IP65
Operating Temperature	-25℃ - +55℃	-25℃ - +55℃
Light Immunity	>10.000Lux	>10.000Lux
Sensitivity Adjustment	Trimmer 1 turn	Trimmer 1 turn
Short Circuit Protection	Yes	Yes
Reverse Polarity Protection	Yes	Yes
Indicator	Yellow LED: output; Green LED: Power Supply	Yellow LED: output; Green LED: Power Supply
Weight	approx.165 g	approx.165 g
Housing Material	PBT	PBT
2m PVC Cable (4.0Φ 4x0.25)	Diffuse	Diffuse
M12 Connector	Diffuse	Diffuse

Picture

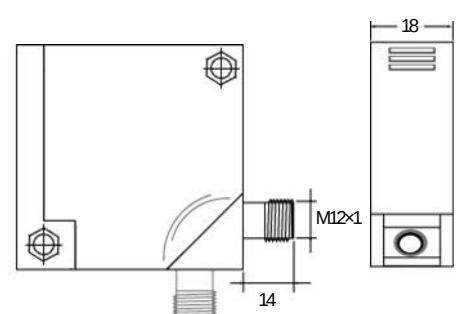


Dimensions (unit: mm)

- Cable Version

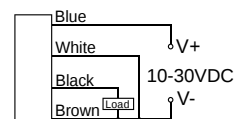
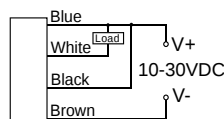
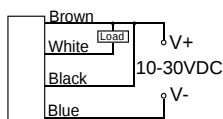


- M12 Connector Version

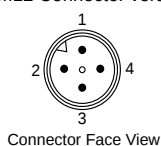


Wiring Diagram

- Cable version - NPN Light On
- Cable version - NPN Dark On
- Cable version - PNP Light On
- Cable version - PNP Dark On



- M12 Connector version



Output	Contact numbers			
	1	2	3	4
NPN Light On	+	Light	-	+
NPN Dark On	-	Dark	+	+
PNP Light On	+	-	-	Light
PNP Dark On	-	-	+	Dark
Emitter	+		-	

Q50 SERIES PHOTOELECTRIC SENSOR (10-30VDC)

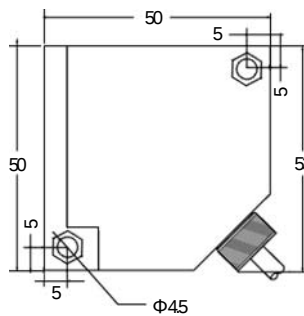
Series	Q50	Q50
Sensing Mode	Diffuse	Diffuse
Sensing Schematic		
Sensing Range	200mm~1800mm	300mm~2000mm
Supply Voltage	10-30VDC (±10%)	10-30VDC (±10%)
Absorption At 30VDC	40mA	40mA
Max. Load current	200mA	200mA
Voltage Drop (Sensor ON)	≤2.0V (I=100mA)	≤2.0V (I=100mA)
Switching Hysteresis	<10%(Sr)	<10%(Sr)
Output	PNP or NPN	PNP or NPN
Output Operation	Light On or Dark On	Light On or Dark On
Response Time	5ms	5ms
Start Up Delay	100ms	100ms
Emitting Element	Infrared (880nm)	Infrared (880nm)
Protection Category	IP65	IP65
Operating Temperature	-25℃ - +55℃	-25℃ - +55℃
Light Immunity	>10.000Lux	>10.000Lux
Sensitivity Adjustment	Trimmer 1 turn	Trimmer 1 turn
Short Circuit Protection	Yes	Yes
Reverse Polarity Protection	Yes	Yes
Indicator	Yellow LED: output; Green LED: Power Supply	Yellow LED: output; Green LED: Power Supply
Weight	approx.165 g	approx.165 g
Housing Material	PBT	PBT
2m PVC Cable (4.0Φ 4x0.25)	Diffuse	Diffuse
M12 Connector	Diffuse	Diffuse

Picture

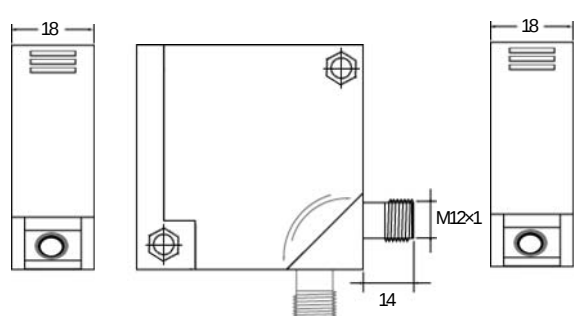


Dimensions (unit: mm)

- Cable Version

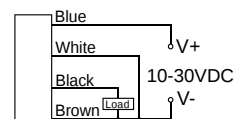
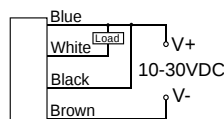
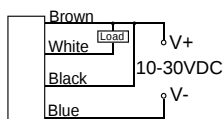


- M12 Connector Version

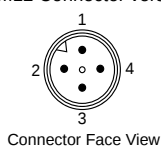


Wiring Diagram

- Cable version - NPN Light On
- Cable version - NPN Dark On
- Cable version - PNP Light On
- Cable version - PNP Dark On



- M12 Connector version



Output	Contact numbers			
	1	2	3	4
NPN Light On	+	Light	-	+
NPN Dark On	-	Dark	+	+
PNP Light On	+	-	-	Light
PNP Dark On	-	-	+	Dark
Emitter	+		-	

Q50 SERIES PHOTOELECTRIC SENSOR (10-30VDC)

Series	Q50	Q50
Sensing Mode	Retro-reflective	Retro-reflective (With polarized filter)
Sensing Schematic		
Sensing Range	10M	6M
Supply Voltage	10-30VDC (±10%)	10-30VDC (±10%)
Absorption At 30VDC	40mA	40mA
Max. Load current	200mA	200mA
Voltage Drop (Sensor ON)	≤2.0V (I=100mA)	≤2.0V (I=100mA)
Switching Hysteresis	<10%(Sr)	<10%(Sr)
Output	PNP or NPN	PNP or NPN
Output Operation	Light On or Dark On	Light On or Dark On
Response Time	5ms	5ms
Start Up Delay	100ms	100ms
Emitting Element	Infrared (880nm)	Red (660nm)
Protection Category	IP65	IP65
Operating Temperature	-25°C - +55°C	-25°C - +55°C
Light Immunity	>10,000Lux	>10,000Lux
Sensitivity Adjustment	Trimmer 1 turn	Trimmer 1 turn
Short Circuit Protection	Yes	Yes
Reverse Polarity Protection	Yes	Yes
Indicator	Yellow LED: output; Green LED: Power Supply	Yellow LED: output; Green LED: Power Supply
Weight	approx.165 g	approx.165 g
Housing Material	PBT	PBT
2m PVC Cable (4.0Φ 4x0.25)	Retro-reflective	Retro-reflective
	PPQ50-R10MD-D1V2	PPQ50-R6D-D1V2F
M12 Connector	Retro-reflective	Retro-reflective
	PPQ50-R10MD-D1E4	PPQ50-R6D-D1E4F

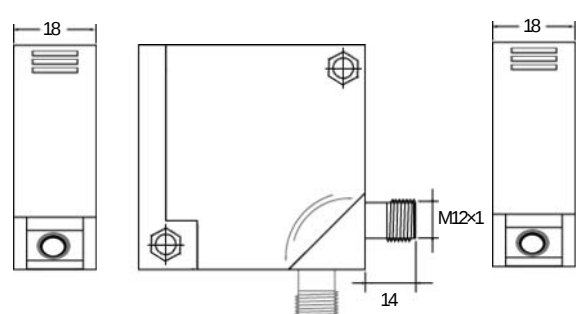
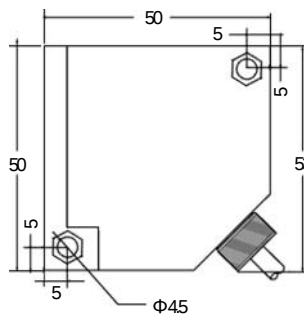
Picture



Dimensions (unit: mm)

● Cable Version

● M12 Connector Version



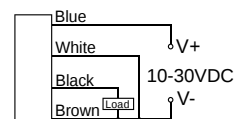
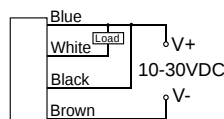
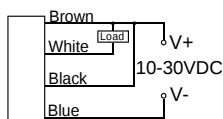
Wiring Diagram

● Cable version - NPN Light On

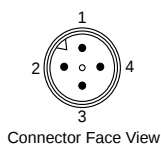
● Cable version - NPN Dark On

● Cable version - PNP Light On

● Cable version - PNP Dark On



● M12 Connector version



Output	Contact numbers			
	1	2	3	4
NPN Light On	+	Light	-	+
NPN Dark On	-	Dark	+	+
PNP Light On	+	-	-	Light
PNP Dark On	-	-	+	Dark
Emitter	+		-	

Q50 SERIES PHOTOELECTRIC SENSOR (10-30VDC)

Series	Q50	Q50
Sensing Mode	Through-beam	Through-beam
Sensing Schematic		
Sensing Range	20M	40M
Supply Voltage	10-30VDC (±10%)	10-30VDC (±10%)
Absorption At 30VDC	40mA	40mA
Max. Load current	200mA	200mA
Voltage Drop (Sensor ON)	≤2.0V (I=100mA)	≤2.0V (I=100mA)
Switching Hysteresis	<10%(Sr)	<10%(Sr)
Output	PNP or NPN	PNP or NPN
Output Operation	Light On or Dark On	Light On or Dark On
Response Time	5ms	5ms
Start Up Delay	100ms	100ms
Emitting Element	Infrared (880nm)	Infrared (880nm)
Protection Category	IP65	IP65
Operating Temperature	-25°C - +55°C	-25°C - +55°C
Light Immunity	>10.000Lux	>10.000Lux
Sensitivity Adjustment	Trimmer 1 turn	Trimmer 1 turn
Short Circuit Protection	Yes	Yes
Reverse Polarity Protection	Yes	Yes
Indicator	Yellow LED: output; Green LED: Power Supply	Yellow LED: output; Green LED: Power Supply
Weight	approx.165 g	approx.165 g
Housing Material	PBT	PBT
2m PVC Cable (4.0Φ 4x0.25)	Emitter	PPQ50-T20ME-H1V2
	Receiver	PPQ50-T20MD-D1V2
M12 Connector	Emitter	PPQ50-T20ME-H1E4
	Receiver	PPQ50-T20MD-D1E4
	Emitter	PPQ50-T40ME-H1V2
	Receiver	PPQ50-T40MD-D1V2
	Emitter	PPQ50-T40ME-H1E4
	Receiver	PPQ50-T40MD-D1E4

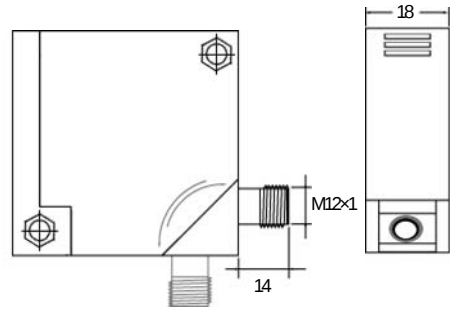
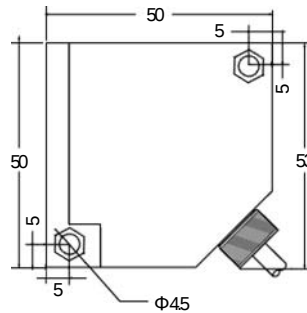
Picture



Dimensions (unit: mm)

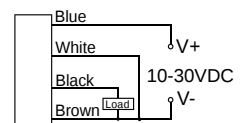
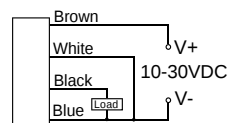
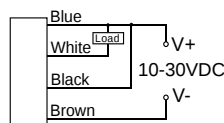
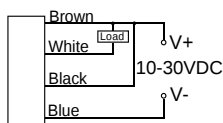
● Cable Version

● M12 Connector Version

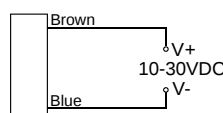


Wiring Diagram

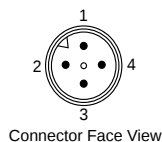
● Cable version - NPN Light On ● Cable version - NPN Dark On ● Cable version - PNP Light On ● Cable version - PNP Dark On



● Emitter (cable version)



● M12 Connector version



Output	Contact numbers			
	1	2	3	4
NPN Light On	+	Light	-	+
NPN Dark On	-	Dark	+	+
PNP Light On	+	-	-	Light
PNP Dark On	-	-	+	Dark
Emitter	+	-	-	-

Q50 SERIES PHOTOELECTRIC SENSOR (12-240VDC/24/240VAC)

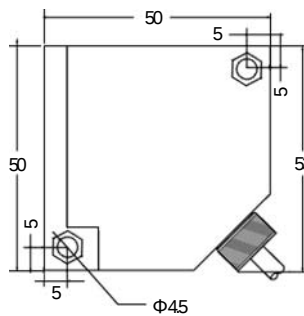
Series	Q50	Q50
Sensing Mode	Diffuse	Diffuse
Sensing Schematic		
Sensing Range	100mm~400mm	200mm~1000mm
Supply Voltage	12-240VDC / 24-240VAC	12-240VDC / 24-240VAC
Mains Frequency	50/60Hz	50/60Hz
Tolerance	±10%	±10%
Power Consumption	<2.5VA	<2.5VA
Switching Hysteresis	<10%(Sr)	<10%(Sr)
Output	Relay SPDT	Relay SPDT
Max. Output Current	3A/30VAC, 1A/220VAC	3A/30VAC, 1A/220VAC
Response Time	20ms	20ms
Start Up Delay	≤300ms	≤300ms
Emitting Element	Infrared (880nm)	Infrared (880nm)
Protection Category	IP65	IP65
Operating Temperature	-25℃ - +55℃	-25℃ - +55℃
Light Immunity	>10.000Lux	>10.000Lux
Sensitivity Adjustment	Trimmer 1 turn	Trimmer 1 turn
Switching Frequency	10 Hz	10 Hz
Indicator	Yellow LED: output; Green LED: Power Supply	Yellow LED: output; Green LED: Power Supply
Weight	approx.165 g	approx.165 g
Housing Material	PBT	PBT
Sensing Object	20x20cm white paper	20x20cm white paper
2m PVC Cable (5.0 ∅ 4x0.25)	Diffuse	Diffuse
	PPQ50-D04U-E3V2	PPQ50-D1U-E3V2
M12 Connector	Diffuse	Diffuse
	PPQ50-D04U-E3E4	PPQ50-D1U-E3E4

Picture

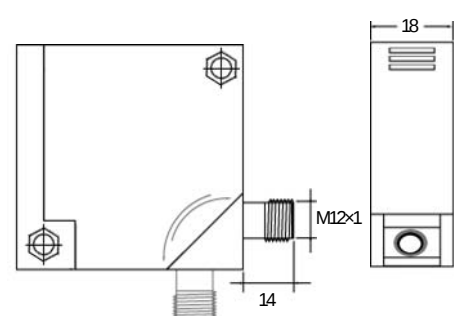


Dimensions (unit: mm)

● Cable Version

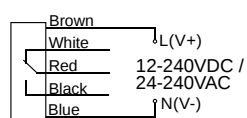


● M12 Connector Version

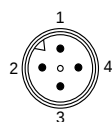


Wiring Diagram

● Cable version



● M12 Connector version



Connector Face View

Output	Contact numbers			
	1	2	3	4
Relay	L(+)	Com	N(-)	N.O.
Wire colors	Brown	White	Blue	Black

Note: Photoelectric sensor not suitable for use with 90°connectors.

Q50 SERIES PHOTOELECTRIC SENSOR (12-240VDC/24/240VAC)

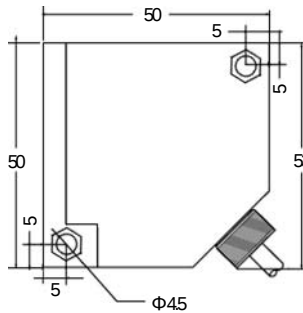
Series	Q50	Q50
Sensing Mode	Diffuse	Diffuse
Sensing Schematic		
Sensing Range	200mm~1800mm	300mm~2000mm
Supply Voltage	12-240VDC / 24-240VAC	12-240VDC / 24-240VAC
Mains Frequency	50/60Hz	50/60Hz
Tolerance	±10%	±10%
Power Consumption	<2.5VA	<2.5VA
Switching Hysteresis	<10%(Sr)	<10%(Sr)
Output	Relay SPDT	Relay SPDT
Max. Output Current	3A/30VAC, 1A/220VAC	3A/30VAC, 1A/220VAC
Response Time	20ms	20ms
Start Up Delay	≤300ms	≤300ms
Emitting Element	Infrared (880nm)	Infrared (880nm)
Protection Category	IP65	IP65
Operating Temperature	-25℃ - +55℃	-25℃ - +55℃
Light Immunity	>10.000Lux	>10.000Lux
Sensitivity Adjustment	Trimmer 1 turn	Trimmer 1 turn
Switching Frequency	10 Hz	10 Hz
Indicator	Yellow LED: output; Green LED: Power Supply	Yellow LED: output; Green LED: Power Supply
Weight	approx.165 g	approx.165 g
Housing Material	PBT	PBT
Sensing Object	20x20cm white paper	20x20cm white paper
2m PVC Cable (5.0φ 4x0.25)	Diffuse	Diffuse
	PPQ50-D18U-E3V2	PPQ50-D2U-E3V2
M12 Connector	Diffuse	Diffuse
	PPQ50-D18U-E3E4	PPQ50-D2U-E3E4

Picture

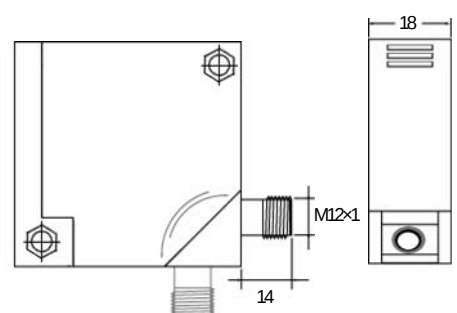


Dimensions (unit: mm)

- Cable Version

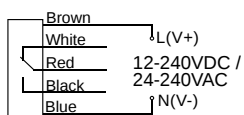


- M12 Connector Version

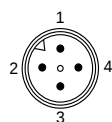


Wiring Diagram

- Cable version



- M12 Connector version



Connector Face View

Output	Contact numbers			
	1	2	3	4
Relay	L(+)	Com	N(-)	N.O.
Wire colors	Brown	White	Blue	Black

Note: Photoelectric sensor not suitable for use with 90°connectors.

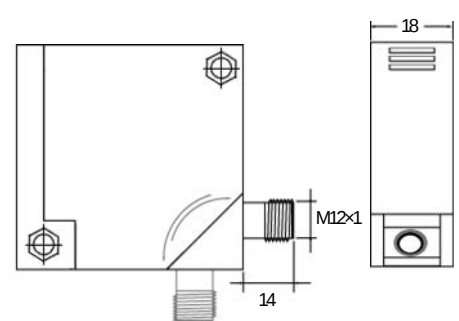
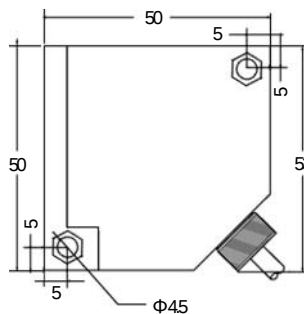
Q50 SERIES PHOTOELECTRIC SENSOR (12-240VDC/24/240VAC)

Series		Q50		Q50	
Sensing Mode		Retro-reflective		Retro-reflective (With polarized filter)	
Sensing Schematic					
Sensing Range		10M		6M	
Supply Voltage		12-240VDC / 24-240VAC		12-240VDC / 24-240VAC	
Mains Frequency		50/60Hz		50/60Hz	
Tolerance		±10%		±10%	
Power Consumption		<2.5VA		<2.5VA	
Switching Hysteresis		<10%(Sr)		<10%(Sr)	
Output		Relay SPDT		Relay SPDT	
Max. Output Current		3A/30VAC, 1A/220VAC		3A/30VAC, 1A/220VAC	
Response Time		20ms		20ms	
Start Up Delay		≤300ms		≤300ms	
Emitting Element		Infrared (880nm)		Infrared (880nm)	
Protection Category		IP65		IP65	
Operating Temperature		-25℃ - +55℃		-25℃ - +55℃	
Light Immunity		>10.000Lux		>10.000Lux	
Sensitivity Adjustment		Trimmer 1 turn		Trimmer 1 turn	
Switching Frequency		10 Hz		10 Hz	
Indicator		Yellow LED: output; Green LED: Power Supply		Yellow LED: output; Green LED: Power Supply	
Weight		approx.165 g		approx.165 g	
Housing Material		PBT		PBT	
Sensing Object		D83 Mirror		D83 Mirror	
2m PVC Cable (5.0 ϕ 5x0.25)					
	Retro-reflective	PPQ50-R10MU-E3V2		PPQ50-R6U-E3V2/F	
M12 Connector					
	Retro-reflective	PPQ50-R10MU-E3E4		PPQ50-R6U-E3E4/F	



- Cable Version

- M12 Connector Version



Wiring Diagram

- Cable version

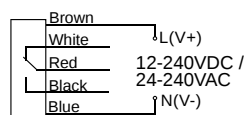
- M12 Connector version

Connector Face View

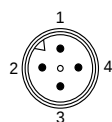
Output	Contact numbers			
	1	2	3	4
Relay	L(+)	Com	N(-)	N.O.
Wire colors	Brown	White	Blue	Black

Note: Photoelectric sensor not suitable for use with 90° connectors.

- Cable version



- M12 Connector version

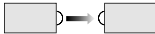
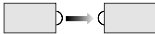


Connector Face View

Output	Contact numbers			
	1	2	3	4
Relay	L(+)	Com	N(-)	N.O.
Wire colors	Brown	White	Blue	Black

Note: Photoelectric sensor not suitable for use with 90°connectors.

Q50 SERIES PHOTOELECTRIC SENSOR (12-240VDC/24/240VAC)

Series	Q50	Q50
Sensing Mode	Through-beam	Through-beam
Sensing Schematic		
Sensing Range	20M	40M
Supply Voltage	12-240VDC / 24-240VAC	12-240VDC / 24-240VAC
Mains Frequency	50/60Hz	50/60Hz
Tolerance	±10%	±10%
Power Consumption	<2.5VA	<2.5VA
Switching Hysteresis	<10%(Sr)	<10%(Sr)
Output	Relay SPDT	Relay SPDT
Max. Output Current	3A/30VAC, 1A/220VAC	3A/30VAC, 1A/220VAC
Response Time	20ms	20ms
Start Up Delay	≤300ms	≤300ms
Emitting Element	Infrared (880nm)	Infrared (880nm)
Protection Category	IP65	IP65
Operating Temperature	-25°C - +55°C	-25°C - +55°C
Light Immunity	>10.000Lux	>10.000Lux
Sensitivity Adjustment	Trimmer 1 turn	Trimmer 1 turn
Switching Frequency	10 Hz	10 Hz
Indicator	Yellow LED: output; Green LED: Power Supply	Yellow LED: output; Green LED: Power Supply
Weight	approx.165 g	approx.165 g
Housing Material	PBT	PBT
Sensing Object	-	-
2m PVC Cable (5.0 Ø 5x0.25)	Emitter	PPQ50-T20MU-H3V2
	Receiver	PPQ50-T20MU-E3V2
M12 Connector	Emitter	PPQ50-T20MU-H3E4
	Receiver	PPQ50-T20MU-E3E4
	Emitter	PPQ50-T40MU-H3V2
	Receiver	PPQ50-T40MU-E3V2
	Emitter	PPQ50-T40MU-H3E4
	Receiver	PPQ50-T40MU-E3E4

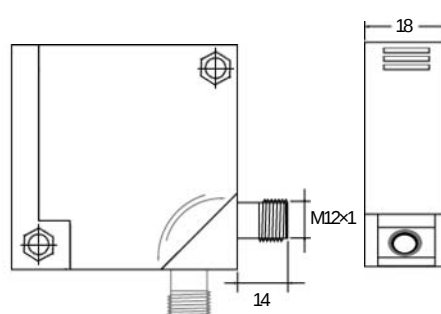
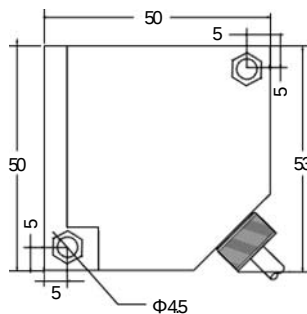
Picture



Dimensions (unit: mm)

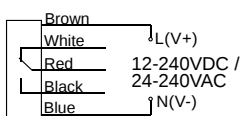
● Cable Version

● M12 Connector Version

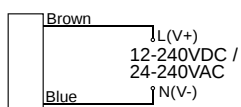


Wiring Diagram

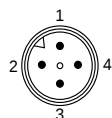
● Cable version - Receiver



● Cable version - Emitter



● M12 Connector version



Connector Face View

Output	Contact numbers			
	1	2	3	4
Relay	L(+)	Com	N(-)	N.O.
Emitter	L(+)		N(-)	
Wire colors	Brown	White	Blue	Black

Note: Photoelectric sensor not suitable for use with 90° connectors.