Cressall Resistors

Load Banks

CHS controls

Power blackouts can strike everyone. Snow and strong winds are factors that sometime cause interruption in the power supply, interruptions that can be devastating for the industry, hospitals and telecom. More and more organizations invest in generating sets and UPS systems. But - do they work when required?

Battery capacity may drop substantially due to various reasons. The most reliable method to check the batteries is a discharge test.

Also generator sets need to be tested on a regular base. It is well known that if diesel engines are regularly run on very low loads – or no load at all – they become more and more unreliable and costly to maintain. These consequences can be largely avoided if the set is regularly operated on a load of 40% or more of its rated power.

Cressall Resistors offers a range of standard units for load tests of batteries and generator sets.

Portable Load Banks

Cressall offers a range of standard portable load banks for testing AC and DC systems, including batteries, UPS and standby generators.

All units are fan-cooled, which helps to ensure compact designs. For most of the units, the fan supply is taken from the test load itself. All units have overtemperature protection fitted.

Easy use and handling have been prioritized. To reduce weight enclosures are made of aluminium. Handles are fitted and where required they have castors to ease manoeuvrability.

Load banks for DC testing
Cressall offers one model for 24-28 VDC and three models for 48-54 VDC load testing. All units have fully variable current setting. The cooling fans are driven from the test load, DC600 is also equipped with a socket for external 48-54 VDC fan supply. All units can be operated at lower voltages than their nominal rating, power is reduced accordingly.

Load bank for AC/DC testing
Dual 30 is the perfect choice for testing both single phase AC and DC loads, 120/240 V. The resistor sections are contactor switched,

fans and contactors are driven by external 120/240 VAC supply.

Load banks for AC testing
Three models are available, suitable for generator testing, AC6 for single phase testing, 6 kW and AC30/AC100 for single and three phase testing, 30/100 kW. AC30 also has the ability to test unbalanced loads.

The cooling fans are driven from the test load, AC100 cooling fans can be supplied from external source.

Larger Load Banks

Cressall also manufactures larger load banks, suitable both for AC and DC testing. The load banks can be supplied to fit virtually any applications up to several megawatts, low or medium voltage.

Load banks cooled by natural convections are virtually silent in operation. No moving parts minimize maintenance and make the load banks extremely reliable. Forced cooled load banks are more cost effective and compact solution for higher power ratings compared to units cooled by natural convections. Attenuation can be supplied to reduce the noise level. Forced cooled load banks are normally supplied with thermal sensor and air pressure switch for protection.

The recent years power blackouts have been an uncomfortable reminder to the organizations that have standby generators that failed to work when required. It is well known that if diesel engines are regularly run on very low loads – or no load at all – they become more and more unreliable and costly to maintain. The effects of low-load running include smoky exhausts, carbon build-up, fuel system problems and lubricating oil deterioration, all of which decrease reliability and add to running costs.

All of these consequences can be largely avoided if the generator set is regularly operated on a load of 40% or more of its rated power.

In the last three years Cressall has supplied many such loads for these applications, with power ratings ranging from 5 kW up to 2 MW. The photo shows a 100 kW load bank installed between the radiator and the acoustic splitters on a generator set.

Technical data - Portable Load Banks see note 1

	DC110	DC70	DC220	DC600
				
Rated voltage, VDC	24-28	48-54	48-54	48-54
Rated power, kW	3,3	3,5	11	30
Current range, A	0,6-120	0,6-70	0,6-190	0,6-600
Fixed sections, A	5, 10, 20 and 2x40	5, 2x10, and 2x20	5, 10, 20 and 5x30	5, 10, 4x20, 100, and 2x200
Variable section, A	0,6-5	0,6-5	0,6-5	0,6-5
Cooling	Fan cooled supply from test load	Fan cooled supply from test load	Fan cooled supply from test load	Fan cooled supply from test load or external
Control, fixed sections	6 toggle switches	6 toggle switches	9 toggle switches	9 toggle switches/contactors
Control, variable section	Knob	Knob	Knob	Knob
Ammeter shunt, rating	100 A/100 mV	100 A/100 mV	100 A/100 mV	
Connections, test load	2,4 m cable with M10 lugs	2,4 m cable with M10 lugs	2,4 m cable with M10 lugs	2,4 m cable with M10 lugs
Ammeter shunt connection	4 mm banana socket	4 mm banana socket	4 mm banana socket	
Dimensions HxWxD, mm	500x400x200	500x400x200	500x540x310	840x560x400
Weight, kg	10	10	15	40
Ingress protection, IEC 60529	IP 20	IP 20	IP 20	IP 20
Certificate	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

	DUAL 30	AC6	AC30	AC100
				
Rated voltage	120/240 V, 1 phase and DC	220-240 VAC, 1 phase 110-120/220-240 VAC, 1 ph.	220-240 VAC, 1 phase 380-415 VAC, 3 phase	220-240 VAC, 1 phase 380-415 VAC, 3 phase
Rated frequency, Hz	50-60 and DC	50-60	50-60	50-60
Rated power, kW	31,5	3,68/6	15/30, 1/3 phase	33/100, 1/3phase
Fixed sections, kW	0,5; 1; 2; 4; 8 and 16	0,333; 0,666; 3x1 and 2	1, 2x2, 5 and 2x10	1,25; 2,5; 5; 10; 2x20 and 40
Cooling	Fan cooled 120/240 VAC, external	Fan cooled supply from test load	Fan cooled supply from test load	Fan cooled, supply from test load or external supply
Control, fixed sections	12 pushbuttons	6 toggle switches	18 illuminated rocker switches	14 pushbuttons, on/off
Control, others		Voltage selector switch	1/3 phase selector switch	Fan control, emergency stop
Indication	Selected sections lamp	Toggle switch position	Sel. section/Fans run, lamps	Selected sections lamp
Voltmeter	0-300	0-300 V	0-300 V, phase-neutral	0-500 V with selector switch
Ammeter	0-300	0-30 A/0-40(200) A	0-50 A, each phase	0-150 A with selector switch
Frequency meter	45-65 Hz	45-65 Hz	45-65 Hz	
Ammeter shunt, rating	250 A/75 mV			
Connections, test load	2,6 m cable with M10 lugs for test load	1,5 m cable with CEE IEC 60309-2 connectors 32 A, 2P+E	IEC 60309-2, CEE inlets 230 V, 63 A, 2P+E 400 V, 63 A 3P+N+E	4 colour coded Snaplock inlet connectors
Ammeter shunt connection	4 mm banana socket			4 mm banana socket
Control circuit connection	IEC 60320/C14 inlet, 230 VAC Hirchmann conn., 110 VAC			IEC 60320/C14 inlet, 230 VAC
Dimensions HxWxD, mm	800x600x500	550x495x220	840x560x400	930x1070x670
Weight, kg	50	10/12	30	125
Ingress protection, IEC 60529	IP 20	IP 20	IP 20	IP 20
Certificate	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

Note

1 DC110 can be operated down to 10 VDC, DC70 down to 20 VDC, DC220 down to 30 VDC and DC600 down to 12 VDC with 48 VDC external control supply. The test load should be reduced accordingly. AC100 can be used for lower test voltages with external 220-240 VAC control voltage, test load should be reduced accordingly.

Portable Load Banks - Catalogue Numbers, DC Models see note 1

Type	Test voltage, DC	Rated power, kW	Current range, A	Catalogue number	Weight, kg/each
DC110	24-28	3,3	0,6-120	REDC110	10
DC70	48-54	3,5	0,6-70	REDC70	10
DC220	48-54	11	0,6-210	REDC220	15
DC600	48-54	30	0,6-600	REDC600	40

Portable Load Banks - Catalogue Numbers, AC/DC Models see note 2

Type	Test voltage 1 phase AC, 50-60 Hz/DC	Rated power, kW	Rated current, A	Catalogue number	Weight, kg/each
DUAL 30	120/240	31,5	262/131	REDUAL30-240	50

Portable Load Banks - Catalogue Numbers, AC Models see note 1, 3, 4, 5, 6

Type	Test voltage VAC, 50-60 Hz	Rated power, kW	Rated current, A	Catalogue number	Weight, kg/each
AC6	230, 1 phase	6	27	REAC6-23	10
AC6	11/230, 1 phase	3,68/6	32/27	REAC6-1123	12
AC30, 1 phase cable included	230/400, 1/3 phase	15/30	62/41	REAC30-1	30
AC30, 3 phase cable included	230/400, 1/3 phase	15/30	62/41	REAC30-3	30
AC30, 1 and 3 phase cable incl.	230/400, 1/3 phase	15/30	62/41	REAC30-13	32
AC100	230/400, 1/3 phase	33/100	150/139	REAC100	125

Notes

1 DC110 can be operated down to 10 VDC, DC70 down to 20 VDC, DC220 down to 30 VDC and DC600 down to 12 VDC with 48 VDC external control supply. The test load should be reduced accordingly. AC100 can be used for lower test voltages with external 220-240 VAC control voltage, test load should be reduced accordingly.
2 DUAL 30, external control voltage, female connector for IEC 60320 inlet, 230 VAC, and Hirchmann connector, 110 VAC, are supplied loose for fitting on user's own cables.
3 AC30 is equipped with inlets for both 230 VAC single phase and 400 VAC 3 phase testing. 2,5 m long cable is supplied according to the catalogue numbers above.
4 REAC6-1123, max continuous load at 115 VAC is 3,68 kW, it can be short time loaded at 115 VAC, max 5 minutes, up to 6 kW.
5 AC100, Snaplock female connectors are supplied loose for fitting on user's own cables.
6 AC30/AC100, the load sections are Y connected.

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