

Using the 6RM Server Simulator in IT Cabinets

The HAC230-6RM is a 4U 19" load bank designed to simulate IT server operation as part of the testing and commissioning of the data hall.

The 6RM can operate in compliance to Ashrae TC9.9 recommended cold aisle temperature range (18°C - 27°C / 64°F - 80°F).

The 6RM is also used to determine the temperature rise time period to 40°C - 45°C / 104 - 113°F during simulated failure of the cooling system. Such testing will allow IT managers to build SOP and staff training programs for the maximum operating temperature of commercial grade IT equipment

The 6RM provides complete electrical compatibility and can be connected to any available PDU power strips or IT cabinet tap off boxes used inside a data room.

The 6RM design consists of 3 independent loads connected from a C20 panel mounted socket.

Each load channel consists of 2 x 1.11KW switched steps to give a total load of 2.2KW, 9.6A, 230V. The total heat load from a 6RM is therefore 6.6KW.

The 6RM can be used with either 10A C13 cables or 16A C19 cables for direct connection to C14 or C20 PDU sockets as detailed below.

PDU: Three Phase 11KW – 14KW – 22KW

Fig. 1 illustrates how to connect a 6RM to a balanced three phase PDU.

Three Phase Ratings					
	Power	Amps	Switch steps		
Step 1	3300W	4.8A	1-1	2-1	3-1
Step 2	6600W	9.6A	1-1	2-1	3-1
			1-2	2-2	3-2

PDU: Single Phase 11KW – 14KW – 22KW

Fig. 2 illustrates how to connect a 6RM to a single phase PDU.

Single Phase Load Switch Ratings				Panel Socket
Load 1	1-1	4.8A	1100W	C20
	1-2	4.8A	1100W	C20
Load 2	2-1	4.8A	1100W	C20
	2-2	4.8A	1100W	C20
Load 3	3-1	4.8A	1100W	C20
	3-2	4.8A	1100W	C20
6600W				

Tap Off Boxes: 16A, 32A, 63A

Fig. 3 illustrates how to connect a 6RM to single or 3 phase tap off boxes.

HAC230-6RM		Cable type	Tap off box sockets	
6RM panel socket	Single phase current	BLUE female commando plugs	Current rating	Single Phase
C20	9.6A	C19-C16	16A	16A BLUE
C20	9.6A	C19-C32	32A	32A BLUE
C20	9.6A	C19-C63	63A	63A BLUE
Total	29A			

HAC230-6RM		Cable type	Tap off box sockets	
6RM panel socket	Three phase current	RED female commando plugs	Current rating	Three Phase
C20	9.6A	C19-C16	16A	16A RED
C20		C19-C32	32A	32A RED
C20		C19-C63	63A	63A RED



HAC230-6RM Server Simulator

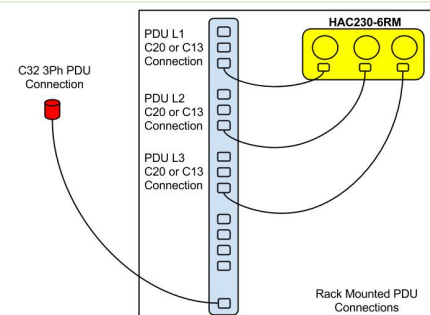


Fig. 1

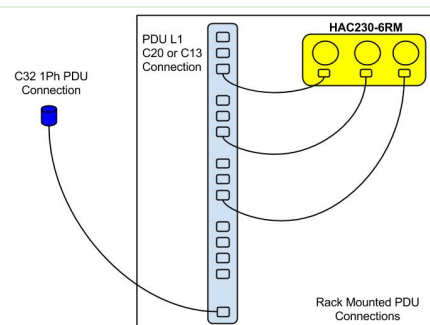


Fig. 2

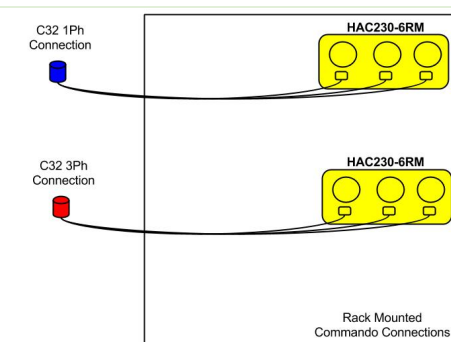


Fig. 3



TECHNICAL SUMMARY SHEET

HAC230-6RM 19" RACK MOUNTED SERVER SIMULATOR

HAC230-6RM Specification

Type Ref	HAC230-6RM
Max Voltage	230 volts, single phase 50/60 hz
Full Load Rating	Nominal: 6666W - 29A - 230V single phase Nominal: 6666W - 9.6A - 400V 3 phase
Controls	3 separate 2222W loads at 230V Each load adjustable in 2 steps of 1111W
Adjustment	6 x 1111W steps, selected via panel mounted illuminated switches
Connection	Three C20 panel mounted sockets for each independent load channel
Cooling	3 low noise, horizontal force air cooling fans, powered from the test source. Cool air intake at front, hot air exhaust at rear.
Airflow	Each fan 144 m3/hr at minimum pressure zero Pa. (Static) Total airflow 432 m3/hr
Element Type	High temperature ni-chrome tape wound mounted on mica composite card.
Dimensions & Weight	4U (176mm high x 250mm deep plus handles) 19" rack assembly. Weight 8 kgs
Construction	Zintec steel, with powder coated yellow gloss finish front panel. Enclosed tray assembly with rear grill
Operating Temperature	0 - 45°C / 0 - 113°F
Storage Temperature	0 - 80°C / 0 - 176°F
Movement	Front handles for slide in assembly to 19" racks
Optional Extras	Cables: 1phase or 3 phase

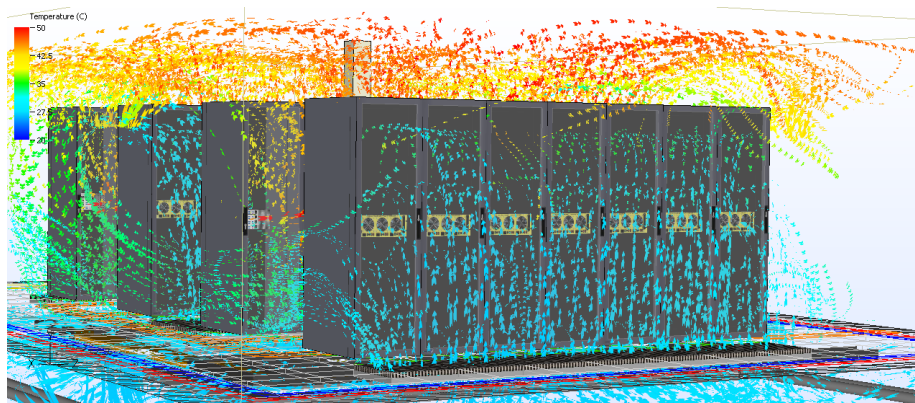
Adjustable Airflow / Heat Dissipation per HAC230-6RM

Kw Load	Delta T range from 144 to 432 CMH	
	Minimum	Maximum
1.1KW to 2.2KW	6°C / 43°F	12°C / 54°F
3.3KW to 4.4KW	10°C / 50°F	15°C / 59°F
5.5KW to 6.6KW	14°C / 57°F	20°C / 68°F

Environmental Air Temperatures

Cold Aisle Temperature Range	Ashrae 18°C - 27°C / 64°F - 80°F
IT Equipment Maximum Operating Temperature	> 40°C - 45°C / 104°F - 113°F
Adjustable Cold Aisle ΔT Range	ΔT 6°C - 20°C / 43°F - 68°F

Typical IST simulated operation



Issue 18 Nov 2015