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**User's  
Manual**

**Model 701955 Bridge Head  
(NDIS-120  $\Omega$ , Enhanced Shield)  
Model 701956 Bridge Head  
(NDIS-350  $\Omega$ , Enhanced Shield)**

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## Foreword

Thank you for purchasing the bridge head (701955/701956).

This User's Manual contains useful information about the function, procedures in connecting the gauge, and handling precautions of the bridge head. To ensure correct use, please read this manual thoroughly before operation.

Keep the manual in a safe place for quick reference in the event a question arises.

## Notes

- The contents of this manual are subject to change without prior notice as a result of continuing improvements to the device's performance and functions.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest YOKOGAWA dealer as listed on the back cover of this manual.
- Copying or reproducing all or any part of the contents of this manual without YOKOGAWA's permission is strictly prohibited.

## Revisions

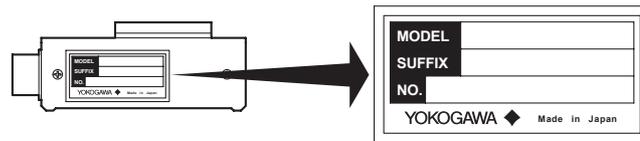
- 1st Edition: February, 2003
- 2nd Edition: October, 2017

# Checking the Contents of the Package

Unpack the box and check the contents before using the device. If the contents are not correct or missing or if there is physical damage, contact the dealer from which you purchased them.

## Bridge Head

Check that the model name given on the name plate match that on the order. When contacting the dealer from which you purchased the device, please quote the device No.



### Model

Model	Specifications	Description
700955	Bridge resistance 120 $\Omega$	NDIS type, enhanced shield
700956	Bridge resistance 350 $\Omega$	NDIS type, enhanced shield

### No. (Device number)

When contacting the dealer from which you purchased the device, please quote this number.

## Standard Accessories

NDIS cable  
(for 701955, 701956)  
B8023WN  
Length: 5 m



Attaching Plate  
B9947DU  
2 Binding screws  
(M3  $\times$  5 mm)



This User's Manual



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# Conventions Used in this Manual and on the Device

## Symbols Used on the Device

 GND terminal

 The operator must refer to an explanation in the User's Manual.

## Symbols Used in this Manual

**Note** Provides important information for the proper operation of the device.

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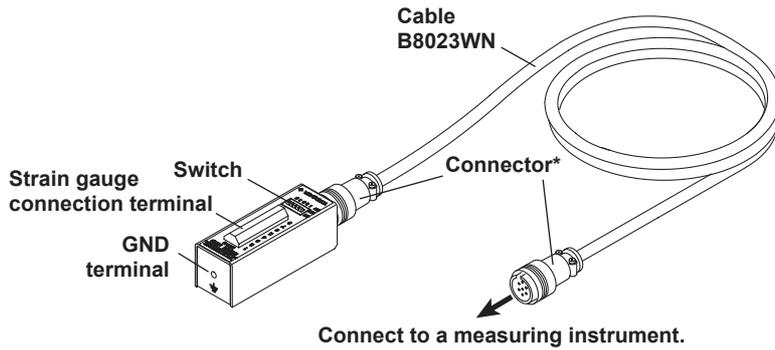
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# 1 Construction of the Device

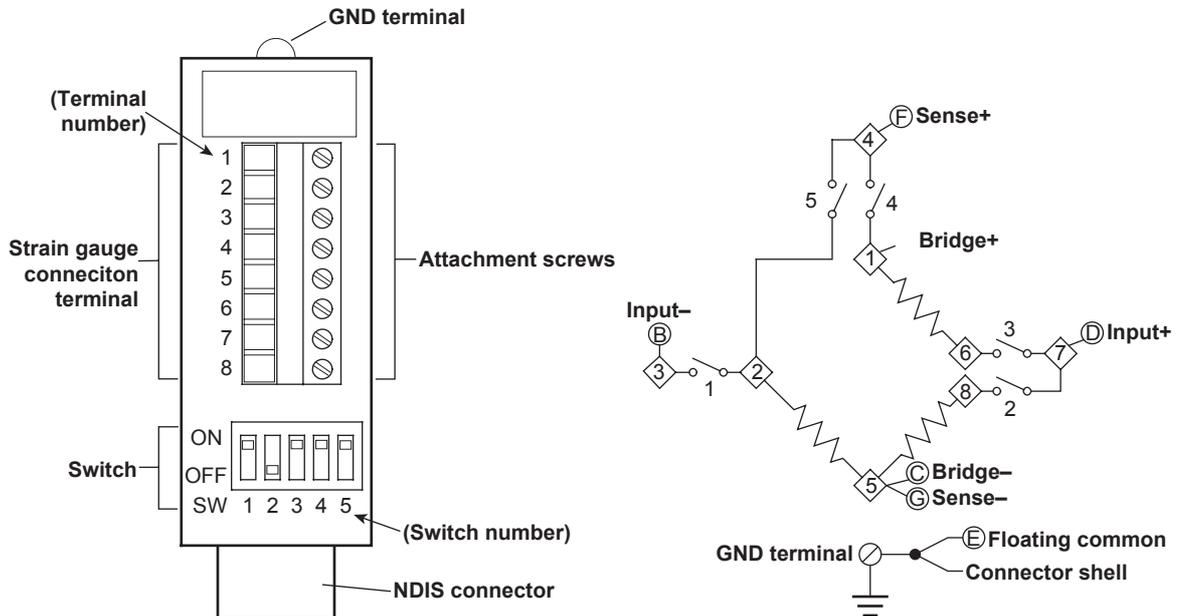
- The bridge head is a converter for inputting the amount of change of the resistance of the strain gauge to the amplifier. Six types of connection methods (single-gauge, single-gauge three-wire, adjacent-side two-gauge, opposed-side two-gauge, opposed-side two-gauge three-wire, and four-gauge) are supported by setting the switch.
- Shielded cable (B8023WN) is used.

## Names of the Parts

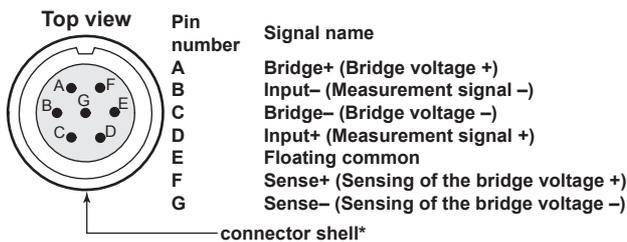


\* A connector recommended by JSNDI (The Japanese Society for Non-destructive Inspection)

## Terminals and Circuit Diagram



Pin assignments of the NDIS connector (Bridge head side)



Terminal No.	Signal name
1	Bridge+
3	Input-
4	Sense+
5	Bridge- (Sense-)
7	Input+

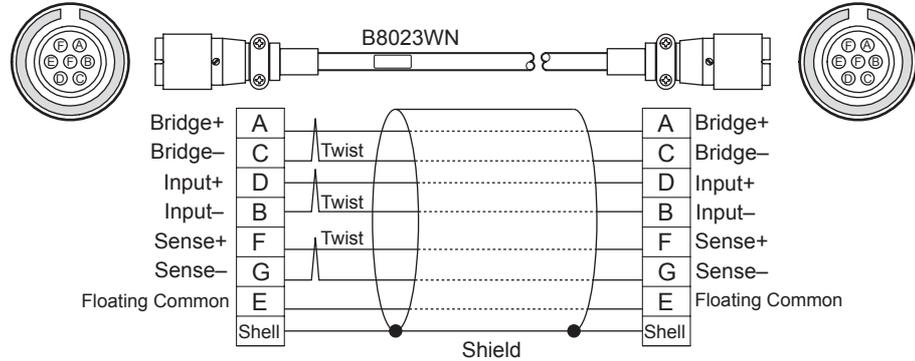
1 through 8 are the terminal numbers.  
1 through 5 are switch numbers.  
A through G are the connector pin numbers.

\* The connector shell connects the bridge head to the cable's shielding.

1 Construction of the Device

Wiring for Accessory Cable B8023WN

A wiring diagram for the accessory cable is given below. The connector shell connects to the shielding.



**Note**  
Check the shape and pin assignment of the connector before connecting it to the accessory cable.

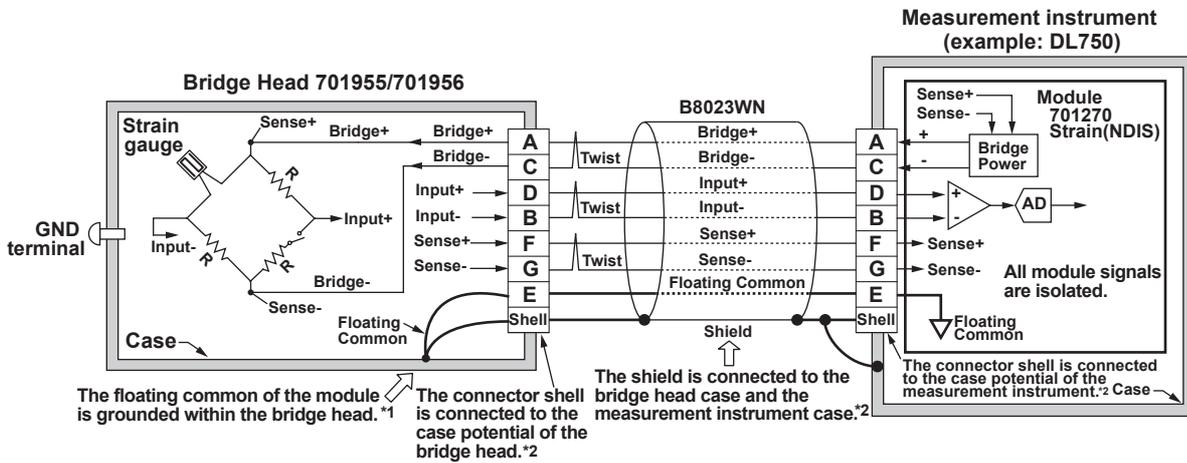
Circuit Diagram for Bridge Head and Measuring Instrument

The circuit diagram below shows the bridge head connected to a measuring instrument (the DL750). Isolate the strain gauge before use.



**CAUTION**

Do not connect the strain gauge terminal to any items with electric potential.



\*1 The GND (floating common) of the module is connected to the case potential inside the bridge head.  
\*2 The bridge head case, the cable shield, and the measurement instrument case are connected as measures against noise.

## 2

# Connecting the Strain Gauge

The bridge head can support six types of connection methods: single-gauge, single-gauge three-wire, adjacent-side two-gauge, opposed-side two-gauge, opposed-side two-gauge three-wire, and four-gauge.

Do not connect the strain gauge terminal to any items with electric potential.

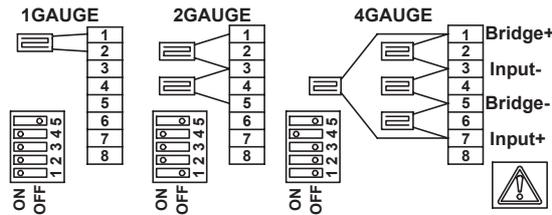


### CAUTION

Do not connect the strain gauge terminal to any items with electric potential.

Use the lead wires included with the strain gauge or wires meeting the following specifications to connect the strain gauge and the bridge head.

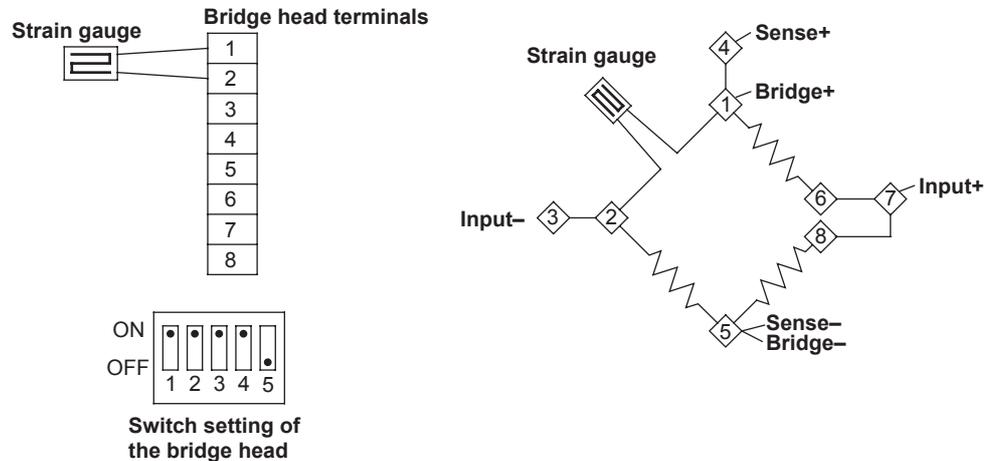
- Usable wire: single wire  $\phi$  0.14 to 1.5 mm<sup>2</sup>, or stranded wire 0.14 to 1.5 mm<sup>2</sup> (AWG26 to 16)
- Normal length of bare wire : 6 mm
- The connection diagrams of several typical gauge methods are indicated on the side of the bridge head.



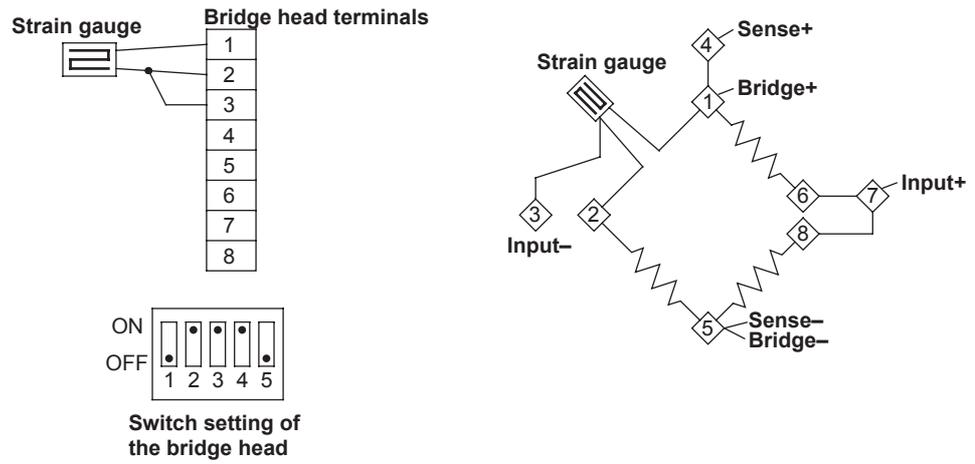
### Note

- Isolate the strain gauge before use.
- Make the wires between the strain gauge and bridge head as short as possible.
- Proper measurements may not be possible in an environment where electromagnetic interference exists.
- If you are shielding the strain gauge, connect the shield wire to the floating common terminal of the bridge head.
- For the handling of the strain gauge, see the instruction manual that came with the shield gauge.

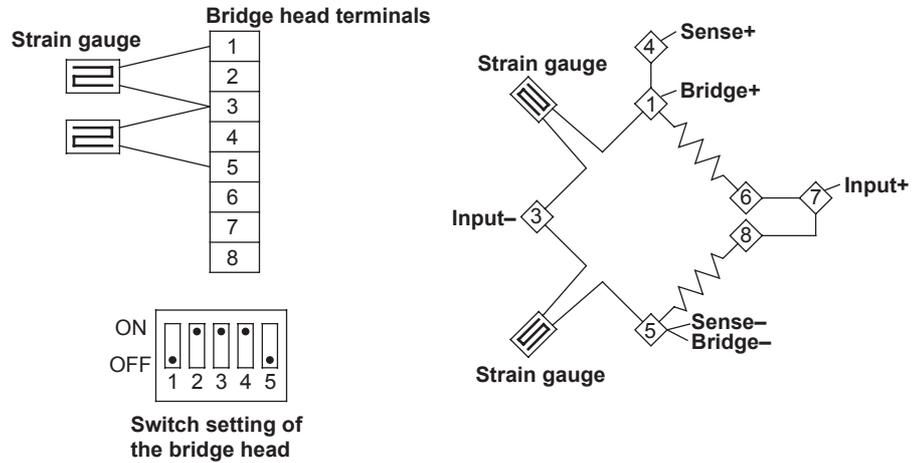
### Single-gauge Method



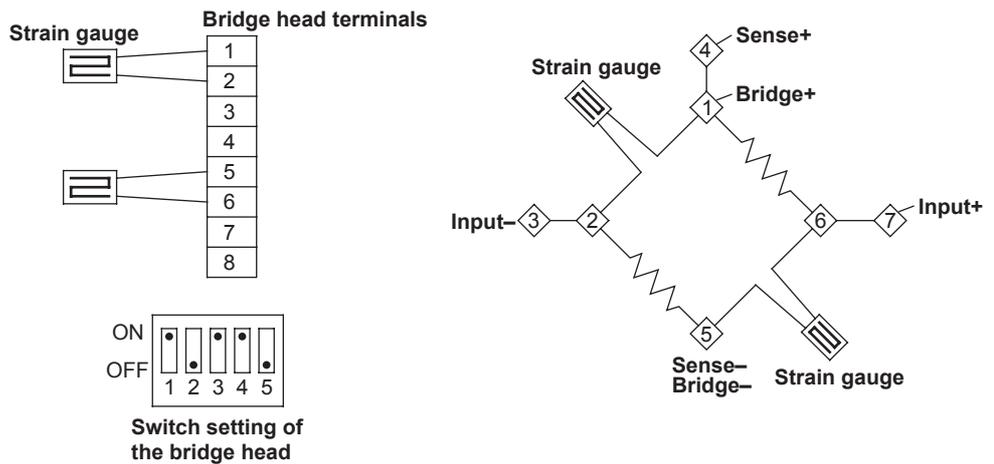
**Single-gauge Three-wire Method**



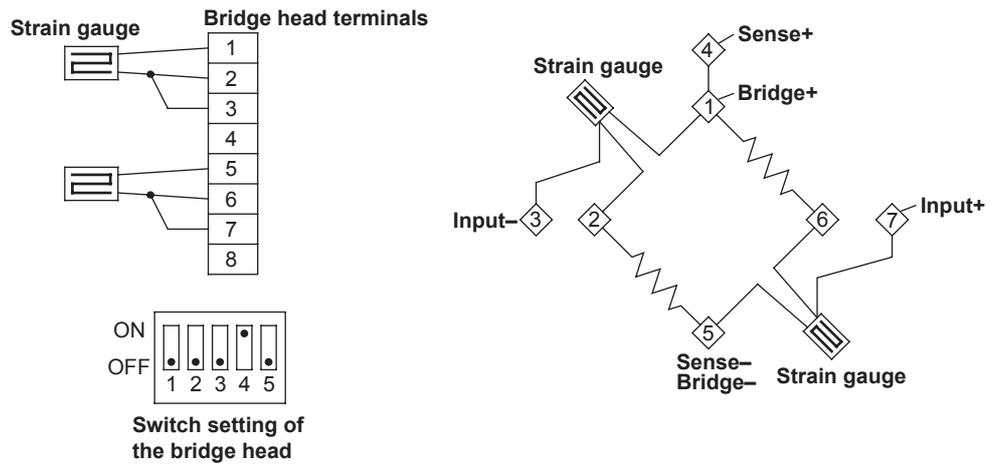
**Adjacent-Side Two-gauge Method**



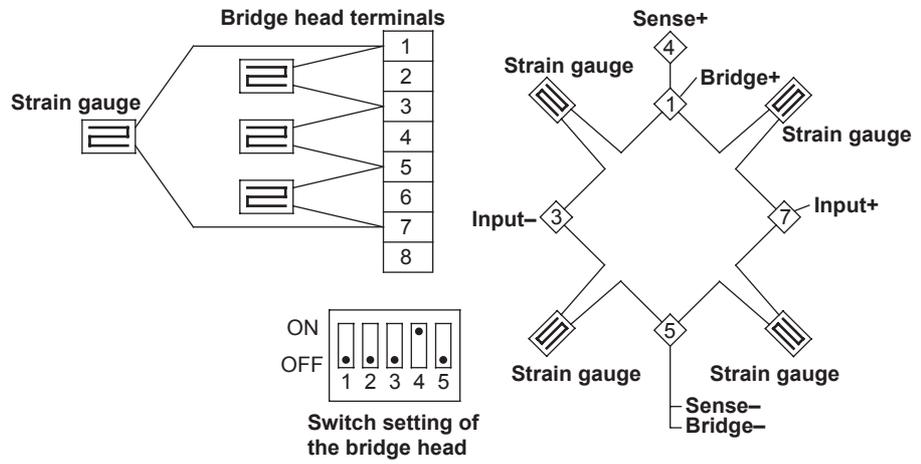
**Opposed-Side Two-gauge Method**



### Opposed-Side Two-gauge Three-wire Method



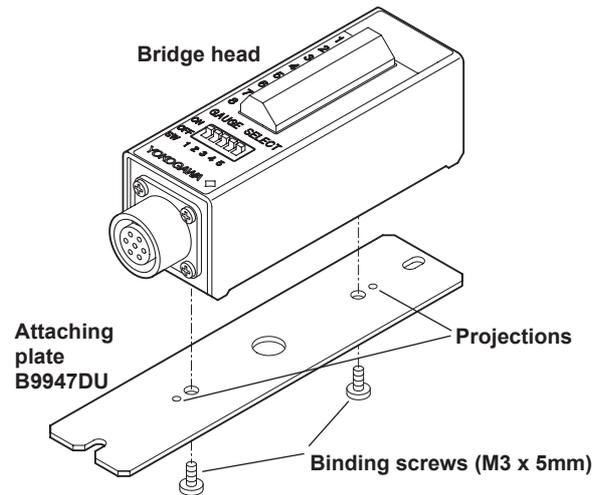
### Four-gauge Method



### 3 Fixing the Device in Place

If necessary, you can use the accessory attaching plate, B9947-DU, to fix the bridge head to the panel.

1. Align the small holes on the bottom side of the bridge head to the small projections of the attaching plate.
2. Screw the bridge head and the attaching plate together using the accessory binding screws (M3 × 5 mm).

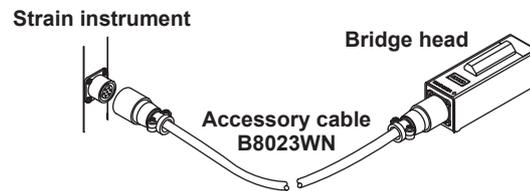


## 4

# Connecting to the Strain Instrument

The bridge head uses a NDIS connector\*. The accessory cable, B8023WN, is used to connect to the strain instrument.

\* A connector recommended by JSNDI (The Japanese Society for Non-destructive Inspection)



## 5 Specifications

### Bridge resistance

Model 701955: 120  $\Omega$

Model 701956: 350  $\Omega$

### Applicable gauge methods

Single-gauge

Single-gauge three-wire

Adjacent-side two-gauge

Opposed-side two-gauge

Opposed-side two-gauge three-wire

Four-gauge

### Operating conditions

Temperature: 5 to 40°C

Humidity: 20 to 85% RH

### External dimensions

Approx. 37(W)  $\times$  97(H)  $\times$  30(D) mm

### Weight

Approx. 85 g (Bridge head only)

### Standard accessories

Cable (part no.: B8023WN):

1 piece, with NDIS connector, 5 m in length

Attaching plate (part no.: B9947DU):

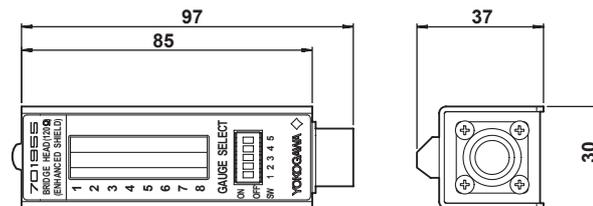
1 piece, with two M3 binding screws

User's manual:

1 piece, this manual

### External drawings

#### Bridge head



#### Attaching plate

