

U shape photoelectric sensor PU05 series



Features

- ◆ Wide voltage: 5...24VDC;
- ◆ Various size and shapes;
- ◆ L/ON and D/ON. optional;
- ◆ With flexible twist-resistant cable.



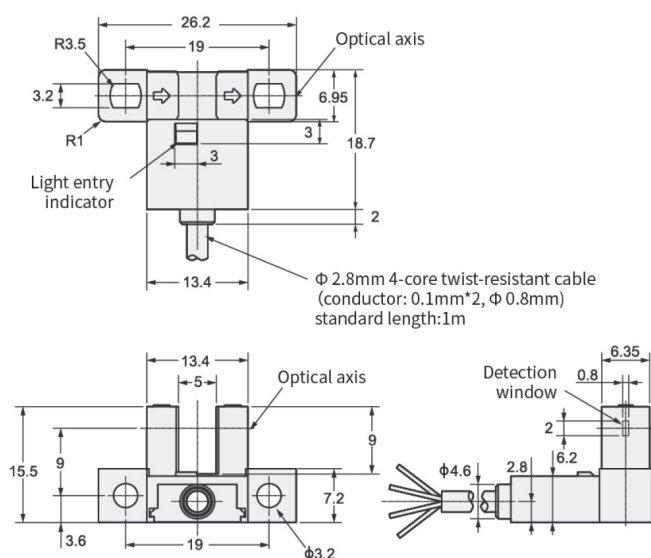
Part number

NPN	PU05-TDNB-L	PNP	PU05-TDPB-L
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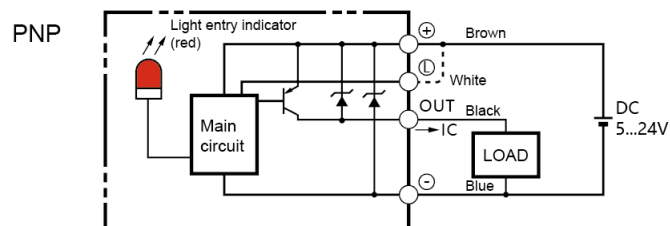
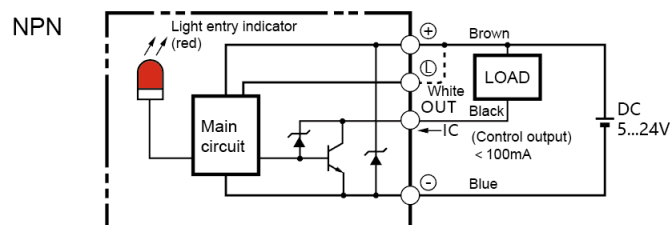
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	1m cable

Dimensions



Wiring diagram



*White wire and the brown wire are shorted: NC Output;
White line hanging in the air: NO Output

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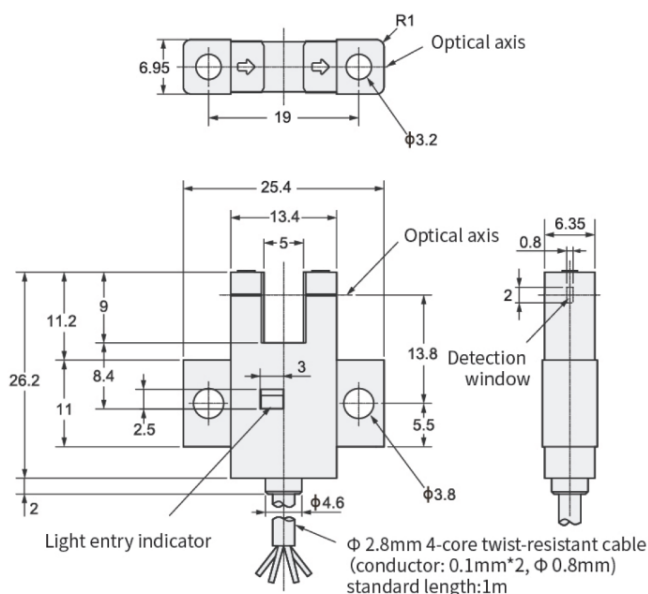
Part number

NPN	PU05-TDNB-K	PNP	PU05-TDPB-K
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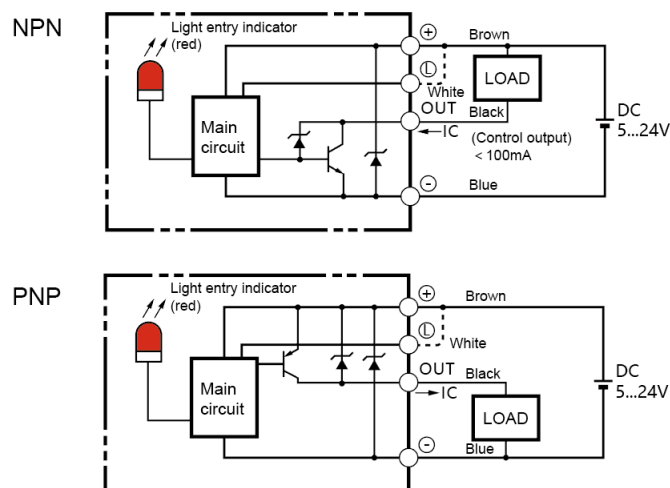
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
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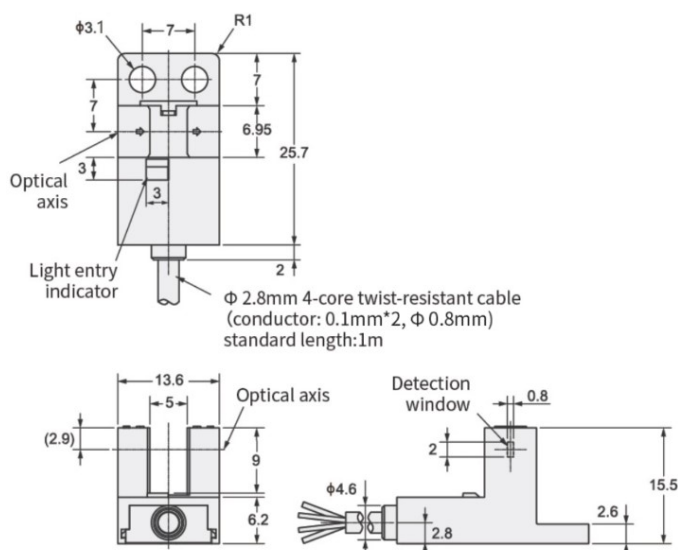
Part number

NPN	PU05-TDNB-Y1	PNP	PU05-TDPB-Y1
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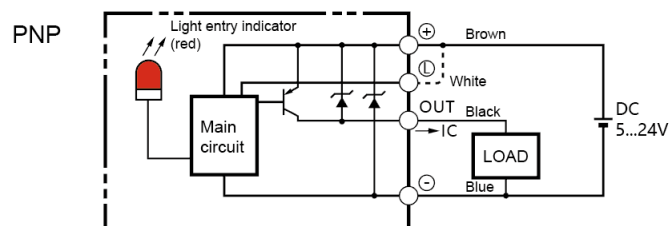
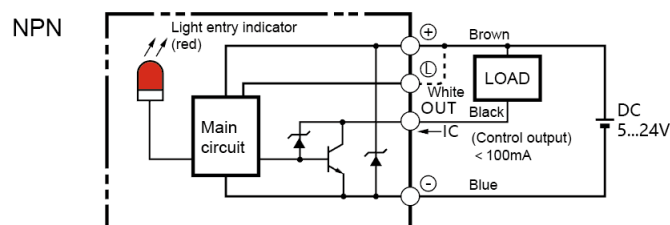
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
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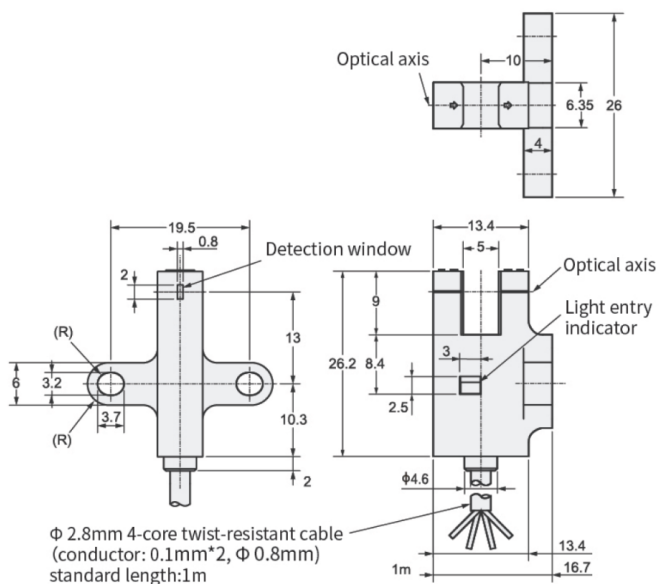
Part number

NPN	PU05-TDNB-T1	PNP	PU05-TDPB-T1
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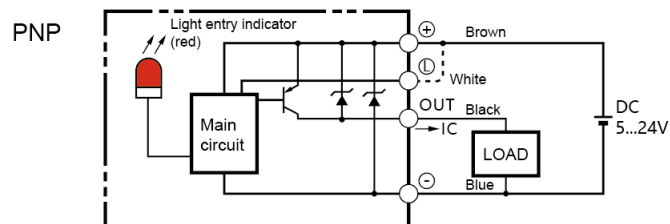
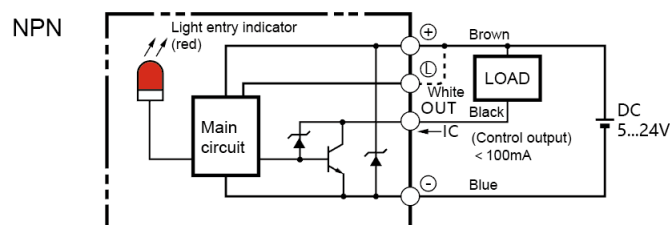
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
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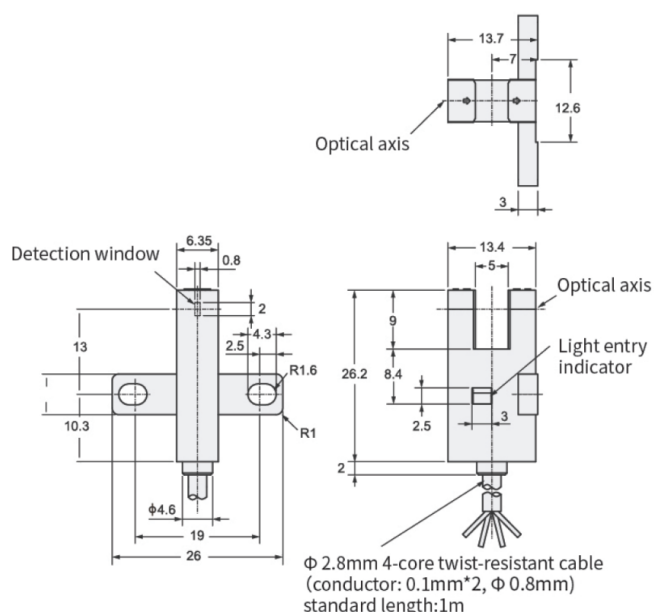
Part number

NPN	PU05-TDNB-T2	PNP	PU05-TDPB-T2
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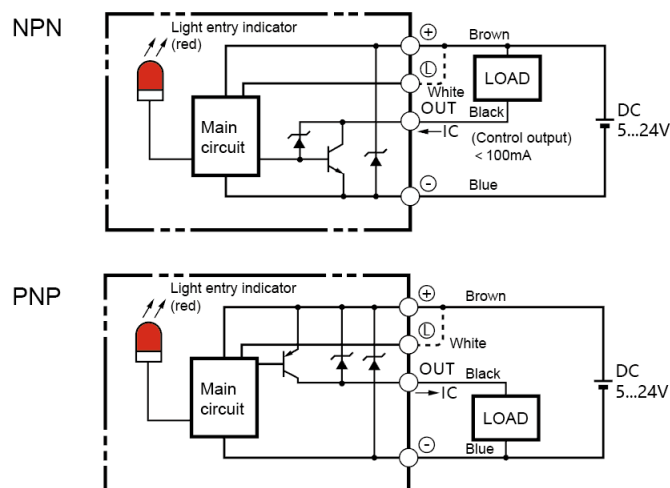
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
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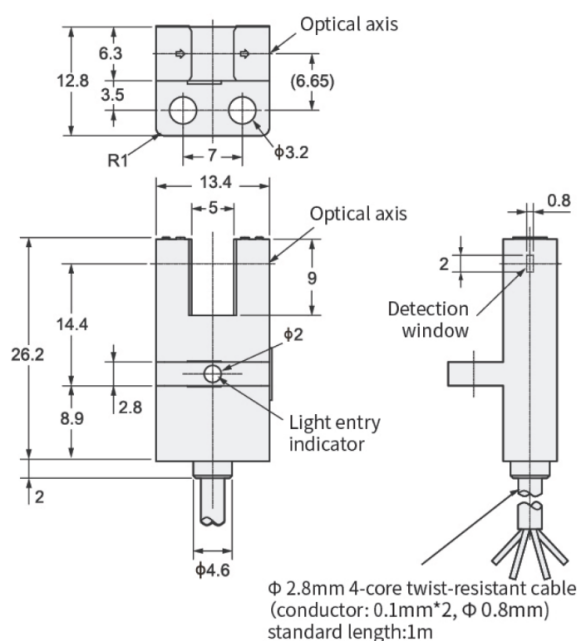
Part number

NPN	PU05-TDNB-Y2	PNP	PU05-TDPB-Y2
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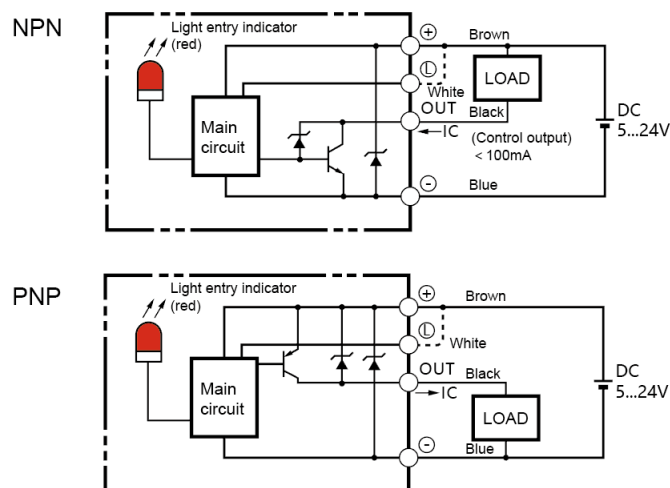
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	1m cable

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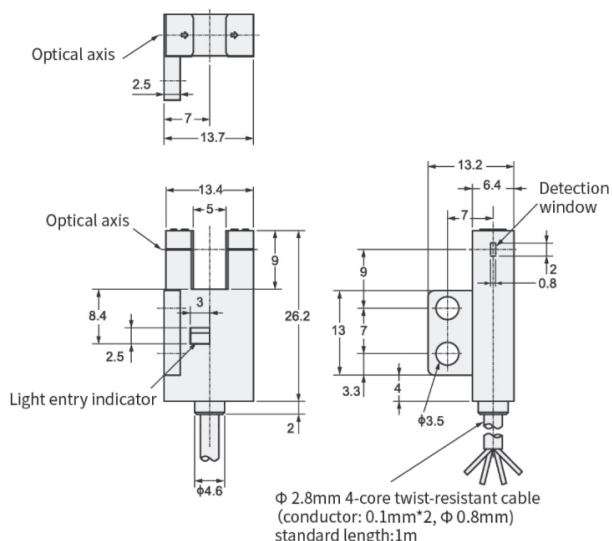
Part number

NPN	PU05-TDNB-F	PNP	PU05-TDPB-F
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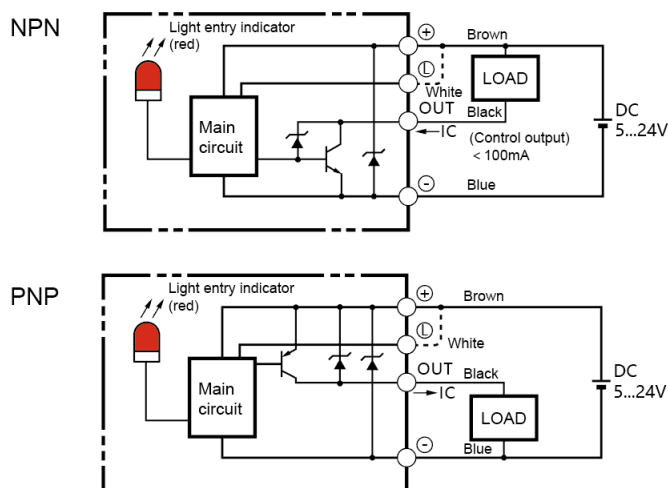
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	1m cable

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White line hanging in the air: NO Output

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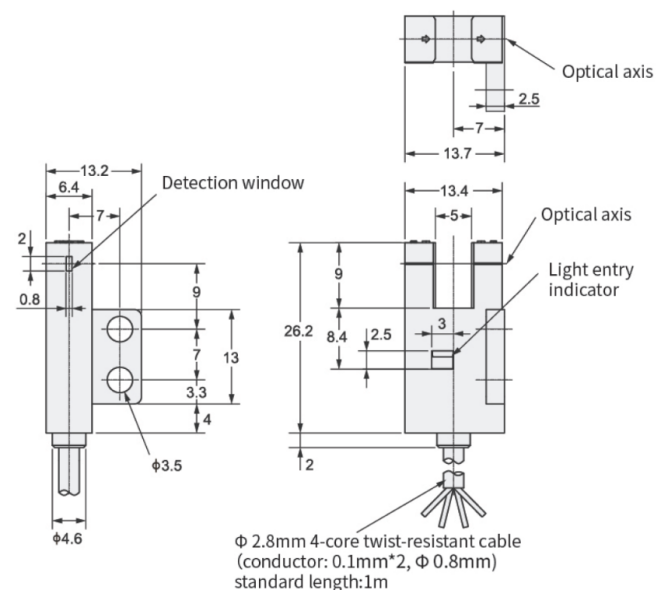
Part number

NPN	PU05-TDNB-R	PNP	PU05-TDPB-R
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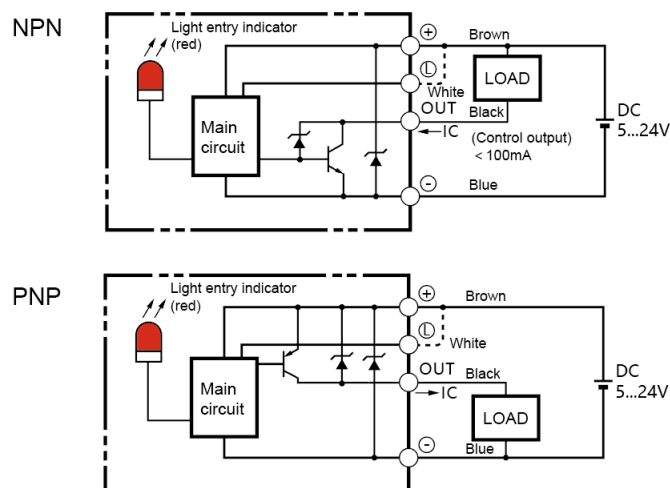
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	1m cable

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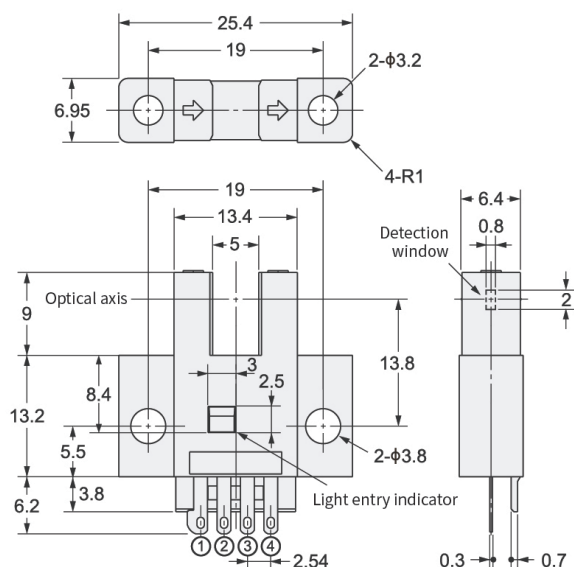
Part number

NPN	PU05-TDNB-K-J	PNP	PU05-TDPB-K-J
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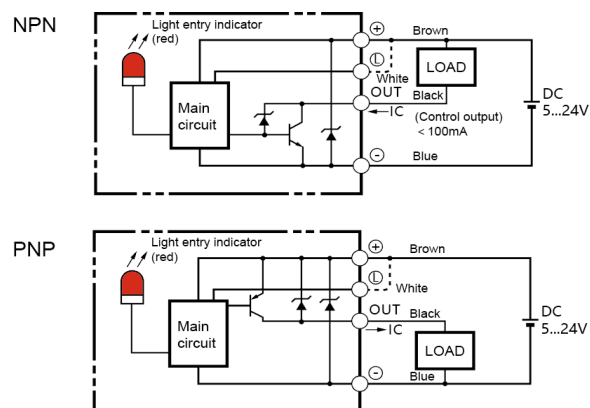
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	Connector

Dimensions



Wiring diagram

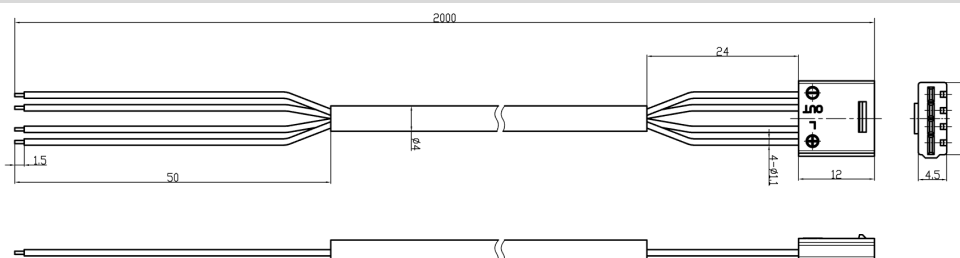


Terminal wiring diagram

①	⊕	Vcc
②	L	L
③	OUT	OUTPUT
④	⊖	GND(0V)

⊕ and L shorted: NC Output
L Hang in the air: NO Output

Connection line (PU5 1001)



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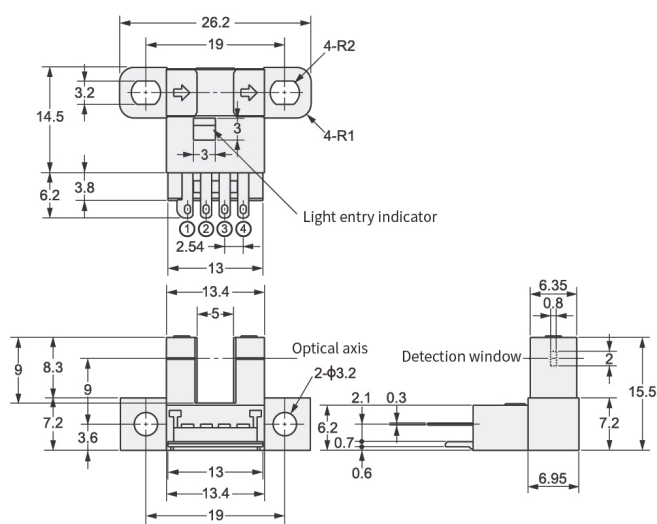
Part number

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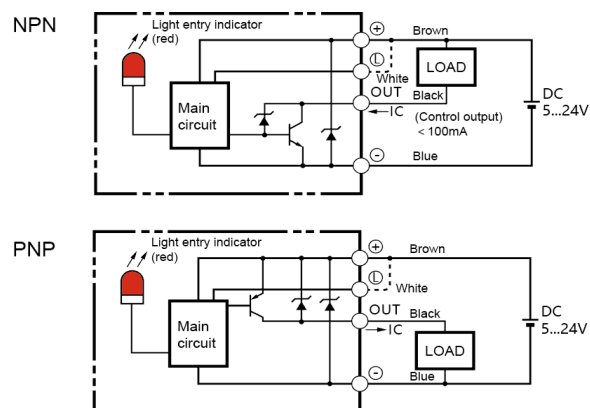
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Standard target	> 2*0.8mm	Indicator	Red light: output
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Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
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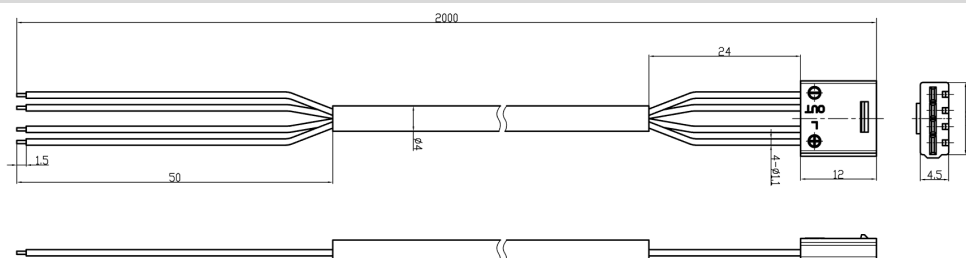


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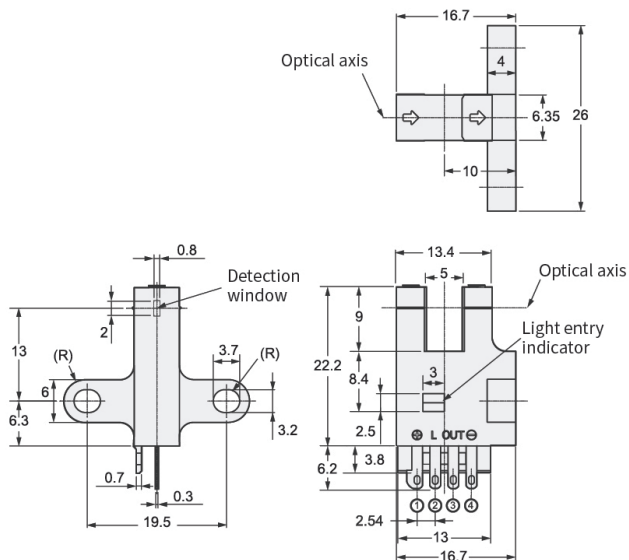
Part number

NPN	PU05-TDNB-T1-J	PNP	PU05-TDPB-T1-J
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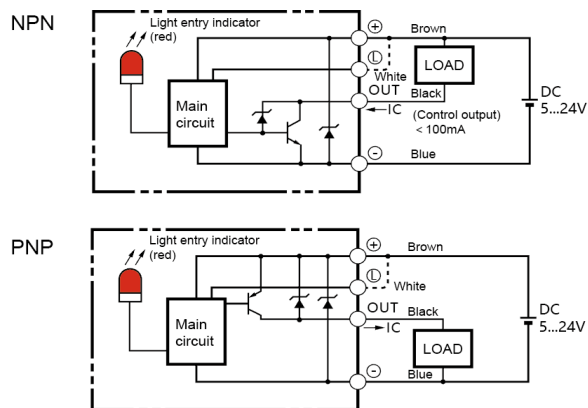
Specification

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Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
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NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
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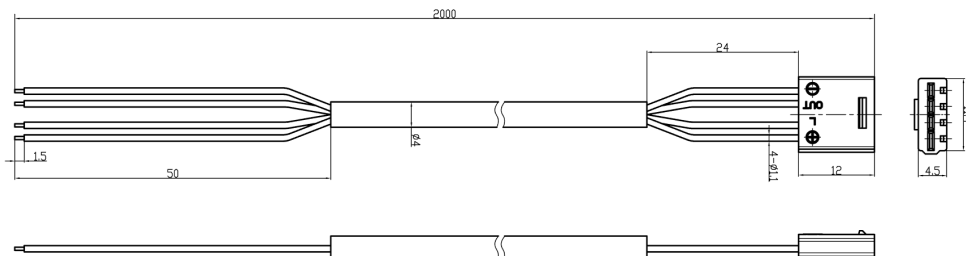


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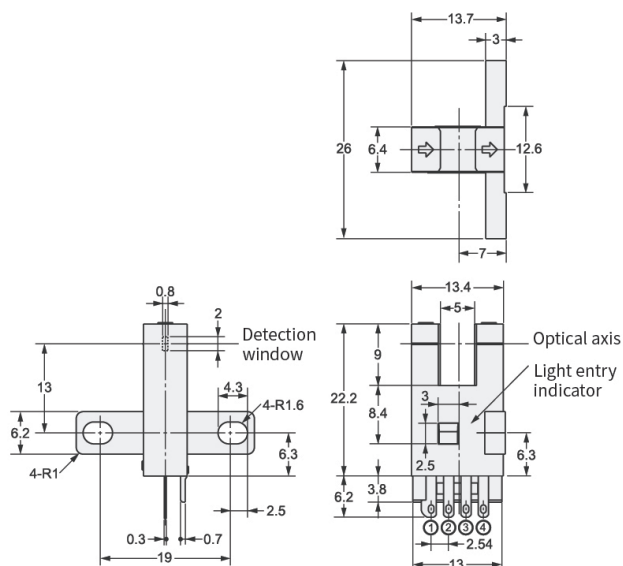
Part number

NPN	PU05-TDNB-T2-J	PNP	PU05-TDPB-T2-J
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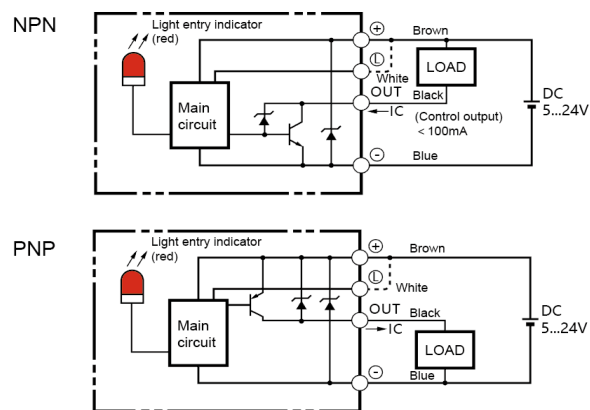
Specification

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Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	Connector

Dimensions



Wiring diagram

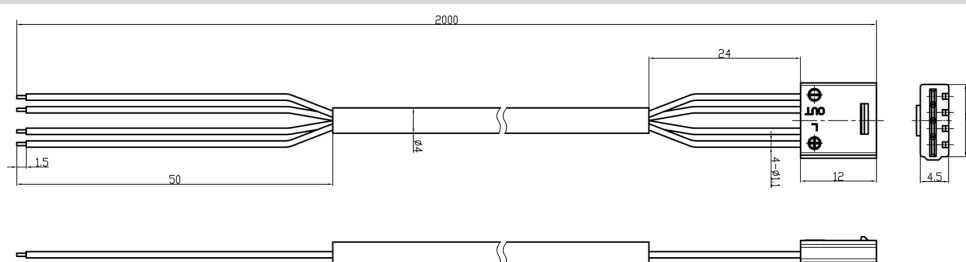


Terminal wiring diagram

①	⊕	Vcc
②	L	L
③	OUT	OUTPUT
④	⊖	GND(0V)

⊕ and L shorted: NC Output
L Hang in the air: NO Output

Connection line (PU5 1001)



U shape photoelectric sensor PU05 series



Features

- ◆ Wide voltage: 5...24VDC;
- ◆ Various size and shapes;
- ◆ L/ON and D/ON. optional;
- ◆ Universal connectors, more compatible.



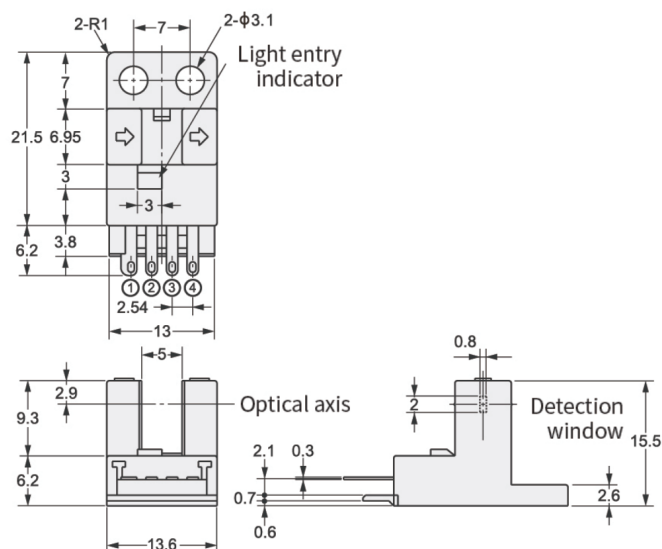
Part number

NPN	PU05-TDNB-Y1-J	PNP	PU05-TDPB-Y1-J
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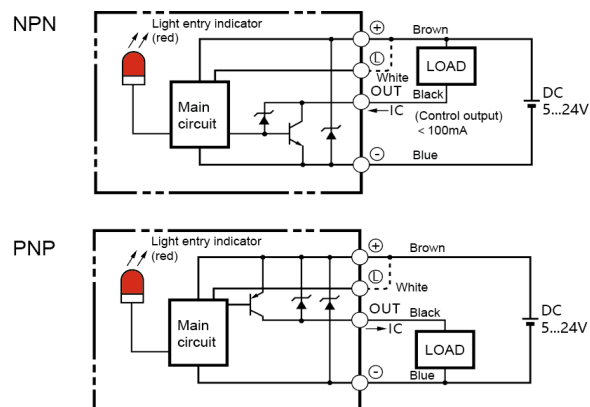
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
Output	NPN/PNP (depends on part number)	Voltage withstand	1000V/AC 50/60Hz 60s
NO/NC Selection	NO/NC by specific wiring connection	Insulation resistance	≥50MΩ(500VDC)
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Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	Connector

Dimensions



Wiring diagram

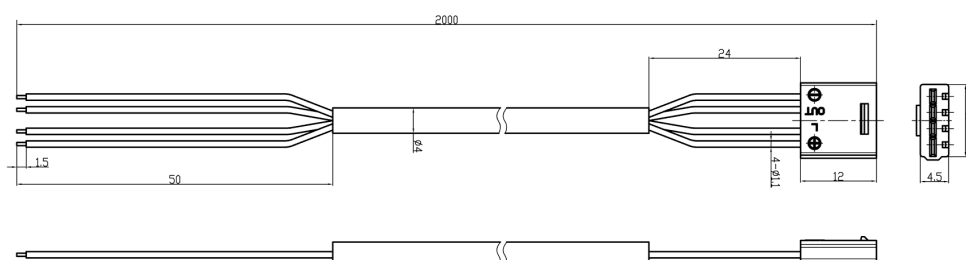


Terminal wiring diagram

①	⊕	Vcc
②	L	L
③	OUT	OUTPUT
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⊕ and L shorted: NC Output
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Connection line (PU5 1001)



U shape photoelectric sensor PU05 series



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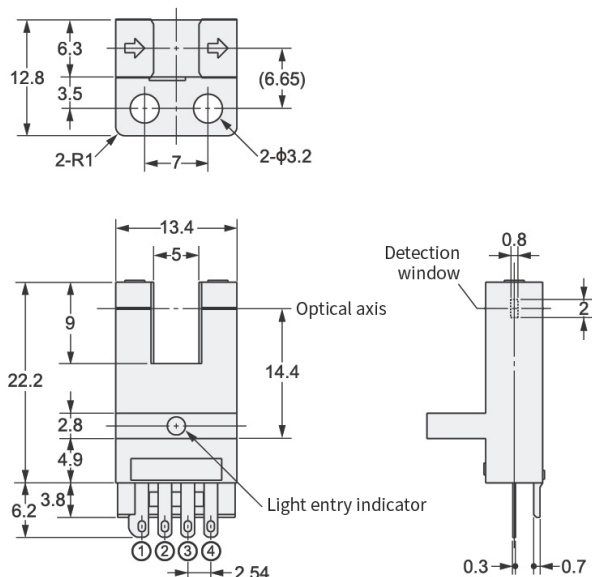
Part number

NPN	PU05-TDNB-Y2-J	PNP	PU05-TDPB-Y2-J
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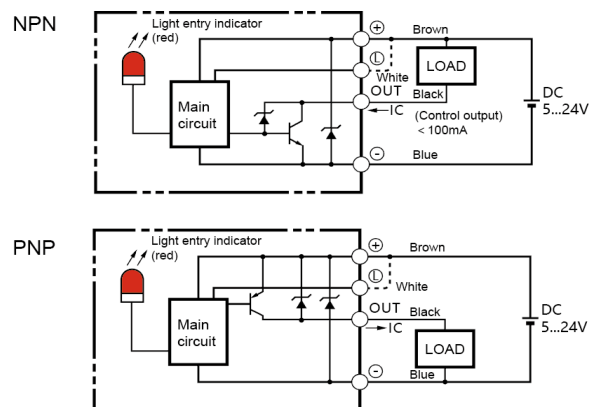
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
Hysteresis	< 0.025mm	Ambient humidity	35...95%RH (no condensation)
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Supply voltage	5...24 VDC	Vibration resistant	10-2000HZ, dual amplitude 1.5mm, X, Y, Z 2H each
Load current	≤100mA (NPN); ≤50mA (PNP)	Protection degree	IP50
Residual voltage	≤1.2V (NPN); ≤1.3V (PNP)	Housing material	PBT
Consumption current	≤35mA (NPN); ≤30mA (PNP)	Installation	3.8mm diameter hole installation
Circuit protection	Short circuit, reverse polarity protection	Connection	Connector

Dimensions



Wiring diagram

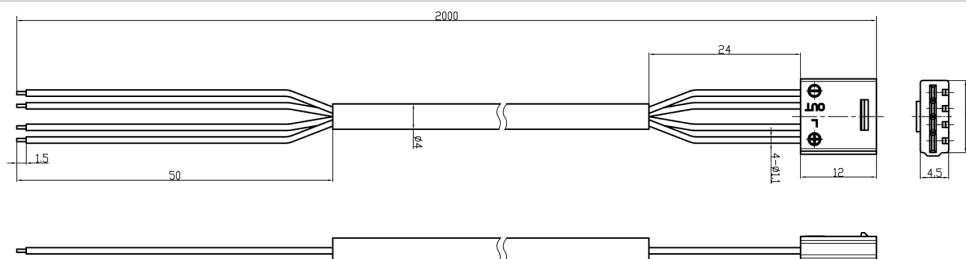


Terminal wiring diagram

①	⊕	Vcc
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Connection line (PU5 1001)



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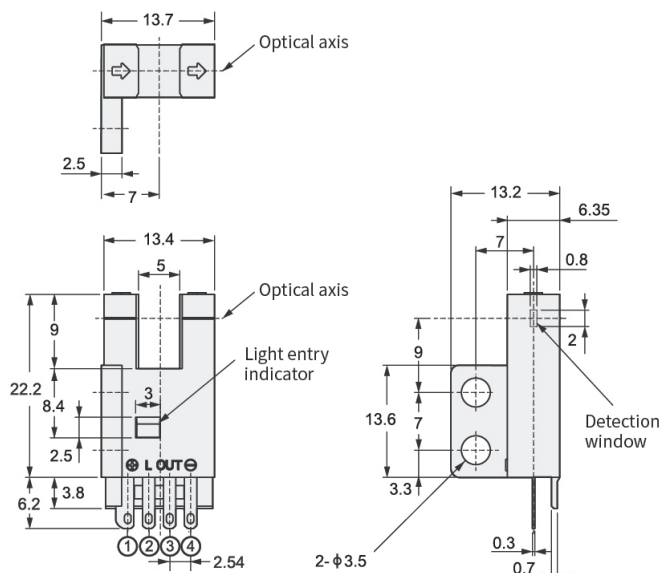
Part number

NPN	PU05-TDNB-F-J	PNP	PU05-TDPB-F-J
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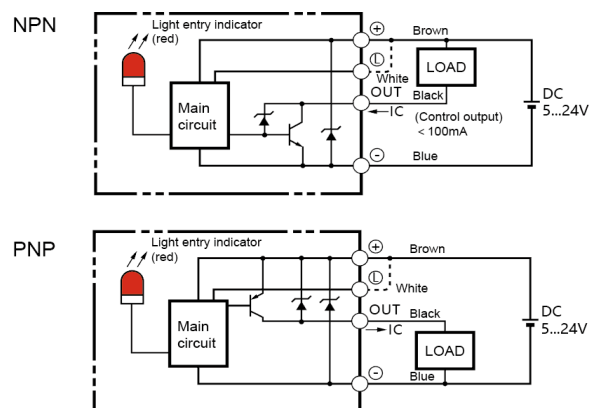
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
Supply voltage	Infrared LED (940nm)	Ambient temperature	-25°C...55°C
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Wiring diagram

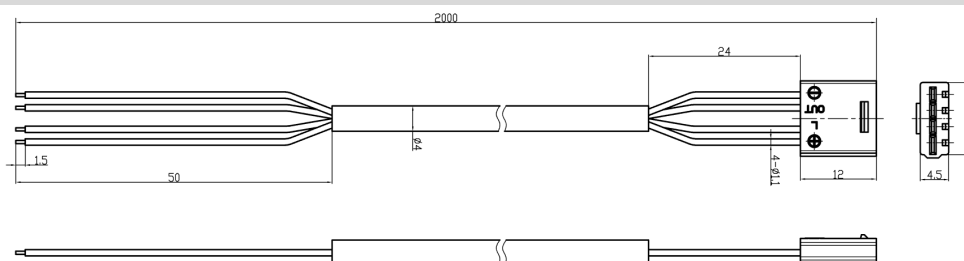


Terminal wiring diagram

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Connection line (PU5 1001)



U shape photoelectric sensor PU05 series



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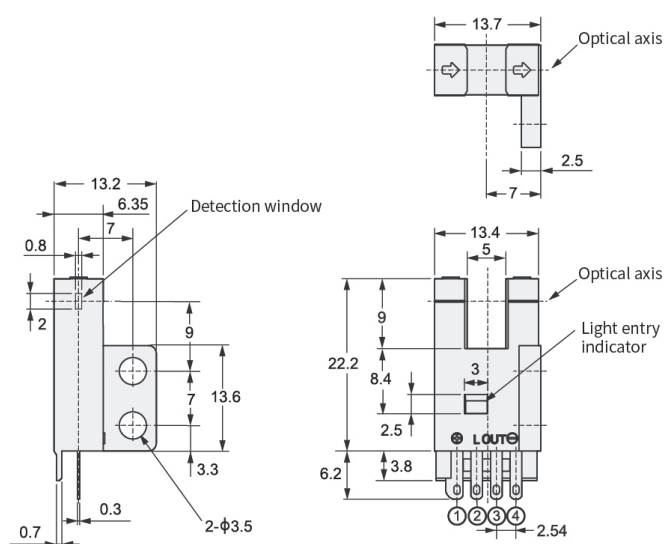
Part number

NPN	PU05-TDNB-R-J	PNP	PU05-TDPB-R-J
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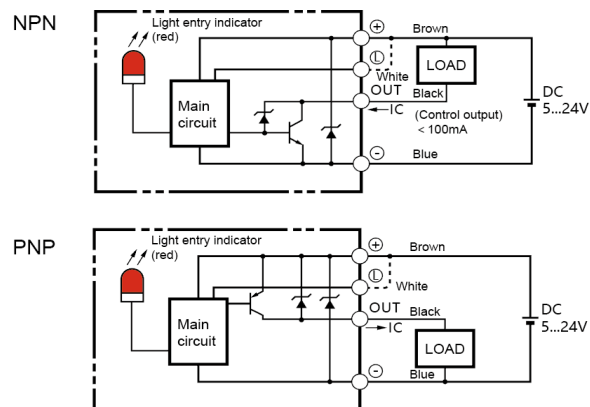
Specification

Detection type	Through beam	Response frequency	≥1KHZ (average value > 3KHZ)
Rated distance Sn	5mm	Anti-ambient light	Fluorescent lamp 1,000lux
Standard target	> 2*0.8mm	Indicator	Red light: output
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Terminal wiring diagram

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