

Fluke DP120, Pomona 6731

Differential Voltage Probe

Service Sheet
4822 872 05374

Service Centers

For service information, contact your local Fluke service center. To locate an authorized service center, visit us on the World Wide Web:

<http://www.fluke.com>

or call Fluke using any of the phone numbers listed below:

+1-888-993-5853 in U.S.A. and Canada
+31-40-2675200 in Europe
+1-425-446-5500 from other countries

General Safety Information

Disconnect the differential voltage probe from all voltage sources before you open the covers.

Warning

Servicing described in this service sheet is to be done by qualified service personnel. To avoid electrical shock, do not service the differential voltage probe unless you are qualified to do so.

Fault Finding

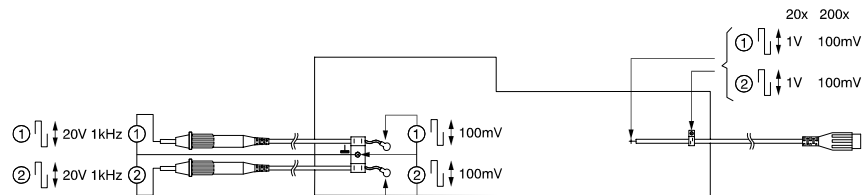


Figure 1. Fault Finding on the DP120, 6731

Calibration Adjustment

Adjust the DP120, 6731 after the replacing of a probe or the complete board.

Recommended test equipment:

Instrument type	Recommended Model
ScopeMeter® test tool	Fluke 123 (or 124, 125) + BB120
Multi-Product Calibrator	Fluke 5500A

Before starting the procedure you must RESET the Fluke 123. You can do this by keeping the backlight key pressed during switching on. Use the NORMAL output of the Fluke 5500A.

Connect the DP120, 6731 to the red input A jack of the Fluke 123 via the banana-to-BNC adapter BB120.

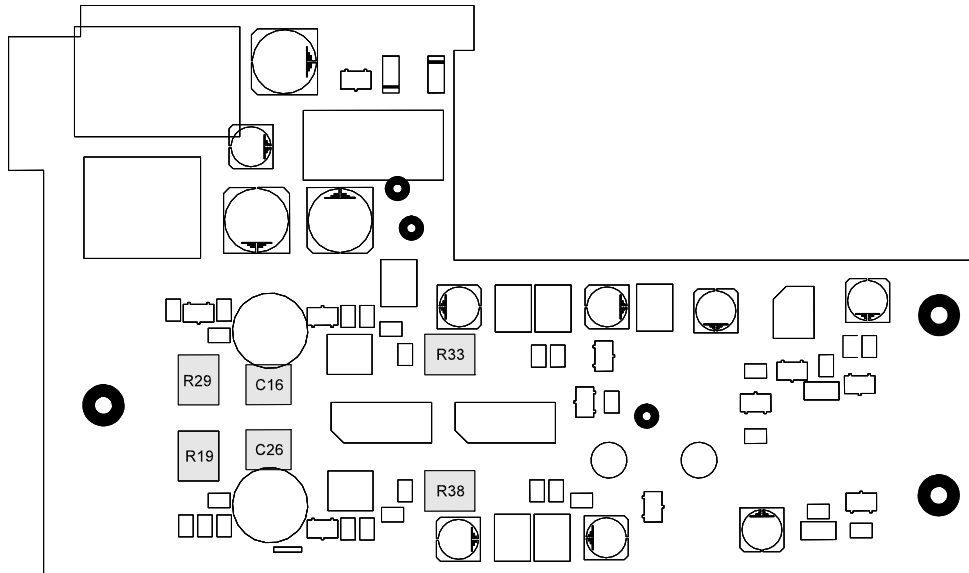


Figure 2. Adjusting elements

Step	Input Signal/Connections	DP120	Setting Fluke 123	Adjust	Reading Fluke 123
① Offset (coarse)	Short circuit red and black probe (use AC85A)	20 x	50 mV/div. 10 ms/div.	R29	Adjust to zero
② LF-CMRR	Apply: Sine wave, 20Vpp, 60Hz Connect: Red and black probe to HI Fluke 5500 LO Fluke 5500 to COM Fluke 123	20 x	10 mV/div. 10 ms/div.	R19	Adjust to minimum signal
③ LF square wave response	Apply: Square wave, 20Vpp, 1 kHz Connect: Red probe to HI Fluke 5500 Black probe to LO Fluke 5500	20x	200 mV/div. 100 μ s/div.	C16	Adjust for a flat pulse top
④ MF-CMRR	Apply: Sine wave, 20 Vpp, 100 kHz Connect: Red and black probe to HI Fluke 5500 LO Fluke 5500 to COM Fluke 123	20x	10 mV/div. 10 μ s/div.	C26	Adjust to minimum signal
⑤ Offset (fine)	Short circuit red and black probe (use AC85A)	20x	10 mV/div. 10 ms/div. <div>SCOPE MENU F1</div> WAVEFORM: SMOOTH	R29	Adjust to zero
⑥ Gain 20x	Apply: + 100 Vdc Connect: Red probe to HI Fluke 5500 Black probe to LO Fluke 5500	20x	AUTO	R38	Adjust meter reading to: 5V \pm 0.125V
⑦ Gain 200x	Apply: + 1000 Vdc Connect: Red probe to HI Fluke 5500 Black probe to LO Fluke 5500	200x	AUTO	R33	Adjust meter reading to: 5V \pm 0.125V

Repairing the Probe

Warning

To avoid electrical shock, disconnect power supply and probes from any live source and from the differential voltage probe itself. Always remove the battery before completely disassembling the probe. If repair of the disassembled probe is required, it shall be carried out only by qualified personnel using customary precautions against electric shock.

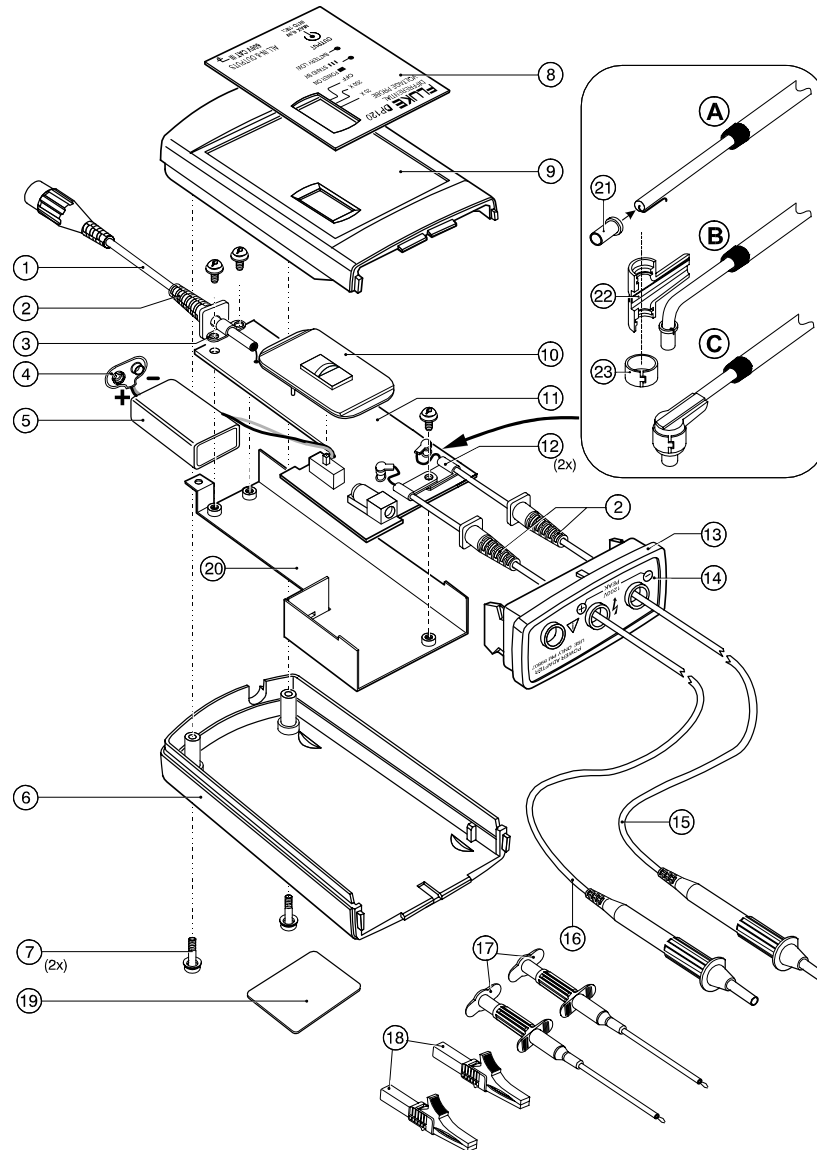


Figure 3. Exploded View

Replaceable Parts

Contact your local Fluke representative. To ensure prompt delivery of the correct part, include the following information when you place an order:



- Instrument model (DP120 or 6731)
- Ordering code
- Item number
- Description
- Quantity

Refer to the exploded view (Figure 3) for the item numbers.

Item	Ordering Code	Description
1	199265	BNC Cable, 50 cm
2	188539	Cable Grommet
3	190188	Cable Clamp
4	3304974	Battery Connection Cable
5	142288	9V Alkaline Battery
6	188562	Bottom Cover
7	188573	Captive Screw M3x20
8a	199288	Top Text Plate Fluke DP120
8b	3304963	Top Text Plate Pomona 6731
9	188557	Top Cover
10	188547	Slider
11	199262	Printed Circuit Assembly
12	190063	Cable Clamp
13	199281	Front Cover
14a	199296	Front Text Plate Fluke DP120
14b	3304956	Front Text Plate Pomona 6731
15	199254	Red Probe Assembly, 1.5m
16	199257	Black Probe Assembly, 1.5m
17	AC283	Pin-Grabber Test Clips (Red&Black)
18	AC285	Large Jaw Alligator Clips (Red&Black)
19	199304	Warning Sticker
20	199299	Metal Screening
21	199270	Crimp Bus
22	199273	Corner Grommet
23	187455	Clip

Optional Accessories

Available power adapters:

Model	Description
PM8907/801	Universal Europe 230V, 50 Hz
PM8907/803	North America 120V, 60 Hz 
PM8907/804	United Kingdom 240V, 50 Hz
PM8907/806	Japan 100V, 60 Hz
PM8907/807	Australia 240V, 50 Hz
PM8907/808	Universal 115V/230V 

Note

The 230V rating of the PM8907/808 is not for use in North America. A line plug adapter complying with the applicable National Requirements may be provided to alter the blade configurations for a specific country.