

# User's Manual 701935 Deskew Correction Signal Source

Thank you for purchasing the Deskew Correction Signal Source (Model 701935).  
To use the full capabilities of the 701935, please read this manual thoroughly before beginning operation and use the 701935 correctly.  
For inquiries, please see PIM112-01E (attached).

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IM 701935-01E  
3rd Edition

## Safety Precautions

The following safety precautions must be observed during all phases of operation. Yokogawa Electric Corporation assumes no liability for the customer's failure to comply with these requirements. Read the user's manual of the measurement instrument and have a thorough understanding of the specifications and handling of the instrument before using the 701935.

### The following symbols are used on this instrument.

Warning: handle with care. Refer to the user's manual or service manual. This symbol appears on dangerous locations on the instrument which require special instructions for proper handling or use. The same symbol appears in the corresponding place in the manual to identify those instructions.

Functional ground terminal (do not use this terminal as a protective ground terminal.)

**Make sure to comply with the following safety precautions in order to prevent accidents such as an electric shock which impose serious health risks to the user and damage to the instrument.**

### WARNING

#### Ground the Measurement Instrument

Be sure to employ protective earth ground on the measurement instrument.

#### Do Not Use in Locations of High Humidity

To prevent electric shock, do not use the 701935 in locations of high humidity.

#### Do Not Operate in an Explosive Atmosphere

To prevent injury and fire, do not use the 701935 in locations where explosion or fire is possible in the presence of flammable liquids, vapors, and dust.

### CAUTION

#### Do Not Damage the Current Output Terminal

Do not damage the insulation cover of the current output terminal of the 701935.

#### Do Not Short or Apply Voltage to the Output Terminal

Do not short or apply external voltage to the output terminal. Doing so can cause damage to the 701935.

#### Use the Correct Power Supply for the 701935

Use the probe power supply terminal provided by the YOKOGAWA DL Series Digital Oscilloscope (DL Series Oscilloscope) or the YOKOGAWA power supply (Model 700938 or 701934).

#### Use the Correct Power Cord

Use the power cord provided with the 701935 (Part No. B9852MJ).

#### Ground the 701935

The electric potential of the  $\equiv$  terminal of the voltage output terminal is the same as that of the grounding terminal of the DL Series Oscilloscope to which it is connected.

#### When Wiping off Dirt

To wipe off dirt, use a dry, soft, clean cloth. Do not use volatile chemicals such as benzene or thinner for cleaning.

#### Other Handling Precautions

- Do not apply shock to the 701935 such as by dropping it or hitting it against another object.
- Do not use the 701935 with the name plate panel facing down.
- Since the 701935 is compact and light, it is easy to tilt the 701935 when voltage and current probes are connected (attached). Place the 701935 and probes on a flat even surface and be sure that the 701935 does not tilt.

## Operating environment limitations

See below for operating environment limitations.

### CAUTION

This product is a Class A (for industrial environments) product. Operation of this product in a residential area may cause radio interference in which case the user will be required to correct the interference.

## Waste Electrical and Electronic Equipment



### Waste Electrical and Electronic Equipment (WEEE), Directive 2002/96/EC

(This directive is only valid in the EU.)

This product complies with the WEEE Directive (2002/96/EC) marking requirement. This marking indicates that you must not discard this electrical/electronic product in domestic household waste.

Product Category

With reference to the equipment types in the WEEE directive Annex 1, this product is classified as a "Monitoring and Control instrumentation" product.

Do not dispose in domestic household waste. When disposing products in the EU, contact your local Yokogawa Europe B. V. office.

## The Following Symbols are Used in this Manual.

Improper handling or use can lead to injury to the user or damage to the instrument. This symbol appears on the instrument to indicate that the user must refer to the user's manual for special instructions. The same symbol appears in the corresponding place in the user's manual to identify those instructions. In the manual, the symbol is used in conjunction with the word "WARNING" or "CAUTION."

**WARNING** Calls attention to actions or conditions that could cause serious or fatal injury to the user, and precautions that can be taken to prevent such occurrences.

**CAUTION** Calls attentions to actions or conditions that could cause light injury to the user or damage to the instrument or the user's data, and precautions that can be taken to prevent such occurrences.

**Note** Calls attention to information that is important for proper operation of the instrument.

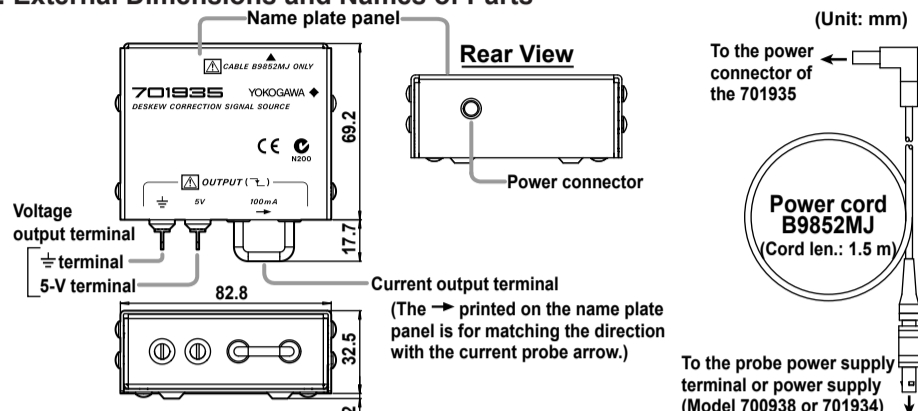
## 1. Overview

The 701935 is a signal source used to correct the difference in the signal transfer time (skew, delay) between voltage and current probes. If using a Yokogawa oscilloscope equipped with the Auto Deskew function, the skew can be adjusted automatically.

### Note

- When correcting the skew, use the falling edge of the waveform of the voltage and current signals that the 701935 outputs.
- When connecting the current probe, match the direction of the arrows indicating the current direction of the 701935 and the current probe.
- Securely connect the ground terminal (negative input on a differential probe, usually black) of the probe to the  $\equiv$  terminal of the voltage output terminal of the 701935.
- Accurate correction may not be possible near objects generating strong magnetic fields such as a circuit with large current flowing or a transformer or near object generating strong electric fields such as a radio.

## 2. External Dimensions and Names of Parts

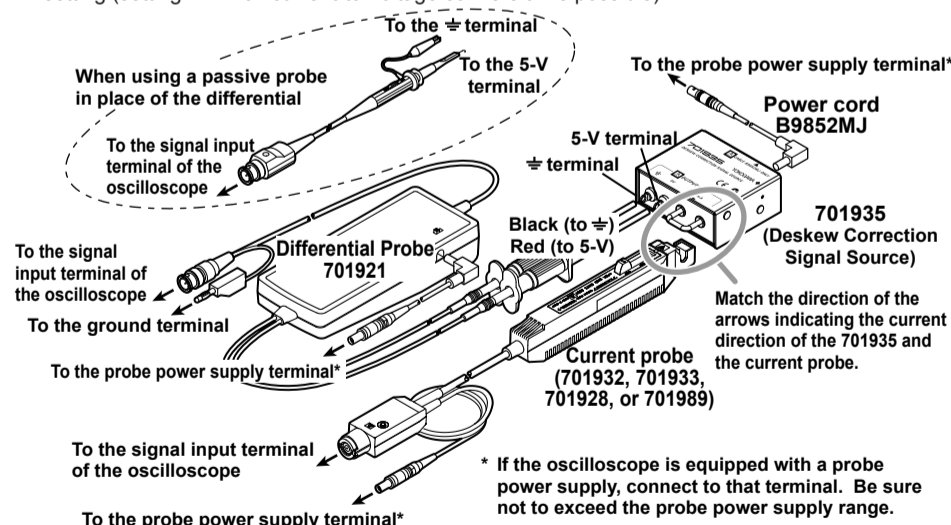


## 3. Specifications

Output voltage/current (rectangular wave)	Output voltage	Output current
	Approx. 5 V	Approx. -100 mA
Output frequency	Approx. 15 kHz	
Fall time	Approx. 15 ns	
Operating temperature range	5 to 40°C	
Operation humidity range	20 to 80% RH (no condensation)	
Storage temperature range	-20 to 60°C	
Storage humidity range	20 to 80% RH (no condensation)	
Supply voltage	+12 V $\pm$ 1 V (using the B9825MJ power cable, supplied from the probe power supply terminal provided by the DL Series Oscilloscope or the power supply (Model 700938 or 701934))	
Supply current	150 mA or less	
External dimensions	82.8 mm (W) $\times$ 32.5 mm (H) $\times$ 69.2 mm (D) (excluding protrusions)	
Weight	Approx. 150 g	
Standard accessories	B9852MJ power cord	1 piece
	User's Manual	1 piece (this manual)
Emission	Complying standard	<ul style="list-style-type: none"> <li>EN61326-1 Class A</li> <li>EN61326-2-1</li> <li>EN55011 Class A, Group 1</li> <li>C-tick EN55011 Class A, Group 1</li> </ul>
		This product is a Class A (for commercial environment) product. Operation of this product in a residential area may cause radio interference in which case the user is required to correct the interference.
Immunity	Complying standard	EN61326-1 Table 2 (for use in industrial locations)

## 4. Operating Procedure

- Connect the power cord to the 701935 power connector.
- Connect the other end of the power cord to the probe power supply of the DL Series Oscilloscope or the 700938 or 701934 Power Supply.
- Connect the tip of the voltage probe (passive probe or differential probe) to the voltage output terminal of the 701935.
- Connect the BNC connector end of the voltage probe (passive probe or differential probe) to the signal input terminal of the DL Series Oscilloscope.
- Connect (Clamp) the current probe to the current output terminal of the 701935.
- Connect the BNC connector end of the current probe to the signal input terminal of the DL Series Oscilloscope. Set the probe of the signal input terminal of the oscilloscope to the current probe setting (setting in which current-to-voltage conversion is possible).



- On the DL Series Oscilloscope, observe the falling edges of the waveforms of voltage and current signals that the 701935 outputs. For the setup procedure of the oscilloscope, see the manual that came with the oscilloscope.
- Using the deskew function of the DL Series Oscilloscope, correct the signals so that the starting sections of the falling edges of the waveforms match.

### Example of Skew Correction When the Waveform Acquisition Mode Is Set to Averaging on the DL Series Oscilloscope

