

OPTIM EMS-C

Automatic static switching capacitor banks



Description

Optim EMS-C capacitor banks are designed for power factor correction in networks with highly fluctuating load variations. Their switching system is based on the use of solid state semiconductors and it allows the different steps to be connected and disconnected in only milliseconds.

With this system, transients are prevented between the connection and disconnection of the steps, obtaining an immediate response to the load fluctuations. In addition, the need for maintenance of the capacitor bank is reduced thanks to the absence of moving elements.

Aplicación

The most common application is with individual loads or in installations where a quick compensation response is needed (for ex., welding units, motors for lifting units, lifts, etc.)

Technical features

Electrical features	Operating voltage	3 x 400 V P-P
	Support voltage	3 x 440 V P-P
	Frequency	50 Hz
	Capacity tolerance	-5% / +10%
	Semiconductor activation controller board power supply voltage	12 Vdc
	Capacitor switching	Solid state semiconductor Including aluminium heatsink for heat dissipation
	Response speed	From 2 cycles (40 ms in 50 Hz network)
Capacitors	Cylindrical three-phase capacitor, aluminium housing, CLZ-FP type	
Overload protection	Three-pole circuit breaker protection on each step	
Overheating protection	Built-in thermostat on the heatsink for disconnecting the regulator in the case of excessive temperatures (90°C)	
Reactive energy regulator	Computer MAX-FAST 6f V.12Vdc	
Main switch	Tetra-polar manual switch included as standard	
Add-ons (optional)	Tetra-polar circuit breaker on capacitor bank header Tetra-polar circuit breaker + earth leakage protection on capacitor bank header Polycarbonate plate for protection against direct contacts	
Residual discharge voltage	75 V / 3 minutes	
Capacitor losses	< 0.5 W / kvar	
Permissible overload	1.3 times the nominal hold current	
Overvoltage	10%, 8 over 24 hours	20%, up to 5 minutes over 24 hours
	15%, up to 15 minutes over 24 hours	30%, up to 1 minute over 24 hours
Temperature	Maximum: +45°C, minimum: -25°C	
Environmental conditions	Humidity	80% without condensation
	Altitude	<2,000 m above sea level.
Mechanical features	Enclosure material	Steel plate
	Protection Degree	IP 21
	Colour	RAL 7035 Grey / RAL 3005 Maroon
Assembly conditions	Interior	Wall-mounted
	Cable input	Bottom
	Positioning the unit	Vertical
	Ventilation	Natural
Standards	IEC 61921, IEC 61439, IEC 60831	

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References

kvar								
440 V	400 V	Composition	Manual switch	Cable cross-section (mm ²)	Weight (kg)	Dimensions (mm) width x height x depth	Type	Code
18.75	15.5	(6.25 + 12.5) kvar	Included	1 x 6	29	545 x 710 x 220	OPTIM EMS-C-18.75-440	R4A300
31.25	26	(6.25 + 2 x 12.5) kvar	Included	1 x 16	33	545 x 710 x 220	OPTIM EMS-C-31.25-440	R4A304
43.75	36	(6.25 + 12.5 + 25) kvar	Included	1 x 25	34	545 x 710 x 220	OPTIM EMS-C-43.75-440	R4A309
67.50	56	(7.5 + 2 x 15 + 30) kvar	Included	1 x 50	38	545 x 710 x 220	OPTIM EMS-C-67.50-440	R4A315
82.50	68	(7.5 + 15 + 2 x 30) kvar	Included	1 x 70	39	545 x 710 x 220	OPTIM EMS-C-82.50-440	R4A321
105	87	(15 + 3 x 30) kvar	Included	1 x 70	40	545 x 710 x 220	OPTIM EMS-C-105-440	R4A330
120	99	(4 x 30) kvar	Included	1 x 95	41	545 x 710 x 220	OPTIM EMS-C-120-440	R4A336

Switch and cable cross-section recommended for installations with $U_n = 400$ V. Installers must confirm that this meets everything established in the Low Voltage Directive according to the special characteristics of each installation and cable type, completely relieving CIRCUTOR S.A. of all breaches of the pertinent regulations as a result of an incorrect choice of the type and cross-section of the cabling.

Dimensions

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