# CanNeed-DER-4 Digital Enamel Rater


CanNeed-DER-4 Digital Enamel Rater is able to detect the exposed metal position more easily compare to the former models. The reformative electronic design makes it more sensitive, reliable and accurate. The anticorrosion characteristic of the enhanced can body support is ensured its durability. The film coated buttons are more durable and with better corrosion resistance.

CanNeed-DER-4 is the industry standard. The new CanNeed Enamel Rater DER-4 instrument tests the coverage of the enamel coating inside food and beverage cans, aerosol-cans and also different kinds of ends. It displays an index of the amount of metal exposed by incomplete enamel coverage on a clear, easily read digital LED.

The instrument applies a constant voltage across the can body and an electrode immersed in an electrolyte-filled can, and measures the resulting current. Test voltage is set at 6.3 VDC. Operating range is 0 to 500 milliamperes with accurate resolution within 0.01ma.

The instrument operates in industry standard 4 second mode, continuously, or can be programmed to measure any desired time. In 4-second mode, the display shows the reading only at 4 seconds. In continuous mode the reading is displayed beside elapsed time with the 4-second reading automatically stored in memory for recall. A simple and foolproof calibration self-test verifies correct, accurate operation.

Location of exposed metal can be determined by reversing voltage which causes bubbles of gas to form on exposed metal for easy visual identification. Electrolyte level and can contact sensors ensure that testing begins only when can is properly filled with electrolyte solution and good electrical contact with the can has been established.

The sturdy enclosure includes a sealed-membrane keypad for protection against moisture and corrosion in the factory environment. An RS232 serial interface permits use with remote computers, printers or data collectors.

CanNeed End Panel Holder can be used with any CanNeed Enamel Rater to test for metal exposure on can ends. The test is performed in the same manner as on a can. Electrolyte is added to the plastic cup, the can end is fitted onto the beveled end of the cup, and a vacuum is applied to hold the end securely on the cup. When the cup is inverted, the electrode and can end become immersed in the electrolyte and the reading is displayed on the Enamel Rater.

CanNeed End Panel Holder consists of a lucite cup mounted to rotate on its horizontal axis. The cup is beveled to make a tight seal on the can end. An electrode and vacuum connection are mounted within the cup. On the bakelite base a vacuum stopcock and a moveable contact arm, which completes the electrical circuit when the assembly is inverted. A cable adaptor footswitch is required to connect a CanNeed End Panel Holder to the CANNEED Digital Enamel Rater.

**Technical Specifications (changes reserved):**

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| Sample type | : 2- and 3-piece cans, aerosol-cans and different kinds of ends |
| Range | : 0 to 500 mA |
| Resolution | : 0.01mA |
| Accuracy | : ± 2% |
| Power supply | : AC115 V/230V to DC9V |
| Rear Panel | : RS232 serial output |
| Display unit Dimensions | : 162 x 200 x 80mm ( W x L x H ) |
| Can holder Dimensions | : 210 x 228 x 250 mm (W x L x H) |
| Weight | : 4 kg |

**Configuration:**

a) CanNeed-DER-4 mainframe controller

b) Can Holder (Please specify the can type by ordering, i.e. 2-piece/3-piece can, aerosol can)

c) 6.3mA standard resistor

Optional (for measuring complete film):

a) End Panel Holder (Please specify the end size)

b) Vacuum Pump

Please specify the maximum diameter when ordering, the standard bracket fits the maximum size of 110mm (for Can 404)

Can Holder for 2p can

Can Holder for 3p can

Can Holder for Aerosol Can

End Panel Holder(option)

End Panel Holder(option)

Tinplate Holder(option)