

Safety Precautions:

Make sure to comply with the safety precautions mentioned hereafter when handling the probe.
YOKOGAWA ELECTRIC Co. assumes no responsibility for any consequences resulting from failure to comply with these safety precautions.
Also, read the User's Manual of the measuring instrument thoroughly so that you are fully aware of its specifications and handling, before starting to use the probe.

- **General definitions of safety symbols and markings**



This symbol indicates the risk of injury, death of personnel, or damage to the instrument.
Be sure to refer to the corresponding explanation in the User's Manual.



Protective grounding terminal.



Danger. High voltage.

WARNING

This symbol calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in injury or death of personnel.

CAUTION

This symbol calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part of the product.

- **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

- **Grounding of the measuring instrument**

The protective grounding terminal of the measuring instrument must be connected to ground.

- **Earth lead of the probe**

Make sure to connect the earth lead of the probe to the ground (grounding potential).

- **Connecting the object of measurement**

Make sure to avoid an electric shock when connecting the probe to the object of measurement. Do not remove the probe from the measuring instrument after the object of measurement is connected.

- **Do not operate with suspected failures**

If you suspect that there is damage to this probe, have it inspected by a service personnel.

- **Nondestructive input voltage range**

Do not apply any voltages exceeding ± 40 V(DC+AC peak) between input and earth.

- **Must be grounded**

Before connecting the input terminal of the probe to the object of measurement ensure that the measuring instrument is properly grounded, that the probe's output connector is attached to the BNC connector of the measuring instrument, and that the earth lead of the probe is properly grounded.

- **Do not operate without cover**

To avoid electric shock or fire hazard, do not operate this probe with the cover removed.

- **Do not operate in wet/damp conditions**

To avoid electric shock, do not operate this probe in wet or damp conditions.

- **Do not operate in explosive atmosphere**

To avoid injury or fire hazard, do not operate this probe in an explosive atmosphere.

- **Avoid exposed circuitry**

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.



CAUTION

- **Nondestructive input voltage range**

Do not apply any voltages exceeding the Nondestructive input voltage range to the probe.

- **Use proper power source**

Use the power supply connector for the probe on the rear panel of DL 7100 or use the 700938 power supply. Do not operate this probe from a power source that applies more than the voltage specified.

- **Terms appear in this manual**

Note

Provides information that is important for proper operation of the instrument.

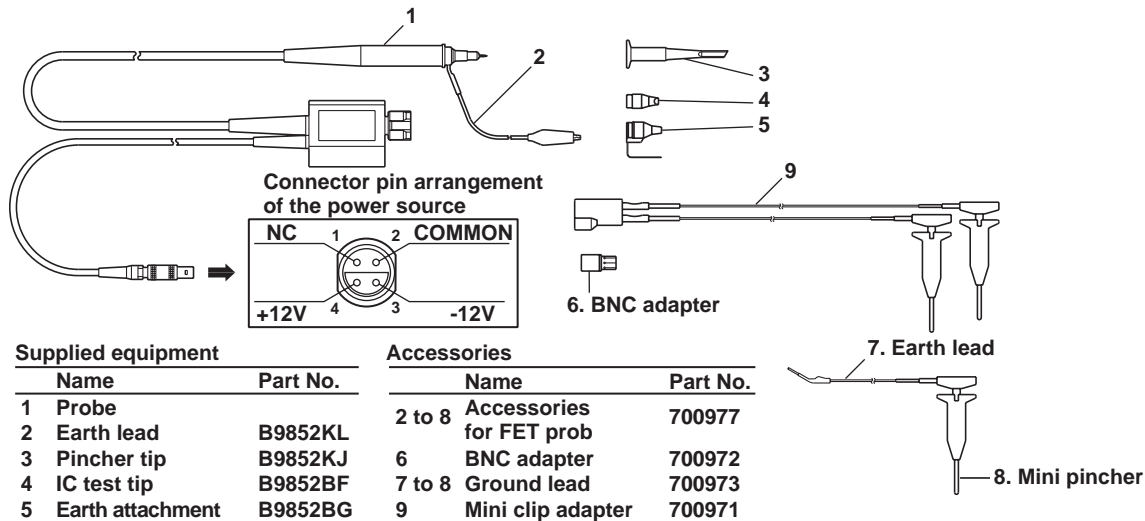
1 Description

The 700939 FET is an active probe with a frequency bandwidth of 900 MHz and attenuation ratio of 10 : 1.

2 Appearance

As shown in the following illustration, the probe consists of a main body and standard accessories.

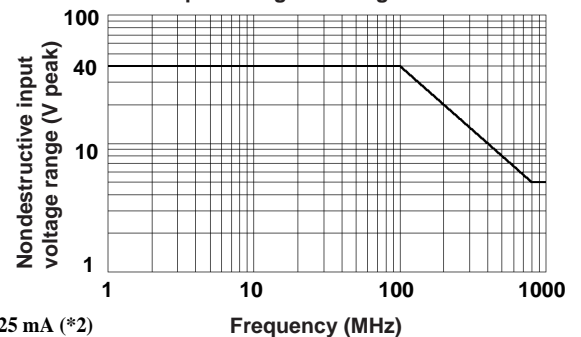
Various probe applications are possible, depending on the optional accessories that are separately acquired.



3 Specifications

Frequency bandwidth	DC-900 MHz for probe (*1)
Attenuation ratio	10 : 1 \pm 2% when connected to a resistance of 50 Ω \pm 1% (*1)
Output offset voltage	\pm 2 mV (\pm 20 mV when converted into input terminal) (*1)
Input voltage range	10 Vp-p (DC + AC peak should be within \pm 10V) (*1) (*2)
Nondestructive inputvoltage range	\pm 40 V (DC + AC peak) (*3)
Input resistance	About 2.5 M Ω
Input capacity	About 1.8 pF
Total cable length	1.5 m (probe cable) 1 m (power supply cable)
Weight	About 180 g
Ambient operating temperature	5 to 40 $^{\circ}$ C
Ambient operating humidity	20 to 80% RH (no condensation)
Ambient storage temperature	-20 to 60 $^{\circ}$ C
Ambient storage humidity	20 to 80% RH (no condensation)
Power supply voltage	\pm 12 V \pm 1V (Usable range: 11 to 13 V or -11 to -13 V)
Power supply current	Current of the power supply terminal is less than 125 mA (*2)
EMC	Emission Complying standard : EN61326 Class A Immunity Complying standard : EN61326 Susceptibility under immunity condition Noise increase \leq \pm 200 mV (*4)

Relation between frequency bandwidth and input voltage derating.



(*1) Reference operation conditions: Ambient temperature 23 \pm 5 $^{\circ}$ C; Ambient humidity 55 \pm 10%; 30 minutes after the power supply is applied.

(*2) When power supply voltage is \pm 12 V.

(*3) For the relation between frequency bandwidth and input voltage derating see the graph on the right.

(*4) Testing condition:

Set 20 MHz for the frequency width and 50 Ω for the input coupling of the Oscilloscope.

Terminate the probe tip with 50 Ω

Attach a ferrite core (TDK: ZCAT2035-0930A, YOKOGAWA parts number: A1190MN) on each end of the cable.

4 Operation

1. Connect the power supply probe of the product to the power supply connector of rear panel of DL 7100 or to 700938.
2. Simply plug-in the BNC output connector to the vertical input of a oscilloscope. In this case set the input resistance of the oscilloscope to 50 Ω .
3. Using the appropriate probe accessories, connect the input to the circuits under measurement.

WARNING

- To protect against electric shock the ground side of the output cable (the shielded side of the BNC connector) must be grounded.
- When disconnecting the BNC connector, always first separate the probe from the high voltage parts of the circuit under measurement.

CAUTION

- Use a soft cloth to clean the dirt. Prevent damage to the probe.
Avoid immersing the probe.
Avoid using abrasive cleaners.
Avoid using chemicals contains benzene or similar solvents.

Note

This device is not specified by any calibration certificate. No test certificate is provided.

Accurate measurement may not be possible near objects with strong electric fields (like cordless equipment) or strong magnetic fields (like transistors or large current circuits).