



Power capacitor PHICAP MKP 415 V 20.0 kVAr

Model	
type of internal interconnection	D (Delta)
type of certification	CE
standard	IEC 60831-1 / -2
General technical data	
capacitor voltage (rms value) rated value	415 V
capacitor voltage (rms value) maximum	VN +10% (up to 8 h daily), VN +15% (up to 30 min daily), VN +20% (up to 5 min daily), VN +30% (up to 1 min daily)
operating frequency 1 rated value	50 Hz
operating frequency 2 rated value	60 Hz
capacity rated value	123 µF
relative negative tolerance of the capacity rated value	5 %
relative positive tolerance of the capacity rated value	10 %
reactive power of the capacitor at 50 Hz rated value	20 kvar
reactive power of the capacitor at 60 Hz rated value	24 kvar
clearance minimum	9.6 mm
creepage distance minimum	12.7 mm
type of dielectric	Self-healing metallized polypropylene film
filler	filled with Non PCB, Soft biodegradable resin
safety features of the integrated discharge resistors	Discharge time ≤ 180 s to 75 V or less for safe discharging
voltage test between the terminals	2.15 x VN at 50Hz / 2 s
voltage test between the terminals and housing	3000 V AC / 50Hz, 10s
Current	
inrush current peak of the capacitor	200 x In
Short-circuit current maximum	10 kA
capacitor current at 50 Hz rated value	27.8 A
capacitor current at 60 Hz rated value	33.3 A
terminal current maximum	50 A
Protection class	
protection class IP of the terminal	IP20
Dissipation	
capacitor losses [W] in dielectric per kvar	0.2 W
capacitor losses [W] per kvar total	0.45 W
Product details	
type of cooling	natural or forced air cooling
type of enclosure material	Extruded round aluminum can with stud
type of mechanical safety	Overpressure disconnecter (3-phase)
product component external discharge resistor	Yes
Connections	
type of connecting terminal	PhiCap_SIGUT

tightening torque maximum	1.2 N·m
tightening torque of the screw for securing the equipment maximum	10 N·m
connectable conductor cross-section of the terminal for copper conductor stranded without cable lug	16 mm <sup>2</sup>

#### Mechanical Design

length of the capacitor	
•	273 mm
• with connections maximum	313 mm
total length of the capacitor with mounting and connections maximum	330 mm
fastening method	Threaded bolt M12
diameter of the capacitor	85 mm
diameter of the capacitor maximum	89 mm
mounting position	Upright
net weight	1.2 kg

#### Environmental conditions

installation altitude maximum	4 000 m
MTBF at temperature class -40/C maximum	135 h
MTBF at temperature class -40/D maximum	100 h
relative humidity without condensation maximum	95 %
temperature classes of the capacitors	Class -40/D: Max. short time: +55 °C, max. mean 24h: +45 °C; max mean 1 year: +35 °C; lowest temperature: -40 °C
ambient temperature during operation	
• minimum	-40 °C
• maximum	55 °C
ambient temperature during storage	
• minimum	-40 °C
• maximum	85 °C

#### Approvals Certificates

General Product Approval	other	Environment
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[Confirmation](#)

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[Miscellaneous](#)

[Environmental Confirmations](#)

#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/lowvoltage/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=4RB2200-3EB50>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/4RB2200-3EB50>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=4RB2200-3EB50](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=4RB2200-3EB50)

CAX-Online-Generator

<http://www.siemens.com/cax>

Tender specifications

<http://www.siemens.com/specifications>

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