

Power Factor Correction

B25667B3247A375 MKK400-D-12.5-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

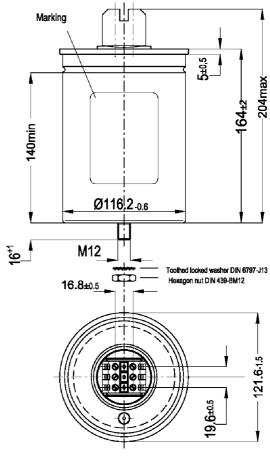
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 83 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	400 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	12.5 kvar	15 kvar
Rated current I _R	18 A	22 A
tanδ (dielectric)	0.2 W / kvar	

FK PFC RD / VA

Edition 2. 20.10.05

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Power Factor Correction

Edition 2.

20.10.05

Maximum ratings	
U _{max} (up to 8 h daily)	440 VAC
U _{max} (up to 1 min)	520 VAC
I _{max}	1.3 x I _R (A)
ls	200 x I _R (A)

Test data	
U _{TT}	900 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.6 W / kvar

Climatic category / -40/D	
T _{min} (-)	40 °C
T _{max} (+)	55 °C
Humidity	av. rel. < 95%
Maximum altitude	4,000 m

Mean life expectancy	
t _{LD}	Up to 115,000 hours
Max. 5000 switchings per year acc. to IEC 60831	

Design data	
Dimensions (Ø x I)	121 x 164 mm
Weight approx	1.1 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

Label design

م	
EPCOS	SIEMENS
PhaseCap™	Power Quality
MKK400-D-12,5-0	1 4RB5 125-5 AB40
B25667B3247/	A375
С _N = 3 x 83 µF	+10/-5% Δ SH
U _N Q _N /	50 Hz Q _N /60 Hz
400 V 12,5	ő kvar 15,0 kvar
380 V 11,3	3 kvar 13,5 kvar
U ₁ = 3/- kV -40	Ð
Overpressure disco	onnector Dry, Inert Gas
IEC 60831(96)	(6
AFC 10 kA -40.	+55°C
Internally protected	
CSA C22.2 No.190	C THE US
Made by EPCOS	E 10/05

FK PFC RD / VA

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Power Factor Correction

B25667B3247A375

MKK400-D-12.5-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

△ Please read information about PFC capacitors and cautions as well as installation and maintenance instructions (Power Factor Correction Product Profile, actual version, and Installation and Maintenance Instructions for PFC-capacitors, available in the Internet) to ensure optimum performance and prevent products from failing, and in worst case, bursting and fire.

Information given in the PFC-product profile and values given in the data sheet reflect typical specifications. You are kindly requested to approve our product specifications or request our approval for your specification before ordering.

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Edition 2. 20.10.05



Power Factor Correction

B25667B5347A375

MKK525-D-30-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

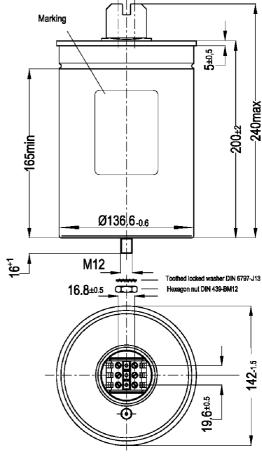
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 115 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	525 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	30 kvar	
Rated current I _R	33 A	
tanδ (dielectric)	0.2 W / kvar	

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Power Factor Correction

B25667B5347A375

Maximum ratings	
U _{max} (up to 8 h daily)	580 VAC
U _{max} (up to 1 min)	680 VAC
I _{max}	1.3 x I _R (A)
I _S	200 x I _R (A)

Test data	
U _{TT}	1,150 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.6 W / kvar

Climatic category / -40/C			
T _{min} (-)	40 °C		
T _{max} (+)	50 °C		
Humidity	av. rel. < 95%		
Maximum altitude	4,000 m		

Mean life expectancy			
t _{LD} Up to 115,000 hours			
Max. 5000 switchings per year acc. to IEC 60831			

Design data			
Dimensions (Ø x I)	142 x 200 mm		
Weight approx	2.4 kg		
Impregnation	Dry, inert gas		
Fixing	Threaded bolt M12		
Max. torque (Al can stud)	10 Nm		
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.		

Label design



SIEMENS

			ower Quality RB5 300-5 AB 52			
B25667B	5347A3	75				
C _N = 3 x1	$C_{N} = 3 \times 115 \mu\text{F} + 10/-5\% \Delta$ SH					
UN	Q _N /50	Hz	Q _N /60	Hz		
525 V	30,0 k	var				
480 V	25,0 k	var	30,0 kv	/ar		
465 V	23,5 k	var	28,2 kv	/ar		
$U_{i} = 3/- kV$	-40/C					
Overpressure disconnector Dry, Ine			ert Gas			
IEC 60831(96)				CE		
Made by EP	COS			11/05		

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Power Factor Correction

B25667B5347A375

MKK525-D-30-01

Isolated terminals, IP20			
1.2 Nm			
16 mm ² (5 AWG)			
50 A			
12.7 mm			
9.6 mm			
Safety			
Overpressure disconnector			
(AFC: 10 kA)			

≤ 90 s (75 V)

Reference Standards

Discharge resistor time

IEC 60831-1/2

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Edition 2. 30.11.05



B25667B3397A375

Power Factor Correction

MKK400-D-20-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

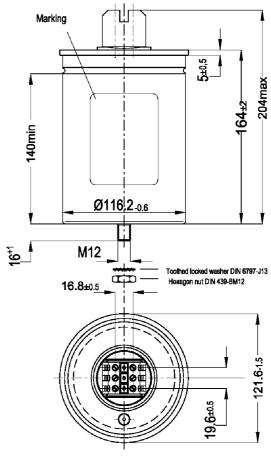
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Technical data and specifications

Characteristics			
Rated capacitance C _R	3 x 132 µF		
Tolerance	-5 / +10%		
Connection	D (Delta)		
Rated voltage V _R	400 VAC		
Rated frequency f _R	50 Hz	60 Hz	
Output	20 kvar	24 kvar	
Rated current I _R	30 A	36 A	
tanδ (dielectric)	0.2 W / kvar		

FK PFC RD / VA

Edition 2. 20.10.05

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MKK400-D-20-01

Power Capacitors

Power Factor Correction

Maximum ratings	
U_{max} (up to 8 h daily)	440 VAC
U _{max} (up to 1 min)	520 VAC
I _{max}	1.3 x I _R (A)
Is	200 x I _R (A)

Test data		
U _{TT}	900 VAC / 50 Hz during 10 s	
U _{TC}	3,000 VAC / 50 Hz during 10 s	
tanδ (50 Hz)	≤ 0.7 W / kvar	

Climatic category / -40/D			
T _{min} (-)	40 °C		
T _{max} (+)	55 °C		
Humidity	av. rel. < 95%		
Maximum altitude	4,000 m		

Mean life expectancy			
t _{LD} Up to 115,000 hours			
Max. 5000 switchings per year acc. to IEC 60831			

Design data			
Dimensions (Ø x I)	121 x 164 mm		
Weight approx	1.5 kg		
Impregnation	Dry, inert gas		
Fixing	Threaded bolt M12		
Max. torque (Al can stud)	10 Nm		
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.		

FK PFC RD / VA

Label design

À			
EPCOS	SIE	MEN	S
PhaseCap™	Pow	er Qualit	у
MKK400-D-20-01	4RB	5 200-5 A	B 40
B25667B3397A	375		
C _N = 3 x 132 μF	+ 10/	- 5%	∖ SH
$U_{\rm N}$ $Q_{\rm N}$ /50) Hz	Q _N /60	Hz
400 V 20,0	kvar	24,0 k	var
380 V 18,0	kvar	21,6 k	var
U ₁ = 3/- kV -40/0)		
Overpressure discor	nector	Dry, Ine	ert Gas
IEC 60831(96)			CE
AFC 10 kA -40	+55°C		
Internally protected			°
CSA C22.2 No.190		C 7	US
Made by EPCOS		E	10/05

Edition 2. 20.10.05

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Power Factor Correction

B25667B3397A375

MKK400-D-20-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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Concentric winding

Triple safety system

Construction

Wave cut

Features

Terminals

B25667B3497A375 MKK400-D-25-01

Power Factor Correction

Dielectric: Polypropylene filmGas-impregnated / dry type

Three phase, delta connected

For Power Factor Correction

Self-healing technology

Indoor mounting

Typical applications

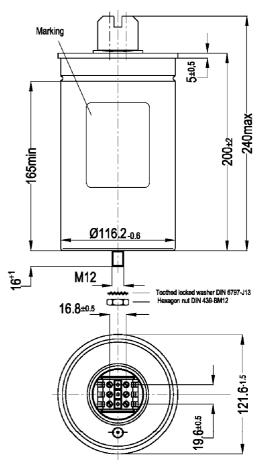
SIGUT terminals

Mounting parts

Extruded round aluminum can with studProvided with ceramic discharge module

Naturally air cooled (or forced air cooling)

Dimensional drawing



All dimensions in mm

Technical data and specifications

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Characteristics		
Rated capacitance C _R	3 x 166 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	400 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	25 kvar	
Rated current I _R	36 A	
tanδ (dielectric)	0.2 W / kvar	

FK PFC RD / VA

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B25667B3497A375

Power Capacitors

Power Factor Correction

Maximum ratings		
U _{max} (up to 8 h daily)	440 VAC	
U _{max} (up to 1 min)	520 VAC	
I _{max}	1.3 x I _R (A)	
I _S	200 x I _R (A)	

Test data	
U _{TT}	900 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.7 W / kvar

Climatic category / -40/D		
T _{min} (-)	40 °C	
T _{max} (+)	55 °C	
Humidity	av. rel. < 95%	
Maximum altitude	4,000 m	

Mean life expectancy		
t _{LD}	Up to 115,000 hours	
Max. 5000 switchings per year acc. to IEC 60831		

Design data	
Dimensions (Ø x I)	121 x 200 mm
Weight approx	1.8 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

Edition 3.

20.10.05

FK PFC RD / VA

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Label design

Â	CIEMENS
EPCOS	SIEMENS
PhaseCap™	Power Quality
MKK400-D-25-01	4RB5 250-5 AB 40
B25667B3497A	375
C _N = 3 x 166 μF	+10/-5% ∆ SH
U _N Q _N /5	0 Hz Q _N /60 Hz
400 V 25,0	kvar 30,0 kvar
380 V 22,6	kvar 27,1 kvar
U ₁ = 3/- KV -40/0	2
Overpressure discor	nector Dry, Inert Gas
IEC 60831(96)	()
AFC 10 kA -40	+55°C
Internally protected	- °
CSA C22.2 No.190	C THE US
Made by EPCOS	E 10/05



Power Factor Correction

B25667B3497A375

MKK400-D-25-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
	·
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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Edition 3. 20.10.05



Power Factor Correction

B25667B4127A375

MKK440-D-7.5-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

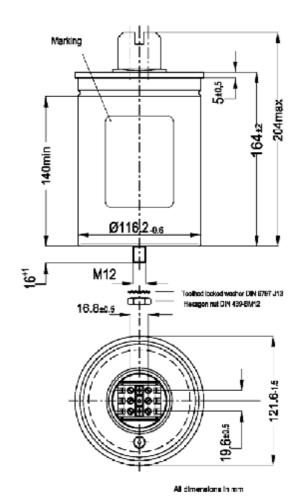
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 41 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	440 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	7.5 kvar	9 kvar
Rated current I _R	10 A	12 A
tanδ (dielectric)	0.2 W / kvar	

FK PFC RD / VA

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Edition 1. 10.03.05



B25667B4127A375

Power Capacitors

Power Factor Correction

Maximum ratings	
U _{max} (up to 8 h daily)	480 VAC
U _{max} (up to 1 min)	570 VAC
I _{max}	1.3 x I _R (A)
Is	200 x I _R (A)

Test data	
U _{TT}	950 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D		
T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximum	altitude	4,000 m

Mean life expectancy		
t _{LD}	Up to 115,000 hours	

Max. 5000 switchings per year acc. to IEC 60831

Design data		
Dimensions (Ø x I)	121.6 x 164 mm	
Weight approx	1.2 kg	
Impregnation	Dry, inert gas	
Fixing	Threaded bolt M12	
Max. torque (Al can stud)	10 Nm	
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.	

Label design

À	
EPCOS	SIEMENS
	Power Quality 4RB5 075-5 AB 45
B25667B4127A3	375
C _N = 3 x 41 μF +	10/-5% $_{\Delta}$ SH
$U_N = Q_N / 50$	Hz Q _N /60 Hz
440 V 7,5 k	war 9,0 kvar
415 V 6,7 k	war 8,0 kvar
400 V 6,2 k	war 7,4 kvar
U _i = 3/- kV -40/D	
Overpressure discon	nector Dry, Inert Gas
IEC 60831(96)	CE
AFC 10 kA -40	+55°C
Internally protected	
CSA C22.2 No.190	C THE US
Made by EPCOS	E 01/05

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Edition 1. 10.03.05

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Power Factor Correction

B25667B4127A375

MKK440-D-7.5-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	
Mechanical safety	Overpressure disconnector

Mechanical salety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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Edition 1. 10.03.05



Power Factor Correction PhaseCap

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

Terminals

SIGUT terminals

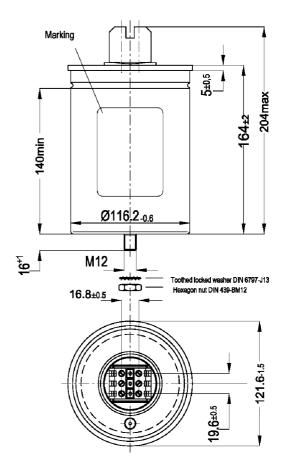
Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

B25667B4197A375

MKK400-D-10-01/MKK415-D-10.4-01

Dimensional drawing



All dimensions in mm

Characteristics	MKK400-D-10-01		MKK415-D-10.4-01	
Rated capacitance C _R	3 x 64 µF		3 x 64 μF	
Tolerance	-5 / +10%		-5 / +10%	
Connection	D (Delta)		D (Delta)	
Rated voltage V _R	400 VAC		415 VAC	
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz
Output	10 kvar	12 kvar	10.4 kvar	12.5 kvar
Rated current I _R	14 A	17 A	15 A	17 A
tanδ (dielectric)	0.2 W / kvar		0.2 W / kvar	

Technical data and specifications

FK PFC RD / VA

Edition 3. 20.10.05



Power Factor Correction PhaseCap

Maximum ratings	
U _{max} (up to 8 h daily)	460 VAC
U _{max} (up to 1 min)	540 VAC
I _{max}	1.3 x I _R (A)
ls	200 x I _R (A)

Test data	
U _{TT}	900 VAC / 50 Hz during 10 s
U _{TC}	3,000VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5W / kvar

Climatic category / -40/D		
T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximum	altitude	4,000 m

Mean life expectancy		
t _{LD}	Up to 115,000 hours	
Max. 5000 switchings per year acc. to IEC 60831		

Design data		
Dimensions (Ø x I)	121 x 164 mm	
Weight approx	1.2 kg	
Impregnation	Dry, inert gas	
Fixing	Threaded bolt M12	
Max. torque (Al can stud)	10 Nm	
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.	

FK PFC RD / VA

EPCOS PhaseCap™

Label design

```
SIEMENS
Power Quality
```

B25667B4197A375

MKK415-D-	10,4-01	4RB	5 104	1-5 A I	B 42
B25667B4197A375					
$G_{\rm N} = 3 \times 6$					
U_N/V	Q _N /50	Hz	Q_N	/60 ł	Ηz
MKK415	10,4 k	var	12	,5 kv	ar
MKK400	10,0 k	var	12	,0 kv	ar

MKK400-D-10-01/MKK415-D-10.4-01

U ₁ = 3/- kV -40/D	
Overpressure disconnector	Dry, inert gas
IEC 60831 (96)	CE
AFC 10 kA -40+55℃	
Internally protected	
CSA C22.2 No.190	c Au us
Made by EPCOS	E 10/05

Edition 3.
20.10.05

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Power Factor Correction PhaseCap

B25667B4197A375

MKK400-D-10-01/MKK415-D-10.4-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	

Salety	
Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 3. 20.10.05



Power Factor Correction PhaseCap

B25667B4207A375

MKK440-D-12.5-01/MKK480-D-15-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

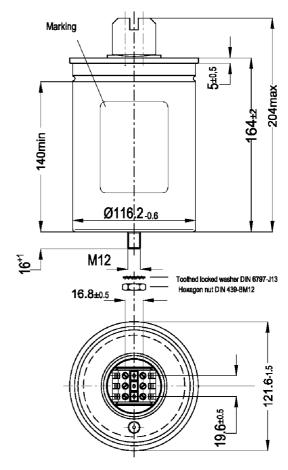
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Technical data and specifications

Characteristics	MKK440-0	D-12.5-01	MKK480-0	D-15-01
Rated capacitance C _R	3 x 69 µF		3 x 69 µF	
Tolerance	-5 / +10%		-5 / +10%	
Connection	D (Delta)		D (Delta)	
Rated voltage V _R	440 VAC		480 VAC	
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz
Output	12.5 kvar	15 kvar	15 kvar	18 kvar
Rated current I _R	16 A	20 A	18 A	22 A
tanō (dielectric)	0.2 W / kvar		0.2 W / kvar	

FK PFC RD / VA



Power Factor Correction PhaseCap

Maximum ratings		
U _{max} (up to 8 h daily)	530 VAC	
U _{max} (up to 1 min)	620 VAC	
I _{max}	1.3 x I _R (A)	
ls	200 x I _R (A)	

Test data	
U _{TT}	1,050 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D		
T _{min} (-)	40 °C	
T _{max} (+)	55 °C	
Humidity	av. rel. < 95%	
Maximum altitude	4,000 m	

Mean life expectancy		
t _{LD}	Up to 115,000 hours	
Max. 5000 switchings per year acc. to IEC 60831		

Design data	
Dimensions (Ø x I)	121 x 164 mm
Weight approx	1.4 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

FK PFC RD / VA

B25667B4207A375

Edition 3. 20.10.05

MKK440-D-12.5-01/MKK480-D-15-01

Label design

Â	
ÉPCOS	SIEMENS
PhaseCap™ MKK480-D-15-01	Power Quality 4RB5 150-5 AB 47
B25667B4207A	375
C _N = 3 x69 μF -	+10/-5% <u>∆</u> SH
$\dot{U}_N / V = Q_N / 5$	0 Hz <i>Q_N</i> /60 Hz
MKK480 15,0	kvar 18,0 kvar
MKK440 12,5	kvar 15,0 kvar
U ₁ = 3/- kV -40/	D
Overpressure disco	nnector Dry, inert gas
IEC 60831 (96)	()
AFC 10 kA -40	.+55°C
Internally protected	
CSA C22.2 No.190	C The US
Made by EPCOS	E 10/05

Page 2 of 3



Power Factor Correction PhaseCap

B25667B4207A375

MKK440-D-12.5-01/MKK480-D-15-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
	·
Safety	

Oulory	
Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 3. 20.10.05



Power Factor Correction PhaseCap

B25667B4237A375

MKK415-D-12.5-01/MKK440-D-14.2-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

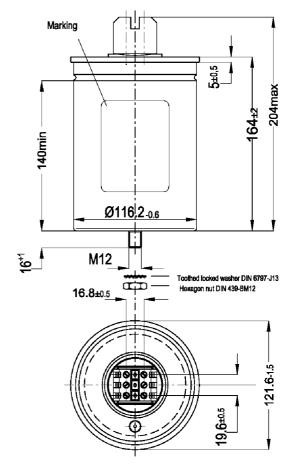
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Technical data and specifications

Characteristics	MKK415-I	D-12.5-01	MKK440-I	D-14.201
Rated capacitance C _R	3 x 77 µF		3 x 77 µF	
Tolerance	-5 / +10%		-5 / +10%	
Connection	D (Delta)		D (Delta)	
Rated voltage V _R	415 VAC		440 VAC	
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz
Output	12.5 kvar	15 kvar	14.2 kvar	17 kvar
Rated current I _R	17 A	21 A	19 A	22 A
tanδ (dielectric)	0.2 W / kva	r	0.2 W / kva	r

FK PFC RD / VA



Power Factor Correction PhaseCap

Maximum ratings 480 VAC U_{max} (up to 8 h daily) U_{max} (up to 1 min) 570 VAC **I**_{max} $1.3 \times I_R$ (A) I_{S} 200 x I_R (A)

Test data	
U _{TT}	950 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D		
T _{min} (-)	40 °C	
T _{max} (+)	55 °C	
Humidity	av. rel. < 95%	
Maximum altitude	4,000 m	

Mean life expectancy		
t _{LD}	Up to 115,000 hours	
Max. 5000 switchings per year acc. to IEC 60831		

Design data	
Dimensions (Ø x I)	121 x 164 mm
Weight approx	1.3 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

B25667B4237A375

MKK415-D-12.5-01/MKK440-D-14.2-01

Label design



EPCOS

SIEMENS

PhaseCap™ Power Quality MKK440-D-14,2-01 4RB5 142-5 AB 45 B25667B4237A375 $G_{\rm N} = 3 \, \text{x77} \, \mu\text{F} + 10/-5\%$ Δ SH $Q_{\rm N}/50$ Hz $Q_{\rm N}/60$ Hz U_N/V MKK440 14,2 kvar 17,0 kvar MKK415 12,5 kvar 15,0 kvar

U _i = 3/- kV -40/D	
Overpressure disconnector	Dry, inert gas
IEC 60831(96)	Ű ČE
AFC 10 kA -40+55℃	
Internally protected	
CSA C22.2 No.190	C 7 US
Made by EPCOS	E 10/05

FK PFC RD / VA

Edition 3. 20.10.05



Power Factor Correction PhaseCap

B25667B4237A375

MKK415-D-12.5-01/MKK440-D-14.2-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm

Safety	
Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 3. 20.10.05



B25667B4247A375

MKK440-D-15-01

Construction

Dielectric: Polypropylene film

Power Factor Correction

- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

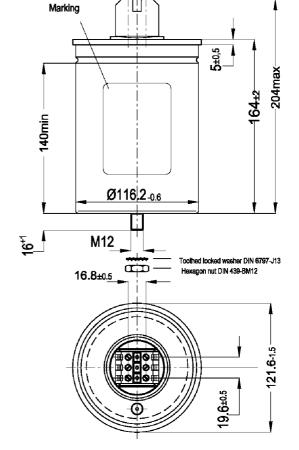
For Power Factor Correction

Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)



Dimensional drawing

All dimensions in mm

Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 83 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	440 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	15 kvar	18 kvar
Rated current I _R	20 A	24 A
tanδ (dielectric)	0.2 W / kvar	

FK PFC RD / VA

Edition 2. 20.10.05

Page 1 of 3



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B25667B4247A375

MKK440-D-15-01

Power Capacitors

Power Factor Correction

Maximum ratings	
U _{max} (up to 8 h daily)	480 VAC
U _{max} (up to 1 min)	570 VAC
I _{max}	1.3 x I _R (A)
I _S	200 x I _R (A)

Test data 11---950 VAC / 50 Hz during 10 s

011	
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D		
T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximum alt	titude	4,000 m

Mean life expectancy		
t _{LD}	Up to 115,000 hours	
Max. 5000 switchings per year acc. to IEC 60831		

Design data	
Dimensions (Ø x I)	121 x 164 mm
Weight approx	1.4 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for

FK PFC RD / VA

Label design

٨			
EPCOS	S	IEME	NS
PhaseCap™	* P	ower Qua	ality
MKK440-D-	15-01 4	RB5 150-	5 AB 45
B25667B4	1247A375	5	
C _N = 3 x 8	3 µF + 10	0/- 5%	$_{\Delta}$ SH
UN	Q _N /50 H	z Q _N /6	30 Hz
440 V	15,0 kva	r 18,0	kvar
415 V	13,3 kva	r 16,0	kvar
400 V	12,4 kva	r 14,9	kvar
U ₁ = 3/- kV	-40/D		
Overpressur	e disconnec	tor Dry,	Inert Gas
IEC 60831(9	6)		CE
AFC 10 kA	-40+55	•C	
Internally pro	tected		• V °
CSA C22.2	Vo.190	C 7	- US
Made by EP	COS	E	10/05

further details.



Power Factor Correction

B25667B4247A375

MKK440-D-15-01

Isolated terminals, IP20
1.2 Nm
16 mm ² (5 AWG)
50 A
12.7 mm
9.6 mm
·

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 2. 20.10.05



Power Factor Correction PhaseCap

B25667B4277A375

MKK440-D-16.7-01/MKK480-D-20-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

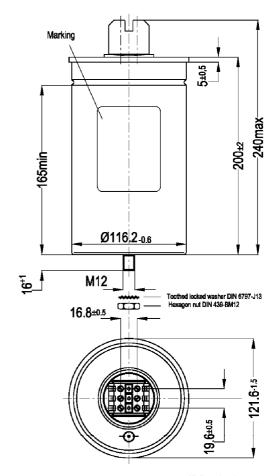
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Characteristics	MKK440	-D-16.7-01	MKK48	0-D-20-01
Rated capacitance C _R	3 x 92 µF		3 x 92 µl	=
Tolerance	-5 / +10%		-5 / +10%	6
Connection	D (Delta)		D (Delta)
Rated voltage V _R	440 VAC		480 VAC	;
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz
Output	16.7 kvar	20 kvar	20 kvar	24 kvar
Rated current I _R	22 A	26 A	24 A	29 A
tanδ (dielectric)	0.2 W / kvar		0.2 W / kvar	

Technical data and specifications

FK PFC RD / VA



Power Factor Correction PhaseCap

Maximum ratings		
U _{max} (up to 8 h daily)	530 VAC	
U _{max} (up to 1 min)	620 VAC	
I _{max}	1.3 x I _R (A)	
ls	200 x I _R (A)	

Test data	
U _{TT}	1,050 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.6 W / kvar

Climatic category / -40/D		
T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximum	altitude	4,000 m

Mean life expectancy	
t _{LD}	Up to 115,000 hours
Max. 5000 switchings per year acc. to IEC 60831	

Design data	
Dimensions (Ø x I)	121 x 200 mm
Weight approx	1.8 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

FK PFC RD / VA

B25667B4277A375

MKK440-D-16.7-01/MKK480-D-20-01

Label design

Â		
ÉPCOS	SIEMI	ENS
PhaseCap™ MKK480-D-20	Power Qu -01 4RB5 200	
B25667B42	77A375	
$G_{N} = 3 \times 92$	μF + 10/- 5%	Δ SH
\dot{U}_N/V Q	2 _N /50 Hz Q _N	/60 Hz
MKK480 2	20,0 kvar 24,	0 kvar
MKK440 1	16,7 kvar 20,	0 kvar
U ₁ = 3/- kV	-40/D	
Overpressure of	disconnector Dr	y, inert gas
IEC 60831(96)		Ξ CE
AFC 10 kA		
Internally prote	-	E Luc
CSA C22.2 No	•	
Made by EPCC	S	E 10/05



Power Factor Correction PhaseCap

B25667B4277A375

MKK440-D-16.7-01/MKK480-D-20-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
	·

Safety	
Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 3. 20.10.05



B25667B4347A375

MKK480-D-25-01

Construction

Dielectric: Polypropylene film

Power Factor Correction

- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

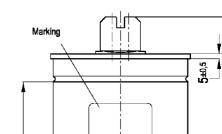
For Power Factor Correction

Terminals

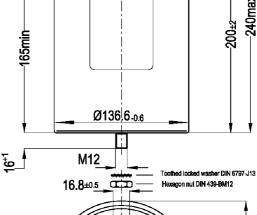
SIGUT terminals

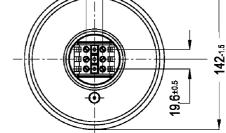
Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)



Dimensional drawing





All dimensions in mm

Edition 3. 30.11.05

Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 115 μF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	440 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	25 kvar	30kvar*)
Rated current I _R	30 A	36A
tanδ (dielectric)	0.2 W / kvar	
*) valid for -40/B	1	

Page 1 of 3

FK PFC RD / VA



Power Factor Correction

B25667B4347A375

Maximum ratings	
U _{max} (up to 8 h daily)	530 VAC
U _{max} (up to 1 min)	620 VAC
I _{max}	1.3 x I _R (A)
I _S	200 x I _R (A)

Test data	
U _{TT}	1,050 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.6 W / kvar

Climatic category / -40/D	
T _{min} (-)	40 °C
T _{max} (+)	55 °C
Humidity	av. rel. < 95%
Maximum altitud	e 4,000 m

Mean life expectancy	
t _{LD}	Up to 115,000 hours
May 5000 quitabings par year and to IEC 60921	

Max. 5000 switchings per year acc. to IEC 60831

Design data		
Dimensions (Ø x I)	142 x 200 mm	
Weight approx	2.2 kg	
Impregnation	Dry, inert gas	
Fixing	Threaded bolt M12	
Max. torque (Al can stud)	10 Nm	
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.	

FK PFC RD / VA

Label design

Â			
ÉPCOS	SI	EMEN	S
PhaseCap™ MKK480-D-		wer Quality B5 250-5 A	
B25667B4	4347A375		
C _N = 3 x 1	15 µF + 1(D/- 5% 🛆	SH
UN	Q _N /50 Hz	Q _N /60	Hz
480 V	25,0 kvar		
465 V	23,5 kvar		
440 V	21,0 kvar	'	
U _i = 3/- k∨	-40/D	 valid for 	r -40/B
Overpressur	e disconnecto	or Dry, Ine	rt Gas
IEC 60831(9	6)		()
AFC 10 kA	-40+55°C	2	
Internally pro	otected		°
CSA C22.2 M	No.190	C T	US
Made by EP	COS	E	11/05

Edition 3. 30.11.05

Page 2 of 3



Power Factor Correction

B25667B4347A375

MKK480-D-25-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 3. 30.11.05



B25667B4417A365

MKK480-D-30-01

Construction

Dielectric: Polypropylene film

Power Factor Correction

- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

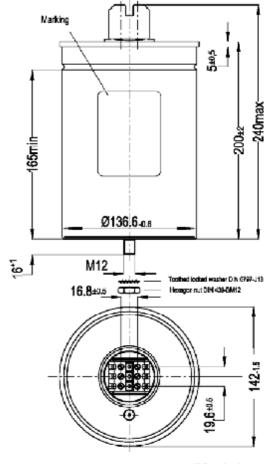
For Power Factor Correction

Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)



Dimensional drawing

All dimensions in mm

Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 138 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	440 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	30 kvar	
Rated current I _R	36 A	
tanδ (dielectric)	0.2 W / kvar	

FK PFC RD / VA



Power Factor Correction

B25667B4417A365

SIEMENS

Power Quality

Maximum ratings	
U _{max} (up to 8 h daily)	530 VAC
U _{max} (up to 1 min)	620 VAC
I _{max}	1.3 x I _R (A)
ls	200 x I _R (A)

Test data	
U _{TT}	1,050 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.6 W / kvar

Climatic category / -40/C	
T _{min} (-)	40 °C
T _{max} (+)	50 °C
Humidity	av. rel. < 95%
Maximum altitude	4,000 m

Mean life expectancy	
t _{LD}	Up to 100,000 hours

Max. 5000 switchings per year acc. to IEC 60831

Design data	
Dimensions (• x I)	142 x 200 mm
Weight approx	2.4 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

FK PFC RD / VA

 \sim

Label design

EPCOS PhaseCap™

B25667B4417A365

C _N = 3 x138 µF + 10/-	5% <u>∆</u> SH
U _N Q _N /50 Hz	
480 V 30.0 kvar	
465 V 28.2 kvar	
440 V 25.2 kvar	
U _i = 3/- kV -40/C	
Overpressure disconnector	Dry, Inert Gas
IEC 60831(96)	CE
Made by EPCOS	02/05

MKK480-D-30-01 4RB5 300-5 AB 47

Page 2 of 3

Edition 1. 10.03.05



Power Factor Correction

B25667B4417A365

MKK480-D-30-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	
Mechanical safety	Overpressure disconnector
Max chart airquit aurrant	

moonamoar carety	
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 1. 10.03.05



B25667B4417A375

MKK440-D-25-01

240may

Construction

Dielectric: Polypropylene film

Power Factor Correction

- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

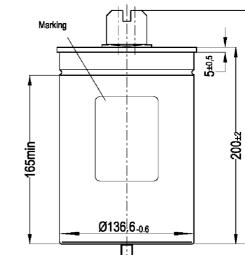
For Power Factor Correction

Terminals

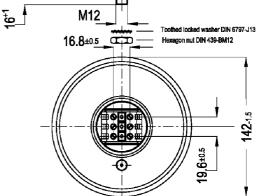
SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)



Dimensional drawing



Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 137 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	440 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	25 kvar	30 kvar
Rated current I _R	33 A	39 A
tanδ (dielectric)	0.2 W / kvar	

FK PFC RD / VA

Edition 2. 20.10.05

All dimensions in mm

Page 1 of 3



Power Factor Correction

B25667B4417A375

Maximum ratings		
U_{max} (up to 8 h daily)	480 VAC	
U _{max} (up to 1 min)	570 VAC	
I _{max}	1.3 x I _R (A)	
ls	200 x I _R (A)	

Test data	
U _{TT}	950 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.6 W / kvar

Climatic category / -40/D		
T _{min} (-)	40 °C	
T _{max} (+)	55 °C	
Humidity	av. rel. < 95%	
Maximum altitud	e 4,000 m	

Mean life expectancy	
t _{LD}	Up to 115,000 hours
Max 5000 switchings per year ago to IEC 60921	

Max. 5000 switchings per year acc. to IEC 60831

Design data	
Dimensions (Ø x I)	142 x 200 mm
Weight approx	2.0 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

FK PFC RD / VA

Label design

Â				
EPCOS		SIE	EME	NS
PhaseCap™	A	Pow	er Qual	ity
MKK440-D-2	25-01	4RB	5 250-5	AB 45
B25667B4	417A3	75		
C _N = 3 x 1	37 µF	+ 10/	- 5%	$_{\Delta}$ SH
UN	Q _N /50	Hz	Q _N /60) Hz
440 V	25,0 k	var	30,0	kvar
415 V	22,2 k	var	26,6	kvar
400 V	20,7 k	var	24,8	kvar
U ₁ = 3/- k∨	-40/D			
Overpressure	e disconr	nector	Dry, I	nert Gas
IEC 60831(9	6)			CE
AFC 10 kA	-40+	-55°C		
Internally pro	tected			N°
CSA C22.2 N	lo.190		C T	LL US
Made by EP	COS		E	10/05

Edition 2. 20.10.05

Page 2 of 3



Power Factor Correction

B25667B4417A375

MKK440-D-25-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 2. 20.10.05



Power Factor Correction PhaseCap

B25667B4467A375

MKK415-D-25-01/MKK440-D-28.1-01

Dimensional drawing

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

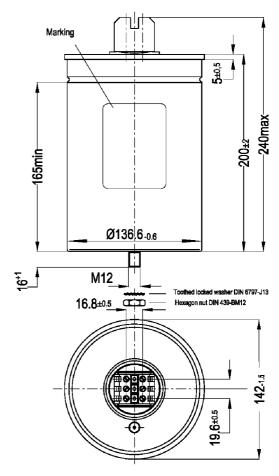
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Technical data and specifications



All dimensions in mm

Edition 3. 20.10.05

•					
Characteristics	MKK415-E	D-25-01	MKK440-E	0-28.1-01	
Rated capacitance C _R	3 x 154 µF	3 x 154 μF		3 x 154 μF	
Tolerance	-5 / +10%		-5 / +10%		
Connection	D (Delta)		D (Delta)		
Rated voltage V _R	415 VAC		440 VAC		
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz	
Output	25 kvar		28.1 kvar		
Rated current I _R	35 A		37 A		
tanδ (dielectric)	0.2 W / kvar		0.2 W / kva	r	

FK PFC RD / VA

Page 1 of 3



Power Factor Correction PhaseCap

Maximum ratings		
U_{max} (up to 8 h daily)	480 VAC	
U _{max} (up to 1 min)	570 VAC	
I _{max}	1.3 x I _R (A)	
ls	200 x I _R (A)	

Test data	
U _{TT}	950 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.7 W / kvar

Climatic category / -40/D		
T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximum	altitude	4,000 m

Mean life expectancy			
t _{LD} Up to 100,000 hours			
Max. 5000 switchings per year acc. to IEC 60831			

Design data		
Dimensions (Ø x I)	142 x 200 mm	
Weight approx	2.1 kg	
Impregnation	Dry, inert gas	
Fixing	Threaded bolt M12	
Max. torque (Al can stud)	10 Nm	
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.	

FK PFC RD / VA

B25667B4467A375

Edition 3. 20.10.05

MKK415-D-25-01/MKK440-D-28.1-01

Label design

EPCOS	SIEMENS
	Power Quality 4RB5 281-5 AB 45
B25667B4467A	375
$G_{N} = 3 \times 154 \mu F$	+ 10/- 5% Δ SH
$U_N/V Q_N/5$	0 Hz
MKK440 28,1	kvar
MKK415 25,0	kvar 30,0 kvar*)
U ₁ = 3/- kV -40/	D *) valid for -40/C
Overpressure discor	2.,,
IEC 60831 (96)	CE CE
AFC 10 kA -40	.+55°C
Internally protected	
CSA C22.2 No.190	C T L US
Made by EPCOS	E 10/05



Power Factor Correction PhaseCap

B25667B4467A375

MKK415-D-25-01/MKK440-D-28.1-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm

Safety	
Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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Edition 3. 20.10.05



Power Factor Correction PhaseCap

B25667B5127A375

MKK415-D-6.2-01/MKK480-D-8.3-01/ MKK525-D-10-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting
- Typical applications
- For Power Factor Correction

Terminals

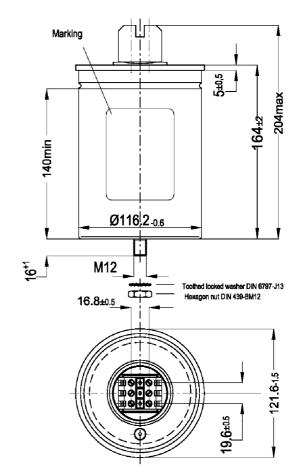
SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Technical data and specifications

Dimensional drawing



All dimensions in mm

20.10.05

Characteristics	MKK415	MKK415-D-6.2-01		MKK480-D-8.3-01		MKK525-D-10-01	
Rated capacitance C _R	3 x 39 µF	3 x 39 µF		3 x 39 µF		3 x 39 µF	
Tolerance	-5 / +10%	-5 / +10%		-5 / +10%		-5 / +10%	
Connection	D (Delta)	D (Delta)		D (Delta)		D (Delta)	
Rated voltage V _R	415 VAC	415 VAC		480 VAC		525 VAC	
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	
Output	6.2 kvar	7.5 kvar	8.3 kvar	10 kvar	10 kvar	12 kvar	
Rated current I _R	8 A	10 A	10 A	12 A	11 A	13 A	
tanδ (dielectric)	0.2 W / kvar		0.2 W / kvar		0.2 W / kvar		

FK PFC RD / VA

Page 1 of 3



Power Factor Correction PhaseCap

B25667B5127A375

MKK415-D-6.2-01/MKK480-D-8.3-01/ MKK525-D-10-01

Maximum ratings

U_{max} (up to 8 h daily)	580 VAC
U _{max} (up to 1 min)	680 VAC
I _{max}	1.3 x I _R (A)
I _S	200 x I _R (A)

Test data

U _{TT}	1,150 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D

T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximum	altitude	4,000 m

Mean life expectancy

t _{LD}	Up to 115,000 hours
Max. 5000 switchings per year acc. to IEC 60831	

Design data

U	
Dimensions (Ø x I)	121 x 164 mm
Weight approx	1.2 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

FK PFC RD / VA

Label design





PhaseCap™ MKK525-D-			er Qua 5 100-	allty 5 AB 52	
B25667B	5127A3	75			
$C_{\rm N} = 3 \times 3$	39 μF +	10/-	5%	∆ SH	ł
UN	Q _N /50	Hz	$Q_N/6$	60 Hz	
MKK525	10,0 k	var	12,0) kvar	
MKK480	8,3 k		10,0		
MKK415	6,2 k	var	7,5	kvar	
$U_{\rm i} = 3/-{\rm kV}$	-40/D				
Overpressur	e disconn	ector	Dry,	Inert Ga	s
IEC 60831(9	6)			C €	
AFC 10 kA	-40+	55℃			
Internally pro	tected			° .	
CSA C 22.2 1	Vo.190		C 7		s
Made by EP	COS		E	10/0	5

Edition 3. 20.10.05

Page 2 of 3



Power Factor Correction PhaseCap

B25667B5127A375

MKK415-D-6.2-01/MKK480-D-8.3-01/ MKK525-D-10-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 3. 20.10.05



Power Factor Correction PhaseCap

B25667B5177A375

MKK480-D-12.5-01/MKK525-D-15-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

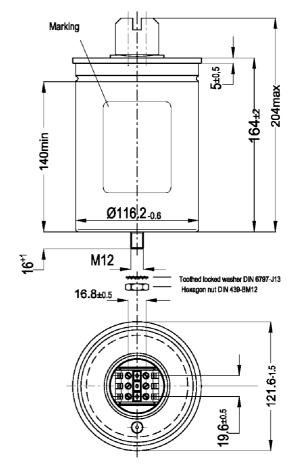
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Technical data and specifications

Characteristics	MKK480-E	0-12.5-01	MKK525-	D-15-01
Rated capacitance C _R	3 x 58 µF		3 x 58 µF	
Tolerance	-5 / +10%		-5 / +10%	
Connection	D (Delta)		D (Delta)	
Rated voltage V _R	480 VAC		525 VAC	
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz
Output	12.5 kvar	15 kvar	15 kvar	18 kvar
Rated current I _R	15 A	18 A	17 A	20 A
tanδ (dielectric)	0.2 W / kva	ſ	0.2 W / kva	ar

FK PFC RD / VA



Power Factor Correction PhaseCap

Maximum ratings 580 VAC U_{max} (up to 8 h daily) U_{max} (up to 1 min) 680 VAC **I**_{max} $1.3 \times I_R$ (A) 200 x I_R (A) I_{S}

Test data	
U _{TT}	1,150 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

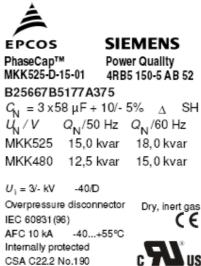
Climatic category / -40/D		
T _{min} (-)	40 °C	
T _{max} (+)	55 °C	
Humidity	av. rel. < 95%	
Maximum altitude	4,000 m	

Mean life expectancy	
t _{LD}	Up to 115,000 hours
Max. 5000 switchings per year acc. to IEC 60831	

Design data	
Dimensions (Ø x I)	121 x 164 mm
Weight approx	1.5 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for

Label design

Made by EPCOS



MKK480-D-12.5-01/MKK525-D-15-01



FK PFC RD / VA

Page 2 of 3

further details.

B25667B5177A375

Edition 3. 20.10.05



Power Factor Correction PhaseCap

B25667B5177A375

MKK480-D-12.5-01/MKK525-D-15-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm

Safety	
Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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FK PFC RD / VA

Edition 3. 20.10.05



Power Factor Correction

B25667B5237A375

MKK480-D-16.7-01 / MKK525-D-20-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

For Power Factor Correction

Terminals

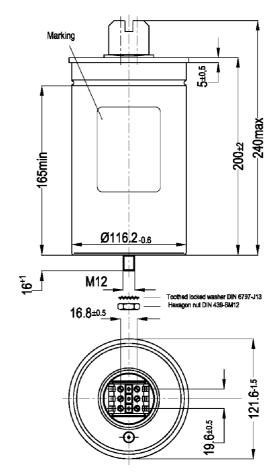
SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Technical data and specifications

Dimensional drawing



All dimensions in mm

MKK480-D-16.7-01 MKK525-D-20-01 **Characteristics** Rated capacitance C_R 3 x 77 μF 3 x 77 µF Tolerance -5 / +10% -5 / +10% Connection D (Delta) D (Delta) 480 VAC 525 VAC Rated voltage V_R Rated frequency f_R 50 Hz 60 Hz 50 Hz 60 Hz 16.7 kvar Output 20 kvar 20 kvar 24 kvar 20 A 24 A 22 A 26 A Rated current IR 0.2 W / kvar 0.2 W / kvar tanδ (dielectric)

FK PFC RD / VA

Edition 2. 20.10.05



B25667B5237A375

Power Capacitors Power Factor Correction

Maximum ratings Umax (up to 8 h daily) 580 VAC Umax (up to 1 min) 680 VAC Imax 1.3 x I_R (A) Is 200 x I_R (A)

Test data	
Uπ	1,150 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D		
T _{min} (-)	40 ºC	
T _{max} (+)	55 ºC	
Humidity	av. rel. < 95%	
Maximum altitude	4,000 m	

Mean life expectancy	
t _{LD}	Up to 115,000 hours

Max. 5000 switchings per year acc. to IEC 60831

Design data	
Dimensions (Ø x I)	121 x 200 mm
Weight approx	1.8 kg
Impregnation	Dry, inert gas
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

FK PFC RD / VA

Label design

Â	
EPCOS	SIEMENS
PhaseCap™ MKK525-D-20-01	Power Quality 4RB5 200-5 AB 52
B25667B5237	4375
$G_{\rm N} = 3 \times 77 \mu \text{F}$	+ 10/- 5% A SH
	50 Hz Q _N /60 Hz
14 14) kvar 24,0 kvar
MKK480 16,7	7 kvar 20,0 kvar
U ₁ = 3/- kV -40	/D
Overpressure disco	onnector Dry, inert gas
IEC 60831 (96)	CE
AFC 10 kA -40.	+55°C
Internally protected	
CSA C22.2 No.190	C THUS
Made by EPCOS	E 10/05

MKK480-D-16.7-01 / MKK525-D-20-01



Page 2 of 3



Power Factor Correction

B25667B5237A375

MKK480-D-16.7-01 / MKK525-D-20-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
	•
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

△ Please read information about PFC capacitors and cautions as well as installation and maintenance instructions (Power Factor Correction Product Profile, actual version, and Installation and Maintenance Instructions for PFC-capacitors, available in the Internet) to ensure optimum performance and prevent products from failing, and in worst case, bursting and fire.

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FK PFC RD / VA

Edition 2. 20.10.05



Power Factor Correction

B25667B5287A375

MKK525-D-25-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

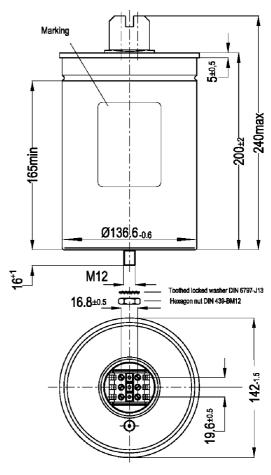
For Power Factor Correction

Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)



Dimensional drawing

All dimensions in mm

Technical data and specifications

Characteristics		
Rated capacitance C _R	3 x 96 µF	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage V _R	525 VAC	
Rated frequency f _R	50 Hz	60 Hz
Output	25 kvar	
Rated current I _R	28 A	
tanδ (dielectric)	0.2 W / kvar	

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Power Factor Correction

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Maximum ratings	
U _{max} (up to 8 h daily)	580 VAC
U _{max} (up to 1 min)	680 VAC
I _{max}	1.3 x I _R (A)
ls	200 x I _R (A)

Test data	
U _{TT}	1,150 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D		
T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximum a	altitude	4,000 m

Mean life expectancy	
t _{LD}	Up to 115,000 hours
Max. 5000 switchings per year acc. to IEC 60831	

Design data		
Dimensions (Ø x I)	142 x 200 mm	
Weight approx	2.3 kg	
Impregnation	Dry, inert gas	
Fixing	Threaded bolt M12	
Max. torque (Al can stud)	10 Nm	
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.	

Label design

Â	
ÉPCOS	SIEMENS
PhaseCap™	Power Quality
MKK525-D-25-	01 4RB5 250-5 AB 52
B25667B528	37A375
C _N = 3 x 96	μ F + 10/-5% Δ SH
U _N Q _N	₁ /50 Hz Q _N /60 Hz
525 V 2	5,0 kvar
480 V 20	0,9 kvar 25,0 kvar
465 V 19	9,6 kvar 23,5 kvar
U ₁ = 3/- kV →	40/D
Overpressure di	sconnector Dry, Inert Gas
IEC 60831(96)	(6
AFC 10 kA	40+55°C
Internally protect	ted 🗖 🗖
CSA C22.2 No.1	190 C 7 L US
Made by EPCO	S E 10/05

FK PFC RD / VA



Power Factor Correction

B25667B5287A375

MKK525-D-25-01

Terminals	
Degree of protection	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ² (5 AWG)
Maximum terminal current	50 A
Creepage distance	12.7 mm
Clearance	9.6 mm
Safety	

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

Certification: cUL file E238746

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Edition 2. 20.10.05



Power Factor Correction PhaseCap

B25667B5966A375

MKK400-D-5-01/MKK415-D-5-01/ MKK525-D-8.3-01

Construction

- Dielectric: Polypropylene film
- Gas-impregnated / dry type
- Concentric winding
- Wave cut
- Extruded round aluminum can with stud
- Provided with ceramic discharge module
- Triple safety system

Features

- Three phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting
- Typical applications
- For Power Factor Correction

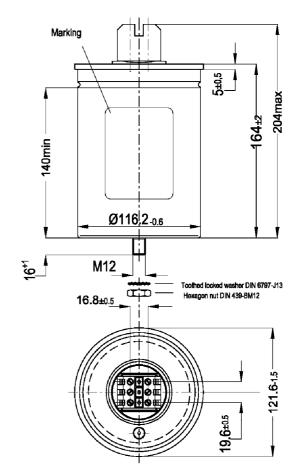
Terminals

SIGUT terminals

Mounting parts

Threaded stud at bottom of can (max. torque = 10 Nm for M12)

Dimensional drawing



All dimensions in mm

Edition 3. 20.10.05

Technical data and specifications

Characteristics	MKK400-D-5-01		MKK41	MKK415-D-5-01		MKK525-D-8.3-01	
Rated capacitance C _R	3 x 32 µl	3 x 32 µF		3 x 32 µF		3 x 32 µF	
Tolerance	-5 / +10%	-5 / +10%		-5 / +10%		-5 / +10%	
Connection	D (Delta	D (Delta)		D (Delta)		D (Delta)	
Rated voltage V _R	400 VAC	400 VAC		415 VAC		525 VAC	
Rated frequency f _R	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	
Output	5 kvar	6 kvar	5 kvar	6 kvar	8.3 kvar	10 kvar	
Rated current I _R	7 A	9 A	7 A	8 A	9 A	11 A	
tanδ (dielectric)	0.2 W / k	0.2 W / kvar		0.2 W / kvar		0.2 W / kvar	

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Power Factor Correction PhaseCap

B25667B5966A375

MKK400-D-5-01/MKK415-D-5-01/ MKK525-D-8.3-01

Maximum ratings

U _{max} (up to 8 h daily)	580 VAC
U _{max} (up to 1 min)	680 VAC
I _{max}	1.3 x I _R (A)
I _S	200 x I _R (A)

Test data

U _{TT}	1,150 VAC / 50 Hz during 10 s
U _{TC}	3,000 VAC / 50 Hz during 10 s
tanδ (50 Hz)	≤ 0.5 W / kvar

Climatic category / -40/D

T _{min}	(-)	40 °C
T _{max}	(+)	55 °C
Humidity		av. rel. < 95%
Maximun	n altitude	4,000 m

Mean life expectancy

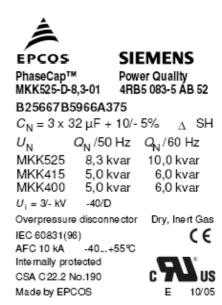
t _{LD}	Up to 115,000 hours	
Max. 5000 switchings per year acc. to IEC 60831		

Design data

Dimensions (Ø x I)	121 x 164 mm		
Weight approx	1.1 kg		
Impregnation	Dry, inert gas		
Fixing	Threaded bolt M12		
Max. torque (Al can stud)	10 Nm		
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.		

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Label design



Edition 3.	
20.10.05	

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Power Factor Correction PhaseCap

B25667B5966A375

MKK400-D-5-01/MKK415-D-5-01/ MKK525-D-8.3-01

Terminals			
Degree of protection	Isolated terminals, IP20		
Max. torque	1.2 Nm		
Terminal cross section	16 mm ² (5 AWG)		
Maximum terminal current	50 A		
Creepage distance	12.7 mm		
Clearance	9.6 mm		
	· ·		
Safety			
March and a state			

Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 1 min (75 V)

Reference Standards

IEC 60831-1/2, UL 810-5th edition

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