

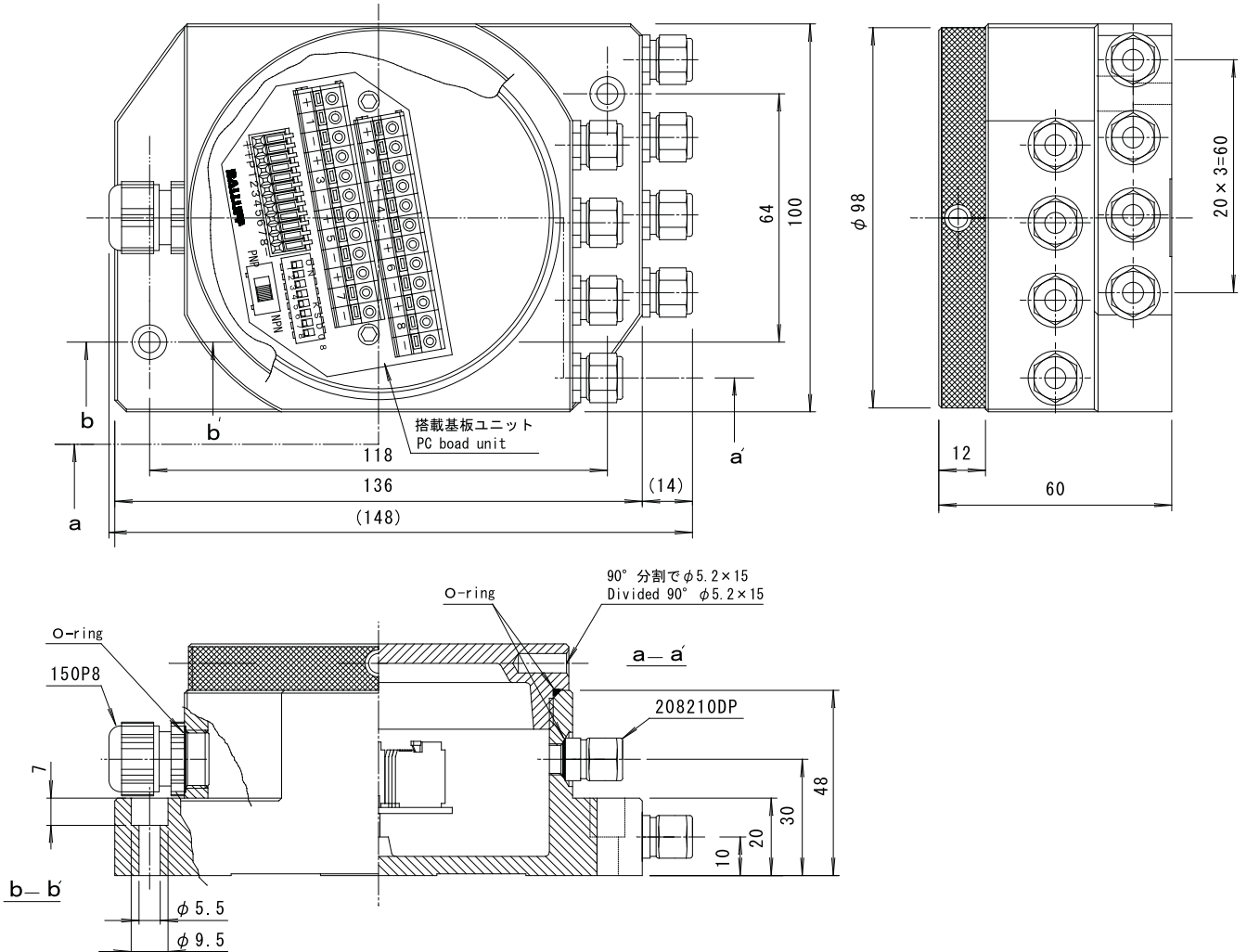
Terminal Box for Remote Sensor

RPK-A098-03

User's guide

Read this guide before installation and operation.
Handle the Terminal Box properly.

Dimension



Attention for Safety



[Planning the system]

The Terminal Box for the Remote Sensor is an enclosure which connects the Detectors with the Transmitter of the Remote Sensor and transmits the detected signals. The Terminal Box should only be used for this purpose. Plan the system to work safely if the Terminal Box should be damaged.

[Handling the Terminal Box]

Make the correct wiring and connect as referred to the wiring diagram of this manual. Wiring errors may cause system failure. Make sure that the power is turned off, when start the installation process. Never take the device apart or modify. Dispose of the device as an industrial waste.

Specification

Protection Class	IP67	
Material	Housing	Aluminum sand mold casting
	Lid	Aluminum cutting
	O-ring	Viton
Terminal block	Transmitter	Terminal Block with 12 poles / Length of stripping cores : 10mm
	Detector	Terminal Block with 12 poles x 2 / Length of stripping cores : 11mm
Changeover switch		Slide switch : Changing for NPN / PNP Dip switch : OFF(DC3W) / ON (DC2W)
Procedure for Mounting		Attaching by two M5 screws
Cable Gland		Suitable cable outer diameter : $\phi 3...5$ mm (Mounted on the Terminal Box)
	Transmitter	150P8 (O-ring attached) : 1pc.
	Detector	208210DP (O-ring attached) : 8pcs.
	Accessories	Blank Plug BP0525 : 8pcs.(Supplied together with the Terminal Box)

■ Transmitter of DC 3-Wire at use.

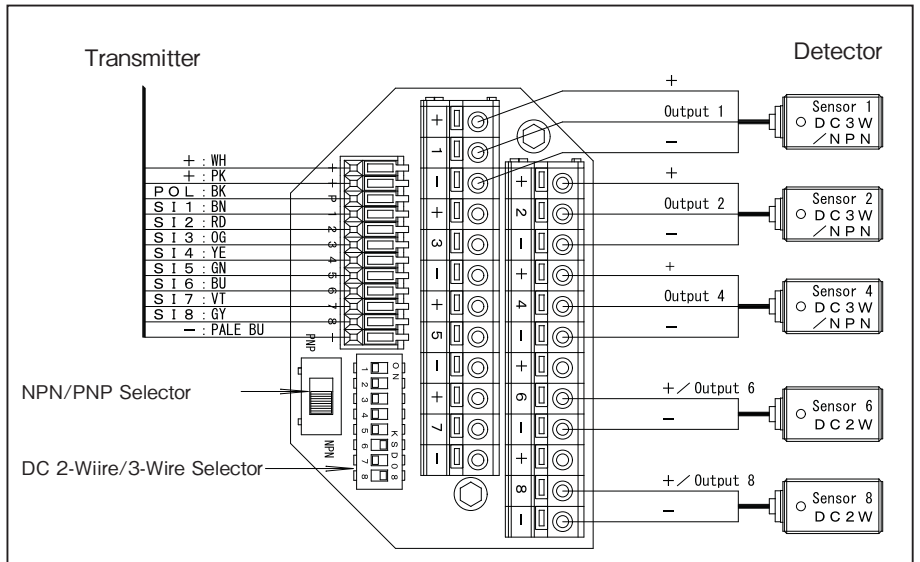
● Detector of NPN

Transmitter : RPTA-8010-PU
 RGPT-3005-V1215-PU
 RGPT-4008-V1220A/B-PU
 RGPT-9012-V2430-PU

Detector : DC 3-Wire Detector switch (NPN)
 DC 2-Wire Detector switch
 RFD series
 Mechanical switch

● Setting DIP switch

Detector switch	NPN/PNP Selector	DC 2-Wire/3-Wire Selector
DC 3-Wire SW	NPN	OFF
DC 2-Wire SW		ON



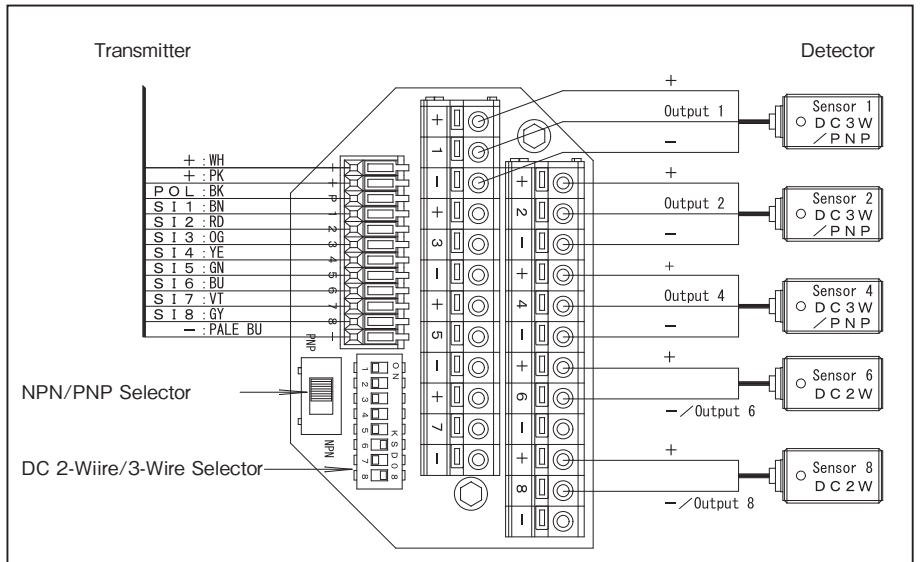
● Detector of PNP

Transmitter : RPTA-8010-PU
 RGPT-3005-V1215-PU
 RGPT-4008-V1220A/B-PU
 RGPT-9012-V2430-PU

Detector : DC 3-Wire Detector switch (PNP)
 DC 2-Wire Detector switch
 RFD series
 Mechanical switch

● Setting DIP switch

Detector switch	NPN/PNP Selector	DC 2-Wire/3-Wire Selector
DC 3-Wire SW	PNP	OFF
DC 2-Wire SW		ON



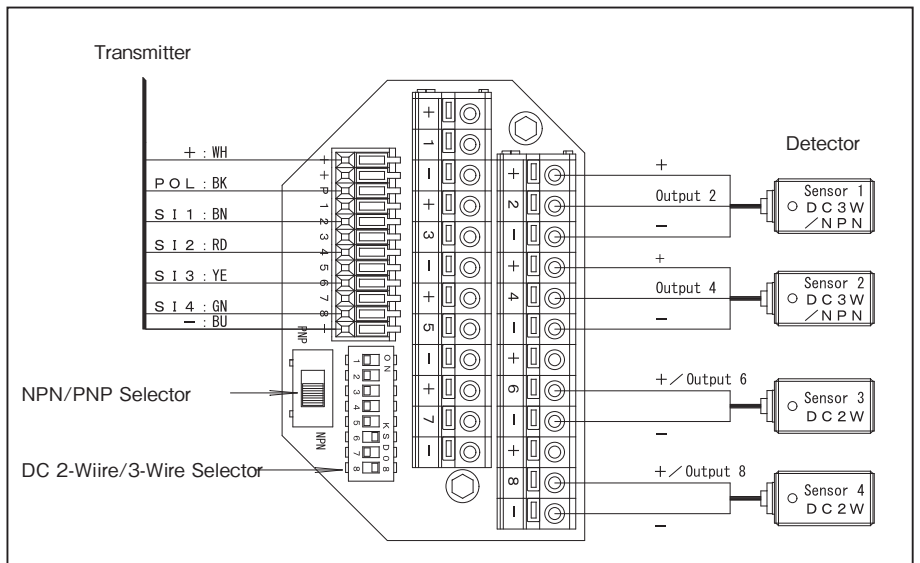
● 4 signals transmission type

Transmitter : RPTA-1803-PU
 RPTA-3005-PU

Detector : DC 3-Wire Detector switch (NPN)
 DC 2-Wire Detector switch
 RFD series
 Mechanical switch

● Setting DIP switch

Detector switch	NPN/PNP Selector	DC 2-Wire/3-Wire Selector
DC 3-Wire SW	NPN	OFF
DC 2-Wire SW		ON



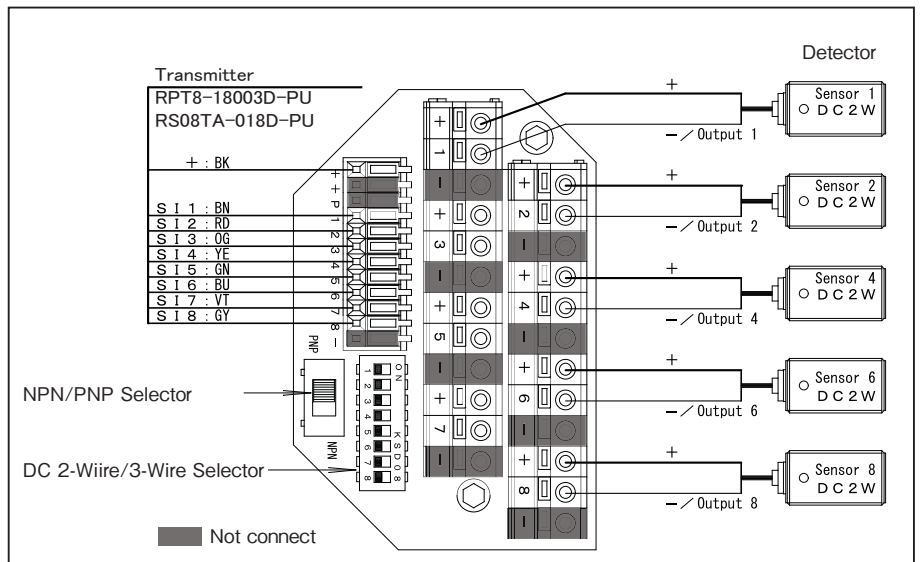
■ Transmitter of DC 2-Wire at use.

● RPT8-1803D-PU、RS08TA-018D-PU

Detector : DC 2-Wire Detector switch
RFD series
Mechanical switch

● Setteing DIP switch

Detector switch	NPN/PNP Selector	DC 2-Wiire/3-Wire Selector
DC 2-Wire SW	PNP	OFF

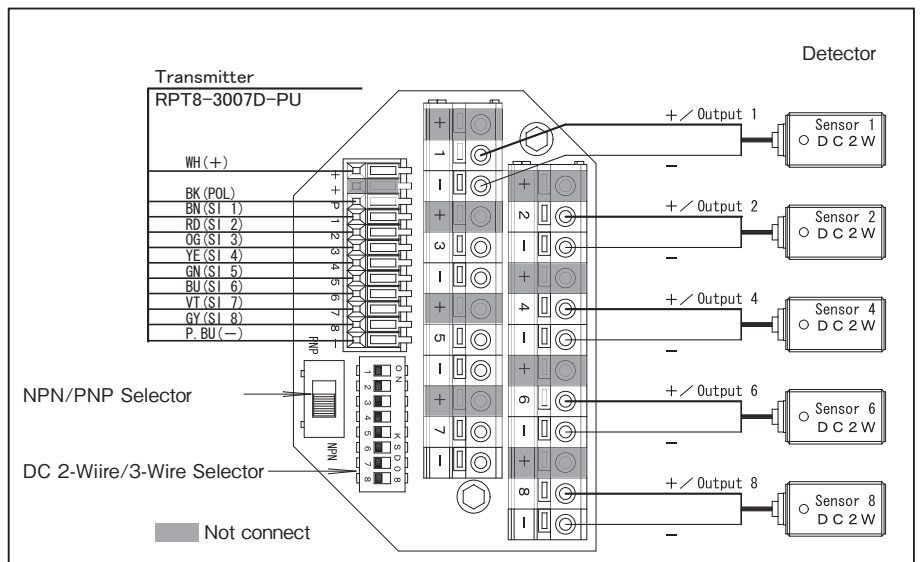


● RPT8-3007D-PU

Detector : DC 2-Wire Detector switch
RFD series
Mechanical switch

● Setteing DIP switch

Detector switch	NPN/PNP Selector	DC 2-Wiire/3-Wire Selector
DC 2-Wire SW	NPN	OFF

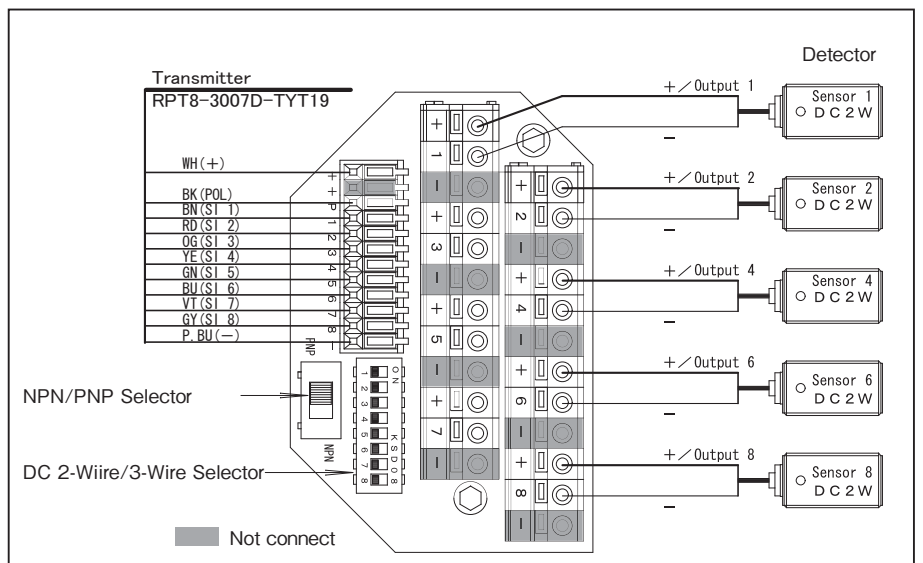


● RPT8-3007D-TYT19

Detector : DC 2-Wire Detector switch
RFD series
Mechanical switch

● Setteing DIP switch

Detector switch	NPN/PNP Selector	DC 2-Wiire/3-Wire Selector
DC 2-Wire SW	PNP	OFF



[Installation for Terminal Box]

- ① Attach the Terminal Box fasten with 2 Allen screws.
Size ; M5 Length ; longer than 20mm
- ② It is recommended to apply adhesive for tightening screws to avoid loosening of screws.

[Connection of the Transmitter and the Detector]

● Measure of Stripping Insulations/ Fastening Position of Cable <Fig. 1-a / 1-b>

- ① Strip outer sheathes of cables and insulations of cores.
- ② Make sure that outer sheath of cable is positioned inside of the Terminal Box properly in tightening cable.

● Mounting of Cable <fig. 2>

Put a cap and sealing ring on cable, then insert the cable to the body.

● Tightening of the Cable Gland <fig. 3,4>

Put a cap on the Cable Gland and tighten it with a spanner.

Spanner caliber Transmitter : 17mm <Fig. 3>

Detectors : 11mm <Fig. 4>

<Caution> When the cable clamp is not fit into slot on the Cable Gland, or tightening of the Cable Gland is done improperly, it may have influence on its water tight quality.

● Measure of unused Cable Gland <Fig. 5>

Insert the blank plugs (φ5mm) supplied with the Terminal Box into any unused cable entrances of the Cable Gland and stop it.

- ① Insert the blank plug.
- ② Tighten the Cable Gland.
(Refer to Tightening of the Cable Gland for Detectors . Fig. 4)

● Connecting to terminal block

In accordance with the wiring diagram on page 4 , connect cores to each appropriate terminal.

- <Caution> Insert the cores to reach the terminals sufficiently.
In the case of a core was inserted insufficiently, the following problems are may caused ;
[A core is not reach to a terminal] The core come out or cause short circuit with adjoining cables.
[A core is inserted exceedingly] The core cannot be connected sufficiently because of terminal catching insulations.
Coolant or cutting chips should not be splashed on inside of the Terminal Box in wiring operation.

[Tightening of the lid on the Terminal Box] <Fig. 6>

- ① Make sure that the O-ring is equipped with the lid properly.
(Check the O-ring whether it has any flaw)
- ② Check the wiring condition to avoid the lid catching of the lead wire, and clean the Terminal Box with air blow and dry it with heat gun in tightening of the lid.
- ③ Fit the lid on the Terminal Box to wrench close the lid smoothly or not to damaged thread of the lid, and insert it properly.
- ④ Tighten the lid reach the Terminal Box with your hand, then insert appropriate tools into holes (φ 5.2) on the side of the lid and fasten it tightly.
(turn the lid 40...50°)

[Bending cables] <Fig. 7>

Using sensors with its cable bending, bend cables at a point that apart more than 10mm from the cable entries of the Cable Glands.
Refer to specification of each sensors regarding bending radius for cables.

[Attention for watertight quality]

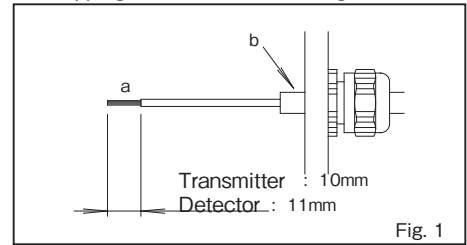
The value that indicated in this guide is the recommended value to fulfill the protection class IP 67.
Protection with a cover is required if the Terminal Box will be exposed to coolant since elasticity of cables vary with the material.

[Replacement of Cable Glands]

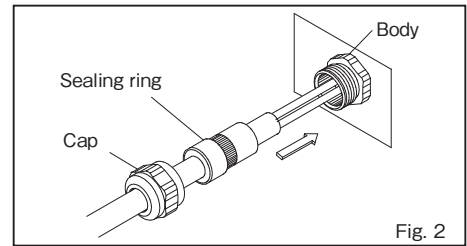
Replace the sealing rings of Cable Glands when you change sensors in maintenance to avoid decline of its watertight quality.

Sealing ring	Code	Type code
for Transmitter	991995008	KBC-F2/E150P8
for Detectors	991995006	KBC-F2/EK210P4.5

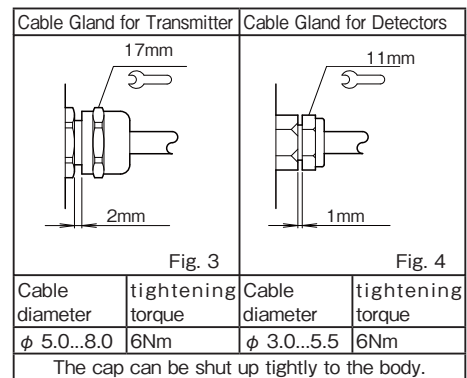
● Stripping Insulations / Fastening Position of Cable



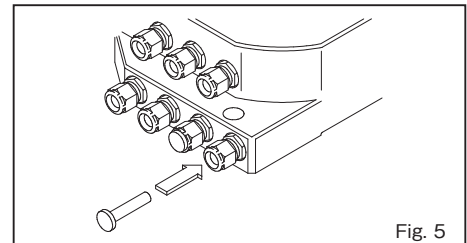
● Mounting Cable



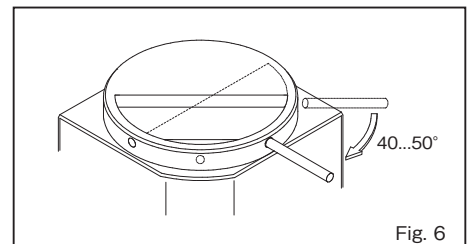
● Tightening Cable Gland



● Measure of Unused Cable Gland



● Fastening Lid on the Terminal Box



● Bending Cables

