

OPTIM-EMK

Automatic capacitor banks with static system



Description

The **OPTIM-EMK**-series capacitor banks have been designed for power factor correction in networks with fluctuating loads.

The power variations are relatively quick (measured in milliseconds) and the operation is thus carried out by thyristors, which are connected to a voltage controller board, so that the connection and disconnection of the capacitor is carried out with zero voltage difference.

Transients are prevented between the connection and disconnection of the steps, obtaining an immediate response to the load fluctuations.

Application

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	400 V (please ask about other voltages)
	Support voltage	440 V (400 V)
	Capacity tolerance	± 10%
Unit made up of	CLZ capacitor three-phase measurement Static switching unit on each stage, made up of static contactors (thyristors) Individual protection of each stage by fuses with high cut-off power(APR), NH-00 series. Two-pole circuit breaker protection for capacitor bank and regulator operations. Reactive energy regulator of the Computer Max fast . series. Built-in thermostat on the heatsink for disconnecting the stage in the case of excessive temperatures (+90 °C).	
Add-ons	Manual switch on capacitor bank header Circuit breaker on capacitor bank header Circuit breaker + earth leakage protection on capacitor bank header Forced ventilation unit + thermostat Polycarbonate sheet for protection against direct contacts 400 / 230 V autotransformer	
Insulation level	3 / 15 kV	
Discharge resistance	75 V / 3 minutes	
Overload	1.3 times the nominal hold current	
Oversvoltage	10%, 8 over 24 hours 15%, up to 15 minutes over 24 hours 20%, up to 5 minutes over 24 hours 30%, up to 1 minute over 24 hours	
Environmental features	Temperature class D	Daily mean: +45 °C Annual mean: +35 °C Maximum: +50 °C Minimum: -25 °C
	Humidity	80% RH
	Altitude	2,000 m
Mechanical features	Protection degree	IP 21
	Colour	RAL 7035 grey RAL 3005 maroon
Assembly conditions	Type of assembly	Vertical
	Ventilation	Natural or forced, in accordance with the options
	Distance between capacitors	At least 2 cm
Standards	CEI 60831-1, CEI 70/7, UNE 20827, UNE 20010, BS 1650, VDE 560	

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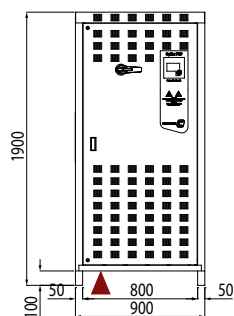
References

Type	Code	400 V kvar	440 V kvar	Composition	Auto. Switch (A)	Man. Switch (A)	Cable section (mm ²)	Dimensions (mm) width x height x depth	Weight (kg)
OPTIM EMk4									
OPTIM EMK4-175-440	R46420	147	175	25 + 50 + 100	400	400	400	900x1900x650	170,00
OPTIM EMK4-250-440	R46422	207	250	50 + 2x100	630	630	630	900x1900x650	183,00
OPTIM EMK4-300-440	R46424	248	300	50 + 50 + 2x100	630	630	630	900x1900x650	208,00
OPTIM EMK4-350-440	R46425	289	350	50 + 3x100	630	630	630	900x1900x650	217,00
OPTIM EMK4-400-440	R46426	331	400	4x100	800	800	800	900x1900x650	231,00
OPTIM EMk6									
OPTIM EMK6-400-440	R46431	331	400	50 + 50 + 3x100	800	800	800	1200x1900x650	262,00
OPTIM EMK6-450-440	R46435	372	450	50 + 4x100	800	800	800	1200x1900x650	281,00
OPTIM EMK6-550-440	R46437	455	550	50 + 5x100	1000	1000	1000	1200x1900x650	320,00
OPTIM EMK6-600-440	R46438	496	600	6x100	1250	1600	1250	1200x1900x650	334,00
OPTIM EMk8									
OPTIM EMK8-600-440	R46442	496	600	50 + 50 + 5x100	1250	1600	1250	1500x1900x650	365,00
OPTIM EMK8-650-440	R46444	537	650	50 + 6x100	1250	1600	1250	1500x1900x650	384,00
OPTIM EMK8-750-440	R46450	620	750	50 + 7x100	1600	1600	1600	1500x1900x650	359,00
OPTIM EMK8-800-440	R46455	661	800	8x100	1600	1600	1600	1500x1900x650	373,00
OPTIM EMk10									
OPTIM EMK10-850-440	R46505	702	850	50 + 8x100	1250+250	1600+250	1250/250	2100x1900x650	512,00
OPTIM EMK10-950-440	R46604	785	950	50 + 9x100	1250+400	1600+400	1250/400	2100x1900x650	551,00
OPTIM EMK10-1000-440	R46605	826	1000	10x100	1600+400	1600+400	1600/400	2100x1900x650	565,00
OPTIM EMk12									
OPTIM EMK12-1050-440	R46606	868	1050	50 + 10x100	1250+800	1600+800	1250/800	2400x1900x650	615,00
OPTIM EMK12-1150-440	R46608	950	1150	50 + 11x100	2x1250	2x1600	2x1250	2400x1900x650	654,00
OPTIM EMK12-1200-440	R46609	992	1200	12x100	2x1250	2x1600	2x1250	2400x1900x650	668,00

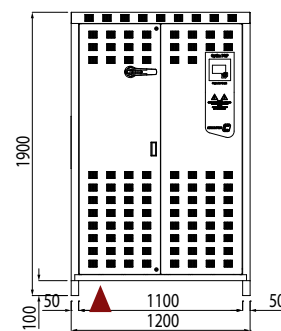
Switch and cable section for installations with $U_n = 400$ V. In any case, the installer must confirm that the voltage with everything established in the low voltage regulation according to the particularities of each installation and type of cable.

Dimensions

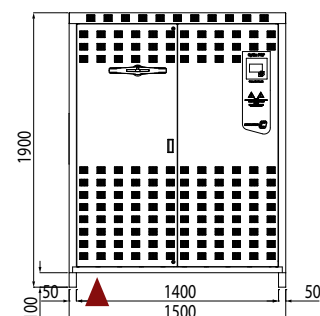
OPTIM-EMK 4



OPTIM-EMK 6



OPTIM-EMK 8



OPTIM EMk10

OPTIM FR10 = OPTIM FR4 + OPTIM FR6

OPTIM EMk12

OPTIM FR12 = 2 x OPTIM FR6