

# SOURCETRONIC

We love electrons

## Accuracy

Based after 10 minutes of warm up time and operation at 23 °C ± 5 °C, <75% R.H

Temperature coefficient: 0.1× specified accuracy/°C (0°C --18°C or 28°C -- 40°C)

Accuracy Indication: ± (%reading+ number of least significant digits) ;

Confirmation based after correction of Short/ Open

Accuracy is expressed by test parameter plus subscript e and measurement value test parameter plus subscript x; Subscript 's' is the serial equivalent mode and subscript 'p' is parallel equivalent mode.

Values outside of range in below table are not specified accuracy.

	Range	Display Range	Accuracy Ze	Accuracy Rse	Accuracy Rpe	Accuracy θe	
Impedance Resistance	100Hz -- 10kHz Min. Resolution 0.1mΩ	10MΩ	4.000MΩ--10.000MΩ	3.00%+5digits	$X_\chi \times \Phi_e$	$\pm \frac{R_{px} \times \Phi_e}{D_\chi \mp \Phi_e}$ Rpe is the absolute error $\Phi_e = \theta_e \times \frac{\pi}{180}$	± 1.75°
		4MΩ	400.0kΩ--3.9999 MΩ	1.25%+3digits	Rse is the absolute error		± 0.75°
		400kΩ	40.00kΩ--399.99 kΩ	0.35%+2digits	$\Phi_e = \theta_e \times \frac{\pi}{180}$		± 0.25°
		40kΩ	4.000kΩ--39.999 kΩ	0.25%+2digits	$X_\chi = 2\pi f L_\chi$ 或		± 0.15°
		4kΩ	400.0Ω--3.9999 kΩ	0.25%+2digits	$X_\chi = 1/2\pi f C_\chi$		± 0.15°
		400Ω	40.00Ω--399.99Ω	0.25%+2digits			± 0.15°
		40Ω	4.000Ω--39.999Ω	0.35%+2digits			± 0.25°
		4Ω	0.400Ω--3.9999Ω	1.00%+3digits	Note: ESR and Rs		-----
	0.4Ω	0.0000Ω--0.3999Ω	3.00%+5digits	is the different	± 0.60°		
	100kHz Min. Resolution 0.1mΩ	10MΩ	4.000MΩ--10.000MΩ	8.00%+20digits	displays of the	± 4.60°	
		4MΩ	400.0kΩ--3.9999 MΩ	3.00%+10digits	identical	± 1.75°	
		400kΩ	40.00kΩ--399.99 kΩ	1.20%+5digits	parameter both	± 0.69°	
		40kΩ	4.000kΩ--39.999 kΩ	0.80%+2digits	presenting	± 0.46°	
		4kΩ	400.0Ω--3.9999 kΩ	0.50%+2digits	Equivalent	± 0.30°	
		400Ω	40.00Ω--399.99Ω	0.50%+2digits	Resistance of	± 0.30°	
		40Ω	4.000Ω--39.999Ω	0.80%+5digits	Serial Connection"	± 0.46°	
4Ω		0.4000Ω--3.9999Ω	2.50%+10digits		± 1.43°		
0.4Ω	0.0000Ω--0.3999Ω	6.00%+20digits		-----			

	Range	Display Range	Le	De (D<0.5)	Recommended Equivalent Circuit	
Inductance	100Hz/120Hz Min. Resolution 1μH	1000H	400.0H--1000.0H	1.00%+3digits	0.0100	parallel
		400H	40.00H--399.99H	0.35%+2digits	0.0035	parallel
		40H	4.000H--39.999H	0.25%+2digits	0.0025	parallel
		4H	400.0mH--3.9999H	0.25%+2digits	0.0025	-----
		400mH	40.00mH--399.99mH	0.25%+2digits	0.0025	serial
		40mH	4.000mH--39.999mH	0.45%+2digits	0.0045	serial
		4mH	0uH--3.999mH	1.40%+5digits	-----	serial
		100H	40.00H--100.00H	1.00%+3digits	0.0100	parallel
	1kHz Min. Resolution 0.1μH	40H	4.000H--39.999H	0.35%+2digits	0.0035	parallel
		4H	400.0mH--3.9999H	0.25%+2digits	0.0025	parallel
		400mH	40.00mH--399.99mH	0.25%+2digits	0.0025	-----
		40mH	4.000mH--39.999mH	0.25%+2digits	0.0025	serial
		4mH	400.0uH--3.9999mH	0.45%+2digits	0.0045	serial
		400μH	0.0uH--399.9μH	1.40%+5digits	-----	serial
		1000mH	400.0mH--999.99mH	0.80%+3digits	0.0080	parallel
		400mH	40.00mH--399.99mH	0.35%+2digits	0.0035	parallel
	10kHz Min. Resolution 0.01μH	40mH	4.000mH--39.999mH	0.25%+2digits	0.0025	-----
		4mH	400.0uH--3.9999mH	0.30%+2digits	0.0030	serial
		400μH	40.00uH--399.99μH	0.45%+2digits	0.0045	serial
		40μH	0.00uH--39.99μH	1.40%+5digits	-----	serial
		100mH	40.00mH--399.99mH	1.20%+5digits	0.0120	parallel
		40mH	4.000mH--39.999mH	0.80%+2digits	0.0080	parallel
		4mH	400.0uH--3.9999mH	0.50%+2digits	0.0050	-----
		400μH	40.00uH--399.99μH	0.50%+2digits	0.0050	serial
100kHz Min. Resolution 0.001μH	40μH	4.000uH--39.999μH	0.80%+5digits	0.0080	serial	
	4μH	0.000uH--3.999μH	2.50%+10digits	-----	serial	

$$Q_x^2 \times D_e$$

$$1 \mp Q_x \times D_e$$

Quality factor is Q; Accuracy is Qe; For  $Q_x \times D_e \leq 1$ ,  $Q_e = \pm$

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	Range	Display Range	Ce	De (D<0.5)	Recommended Equivalent Circuit	
<b>Capacitance</b>	<b>100Hz/120Hz</b> Min. Resolution 1pF	20mF	4.000mF--20.000mF	5.00%+5digits	±0.0500	serial
		4mF	400.0μF--3.9999mF	1.00%+3digits	±0.0100	serial
		400μF	40.00μF--399.99μF	0.35%+2digits	±0.0035	serial
		40μF	4.000μF--39.999μF	0.25%+2digits	±0.0025	serial
		4μF	400.0nF--3.9999μF	0.25%+2digits	±0.0025	-----
		400nF	40.00nF--399.99nF	0.25%+2digits	±0.0025	parallel
		40nF	4.000nF--39.999nF	0.35%+3digits	±0.0035	parallel
		4nF	0pF--3.999nF	1.25%+5digits	-----	parallel
	<b>1kHz</b> Min. Resolution 0.1pF	1000μF	400.0μF--999.99μF	2.00%+5digits	±0.0200	serial
		400μF	40.00μF--399.99μF	1.00%+3digits	±0.0100	serial
		40μF	4.000μF--39.999μF	0.35%+2digits	±0.0035	serial
		4μF	400.0nF--3.9999μF	0.25%+2digits	±0.0025	serial
		400nF	40.00nF--399.99nF	0.25%+2digits	±0.0025	-----
		40nF	4.000nF--39.999nF	0.25%+3digits	±0.0025	parallel
		4nF	400.0pF--3.9999nF	1.25%+5digits	±0.0035	parallel
		400pF	0.0pF--39.99nF	1.25%+3digits	-----	parallel
	<b>10kHz</b> Min. Resolution 0.01pF	100μF	40.00μF--100.00μF	3.00%+5digits	±0.0300	serial
		40μF	4.000μF--39.999μF	1.50%+3digits	±0.0150	serial
		4μF	400.0nF--3.9999μF	0.35%+2digits	±0.0035	serial
		400nF	40.00nF--399.99nF	0.25%+2digits	±0.0025	serial
		40nF	4.000nF--39.999nF	0.25%+2digits	±0.0025	-----
		4nF	400.0pF--3.9999nF	0.25%+2digits	±0.0025	parallel
		400pF	40.00pF--399.99pF	0.35%+3digits	±0.0035	parallel
		40pF	0.00pF--39.99pF	1.25%+5digits	-----	parallel
	<b>100kHz</b> Min. Resolution 0.001pF	10μF	4.000μF--10.000μF	6.00%+20digits	±0.0600	serial
		4μF	400.0nF--3.9999μF	2.50%+10digits	±0.0250	serial
		400nF	40.00nF--399.99nF	0.80%+5digits	±0.0080	serial
		40nF	4.000nF--39.999nF	0.50%+2digits	±0.0050	serial
		4nF	400.0pF--3.9999nF	0.50%+2digits	±0.0050	-----
		400pF	40.00pF--399.99pF	0.80%+2digits	±0.0080	parallel
		40pF	4.000pF--39.999pF	1.20%+5digits	±0.0120	parallel
		4pF	0.000pF--4.999pF	3.00%+10digits	-----	parallel