



Accessories/Options/Installation example (for weldable strain gauges)

W-50RC SPOT WELDER



Specifications

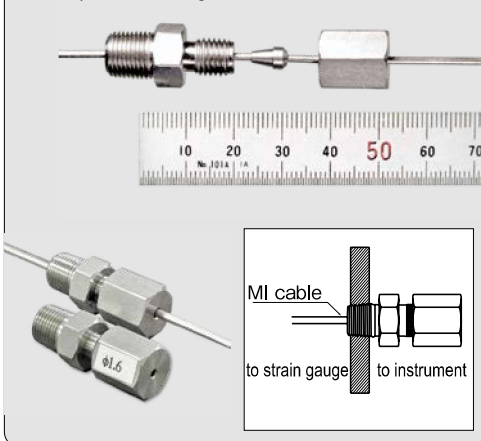
Welding energy	Two ranges of 1 to 10 watt second and 5 to 50 watt second (continuously variable) 60 watt second at maximum (AC110V 50Hz)
Output voltage	Approx. 32 V at maximum
Output pulse width	Approx. 5 millisecond
Welding interval	2 welds/second at maximum (at 50 watt second)
Continuous use time	Approx. 15 minutes (at 1 weld/second, 30 watt second, 23°C±5°C)
Welding holder	Holder type III
Welding force	4.9 to 19.6 N
Welding tip	Fixing part Φ3 mm, Tip Φ1 mm
Welding cable length	2m
Environment	0 to 50°C, 85%RH or less (no condensation)

Power supply	
Rated voltage	AC90 to 110V 50/60Hz or AC220V±10% 50/60Hz
Maximum power consumption	550 VA peak (160 millisecond) 210 VA/ 2 times/second
Dimensions	300(W) × 200(H) × 195(D) mm (except projecting parts)
Weight	Approx. 13 kg
Standard accessories	
Operation manual.....	1
AC power cable.....	1
Welding tip.....	3
Electrode protection cap.....	2
Abrasive paper(#400).....	5
Hexagonal wrench (width across flats 2.5 mm)	1
Shoulder belt	1

This is a spot welder used for installing weldable strain gauges and fixing leadwires. The welding energy is controlled in two ranges of 1~10 and 5~50 watt second. Its short welding pulse width of approximately 5 millisecond causes very little thermal damage on the material to be welded. The welding energy is not influenced by changes in the power source voltage owing to the adoption of stabilizing circuit. Electrical cables are stored inside the housing for convenience in field applications.

Examples of option

F: Compression fittings



R: Bend of gauge backing or pipe



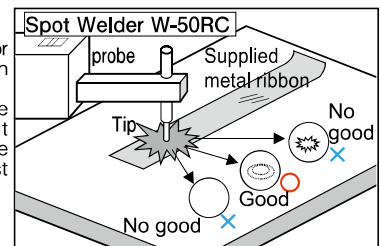
Stainless steel ribbon
Designed to fix cables

Size 5mm x 10m x 0.08mm
10mm x 10m x 0.08mm

Strain gauge installation by resistance welding

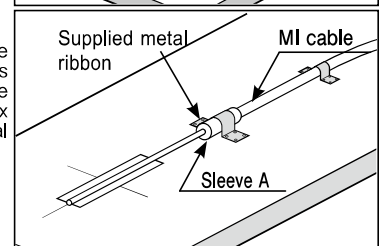
Trial Welding (peeling test)

The dedicated spot welder is used for the installation of weldable strain gauges. In order to securely install the weldable strain gauge on the test object, it is necessary to find the welding conditions suited to the test object.



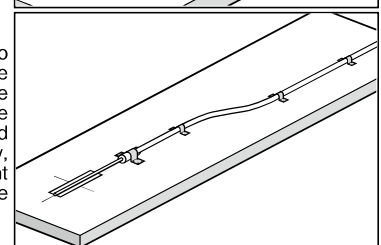
Fixing the sleeve A

Align the center of the strain gauge with the positioning mark, and press down on the gauge so that the gauge is flush against the test object. Fix the sleeve A using the supplied metal ribbon as shown in the figure.



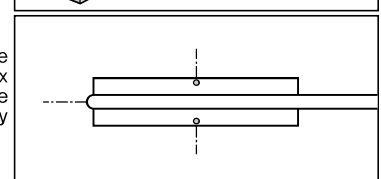
Fixing the cable

Fix the MI cable and the vinyl cable so as to avoid any load applied to the fixed sleeve A. Slightly curve the cable and fix it toward the direction of the cable end so that any excessive load is not applied to the cable. Especially, if the MI cable is fixed along a straight line, the sensing element may be damaged by a kink in the leadwire.



Temporarily fixing the gauge sensing part

Align the gauge sensing part with the positioning mark, and temporarily fix each one point on both sides of the strain gauge as shown in the figure by resistance welding.



Order of resistance welding

Perform resistance welding in the order shown in the figure. The appropriate welding interval is approximately 0.8mm. Refer to the operation manual for the details.

