

HACM415 Load Banks 10kW - 30kW



20kW to 30kW case



10kW to 15kW case



Power Meter

The Hillstone **HACM** load bank range offers a low cost solution of AC testing of small single & three phase UPS systems and generators.

The **HACM** load bank allows user operation and control by panel mounted load channel selection which uses our preparatory Ni-Chrome Mica resistor technology.

The **HACM safety** features include:

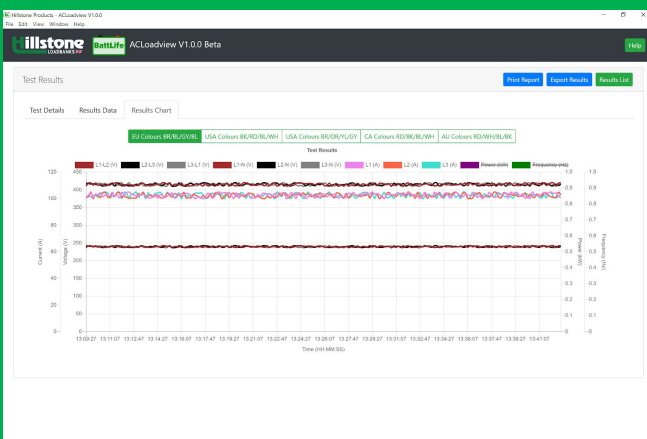
- Contactors and circuit breaker isolation
- Panel mounted emergency stop
- Fan failure shut down
- 3 metre cable sets with matching connectors.

Optional extras include:

- Panel meter with digital display of: volts, amps, power and frequency
- Extra cable length available
- Auxiliary supply

The **HACM** load banks, when fitted with a digital power meter, are fitted with a RS485 data port to enable AC data logging of the performed load test to the Hillstone **LoadView** SD card recorder, on a default time period.

The **LoadView** app imports all the parameters from the digital meter, into a CSV data file, to give an interactive graphical display and reporting of the results and saved against the asset under test.



The screenshot shows the 'Test Results' window with a table of test data. The table has columns for Time, P1 (V), P2 (V), P3 (V), P Avg. (V), L1 (V), L2 (V), L3 (V), L Avg. (V), P1 (A), P2 (A), P3 (A), and P Avg. (A). The data shows multiple test runs with varying power and current values.

| Time | P1 (V) | P2 (V) | P3 (V) | P Avg. (V) | L1 (V) | L2 (V) | L3 (V) | L Avg. (V) | P1 (A) | P2 (A) | P3 (A) | P Avg. (A) |
|---------------------|--------|--------|--------|------------|--------|--------|--------|------------|--------|--------|--------|------------|
| 29/04/2020 13:09:27 | 237.12 | 242.2 | 237.93 | 239.08 | 410.7 | 419.5 | 412.1 | 414.1 | 101.1 | 101.4 | 100.1 | 100.87 |
| 29/04/2020 13:09:37 | 241.45 | 241.04 | 242.2 | 241.56 | 418.2 | 417.5 | 419.5 | 418.4 | 102.5 | 101.4 | 102.7 | 102.2 |
| 29/04/2020 13:09:47 | 242.2 | 240.35 | 241.74 | 241.43 | 419.5 | 416.3 | 418.7 | 418.17 | 105.0 | 104.7 | 101.3 | 103.67 |
| 29/04/2020 13:10:07 | 238.52 | 242.87 | 239.46 | 239.72 | 413.3 | 417.2 | 415.1 | 415.2 | 103.9 | 104.0 | 102.3 | 103.07 |
| 29/04/2020 13:10:07 | 241.97 | 239.83 | 240.99 | 240.99 | 419.1 | 415.4 | 417.4 | 417.3 | 102.8 | 103.4 | 102.5 | 102.9 |
| 29/04/2020 13:10:17 | 238.27 | 238.85 | 241.56 | 239.56 | 412.7 | 413.7 | 416.4 | 414.93 | 102.0 | 102.0 | 101.2 | 102.07 |
| 29/04/2020 13:10:27 | 239.89 | 238.5 | 241.39 | 239.93 | 415.5 | 413.1 | 418.1 | 415.97 | 104.4 | 100.9 | 104.0 | 103.1 |
| 29/04/2020 13:10:37 | 239.31 | 236.83 | 240.35 | 238.83 | 414.5 | 410.2 | 416.3 | 413.67 | 101.4 | 104.4 | 104.3 | 103.37 |
| 29/04/2020 13:10:47 | 237.18 | 239.37 | 241.51 | 239.35 | 410.8 | 414.6 | 418.3 | 414.57 | 102.6 | 104.8 | 105.8 | 104.13 |
| 29/04/2020 13:10:57 | 238.56 | 238.5 | 239.48 | 238.85 | 413.2 | 413.1 | 414.8 | 413.7 | 102.2 | 101.3 | 104.4 | 102.63 |
| 29/04/2020 13:11:07 | 240.81 | 238.91 | 240.35 | 240.02 | 417.1 | 413.8 | 416.3 | 415.73 | 102.2 | 100.9 | 100.7 | 101.27 |
| 29/04/2020 13:11:17 | 239.54 | 241.97 | 239.72 | 240.41 | 414.9 | 419.1 | 415.2 | 416.4 | 104.8 | 104.0 | 102.0 | 103.6 |
| 29/04/2020 13:11:27 | 242.14 | 237.18 | 237.18 | 238.83 | 419.4 | 410.8 | 410.8 | 413.67 | 101.3 | 101.5 | 101.4 | 101.47 |
| 29/04/2020 13:11:37 | 242.02 | 242.2 | 238.21 | 240.81 | 419.3 | 419.5 | 410.8 | 417.1 | 102.9 | 104.6 | 104.7 | 104.07 |
| 29/04/2020 13:11:47 | 238.68 | 241.33 | 240.81 | 240.27 | 413.4 | 418.0 | 417.1 | 416.17 | 100.6 | 104.7 | 101.9 | 102.07 |
| 29/04/2020 13:11:57 | 239.89 | 237.23 | 242.37 | 239.83 | 415.5 | 410.9 | 419.8 | 415.4 | 104.7 | 101.2 | 103.2 | 103.03 |
| 29/04/2020 13:12:07 | 236.83 | 239.2 | 237.87 | 237.96 | 410.2 | 414.3 | 412.0 | 412.17 | 102.3 | 101.8 | 104.8 | 102.97 |
| 29/04/2020 13:12:17 | 239.48 | 238.1 | 238.85 | 238.81 | 414.8 | 412.4 | 413.7 | 413.63 | 104.5 | 100.9 | 104.8 | 103.13 |

3Phase Rating Table

| <u>Load Bank Type Ref</u> | <u>Max Volts</u> | <u>Power at 415V</u> | <u>Amps at 415V</u> | <u>Power at 400V</u> | <u>Amps at 400V</u> | <u>Power at 380V</u> | <u>Amps at 380V</u> |
|---------------------------|------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| HACM415-10 | 415V | 10.0kW | 13.9A | 9.2kW | 13.3A | 8.4kW | 12.7A |
| HACM415-15 | 415V | 15.0kW | 20.8A | 13.8kW | 20.0A | 12.6kW | 19.1A |
| HACM415-20 | 415V | 20.0kW | 27.8A | 18.4kW | 26.6A | 16.8kW | 25.5A |
| HACM415-25 | 415V | 25.0kW | 34.7A | 23.0kW | 33.3A | 21.0kW | 31.8A |
| HACM415-30 | 415V | 30.0kW | 41.7A | 27.6kW | 39.9A | 25.2kW | 38.2A |







1Phase Rating Table

| <u>Load Bank Type Ref</u> | <u>Max Volts</u> | <u>Power at 240V</u> | <u>Amps at 240V</u> | <u>Power at 230V</u> | <u>Amps at 230V</u> | <u>Power at 220V</u> | <u>Amps at 220V</u> |
|---------------------------|------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| HACM415-10 | 240V | 3.3kW | 13.9A | 3.1kW | 13.3A | 2.8kW | 12.7A |
| HACM415-15 | 240V | 5.0kW | 20.8A | 4.6kW | 20.0A | 4.2kW | 19.1A |
| HACM415-20 | 240V | 6.7kW | 27.8A | 6.1kW | 26.6A | 5.6kW | 25.5A |
| HACM415-25 | 240V | 8.3kW | 34.7A | 7.7kW | 33.3A | 7.0kW | 31.8A |
| HACM415-30 | 240V | 10.0kW | 41.7A | 9.2kW | 39.9A | 8.4kW | 38.2A |

HACM415 Specification:

| | |
|----------------------------------|--|
| Description: | Indoor, adjustable, resistive AC load bank |
| Max voltage: | 415 volts, three phase, 4 wire plus earth |
| Rating: | See Performance Table |
| Frequency: | 50Hz / 60Hz |
| Adjustment: | Manual control via switched steps with a minimum load step of 500W |
| Controls: | Fan control switch, emergency stop, load switches |
| Cable termination: | BS4343 industrial panel mounted plug on 10kW to 20kW units Powerlock cable connectors on 25kW to 30kW units |
| Cooling: | 415V three phase, 50/60 Hz, horizontal force air cooling fan, powered from the test source. |
| Element type: | Ni-Chrome Mica Resistor Technology, air cooled resistor elements. Element tolerance +/-5% |
| Environmental Protection: | Designed for indoor operation, IP21 |
| Construction: | Light Weight Aluminium case |
| Finish: | Powder coated, textured finish RAL 7032 |
| Operating temperature: | 0-50 deg C |
| Storage temperature: | 0-80 deg C |
| Movement: | Handles and Swivel Castors. |

HACM415 panel mounted connectors and cables:

| 10kW | 15kW & 20kW | 25kW & 30kW |
|--|--|--|
| Panel mounted load bank connectors | | |
| 3 phase 16A BS4343  | 3 phase 32A BS4343  | Inline Powerlock connector  |
| Cable set connectors | | |
|  |  |  |

HACM415 Case Size:

| <u>Load Bank Type Ref</u> | <u>Case Size</u> | <u>Length (mm)</u> | <u>Width (mm)</u> | <u>Height (mm)</u> | <u>Approx. Weight (Kgs)</u> |
|---------------------------|------------------|--------------------|-------------------|--------------------|-----------------------------|
| HACM415-10 | 1 | 790mm | 290mm | 550mm | 20Kgs |
| HACM415-15 | 1 | 790mm | 290mm | 550mm | 23Kgs |
| HACM415-20 | 1 | 790mm | 290mm | 550mm | 25Kgs |
| HACM415-25 | 2 | 790mm | 470mm | 550mm | 30Kgs |
| HACM415-30 | 2 | 790mm | 470mm | 550mm | 30Kgs |

Standards And Quality Assurance

The **HAC415 AC Load Bank Range** is manufactured in the UK to the following EU standards and ISO procedures:

Low Voltage Directive 2006/95/EC

EMC Directive 2004/108/EC

BSEN61000-6-3 2007 amendments for 2011

BSEN61000-6-4 2007 amendments for 2011

Hillstone Products Quality Assurance procedures ISO 9001:2015



**ISO
9001 : 2015
REGISTERED**

Cert No. 14124754

Notes

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