# Current Probe (AC/DC)

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## TECHNICAL SPECIFICATIONS

Doble's Current Probe (Part number 401-0055) is a tool that aids in the measurement of current signals when using the Recording feature of Doble's Transwin program.

This probe converts the current in the conductor that it encircles into an equivalent voltage signal. This equivalent voltage signal when applied to the logic input of the F6150 instrument gets translated into appropriate amperes by the Transwin program.

## Electrical Specifications

**Operating Range:** 0.2 to 200 A

**Measurement Range:**
*20 A Range:* 0.2 to 20 A rms or DC
*200 A Range:* 0.5 to 200 A rms or DC

**Output Signal:** 100 mV/A on 20 A range
10 mV/A on 200 A range

**Accuracy and Phase Shift*:**
*20 A Range:*
0.5 to 20 A: 1.5% reading ± 0.5 A
Phase shift: 45 to 65 Hz; 10 to 200 A: ≤ 3.5°

*200 A Range:*
0.5 to 100 A: 1.5% reading ± 1 A
100 to 200 A: 2.0% reading
Phase shift: 45 to 65 Hz; 10 to 200 A: ≤ 2.5°

*Refernce conditions: 18° to 28°C, 20 to 75% RH, external magnetic field < 40 A/m, no DC component, no external current caryying conductor, test sample centered, 1MΩ ≤ 100pF load, zero adjustment prior to measurement [DC only] DC to 65 Hz, battery voltage 9 V ± 0.1 V

**Overload:** 2000 A DC and 1000 A AC continuous up to 1kHz


**Frequency Range:** DC to 10 kHZ at -3 dB

**Noise**
*20 A Range:*
DC to 1 kHz: ≤ 80 mV or 0.8 A (peak to peak)
DC to 5 kHz: ≤ 120 mV or 1.2 A (peak to peak)
0.1 Hz to 5 kHz: ≤ 20 mV or 0.2 A (peak to peak)

*200 A Range:*
DC to 1 kHz: ≤ 10 mV or 1 A (peak to peak)
DC to 5 kHz: ≤ 15 mV or 1.5 A (peak to peak)
0.1 Hz to 5 kHz: ≤ 5 mV or 0.5 A (peak to peak)

**Load Impedance:** > 1 MΩ/100 pF

**Insertion Impedance:** 0.39 Ω @ 50 Hz, 58 Ω @ 1000 Hz

**Working Voltage:** 600 V rms.

**Common Mode Voltage:** 30 V rms.

**Influence of Adjacent Conductor:**
< 10 mA/A at 50 Hz at 23 mm from the probe

**Influence of Conductor Position in the Jaw:**
0.5% reading (DC to 440Hz)

**Battery:**
9 V alkaline (NEDA 1604A, IEC 6LR61)

**Low Battery:**
Green LED on when battery voltage ≥ 6.5V

**Battery Life:**
Approx. 50 hours with alkaline battery

**Overload Indication:** None

**Auto Off:**
10 minutes (may be disabled at power-up by pressing Zero button ON; green LED blinks three times to indicate auto-off is disabled)

# Mechanical Specifications

**Operating Temperature:**
14º to 131ºF (-10º to 55ºC)

**Storage Temperature:**
-40º to 176ºF (-40º to 80ºC)

**Operating Relative Humidity:**
10-35ºC 90 ±5% RH (without condensation)
40-55ºC 70 ±5% RH (without condensation)

**Influence of Temperature:**
< 300 ppm/ ºK or 0.3% / 10ºK

**Influence of Humidity:**
10 to 90% RH ≤ 0.5%

**Altitude:**
Operating: 0 to 2000 m
Non-Operating: 0 to 12,000 m

**Zero Adjustment:**
Automatic zero ± 10 A by simple push button (increment of 25 to 40 mA). Red LED goes on at push of button and turns off when zero is reached; no need to hold button down.

**Jaw Opening:**
1.2" (31 mm)

**Maximum Conductor Size:**
Cable: one 1.5" (39 mm) or two 0.98" (25 mm)
Bus bar: one 1.96" x .49" (50 x 13 mm) or two 1.96" x .19" (50 x 5 mm)

**Case Protection:**
IP30 (IEC 529)

**Drop Test:**
1.0 m on 38 mm of oak on concrete; (IEC 68-2-32)

**Mechanical Shock:**
100 g (IEC 68-2-27)

**Vibration:**
Test per IEC 68-2-6

**Frequency Range:**
5 to 15 Hz, Amplitude: 1.5 mm
15 to 25 Hz, Amplitude: 1 mm
25 to 55 Hz, Amplitude: 0.25 mm

**Material:**
Jaws - Polycarbonate red:
UL 94 V0

Case - Polycarbonate grey:
UL 94 V0

**Dimensions:**
8.8 x 3.82 x 1.73" (224 x 97 x 44 mm)

**Weight:**
15 oz. (440 g)

**Colors:**
Dark gray with red jaws

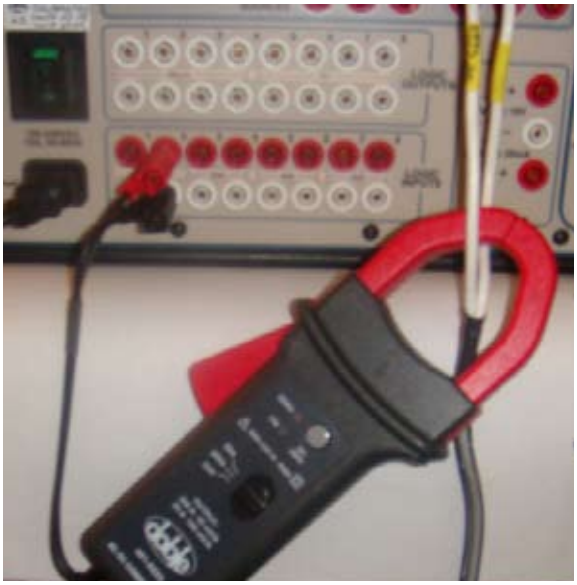
**Output:**
Double insulated 6 inches max, lead with stackable plug

# Safety Specifications

**Electrical:**
Double insulation or reinforced insulation between primary or secondary and the outer case of the handle per EN 61010-2-032
- 600 V Catergory III, Pollution: 2

**Labels:** 2 color generic front label; 2 color generic back label for battery compartment

**Manual:** None



# Ordering Information

**AC/DC Current Probe Doble part #401-0055:**
Includes a 9 V battery

*Specifications are subject to change without notice.*

For more information, contact
*fserieshelp@doble.com*

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**Doble Engineering Company**
85 Walnut Street
Watertown, MA 02472 USA
tel +1 617 926 4900
fax +1 617 926 0528

www.doble.com

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MKT-SL-Current_Probe_TS-03/09