

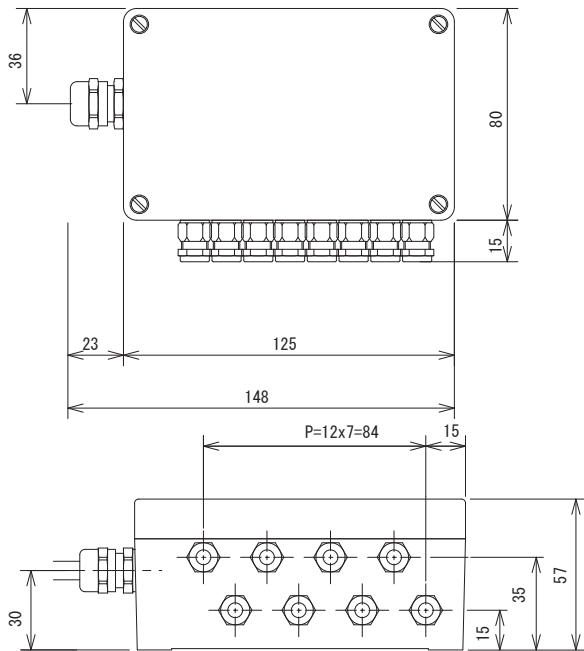
Terminal Box for Remote sensor RPK-2101 / 2103

User's guide

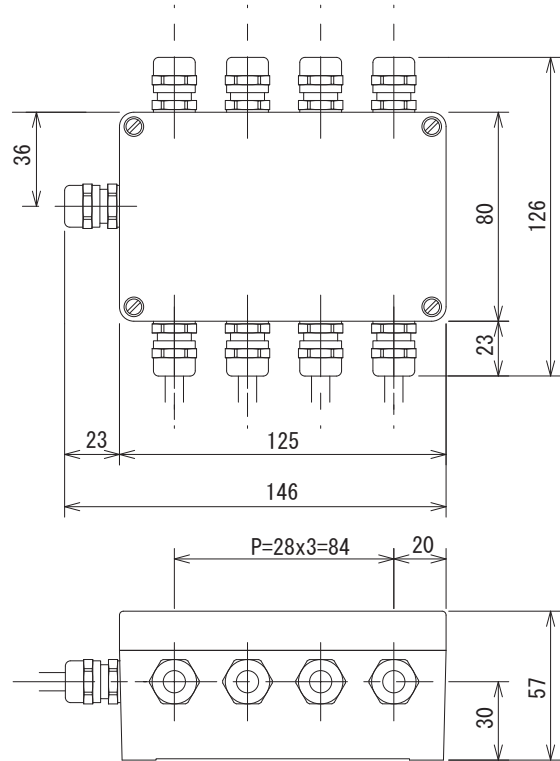
Read this guide before installation and operation. Handle the Terminal Box properly.

Dimension

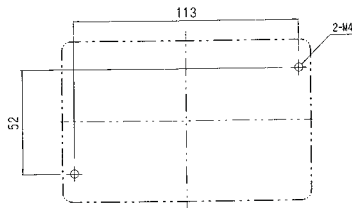
RPK-2101



RPK-2103



Installation



Attention for Safty



[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

Type code	RPK-2101	RPK-2103
Protection Class	IP65	
Material	Housing: Aluminum Die Casting Packing: Neoprene	
Terminal block	Terminal Block with 6 poles x 2 Terminal Block with 6 poles x 3	
Procedure for Mounting	Attaching by two M4 screws	
Cable Gland	Transmitter: PG9(Oring attached) 1pc.(Mounted on the Terminal Box.) Detector: MINI-M8 8 psc. Suitable cable outer diameter : Phi 3...5.5 (Mounted on the Terminal Box.)	
Accessories	PG9 8 pcs. Suitable cable outer diameter : Phi 4...8 (Mounted on the Terminal Box.) Blank Plug BPO525 : 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

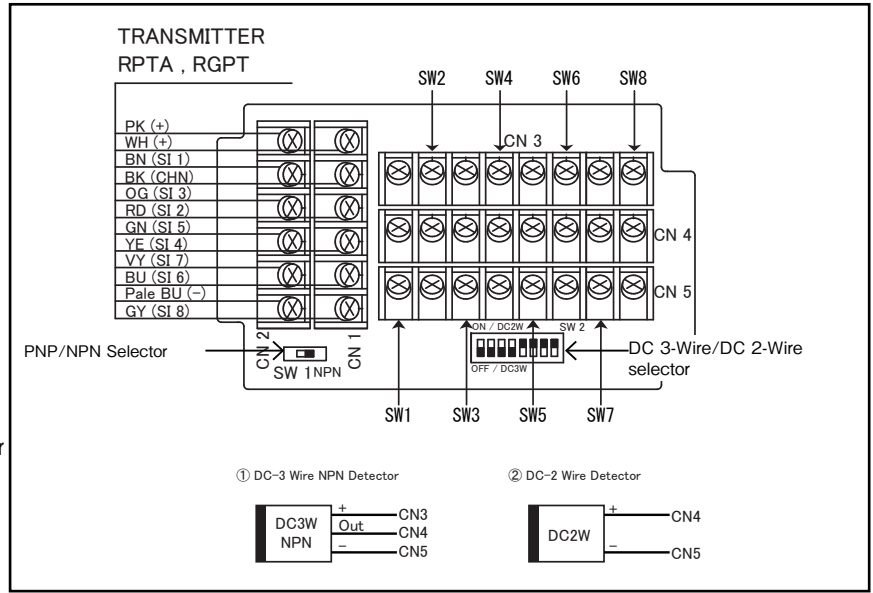
● Terminal Box

CN1,CN2 : Connecting Transmitter
 CN3 : +
 CN4 : SI1...8
 CN5 : -

} Connecting to
 Detector sensor

● 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

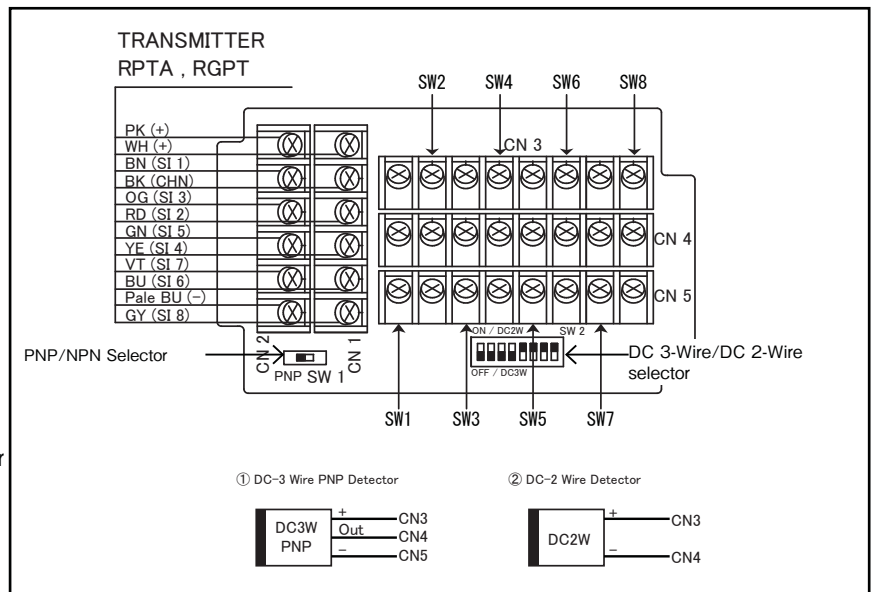
● Terminal Box

CN1,CN2 : Connecting Transmitter
 CN3 : +
 CN4 : SI1...8
 CN5 : -

} Connecting to
 Detector sensor

● 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



■ Transmitter of DC 2-Wire at use.

● RPT8-1803D-PU、RS08TA-018D-PU

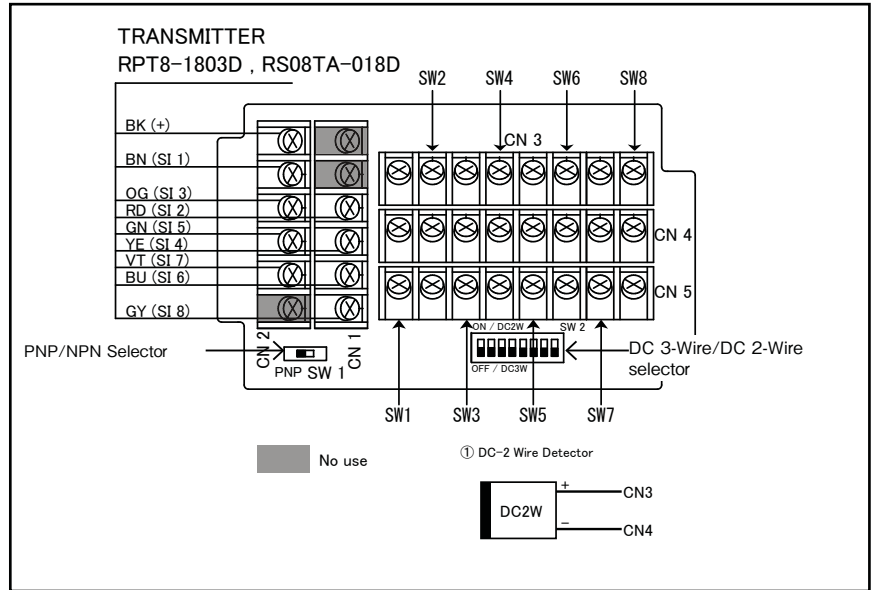
Detector : DC 2-Wire Detector switch
RFD series
Mechanical switch

● Terminal Box

CN1,CN2 : Connecting Transmitter
CN3 : +
CN4 : SI1...8 } Connecting to
Detector sensor

● Setting DIP switch

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



● RPT8-3007D-PU

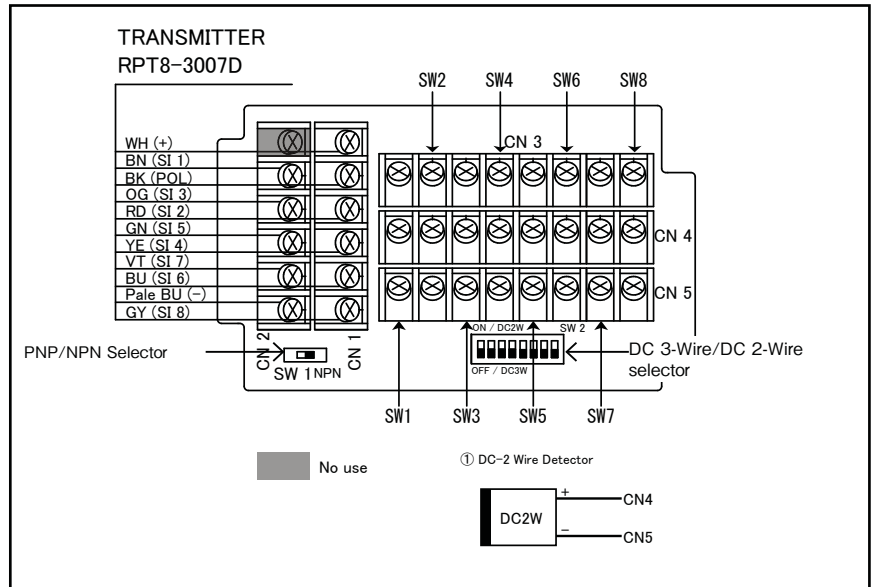
Detector : DC 2-Wire Detector switch
RFD series
Mechanical switch

● Terminal Box

CN1,CN2 : Connecting Transmitter
CN4 : SI1...8
CN5 : - } Connecting to
Detector sensor

● Setting DIP switch

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



● RPT8-3007D-TYT19

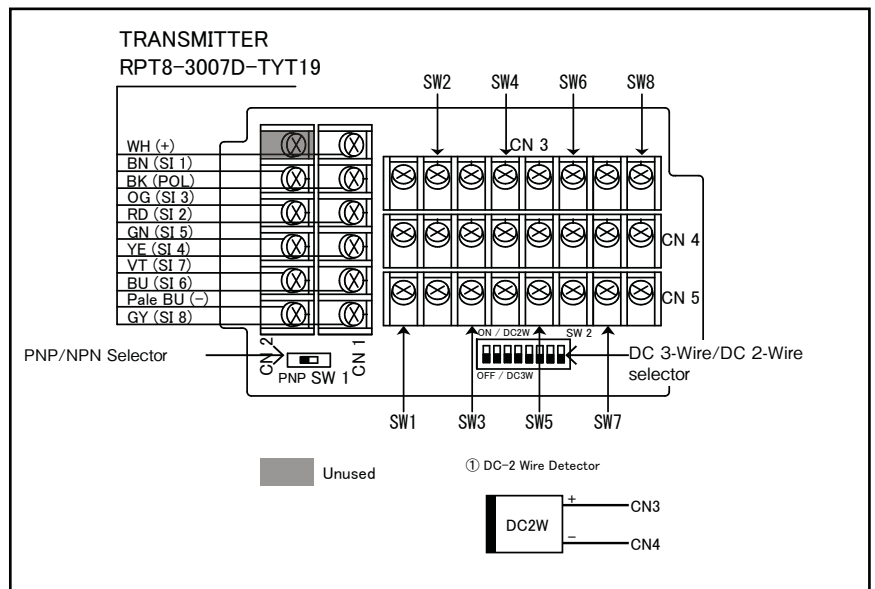
Detector : DC 2-Wire Detector switch
RFD series
Mechanical switch

● Terminal Box

CN1,CN2 : Connecting Transmitter
CN3 : +
CN4 : SI1...8 } Connecting to
Detector sensor

● Setting DIP switch

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



Important

- Wiring should be done before mounting the Terminal Box on the machine. If the wiring is done after mounting, Cable Glands can not be tightened properly.
- Since the protection Class of the Terminal Box is IP65, protection with a cover is required if the Terminal Box will be exposed to water.
- Use the device properly as refer to in the following points. If tightening of the Cable Gland is done improperly, it may have influence on its watertight quality.

Procedure for Mounting and Standard Point for Tightening

[Connection of the Transmitter and the Detector]

● Measure of Stripping Cables

- ① Strip outer sheathes of each cable at the required point.
- ② Strip insulations of cores.

● Fastening Position of Cable <figure 1-a>

Make sure that outer sheath of cable is positioned inside of the Terminal Box properly in tightening cable.

● Mounting of the Cable Gland

(RPK-2101/for Transmitter RPK-2103/for Transmitter and Detector) <figure 2>

Insert the cable clamp into slots of body. When the projections are not fit into into slots, it may have influence on its watertight quality.

● Tightening of the Cable Gland <figure 3, 4>

Tighten the cap of the Cable Gland.

PG9 for the Detectors & Transmitter of RPK-2103 and for the Transmitter of RPK-2101 : Spanner caliber 17mm <figure 3>

M8 for the Detectors of RPK-2101 : Spanner caliber 11mm <figure 4>

● Measure for unused Cable Gland <figure 5>

Insert the blank plug(s) supplied with the Terminal Box into any unused cable entrance(s) of the Cable Gland and stop it.

- ① Insert the blank plug.
- ② Tighten the cable gland.

(Refer to Tightening of the Cable Gland)

● Connecting to terminal block <see P.4>

In accordance with the connection diagram, connect the core to each appropriate terminal.

Tightening torque value of terminal screw is 0.5Nm.

[Measure of putting on the lid of the Terminal Box] <figure 6>

Tighten screws indicated on the diagram. Be sure all the screws are tightened equally. When the screws are not tightened with equal strength, the lid might be warped and the packing in the lid will not cling to the Terminal Box.

[Installation for Terminal Box]

- ① Attach the Terminal Box fasten with 2 Allen screws.
Size; M4 Length ;longer than 15mm
- ② To avoid unfastening of screws, application of adhesive for tightening screws is recommended.

[Replacement of Cable Glands]

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

● Measure of Stripping Insulations / Position of Tighteing

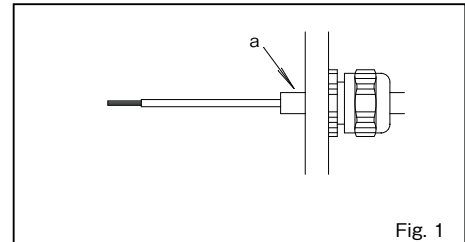


Fig. 1

● Mounting Cable Gland

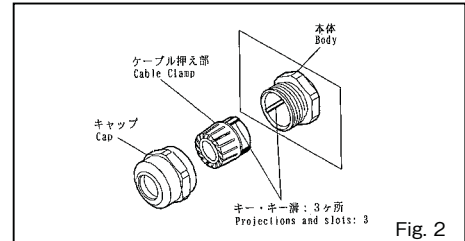


Fig. 2

● Tightening the Cable Gland

PG9 Cable gland		MINI-8 Cable gland	
	17mm		11mm
Fig. 3		Fig. 4	
Diameter	Torque	Diameter	Torque
φ 4.0...8.0	6Nm	φ 3.0...5.5	6Nm
The cap can be shut up tightly to the body.			

● Measure for unused Cable Gland

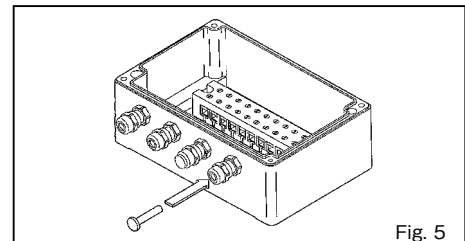


Fig. 5

● Measure of putting on the lid

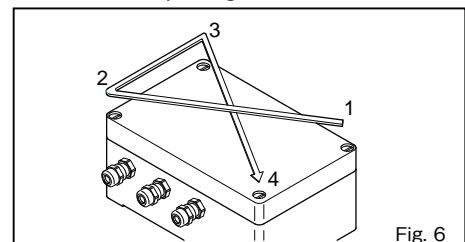


Fig. 6

B & PLUS K.K. (Former NIHON BALLUFF co., Ltd.)

URL <http://www.b-plus-kk.jp>

Specifications are subject to change without notice.