Atlas *ESR+*

equivalent series resistance meter, with audible alerts.

Model: ESR70

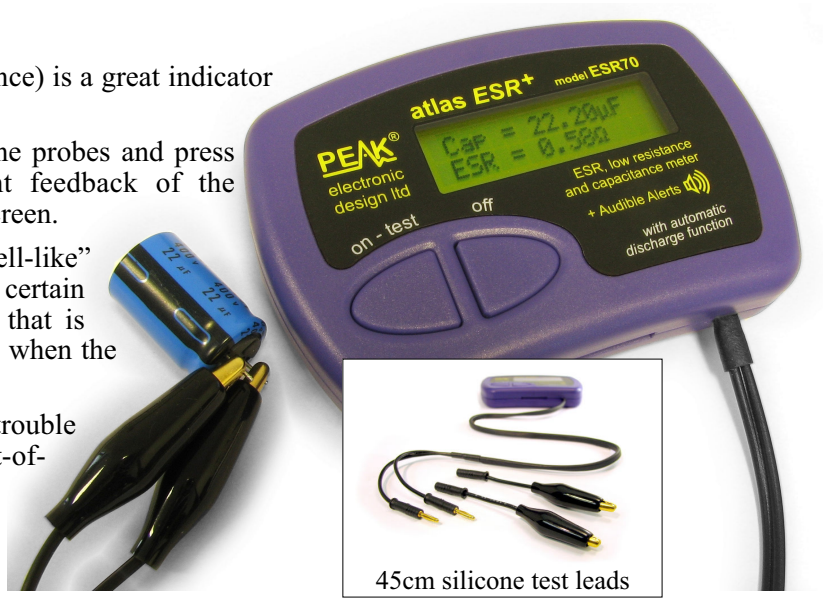
PEAK® electronic design ltd

PRODUCT BRIEF

Designed and made in the UK

Measuring a capacitor's ESR (equivalent series resistance) is a great indicator of capacitor condition.

The ***Atlas ESR+*** offers instant results, just connect the probes and press test. Innovative audible alerts give you an instant feedback of the measurement results with further detail shown on the screen.



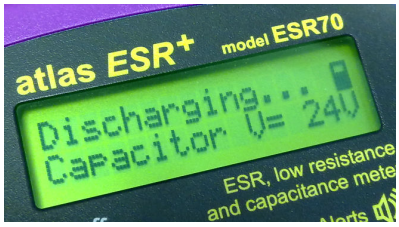
And the tones themselves are intuitive, including "Bell-like" tones (a couple of different types for ESR that is below certain values), and also a "High-Low" type tone for ESR that is likely to be too high. There is also a reassuring "Blip" when the measurement has started and completed.

You can even measure ESR in-circuit, saving you the trouble of removing capacitors. When testing capacitors out-of-circuit, the unit will also display the capacitance.

45cm silicone test leads

Capacitor Condition

This smart instrument is a great way to check the physical condition of a wide range of capacitors (it's not just capacitance that's important). Elevated ESR is a sure indicator that the capacitor is failing and likely to dissipate heat and perform less like a capacitor and more like a resistor at high ripple currents.



It can measure and compensate for the effects of measuring ESR in-circuit too.

There's no need to worry about capacitor polarity, just connect any way round.

Unique Controlled Discharge

If your capacitor is charged, the unit will automatically carry out a controlled discharge procedure before measuring the capacitance and ESR. This is important because capacitors can often accumulate charge even if not powered for a long time.

Parameter	Min	Typ	Max	Note
Peak test current into S/C		±20mA	±23mA	
Peak test voltage, full scale ESR		±40mV	±46mV	
Peak test voltage across O/C			±5.5V	
Capacitance measurement range	0.3µF		90,000µF	1
Capacitance accuracy		±4% ±0.2µF		2
Capacitance test current	1.7mA	2.0mA	2.3mA	3
	17mA	20mA	23mA	4
Capacitance measurement ΔV		±500mV		5
ESR measurement range	0Ω		40Ω	
ESR resolution for ESR < 2Ω	0.01Ω		0.02Ω	
ESR resolution for ESR > 2Ω	0.1Ω		0.2Ω	
ESR accuracy for ESR < 2Ω		±2% ±0.02Ω		
ESR accuracy for ESR > 2Ω		±2% ±0.2Ω		
ESR test current	±0.8mA		±23mA	
ESR test frequency	48kHz	50kHz	104kHz	5
Abuse voltage (for C < 10µF)			±275V	6
Abuse voltage (for C > 10µF)			±50V	6
Auto-Discharge voltage limit			±50V	6
Auto-Discharge RMS power		1.5W		
Battery type	AAA Alkaline, NiMh or Lithium-Iron-Disulphide			
Battery life	Typically ~1500 operations			7
Inactivity power-down period	60 seconds			
Dimensions (excluding leads)	103 x 70 x 20 mm			
Operating temperature range	15°C		35°C	8

Feature Summary

- Display ESR and capacitance on the backlit LCD.
- Enhanced ESR range from 0 to 40Ω.
- Enhanced capacitance range from 0.3 to 90,000µF.
- ESR resolution down to 0.01Ω.
- ESR tested at 50kHz.
- Capable of in-circuit testing for ESR.
- Special tones for >40Ω, <5Ω, <1Ω, OC.
- Audible alerts can be turned on or off.
- Polarity free, connect any way round.
- Protected against moderately charged capacitors.
- Supplied with comprehensive ESR look-up chart in the illustrated user guide.
- Uses a single alkaline AAA cell (included).

Universal gold plated 2mm plugs and sockets. Supplied with: removable gold plated croc probes

Notes

1. The UK convention of the decimal point "." is used in most of our products. This must not be confused with the comma thousands separator ",".
2. Capacitance accuracy quoted for capacitance between 10µF and 10,000µF.
3. Capacitance test current of 2mA if C < ~125µF or ESR > ~10Ω.
4. Capacitance test current of 20mA if C > ~125µF and ESR < ~10Ω.
5. Subject to revision.
6. Maximum abuse voltage rated limitation of internal protection electronics. Probes, leads and unit are not certified for high voltage use.
7. Based on <1 minute per operation.
8. Also subject to acceptable LCD visibility.

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Please note that specifications of our products are subject to change without notice. E&OE.

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