

5905, 5906, 5907, 5909, 5955



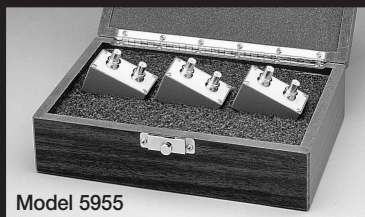
Model 5905



Model 5907



Model 5909



Model 5955

- Complete sets of capacitance and conductance sources for Models 590, 595, and 82
- Use with Models 590 and 82 to correct for cable or other connection errors
- Specially designed for stability and NIST traceability

Ordering Information

- 5905 To calibrate/verify 590/1M
- 5906 To calibrate/verify 590/100k, 590/1M, 590/100k/1M, 5904, 595
- 5907 To calibrate/verify Cable/Matrix
- 5909 To calibrate/verify Model 82, 82-DOS, 82-PS/2
- 5955 To calibrate/verify 595

Calibration/Verification Sources

Keithley calibration and verification sources have been designed to calibrate capacitance measurement equipment operating at frequencies to 1MHz. The sources are configured for 3-terminal (shielded) capacitance and conductance measurements. They use stable glass dielectric capacitors and high-quality film resistors, both with very low residual impedance. The sources are specified at 1kHz, 100kHz, and 1MHz, and the conductance sources are specified at DC, 100kHz, and 1MHz. Their calibration is traceable to the National Institute of Standards and Technology. The Model 5907 Calibration Capacitors can be used to correct for 1MHz connection errors in the Model 590. Connect the known capacitance source at the DUT end of the cable or switching matrix. Enter the value of this source into the Model 590; it will adjust the display and the bus reading to the exact value of the source. Up to seven sets of correction values may be stored in the Model 590's internal non-volatile memory, permitting correction values for seven cable configurations or seven pin connections. After this procedure, total errors can be reduced to less than 0.5%, even with up to 15 meters of connecting cable or a switch matrix in the connecting path.

VALUE	ACCURACY (ppm), 28° ±2°C			
	24 HOURS		90 DAYS*	
	100 kHz	1 MHz	100 kHz	1 MHz
1.8 nF	465	645	640	820
470 pF	375	420	550	595
180 pF	375	390	550	565
47 pF	375	380	550	555
18 pF	375	375	550	550
4.7 pF	375	375	550	550
18 mS	300	300	375	375
1.8mS	300	300	375	375
180 μS	300	300	375	375

DIMENSIONS, WEIGHTS: Each calibration source is 35mm × 57mm × 44mm (1½ in × 2¼ in × 1¾ in). Carrying case with calibration sources is 248mm × 229mm × 73mm (9¾ in × 9 in × 2⅞ in). Net weight 2.16kg (4 lb 12 oz).

VALUE	ACCURACY (ppm), 28° ±2°C			
	24 HOURS		90 DAYS*	
	100 kHz	1 MHz	100 kHz	1 MHz
18 nF	490		665	
4. nF	470		645	
1.8 nF	465	645	640	820
470 pF	375	420	550	595
180 pF	375	390	550	565
47 pF	375	380	550	555
18 pF	375	375	550	550
4.7 pF	375	375	550	550
1.5 pF	375	375	550	550
0.5 pF	375	375	550	550
18 mS	300	300	375	375
1.8mS	300	300	375	375
180 μS	300	300	375	375
18 μS	300	300	375	375
1.8 μS	300	300	375	375

DIMENSIONS, WEIGHTS: Each calibration source is 35mm × 57mm × 44mm (1½ in × 2¼ in × 1¾ in). Two carrying cases provided. One case with calibration sources is 248mm × 229mm × 73mm (9¾ in × 9 in × 2⅞ in), net weight 2.16kg (4 lb 12 oz). Second case with calibration sources is 248mm × 165mm × 73mm (9¾ in × 6½ in × 2⅞ in), net weight 1.20kg (2 lb 10 oz).



Model 5906

VALUE	ACCURACY (ppm), 28° ±2°C			
	24 HOURS		90 DAYS*	
	100 kHz	1 MHz	100 kHz	1 MHz
1.8 nF	465	645	640	820
470 pF	375	420	550	595

DIMENSIONS, WEIGHTS: Each calibration source is 35mm × 57mm × 44mm (1½ in × 2¼ in × 1¾ in). Carrying case with calibration sources is 248mm × 229mm × 73mm (9¾ in × 9 in × 2⅞ in). Net weight 1.20kg (2 lb 10 oz).

VALUE	ACCURACY (ppm), 28° ±2°C			
	24 HOURS		90 DAYS*	
	100 kHz	1 MHz	100 kHz	1 MHz
1.8 nF	465	645	640	820
470 pF	375	420	550	595
180 pF	375	390	550	565
47 pF	375	380	550	555

DIMENSIONS, WEIGHTS: Each calibration source is 35mm × 57mm × 44mm (1½ in × 2¼ in × 1¾ in). Carrying case with calibration sources is 248mm × 229mm × 73mm (9¾ in × 9 in × 2⅞ in). Net weight 2.16kg (4 lb 12 oz).

VALUE	ACCURACY		INSULATION RESISTANCE
	28° ±3°C, 1 YEAR		
18 nF	0.2 %	0.4 %	10 ¹² Ω min.
1.8 nF	0.2 %	0.2 %	10 ¹³ Ω min.
180 pF	0.2 %	0.2 %	10 ¹⁴ Ω min.

DIMENSIONS, WEIGHTS: Each calibration source is 35mm × 57mm × 44mm (1½ in × 2¼ in × 1¾ in). Carrying case with calibration sources is 248mm × 165mm × 73mm (9¾ in × 6½ in × 2⅞ in). Net weight 1.20kg (2 lb 10 oz).

*See General specifications.

GENERAL

ACCURACY: Typical accuracies for >90 days from calibration: Add 350ppm × √ years to 24 hour capacitance specifications. Add 150ppm × √ years to 24 hour conductance specifications.

CAPACITANCE FROM EITHER TERMINAL TO CASE: 3.5pF maximum; 7.0pF maximum for 18nF and 4.7nF.

TEMPERATURE COEFFICIENT OF DIRECT CAPACITANCE (0°–50°C): ±140ppm/°C typical.

MAXIMUM VOLTAGE: ±300V

INSULATION RESISTANCE (terminal to terminal or case): 10¹²Ω min. (18nF, 4.7nF); 10¹³Ω min. (1.8nF, 470pF); 10¹⁴Ω min. (180pF or less).

TERMINALS: Two male BNC push-on connectors spaced on 1-inch centers.

OPERATING ENVIRONMENT: 0° to 50°C; 0% to 70% relative humidity up to 35°C.

STORAGE ENVIRONMENT: –25°C to +65°C.

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