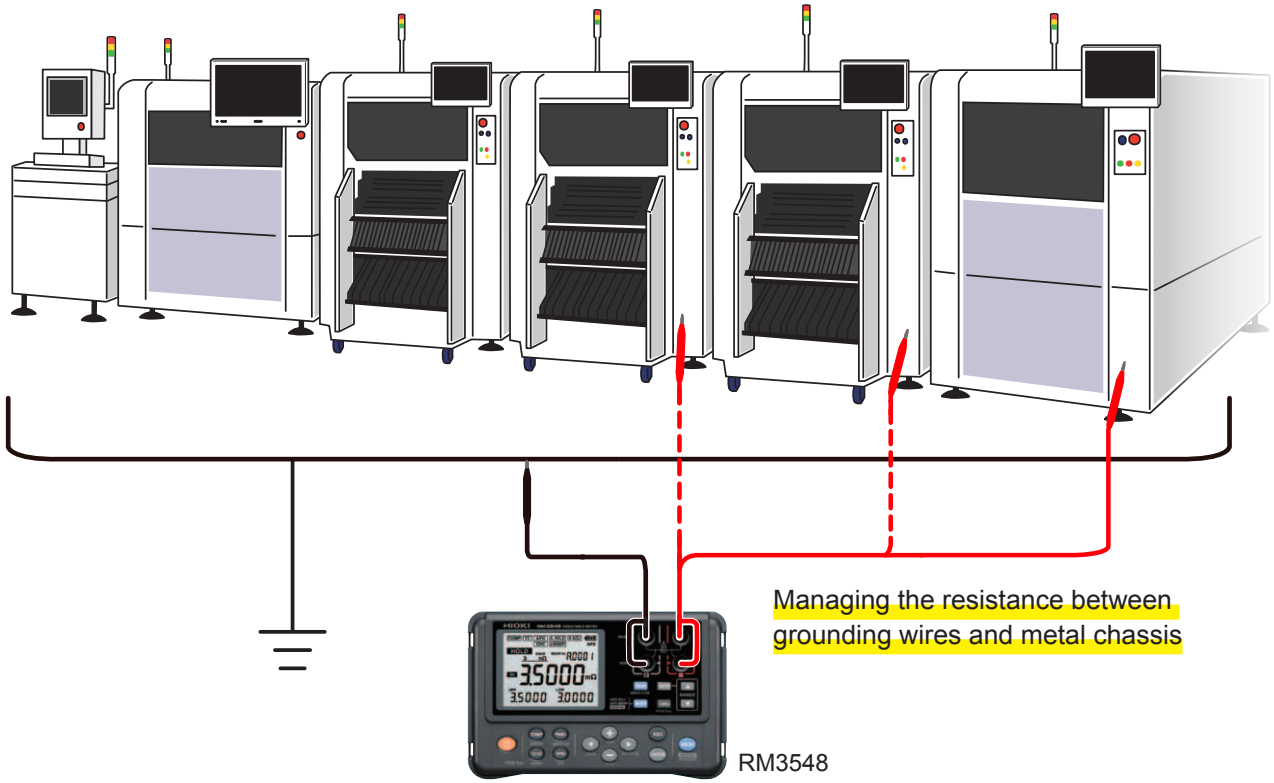
Verify that Large Equipment Have the Same Electrical Potential

Increase the safety of equipment and systems by reducing the electrical resistance between ground connections (grounds and grounding wires) and metal equipment chassis.

When the ground potential of equipment increases, that equipment becomes more likely to malfunction or introduce measurement errors. By keeping the electrical resistance between the metal chassis, which serves as the reference potential, and the equipment's grounding wire, customers can minimize the equipment's ground potential.



In large equipment, a large current may flow to the metal chassis, which serves as the reference potential. If there is a resistance distribution in the metal chassis when this occurs, the current may cause a potential difference, which may in turn cause the equipment to malfunction or introduce measurement errors. Metal chassis are usually grounded, so by minimizing the connection resistance between the metal chassis and the ground, technicians can prevent large potential differences even when such current flows. In this way, a stable ground potential translates into stable operation of the equipment or system.

To measure the resistance between the metal chassis and ground, use a precise and portable resistance meter. Since the RM3548 uses the 4-terminal measurement method, it can measure minuscule resistance values with a high degree of precision without being affected by the measurement leads' resistance or contact resistance. Larger equipment means longer measurement leads and greater susceptibility to the effects of external noise, so exercise appropriate caution. The RM3548's portability also helps to minimize the distance from the equipment to the measuring instrument.

*Longer leads are more susceptible to the effects of external noise, which can be minimized by increasing measurement times and using the RM3548's averaging function.

Products used

RESISTANCE METER RM3548