

# LH71

## Initial Setup Manual

LH71



### INITIAL SETUP FLOW



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# Preparations before making the initial setting (1/2)

By confirming the conditions of use in advance, the setting operation can be performed easily.  
Let's start with the basic settings.

## Basic Setting Items












Items	Indication <small>default</small>	Description	Setting
Type (function selection)  LH71-3 only		The function of LH71-3 (3 axes) can be selected according to the type of machine used. Only GENERAL (general-purpose machine ) can be selected for LH71-1 / 2 (1 axis, 2 axes).	GENERAL: General-purpose machine LATHE: Lathe function
Addition display  Can be selected when "Lathe" (lathe function) is selected		Selection of addition axis, addition conditions, etc.  If you select LATHE (lathe function) in the type selection, this item will appear.	2: No addition, count value of the 2nd axis 3: No addition, count value on the 3rd axis 2 Add 3: Count value of 2nd axis + 3rd axis 2 Add -3: Count value of 2nd axis-3rd axis -2 Add 3: 3rd axis-2nd axis count value -2Add-3: -2nd axis -3rd axis count value
Destination country 		Please select the region to be used. (Displayable units)	Std: General Area  US: U.S.A.  JPN: Japan 
Measuring unit resolution 		Set the resolution output from the measurement unit to be used for each axis. The resolutions that can be selected are length and angle. Expanded selections increase the number of options.	Length: 0.05 to 100µm *See Tables 1, 2 and 3 or Angle: 1 second to 1 degree  *Angular resolution (1sec to 1 degree) when using a rotary scale

Table1: Length scale output resolution

Measuring Unit	Output resolution	connection cable	Adapter *
SR-1711 SR-1711R	0.5µm	HK-**C HK-**CR	SZ05-T01
SR801/ MSS-101 SR801R	0.5µm	HK-1**C HK-2**C	SZ05-T01
SR801/ MSS-101 SR801R	0.5µm	CE07-**C	SZ51-MS01 + SZ70-1
SR10 / SR30 / SR50 SR50-R	0.5µm	HK-4**C HK6-**CR	SZ05-T01
SR118	0.5µm	CE05-**C CH02-**	DZ51 + SZ70-1
SR108 SR107	0.5µm		SZ51-MS01 + SZ70-1
SR128	0.5µm	CH01-**C	SZ70-1
SR128 / SR127	0.5µm	CH01-LW**C	SZ51-MS01 + SZ70-1
SR138R(GB-ER)	0.5µm	CH04-03C	

Table 2: Digiruler output resolution

Measuring Unit	Output resolution	Adapter/ conversion cable	Adapter *
SL110 SL130	10µm	PL20B	SZ70-1
SL110 SL130	10µm	PL20C	
SJ300	1µm	CH33-**CPD/CED	
SJ700	5µm		SZ70-1
SJ700A	5µm		

Table3: Digital gage output resolution

Measuring Unit	Output resolution	Adapter/ conversion cable	Adapter *
DG	0.5µm		SZ05-T01
DG-B	0.5µm	DZ-51	SZ70-1
DL310B/330B	10µm	DZ-51	SZ70-1
DK series	0.1µm or 0.5µm	CE29-**	

\* For adapter information, refer to Appendix 2 Adapter Connection in this Manual

# Preparations before making the initial setting (2/2)

Check the usage conditions for Detailed Settings.

(Since the setting conditions can be changed later, use the default values to skip items for which the conditions have not been confirmed)

## Detailed Settings Items

Items	Indication <small>default</small>	Description	Setting
Display resolution and polarity 		Sets the resolution to be displayed for each axis. A value lower than the input resolution cannot be set. Selects the value for each axis, including the polarity (+/-). The default value is set by the basic setting.	Length: 0.05 to 100μm or Angle: 1 second to 1 degree
Display switching 	Upper axis  Middle axis  Lower axis 	Each display axis can be selected for the length measurement unit input axis.	Input axis: IN-1: 1st input axis IN-2: 2nd input axis IN-3: 3rd input axis IN - -: No display
Axis label 	Upper : X Middle : Y	Display axis label selection  <div style="background-color: blue; color: white; padding: 2px; text-align: center;">* Can be used with LH71-1 and LH71-2.</div>	Upper axis: "X" or "Z" Middle axis: "Y" or "Z"
Scaling 		Displayed by multiplying the measured value by the magnification	0.1 times to about 10 times
Compensation value 		Setting of linear compensation and segmented error compensation	Err OFF : off Lin Err : linear compensation ±600μm/m *Expanded selections ±1000μm/m SEG Err : segmented error compensation
Flicker control 		Flickering of the smallest displayed digit can be suppressed. Set the level of flicker suppression.	OFF: Function stop 1: Weak 2: Strong
Sleep 		The display turns off when there is no movement of the length measurement unit or key operation for a certain period of time while the power is on. It will return when the length measurement unit is moved or the Key operation is performed again.	OFF: Do not put to sleep 1: 1 minute later 5: 5 minutes later 10: 10 minutes later 30: 30 minutes later 60: 60 minutes later

# How to set up Basic Settings (1/3)

## Step 1




Configure the basic settings.  
Choose one of the following methods of operation.

**NOTE:**  
If you change the basic settings,  
Detailed Settings will be reset to the factory defaults.

When the power is turned on for the first time after shipment from the factory

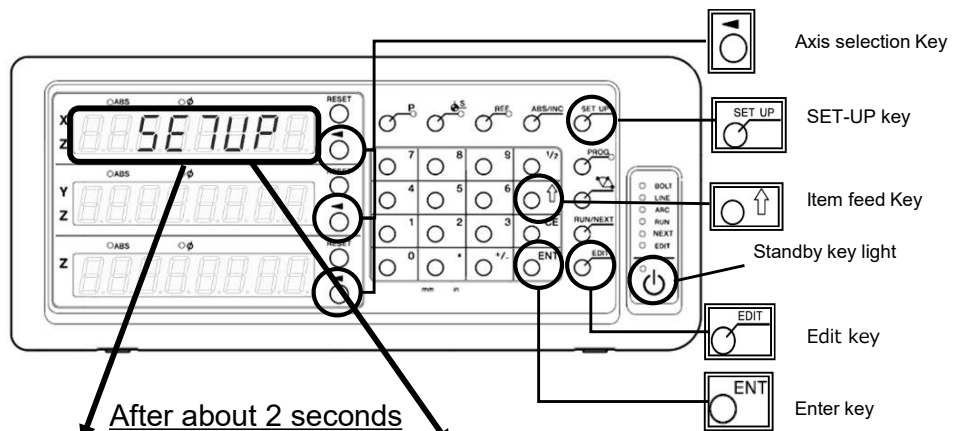
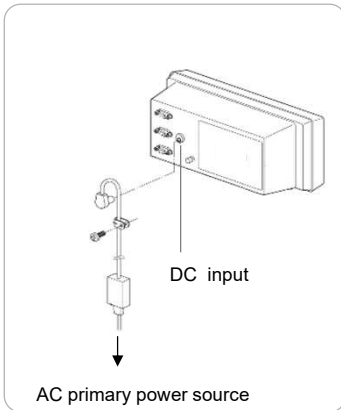
Connect the AC adapter and turn the primary power "on".

When you want to change the basic settings

AC adapter is energized.  
Turn on  key, the LED light changes from "blinking" to "off" and then press  and hold  key for 3 seconds.

The following display appears

### Connecting the AC Adapter



After about 2 seconds

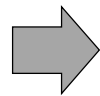


LH71 (1 axis / 2 axes input)

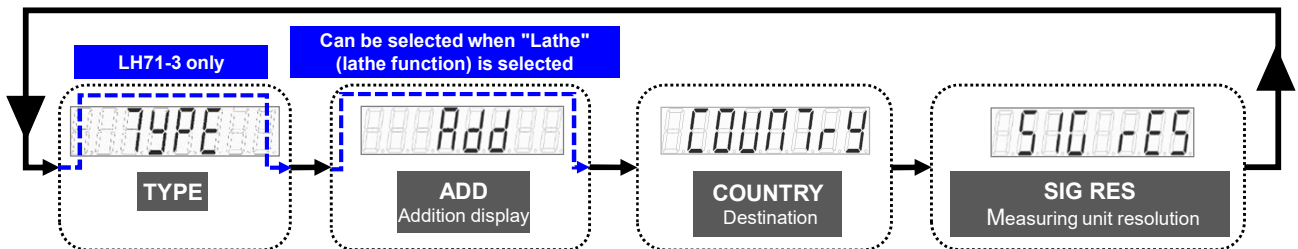


LH71 (3 axes input)

Continued on next page



Pressing  key changes the basic setting mode in the order in which it is set.



**TYPE:**  
Switching of functional specifications between general-purpose machine (GENERAL) and lathe machine (LATHE).

**ADD (additional display):**  
Selection of the 2nd and 3rd axes of the length measurement unit input and setting of addition display (**NOTE**)

**COUNTRY (destination country):**  
Please select your region

**Signal resolution (measuring unit resolution):**  
Sets the output resolution of the scale to be connected. Supports the input of length and angle display units.

**NOTE:** When "Lathe" (lathe function) is selected on the LH71-3 (3-axis input), be sure to connect a scale with high resolution to the length measuring unit input axis 2 to display the addition.




### COUNTRY (Destination)

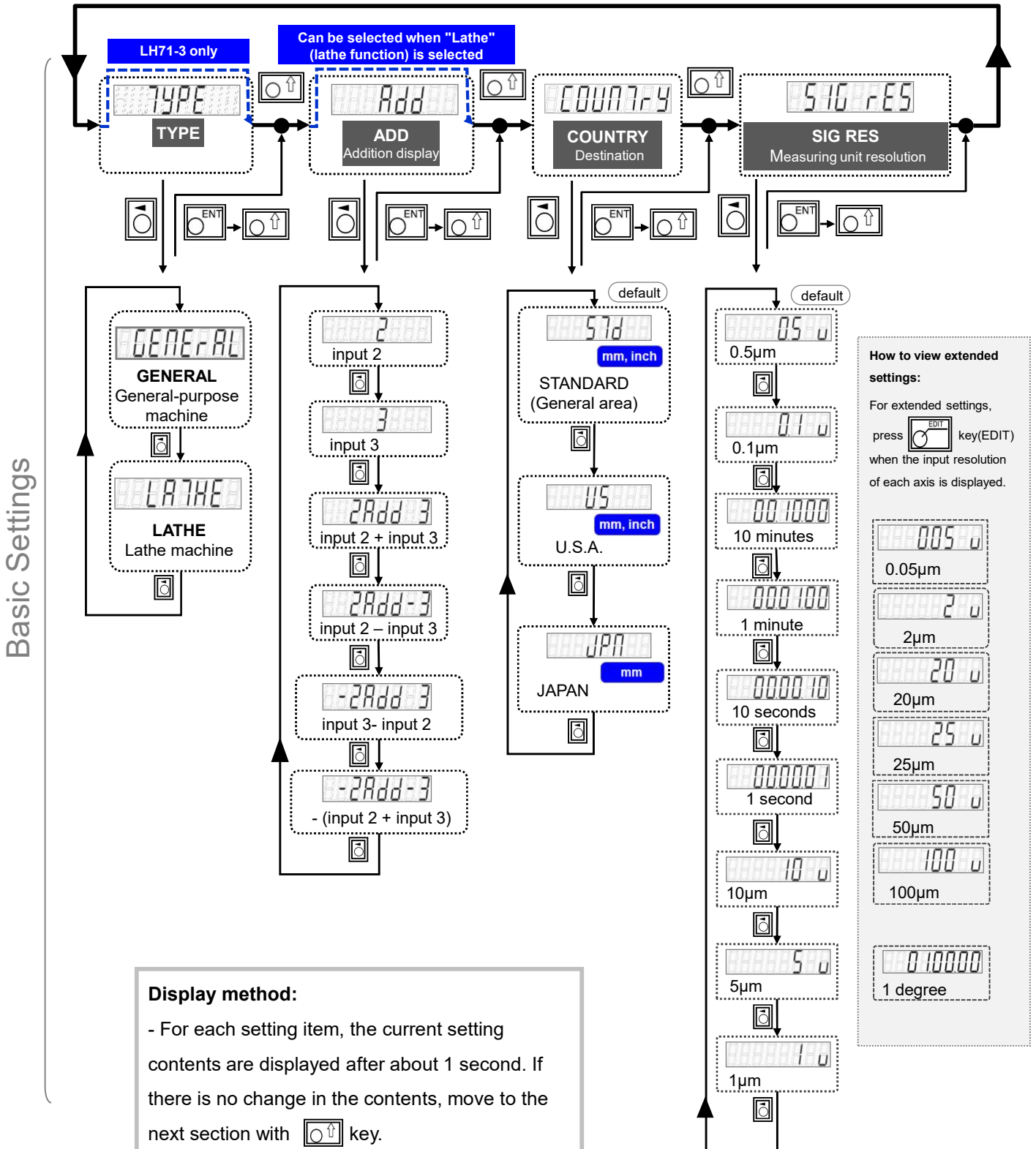
Symbol	Destination	Unit
STD 	General area	
US 	U.S.A.	
JPN 	Japan	

# How to set up Basic Settings (2/3)

## Step 2

Enter the settings confirmed in "Preparations before making initial settings (1/2)". Repeat steps (1), (2), and (3) to make the basic settings.

- (1) Use  key to change the basic setting item.
- (2) The setting selection can be switched with  key on the right side of the counter display.
- (3) To define the new value, press  key.


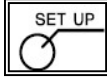








# How to set up Basic Settings (3/3)

## Step 3

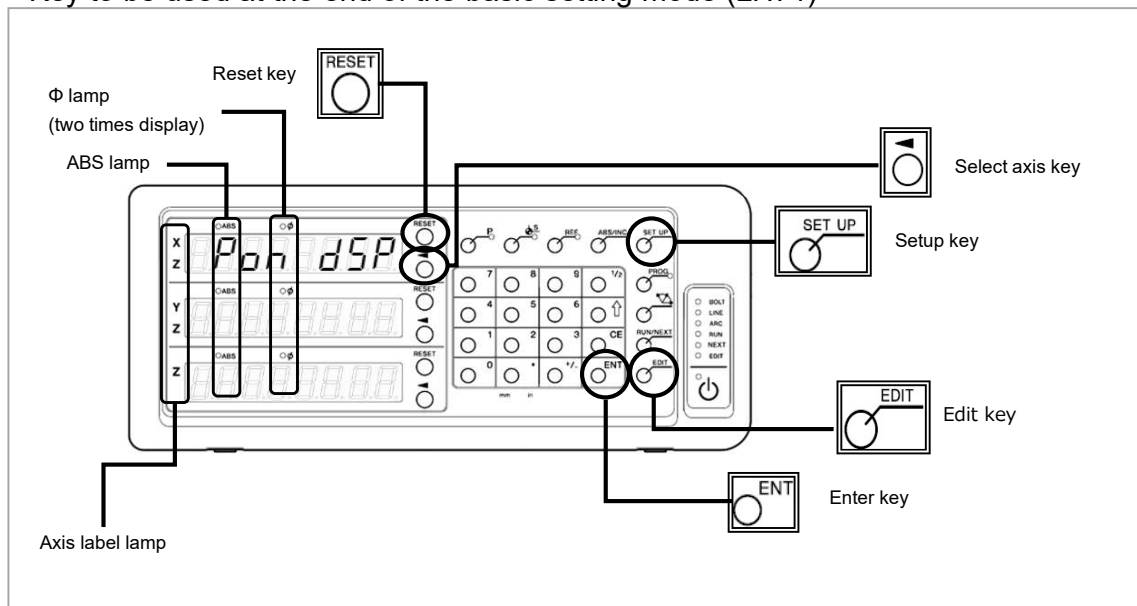
Once you have completed the basic settings, exit this mode and move to Detailed Setting mode.

### How to Exit Basic Setting Mode

- ① Press  key or  key.
- ② The display changes to .
- ③ Pressing  key displays .
- ④ Press  key. The display will be .
- ⑤ Press  key. The display returns to normal.

This completes the basic settings.

### Key to be used at the end of the basic setting mode (LH71)



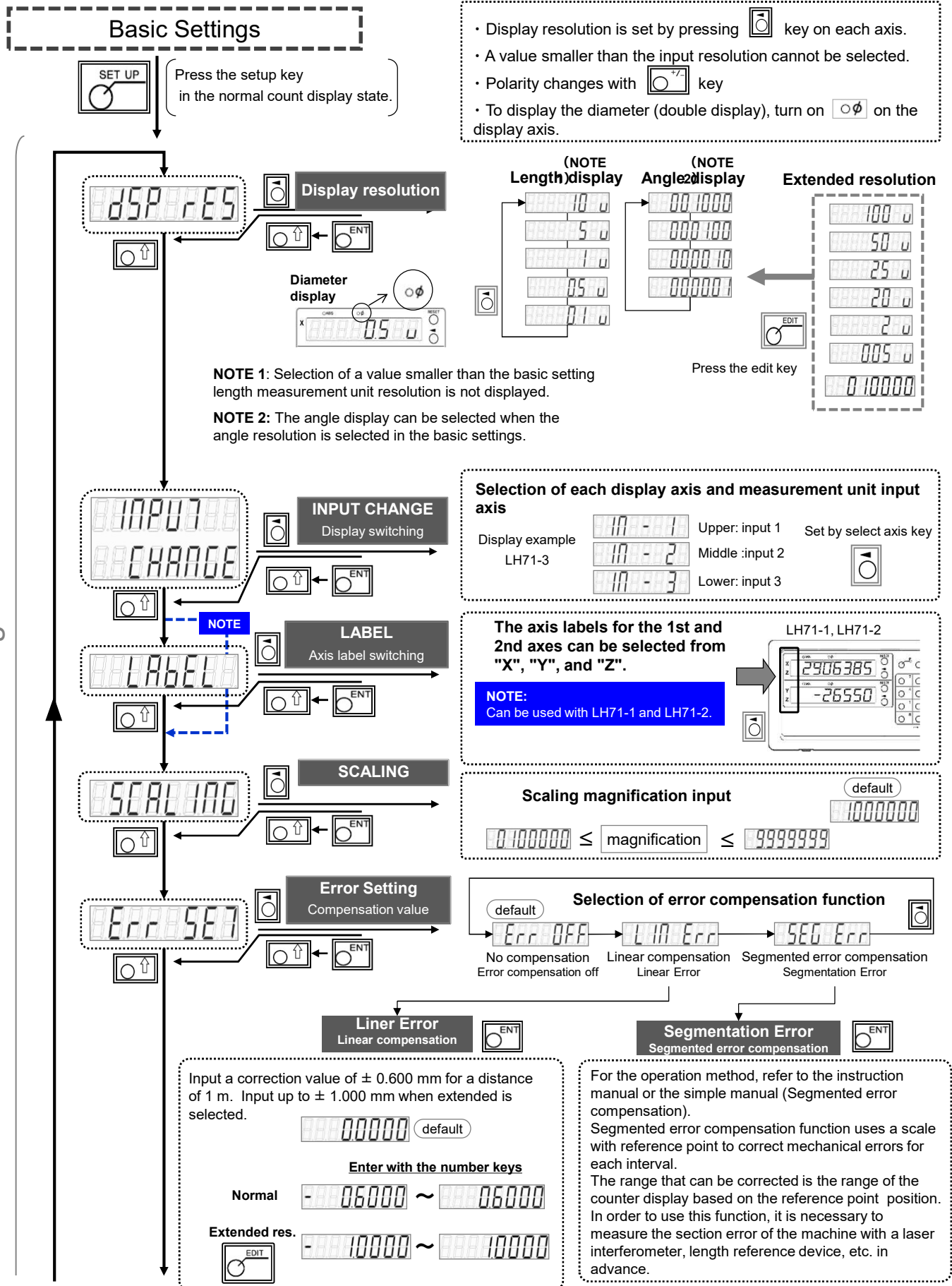
# How to set up Detailed Settings (1/1) (continued from Basic Settings)

## Step 4

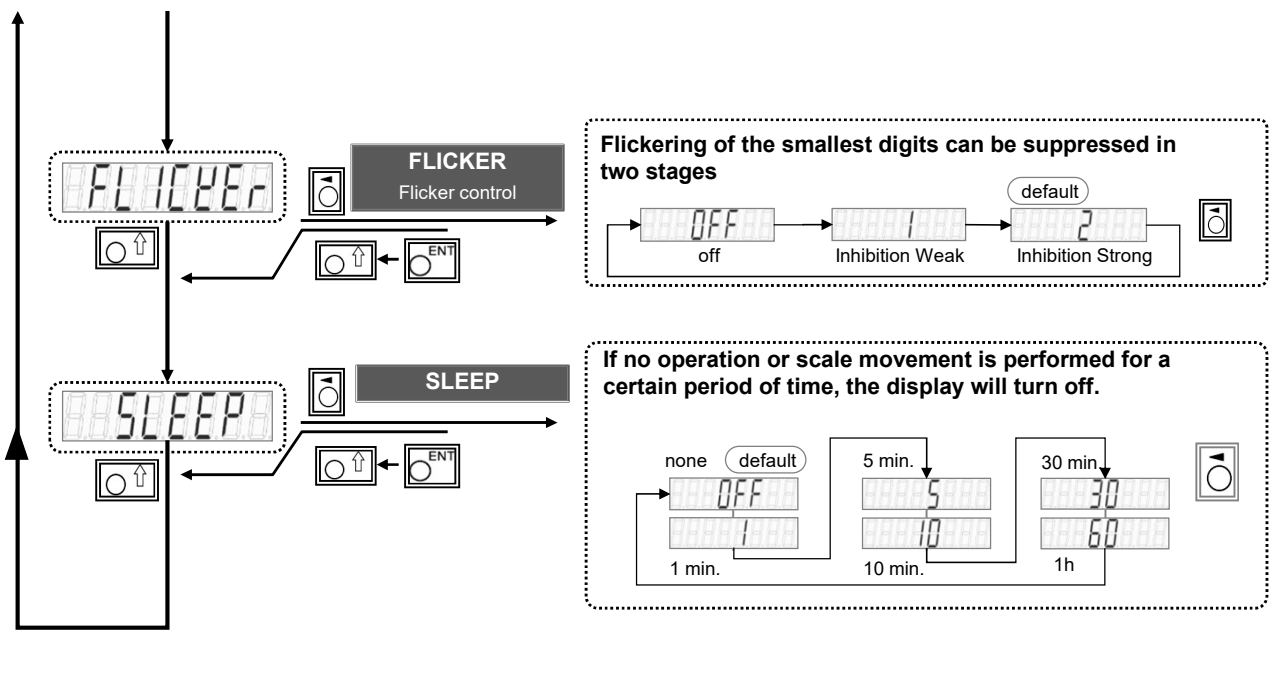
Make the detailed settings.

\*If you have already completed the basic settings and want to reconfigure only the advanced settings, you can do the same.

Detailed Settings



Detailed Settings



## Step 5

When the Detailed Settings are complete, switch to the normal display.

Press  key.

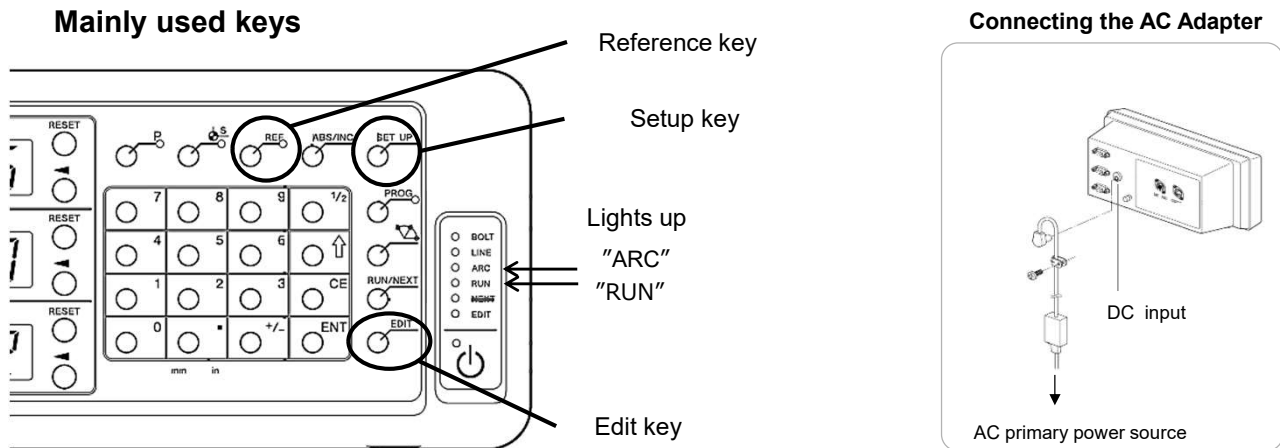
This completes the initial settings..



# Factory Default (All Clear)

To set the factory settings (all clear), perform the following operations.  
 Make preparation such as taking NOTES in advance for necessary items.  
 Also, do not perform any operation other than the explanation.

**CAUTION: IF YOU DO THIS, ALL SETTINGS WILL BE THE FACTORY DEFAULT SETTINGS.**



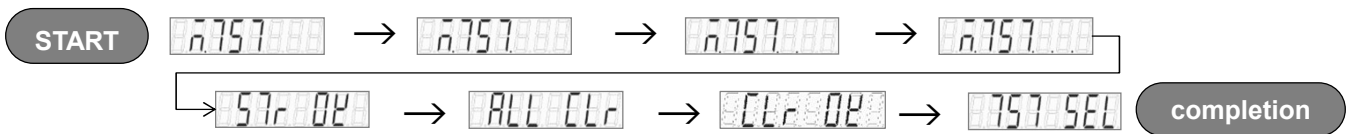
1. Hold down key and key at the same time to start the power supply.

Connect the AC adapter to the DC-IN input on the back of the counter and turn on the primary power supply.

⇒ The model name of the counter is displayed

2. When you press key, is displayed, followed by

3. Pressing key changes the display as shown below.



4. "ARC" and "RUN" LEDs will be lit.
5. Press key to confirm the number of input axis.

In case of LH71-1, is displayed.  
 In case of LH71-2, is displayed.  
 In case of LH71-3, is displayed.

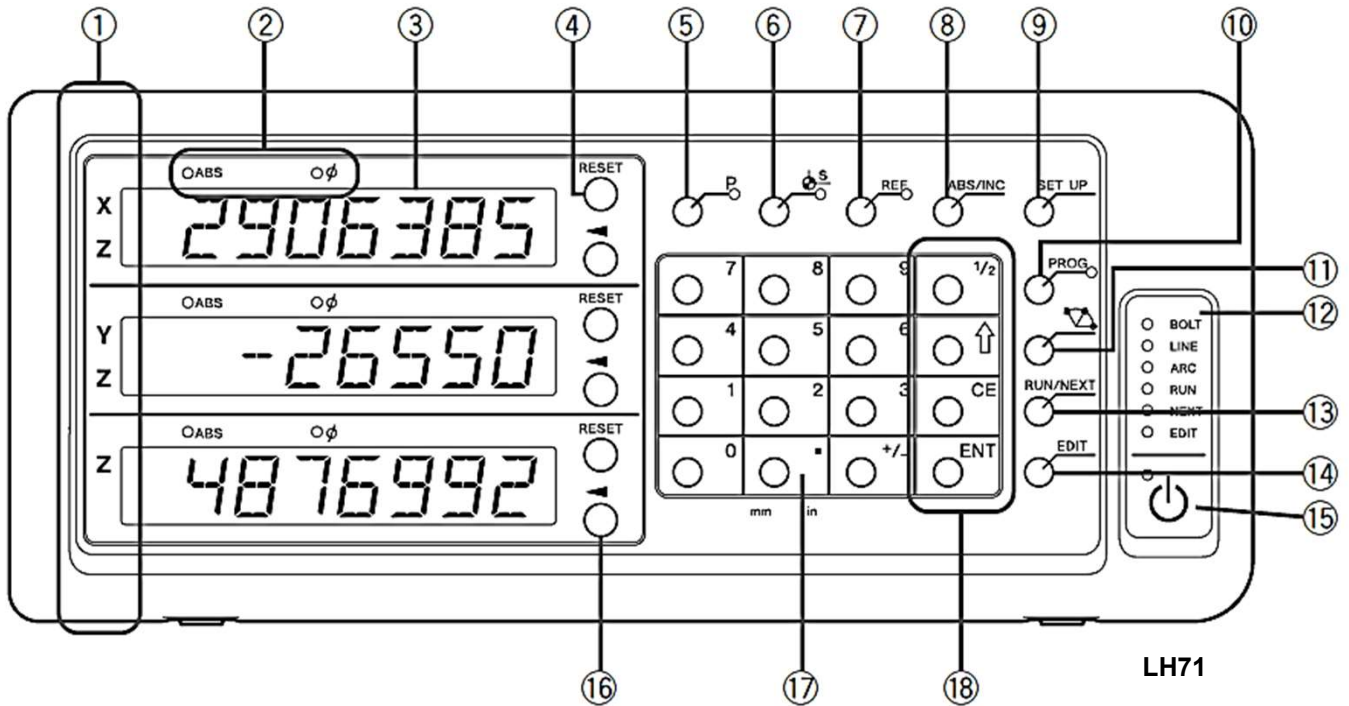
6. Turn off the primary power supply of the AC adapter.

**How to check the software version:**

Power ON → Display LH → Key → Version  
 Press any key to return to the LH display.

# Appendix 1

## Front panel



No.	Name	No.	Name	No.	Name
①	Axis label	⑦	REF key	⑬	RUN/NEXT key
②	ABS lamp, φ lamp	⑧	ABS/INC key	⑭	EDIT key
③	Counter display	⑨	SETUP key	⑮	Standby key
④	RESET key	⑩	PROG key	⑯	Axis select key
⑤	P key	⑪	Canned cycle key	⑰	Numeric key
⑥	Datum point value setting key	⑫	Status lamp	⑱	Function key

## Alarm indication

Display	Status	Display	Status
	Measurement unit not connected		Storage data error
	Speed over (NOTE)		Error in reference point detection
	Overflow		Program error
	Power failure		Program error

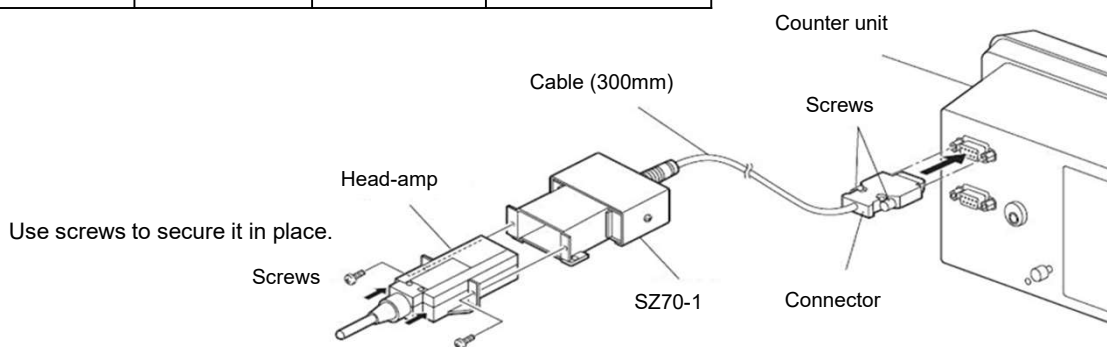
NOTE: When using an adapter connection (SZ\*\*), no speed override indication is shown, but rather an error message.

# Appendix 2-1

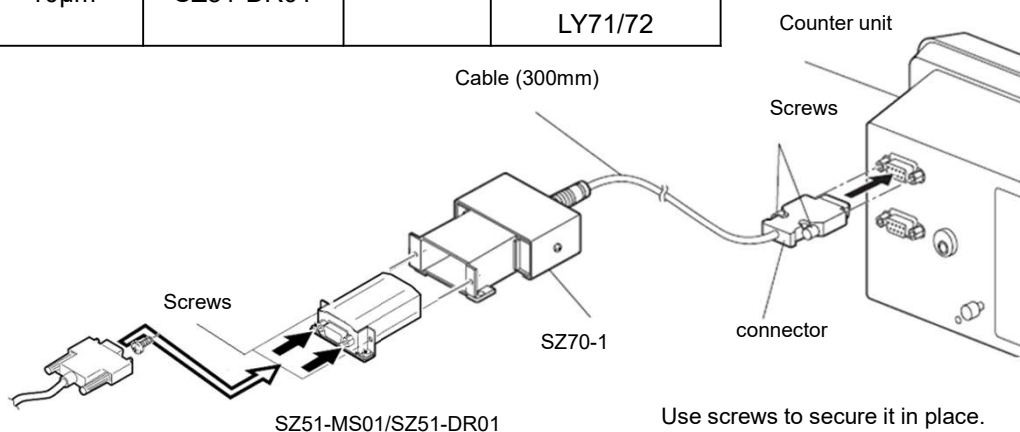
## Adapter connection (Length scale)



Scale/ Head	Resolution	Adapter	Counter
SR128(GB-A)	0.5μm	SZ70-1	LG20
PL20B	10μm		LH70/71/71A/72
SJ700	5μm		LY71/72

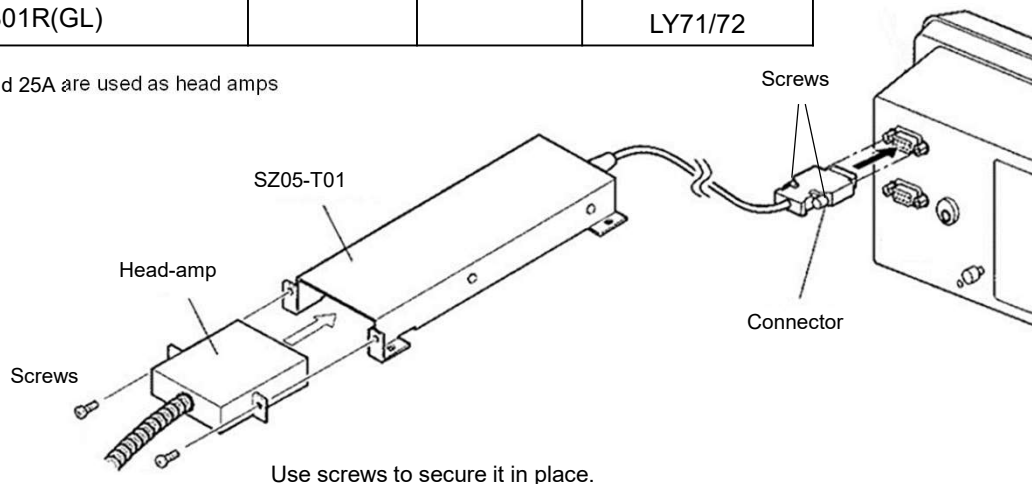


Scale/ Head	Resolution	Adapter 1	Adapter 2	Counter
SR108(GB)	0.5μm	SZ51-MS01	SZ70-1	LG20
PL20A	10μm	SZ51-DR01		LH70/71/71A/72
				LY71/72



Scale	Resolution	Adapter	Counter
SR-1711(GP), SR10A/741(GS), SR50A(GF,GF-R), SR30A(GM), SR801/801R(GL)	0.5μm	SZ05-T01	LG20
			LH70/71/71A/72
			LY71/72

\* HA13A, 15A, 23A and 25A are used as head amps

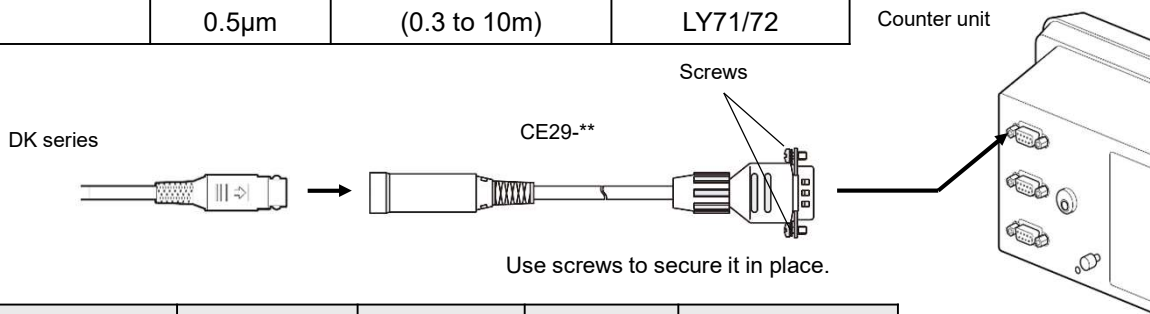


# Appendix 2-2

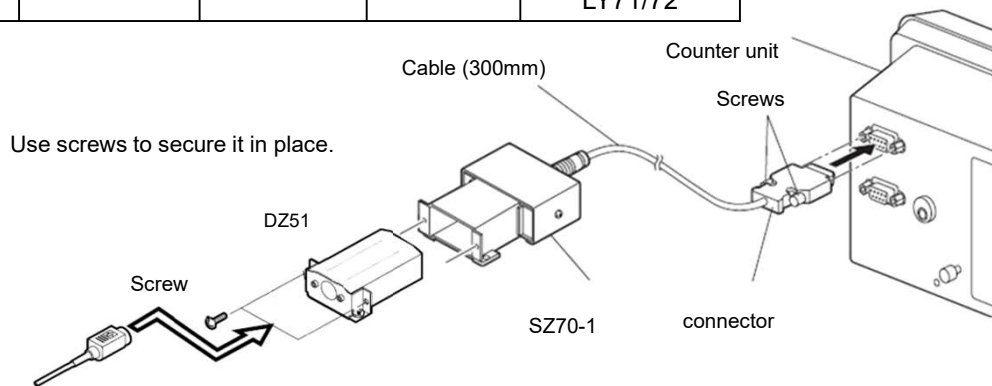
## Adapter connection (Digital gauge)



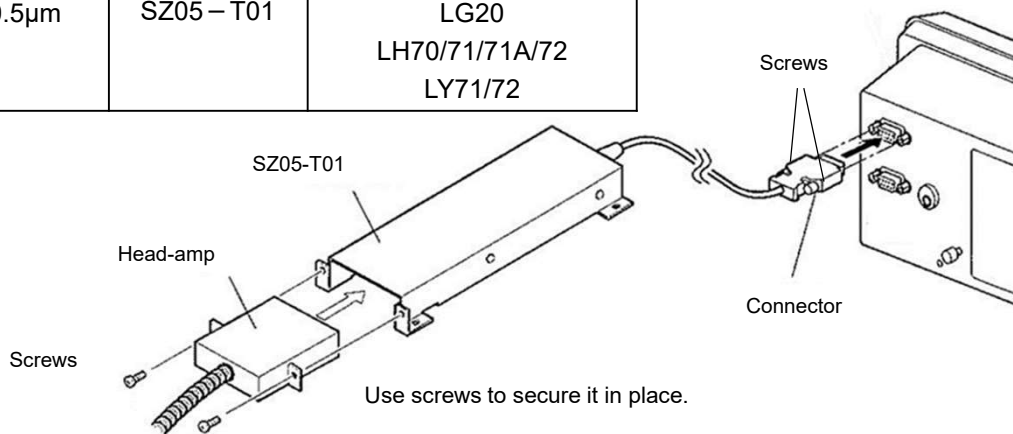
Gauge	Resolution	Connection cable	Counter
DK-**	0.1µm or 0.5µm	CE29-** **: 003/01/03/05/10 (0.3 to 10m)	LG20 LH70/71/71A/72 LY71/72



Gauge	Resolution	Adapter 1	Adapter 2	Counter
DG-B	0.5µm	DZ51	SZ70-1	LG20 LH70/71/71A/72 LY71/72
DL310B/330B	10µm			



Gauge	Resolution	Adapter	Counter
DG	0.5µm	SZ05-T01	LG20 LH70/71/71A/72 LY71/72



Gauge	Resolution	Adapter	Counter
DE12BR/30BR	0.1µm	SZ70-1	LG20 LH70/71/71A/72 LY71/72

