

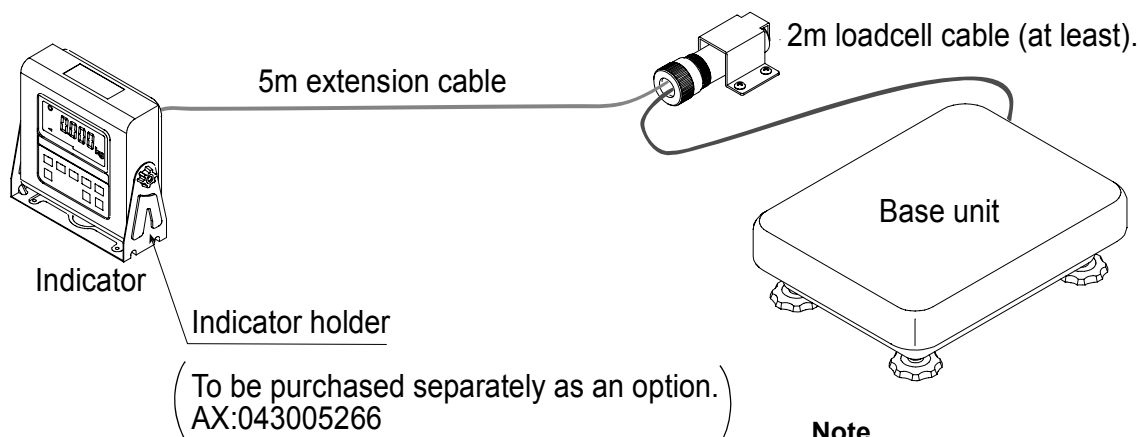
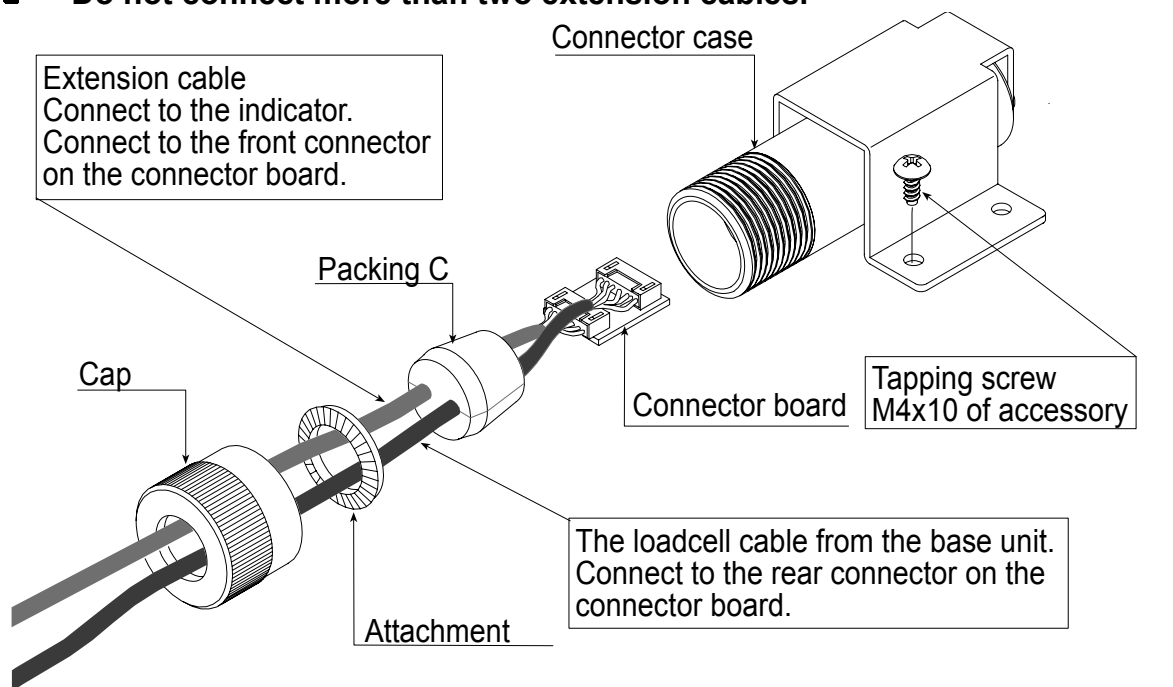
17. Options

17.1. Extension Cable (OP-02)

- This cable is used for installing the indicator away from the base unit.
- This loadcell cable is 5m long.
- Refer to " 5.1. Removing the Pole" for the way to remove the pole.

Caution

- **Calibrate the scale after connecting this cable.**
- **Do not connect more than two extension cables.**



Note
The pan shape depends
on the scale model.



17.2. RS-232C/ Relay Output/ Buzzer (OP-03)

Note When the OP-03 is used, be sure to set the "Address (F11)" to "(00)".

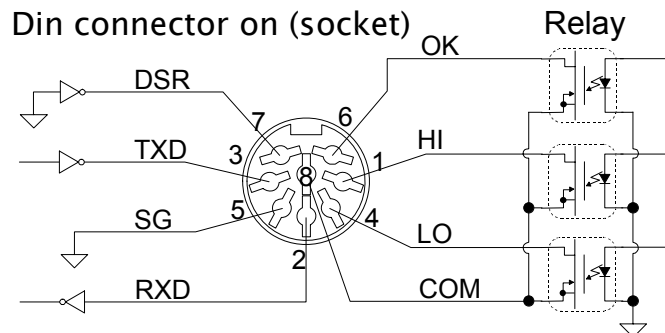
- This option replaces the standard RS-232C interface, refer to "16. RS-232C Serial Interface" for specification of RS-232C.
- The following option cables can be used, when you do not use the relay output.
 - AX-KO577A-200 RS-232C cable, D-sub 25 pin, 2 m
 - AX-KO1786-200 RS-232C cable, D-sub 9 pin, 2 m

- Pin connections

Pin No.	Signal name	Direction	Description
1	HI	Output	Relay output of HI
2	RXD	Input	Receive data
3	TXD	Output	Transmit data
4	LO	Output	Relay output of LO
5	SG	-	Signal ground (RS-232C)
6	OK	Output	Relay output of OK
7	DSR	Output	Data set ready
8	COM	-	Relay common terminal

- Adaptable connector DIN 8pin, JA:TCP0586 (of accessory)

- Circuits

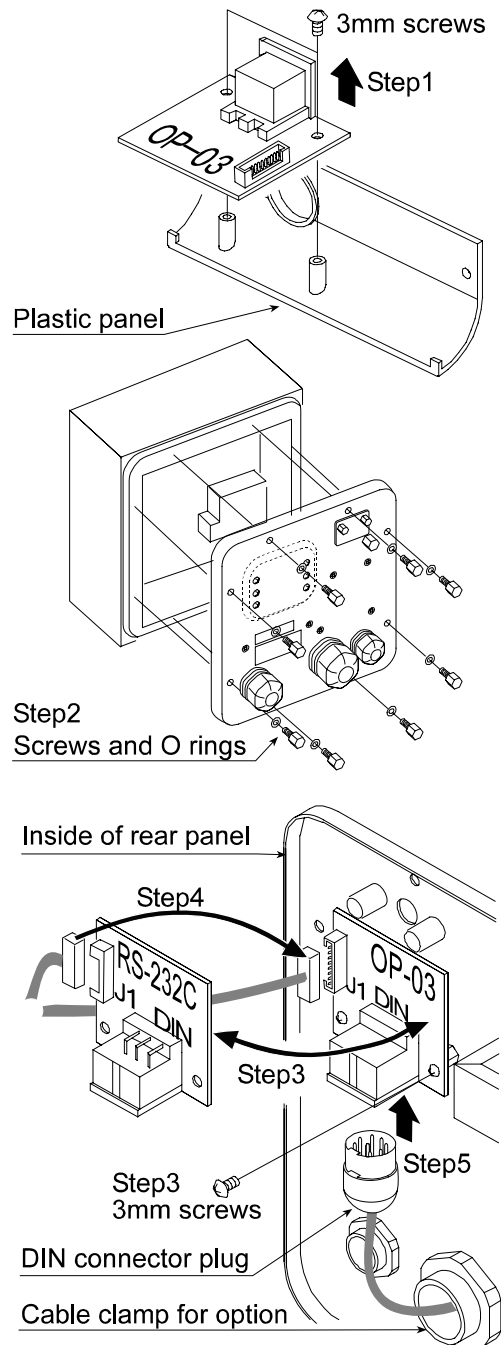


- Relay Solid-state-relay Maximum voltage DC50V
 Maximum current DC100mA
 Maximum resistance 8 Ω

17.2.1. Installing the OP-03

Caution Do not pull on the connected cables while opening the rear panel.

- Step 1 Remove the plastic panel from the option board.
- Step 2 Remove eight pairs of screws and O rings from the indicator unit. Open the rear panel of the unit.
- Step 3 Remove the standard interface board from the indicator unit. Install the option board at the same position.
- Step 4 Connect the cable to the J1 connector on the option board.
- Step 5 Connect the DIN plug to the option board.
- Step 6 Close and secure the rear panel using the screws and O rings removed at step 2.

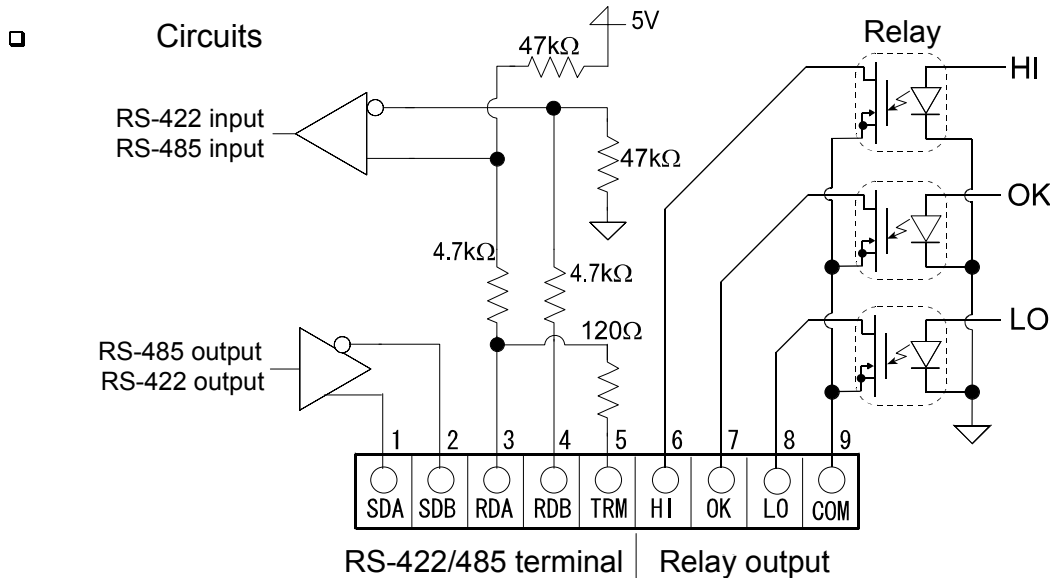




17.3. RS-422/ RS-485 / Relay Output (OP-04)

- Replacing the standard RS-232C interface with this option, the RS-422/ RS-485 interface can connect up to 16 scales and control them from a computer.
- The RS-422/ RS-485 interface has the following two modes.
 - Stream mode Outputs data continuously.
 - Command mode Controls the scale using commands from a computer.
- Set the parameters for the "Baud rate ()", " Output mode ()", "Address ()", " Format ()", in the function table, in advance.
- Transmission system EIA RS-422/ RS-485
- Transmission Asynchronous, bi-directional, half-duplex
- Data format
 - Baud rate: 2400, 4800, 9600 bps
 - Data: 7 bits
 - Parity: 1 bit, Even
 - Start bit 1 bit
 - Stop bit 1 bit
 - Code ASCII
 - Terminator CR LF (CR: 0Dh, LF: 0Ah)
- Address 01 ~ 99 Address parameter () of the function table.
- Relay
 - Solid-state-relay
 - Maximum voltage DC50V
 - Maximum current DC100mA
 - Maximum resistance 8 Ω
- Adaptable connector TM:BLA9 (of accessory)
- Pin connections

Pin No.	Signal name	Direction	Description
1	SDA	Output	RS-422/485 transmission A terminal
2	SDB	Output	RS-422/485 transmission B terminal
3	RDA	Input	RS-422/485 receive A terminal
4	RDB	Input	RS-422/485 receive B terminal
5	TRM	-	120Ω terminator
6	HI	Output	Relay output of HI
7	OK	Output	Relay output of OK
8	LO	Output	Relay output of LO
9	COM	-	Relay common terminal



Selection switch for the RS-422/ RS-485 interface

Selects either of RS-422 or RS-485 interface using a switch on the board.

17.3.1. Installing the OP-04

Caution Do not pull on the connected cables while opening the rear panel.

Step 1 Remove eight pairs of screws and O rings from the indicator unit. Open the rear panel of the unit.

Step 2 Remove the standard interface board from the indicator unit. Install the option board at the same position.

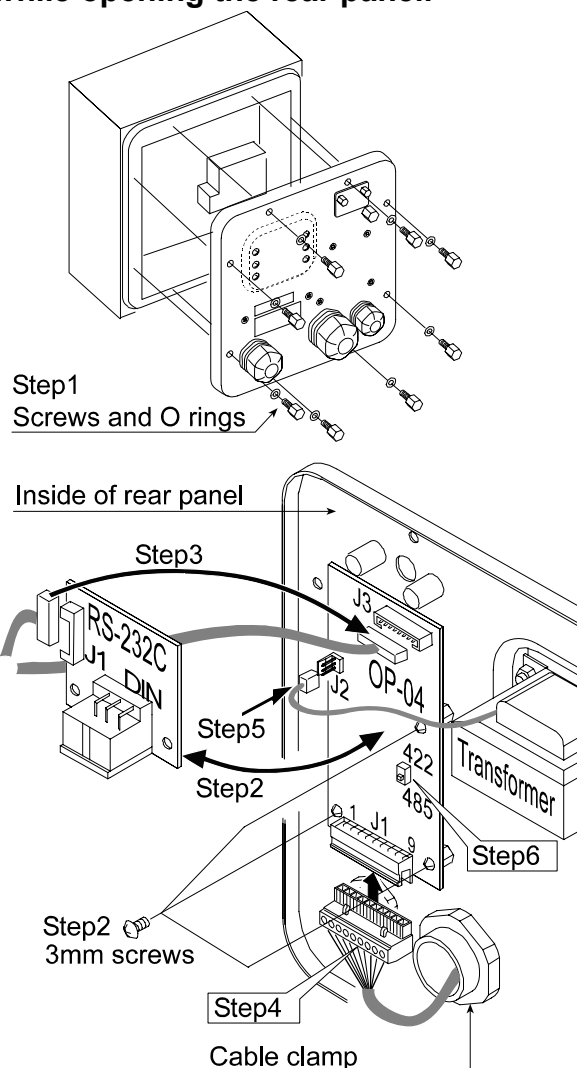
Step 3 Connect the cable to the J3 connector on the option board.

Step 4 Wire the connector for J1 and connect it to the option board.

Step 5 Connect a cable from the transformer to the J2 connector.

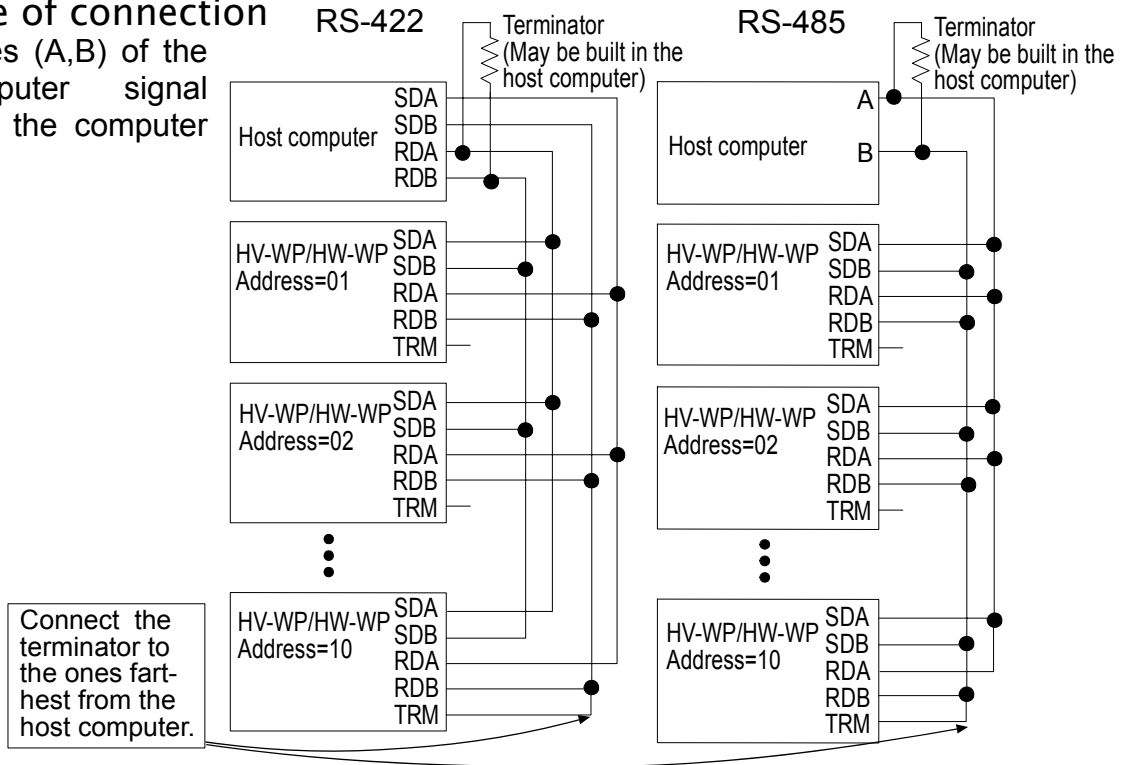
Step 6 Set a interface type with the switch.

Step 7 Close and secure the rear panel using the screws and O rings removed at step 1.



An example of connection

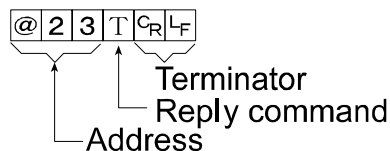
The polarities (A,B) of the host computer signal depends on the computer model.



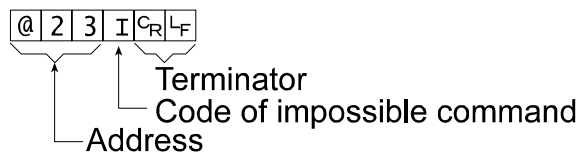
17.3.2. Communication Format

- Commands consist of an address and the same command as for the RS-232C.
- The address of the equipment is inserted in the first part of the command.
- Commands return the same command when the communication format is `F 15 3` and there is no data transmitted.
- If the address is 23, the reply is as follows:

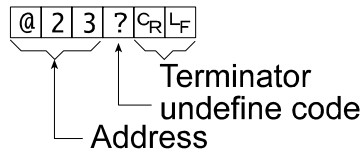
Normal response



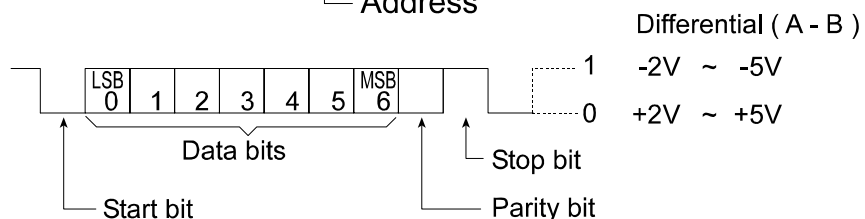
Impossible command response



Undefined command response



Bit format



17.3.3. Command List

The following explanation uses "Format 1 (

F	15	3
---	----	---

)" assuming 23 as the address.

Data output

The current weighing data is output.

Template Q

Command

@	2	3	Q	C _R	L _F
---	---	---	---	----------------	----------------

Reply

@	2	3	S	T	,	+	0	0	0	1	2	.	4	0	┌	k	g	C _R	L _F
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----------------	----------------

Selection of mode and unit

Selects the mode and unit. This is the same as the

MODE

 switch.

Template U

Command

@	2	3	U	C _R	L _F
---	---	---	---	----------------	----------------

Reply

@	2	3	U	C _R	L _F
---	---	---	---	----------------	----------------

The scale changes mode and unit.

Zero

The current mass value is set to the zero point.

This is the same as the

ZERO

 switch.

Template Z

Command

@	2	3	Z	C _R	L _F
---	---	---	---	----------------	----------------

Reply

@	2	3	Z	C _R	L _F
---	---	---	---	----------------	----------------

The mass value becomes zero and the zero point mark is displayed.

Tare

The current mass value becomes zero after placing a tare (receptacle, case, etc) and the net is displayed. This is the same as the

TARE

 switch.

Template T

Command

@	2	3	T	C _R	L _F
---	---	---	---	----------------	----------------

Reply

@	2	3	T	C _R	L _F
---	---	---	---	----------------	----------------

The current mass value becomes zero and the net mark is displayed.

Cancel of tare

The display value becomes the gross and the net mark is turned off. (The tare value becomes zero.)

Template CT

Command

@	2	3	C	T	C _R	L _F
---	---	---	---	---	----------------	----------------

Reply

@	2	3	C	T	C _R	L _F
---	---	---	---	---	----------------	----------------

Gross is displayed and the net mark is turned off.

Preset tare

The tare value is set and the net value is displayed. The set value is a 5 digit numerical value with a polarity sign and does not contain a decimal point.

Template PT, [parameter]

Command

@	2	3	P	T	,	+	0	0	1	2	0	C _R	L _F
---	---	---	---	---	---	---	---	---	---	---	---	----------------	----------------

Reply

@	2	3	P	T	,	+	0	0	1	2	0	C _R	L _F
---	---	---	---	---	---	---	---	---	---	---	---	----------------	----------------

Net is displayed and the net mark is displayed.

Upper limit value

An upper limit value is stored. The set value is a 5 digit numerical value with a polarity sign and does not contain a decimal point.

Template HI, [parameter]

Command

@	2	3	H	I	,	+	0	3	2	1	0	C _R	L _F
---	---	---	---	---	---	---	---	---	---	---	---	----------------	----------------

Reply

@	2	3	H	I	,	+	0	3	2	1	0	C _R	L _F
---	---	---	---	---	---	---	---	---	---	---	---	----------------	----------------

The upper limit value is stored.

Caution The upper limit value must be greater than the lower limit value.

Lower limit value

A lower limit value is stored. The set value is a 5 digit numerical value with a polarity sign and does not contain a decimal point.

Template LO, [parameter]

Command @ 2 3 L 0 , - 0 0 4 0 0 C_R L_F

Reply @ 2 3 L 0 , - 0 0 4 0 0 C_R L_F

The lower limit value is stored.

Caution The lower limit value must be less than the upper limit value.

Accumulation data output

The accumulated data is output.

Template A

Command @ 2 3 A C_R L_F

Reply @ 2 3 A , + 0 0 0 1 2 . 4 0 _ k g C_R L_F

Accumulation count output

The number of accumulated data is output.

Template N

Command @ 2 3 N C_R L_F

Reply @ 2 3 N , + 0 0 0 0 0 1 4 0 _ _ _ C_R L_F

Reset of Accumulation data and number

The data and number of accumulations become zero.

Template CA

Command @ 2 3 C A C_R L_F

Reply @ 2 3 C A C_R L_F

The data and number of accumulations become zero.

Final value

The final value is stored. The set value is a 5 digit numerical value with a polarity sign and does not contain a decimal point.

Template S0, [parameter]

Command @ 2 3 S 0 , + 0 2 0 0 0 C_R L_F

Reply @ 2 3 S 0 , + 0 2 0 0 0 C_R L_F

The value is stored.

Preliminary value

The preliminary value is stored. The set value is a 5 digit numerical value with a polarity sign and does not contain a decimal point.

Template S1, [parameter]

Command @ 2 3 S 1 , + 0 0 2 0 0 C_R L_F

Reply @ 2 3 S 1 , + 0 0 2 0 0 C_R L_F

The value is stored.

Zero band

The zero band is stored. The set value is a 5 digit numerical value with a polarity sign and does not contain a decimal point.

Template S2, [parameter]

Command @ 2 3 S 2 , + 0 0 0 5 0 C_R L_F

Reply @ 2 3 S 2 , + 0 0 0 5 0 C_R L_F

The value is stored.



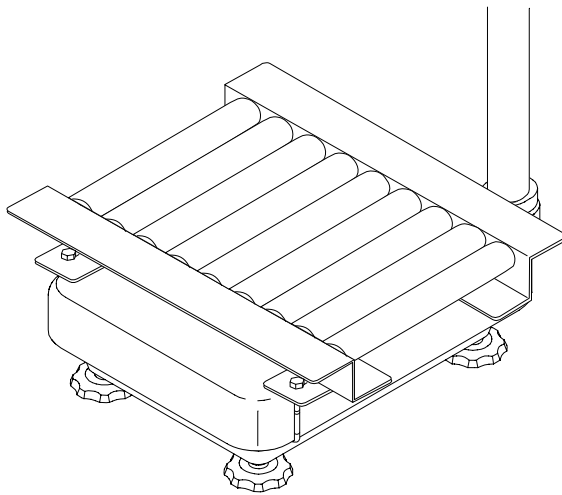
17.4. Roller Conveyor (OP-13, OP-14)

- Caution**
- When installing the roller conveyor, calibrate the scale again if necessary.
 - When installing the roller conveyor, if not calibrating the scale again, the weighing capacity of the scale decreases by the weight of the roller conveyor

OP-13

This option can be used with the following models.

HV-200KV-WP,
HW-100KV-WP,
HW-200KV-WP



OP-14

This option can be used with the following models.

HV-60KV-WP,
HW-60KV-WP

