

## ■ Features

- Red LED status indication
- Allows to drive multiple sensors by single power
- Realization of convenience for wiring or power line
- Waterproof structure IP67(IEC standard) with waterproof cover, (waterproof structure IP66 with protection cover)

 Please read "Caution for your safety" in operation manual before using.



## ■ Ordering information

|      |           |        |                |                 |
|------|-----------|--------|----------------|-----------------|
| PT   | 4         | —      | 3DN            |                 |
| Item | Connector | Output | 2D             | 2-wire type     |
|      |           |        | 3DN            | 3-wire NPN type |
|      |           |        | 3DP            | 3-wire PNP type |
|      | Connector |        | 4              | 4EA             |
|      |           |        | 6              | 6EA             |
|      |           |        | 8              | 8EA             |
|      |           | PT     | Connection Box |                 |

## ■ Type

| Appearances                                                                       | Model                                           |
|-----------------------------------------------------------------------------------|-------------------------------------------------|
|  | DC 2-wire type <b>PT4-2D</b>                    |
|                                                                                   | DC 3-wire type <b>PT4-3DN</b><br><b>PT4-3DP</b> |
|  | DC 2-wire type <b>PT6-2D</b>                    |
|                                                                                   | DC 3-wire type <b>PT6-3DN</b><br><b>PT6-3DP</b> |
|  | DC 2-wire type <b>PT8-2D</b>                    |
|                                                                                   | DC 3-wire type <b>PT8-3DN</b><br><b>PT8-3DP</b> |

## ■ Specifications

| Model                               |                        | PT4-2D                                                                                         | PT4-3DN<br>PT4-3DP | PT6-2D                | PT6-3DN<br>PT6-3DP | PT8-2D                 | PT8-3DN<br>PT8-3DP |
|-------------------------------------|------------------------|------------------------------------------------------------------------------------------------|--------------------|-----------------------|--------------------|------------------------|--------------------|
| Power supply<br>(Operating voltage) |                        | 12-24VDC<br>(10-30VDC)                                                                         |                    |                       |                    |                        |                    |
| Leakage current                     |                        | Max. 0.5mA                                                                                     |                    |                       |                    |                        |                    |
| Connection life cycle               |                        | Min. 200 operations                                                                            |                    |                       |                    |                        |                    |
| Cable tensile strength              |                        | 10kgf(98N)/15S                                                                                 |                    |                       |                    |                        |                    |
| Insulation resistance               |                        | Min. 50MΩ(at 500VDC megger)                                                                    |                    |                       |                    |                        |                    |
| Dielectric strength                 |                        | 1500VAC 50/60Hz for 1minute                                                                    |                    |                       |                    |                        |                    |
| Vibration                           |                        | 1mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 2 hours |                    |                       |                    |                        |                    |
| Shock                               |                        | 500m/s²(50G) in each of X, Y, Z directions for 3 times                                         |                    |                       |                    |                        |                    |
| Indicator                           |                        | Power indicator : Green, Operation indicator : Red                                             |                    |                       |                    |                        |                    |
| Environ-<br>ment                    | Ambient<br>temperature | -25 to 70°C, storage: -30 to 80°C                                                              |                    |                       |                    |                        |                    |
|                                     | Ambient<br>humidity    | 35 to 95%RH                                                                                    |                    |                       |                    |                        |                    |
| Cable                               |                        | Ø9, 6-wire, Length:5m                                                                          |                    | Ø9, 8-wire, Length:5m |                    | Ø9, 10-wire, Length:5m |                    |
|                                     |                        | (AWG22, Core diameter: 0.16mm(TA), Number of cores: 17, Insulator out diameter: Ø1.67mm)       |                    |                       |                    |                        |                    |
| Protection※1                        |                        | IP66(IEC standard)                                                                             |                    |                       |                    |                        |                    |
| Material                            |                        | Case: PC, General cable (gray): Polyvinyl chloride (PVC)                                       |                    |                       |                    |                        |                    |
| Unit weight                         |                        | Approx. 630g                                                                                   |                    | Approx. 690g          |                    | Approx. 745g           |                    |

※1: When using a cover for waterproof(P96-M12-1, sold separately: IP67(IEC standard)

※Environment resistance is rated at no freezing or condensation.

(A) Photo  
electric  
sensor

(B) Fiber  
optic  
sensor

(C) Door/Area  
sensor

(D) Proximity  
sensor

(E) Pressure  
sensor

(F) Rotary  
encoder

(G) Connector/  
Socket

(H) Temp.  
controller

(I) SSR/  
Power  
controller

(J) Counter

(K) Timer

(L) Panel  
meter

(M) Tacho/  
Speed/ Pulse  
meter

(N) Display  
unit

(O) Sensor  
controller

(P) Switching  
mode power  
supply

(Q) Stepper  
motor&  
Driver&Controller

(R) Graphic/  
Logic  
panel

(S) Field  
network  
device

(T) Software

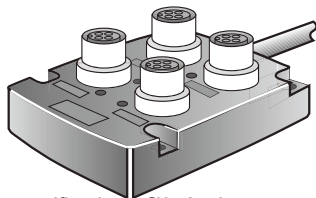
(U) Other

# PT Series

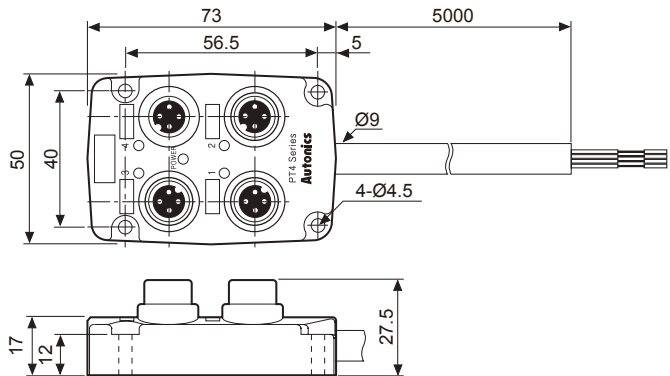
## ■ Dimensions

(unit:mm)

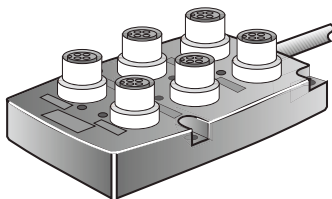
● PT4 - □□



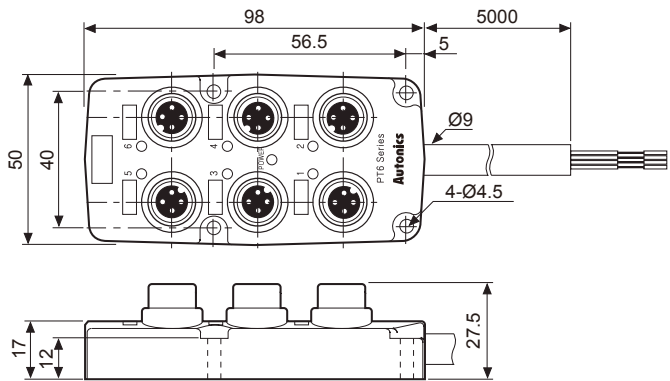
※Cable specification : Ø9, 6-wire  
(Conductor cross section: 0.3mm<sup>2</sup>,  
Insulator diameter: Ø1.67)



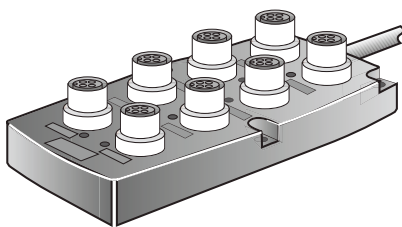
● PT6 - □□



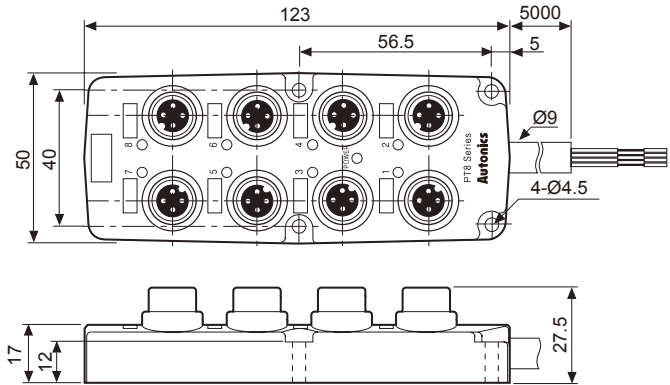
※Cable specification : Ø9, 8-wire  
(Conductor cross section: 0.3mm<sup>2</sup>,  
Insulator diameter: Ø1.67)



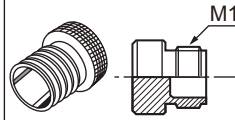
● PT8 - □□



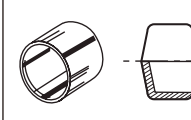
※Cable specification : Ø9, 10 cores  
(Conductor cross section: 0.3mm<sup>2</sup>,  
Insulator diameter: Ø1.67)



## ■ Waterproof cover(sold separately)

| Form                                                                                                                                                                 | Model     | Applicable model                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------|
|                                                                                   | P96-M12-1 | ● PT4-□□□<br>● PT6-□□□<br>● PT8-□□□ |
| ※This protection cover is used for protecting unused connection hole from water or oil etc.<br>※If using waterproof cover, IP67 is available.<br>※Please tighten it. |           |                                     |

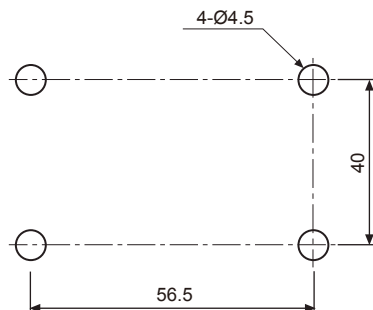
## ■ Protection cover

| Form                                                                                                                                                      | Applicable model                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|                                                                        | ● PT4-□□□<br>● PT6-□□□<br>● PT8-□□□ |
| ※This protection cover is used for protecting unused connection hole from dust or particle etc.<br>( IP67 is not available)<br>※Please push it into hole. |                                     |

## ■ Connections

| DC 2-wire type                                                                                                                                                                                                                                         | DC 3-wire type(PNP type)                                                                                                                                                                                                                               | DC 3-wire type(NPN type)                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Blue (Power-)<br/>Brown (Power+)</p> <p>White (Signal 1) ①<br/>Gray (Signal 2) ②<br/>Pink (Signal 3) ③<br/>Red (Signal 4) ④<br/>Black (Signal 5) ⑤<br/>Purple (Signal 6) ⑥<br/>Orange (Signal 7) ⑦<br/>Yellow (Signal 8) ⑧</p> <p>Connector No.</p> | <p>Blue (Power-)<br/>Brown (Power+)</p> <p>White (Signal 1) ①<br/>Gray (Signal 2) ②<br/>Pink (Signal 3) ③<br/>Red (Signal 4) ④<br/>Black (Signal 5) ⑤<br/>Purple (Signal 6) ⑥<br/>Orange (Signal 7) ⑦<br/>Yellow (Signal 8) ⑧</p> <p>Connector No.</p> | <p>Blue (Power-)<br/>Brown (Power+)</p> <p>White (Signal 1) ①<br/>Gray (Signal 2) ②<br/>Pink (Signal 3) ③<br/>Red (Signal 4) ④<br/>Black (Signal 5) ⑤<br/>Purple (Signal 6) ⑥<br/>Orange (Signal 7) ⑦<br/>Yellow (Signal 8) ⑧</p> <p>Connector No.</p> |

## ■ Mounting dimensions



(unit: mm)

※Mounting 4 / 6 / 8 holes are same.

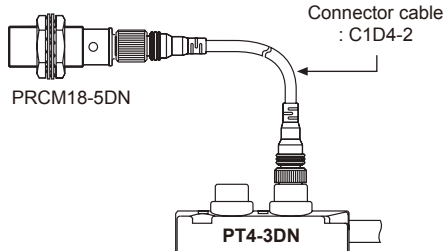
|     |                                  |
|-----|----------------------------------|
| (A) | Photo electric sensor            |
| (B) | Fiber optic sensor               |
| (C) | Door/Area sensor                 |
| (D) | Proximity sensor                 |
| (E) | Pressure sensor                  |
| (F) | Rotary encoder                   |
| (G) | Connector/Socket                 |
| (H) | Temp. controller                 |
| (I) | SSR/Power controller             |
| (J) | Counter                          |
| (K) | Timer                            |
| (L) | Panel meter                      |
| (M) | Tacho/Speed/ Pulse meter         |
| (N) | Display unit                     |
| (O) | Sensor controller                |
| (P) | Switching mode power supply      |
| (Q) | Stepper motor& Driver&Controller |
| (R) | Graphic/ Logic panel             |
| (S) | Field network device             |
| (T) | Software                         |
| (U) | Other                            |

# PT Series

## ■ Connections

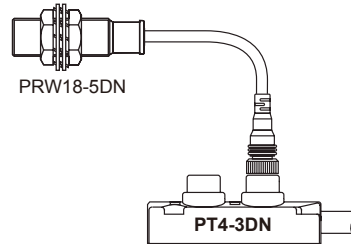
### ● Connector type

Connection cable should be used for connector type of proximity sensor (PRCM Series).



### ● Cable type

Cable type proximity sensor (PRW Series) can be connected directly but when the installation distance is longer, please use connection cable.



## ■ Applicable models

| Connection box | Applicable proximity sensor |                                                                                                             | Connection                            |
|----------------|-----------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------|
| PT□-2D         | DC 2-wire type              | PRCMT12-2/4DO, DC<br>PRCMT18-5/8DO, DC<br>PRCMT30-10/15DO, DC                                               | Connection cable                      |
|                |                             | PRW12-2/4DO, DC<br>PRW18-5/8DO, DC<br>PRW130-10/15DO, DC                                                    | Direct connection<br>Connection cable |
| PT□-3DN        | DC 3-wire type (NPN type)   | PRCM12-2/4DN, DN2<br>PRCM18-5/8DN, DN2<br>PRCM30-10/15DN, DN2<br>PRCML18-5/8DN, DN2<br>PRCML30-10/15DN, DN2 | Connection cable                      |
|                |                             | PRW12-2/4DN, DN2<br>PRW18-5/8DN, DN2<br>PRW30-10/15DN, DN2<br>PRWL18-5/8DN, DN2<br>PRWL30-10/15DN, DN2      | Direct connection<br>Connection cable |
| PT□-3DP        | DC 3-wire type (PNP type)   | PRCM12-2/4DP, DP2<br>PRCM18-5/8DP, DP2<br>PRCM30-10/15DP, DP2<br>PRCML18-5/8DP, DP2<br>PRCML30-10/15DP, DP2 | Connection cable                      |
|                |                             | PRW12-2/4DP, DP2<br>PRW18-5/8DP, DP2<br>PRW30-10/15DP, DP2<br>PRWL18-5/8DP, DP2<br>PRWL30-10/15DP, DP2      | Direct connection<br>Connection cable |

※It is enable to use general cable type of proximity sensor with connection box, if plug type connector cable is used.

## ■ Proper usage

1. Connection box is only for DC power, do not use with AC power.
  2. Be careful to use DC 2-wire and DC 3-wire type separately and NPN / PNP types are separated in DC 3-wire type.
  3. Please be sure of correct wiring of power cable(Blue : -, Brown : +).
  4. Green LED will not turn on when the power polarity is reversed.
  5. Please connect signal line following the diagram and load must be installed when operating sensor.
  6. Please check red LED when operating sensor.
  7. Please use protection cover or waterproof cover(P96-M12-1) on unused connectors.
- ※The protection cover is attached on connection part of the box. Please be careful to keep this cover.  
 ※Waterproof cover(P96-M12-1) is sold separately.