

Application and construction

Capacitors are intended for the improvement of Power Factor in low voltage power networks. Used MKP technology which consists of metallized PP film with extremely low loss factor. The dielectric system is self-healing and has no liquid impregnant.

Capacitor elements enclosed in cylindrical aluminium cases are filled with a vegetable oil based gel which is non-toxic, biodegradable and environmentally friendly.

The capacitors have overpressure protection to disconnect it from the supply in the event of internal failure and at the end of its operational life.

The construction described above and the use of high quality materials ensure reliability and longevity.



Installation instructions

Capacitors can be installed in any position. Mounting is by M10 stud on the base and this can also be used for the earth connection. Maximum tightening torque is 5 Nm. Connections are 5 mm screws, max torque 2 Nm. Connecting cables must permit the capacitor top to rise by 20 mm to ensure correct operation of the overpressure disconnecter.

Back up fuses should have gG characteristics and they should be rated at twice the nominal current of the capacitor(s).

Attention ! It is necessary to connect the capacitors only by Cu wires

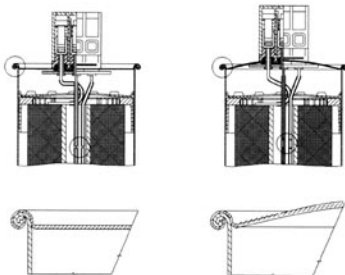
For power 25 a 30 kvar to the terminal by torque of 2,5 Nm

It is possible to delivery all types of capacitors in Al case diameter 85 and 110 mm with plastic cover for protection IP 54 (see drawing 2ab on page 4) !

Plastic covers for capacitors in cylindrical Al case

For capacitor of diameter (mm)	Degree of protection	Outlet	Dimensions (mm)	Weight (kg)	Drawing No.
∅ 85	IP 54	PG 16 - 21	∅ 93	0,0363	2a
∅ 110	IP 54	PG 16 - 21	∅ 118	0,0463	2b
∅ 146	-	-	-	-	-

Function of disconnecter



Technical data

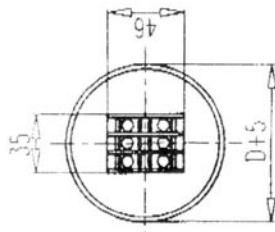
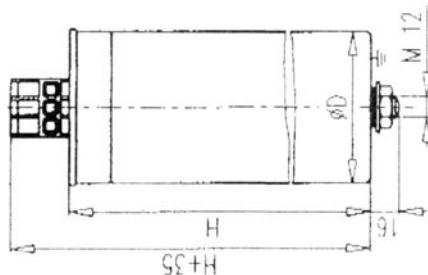
Rated voltage:	400, 415, 440, 480, 525, 580, 690 V			
Frequency:	50/60 Hz			
Standards:	IEC 60831-1: 1996	EN 60831-1: 1996	VDE 0560-46: 3/95	
	IEC 60831-2: 1996	EN 60831-2: 1996	VDE 0560-46: 3/95	
Max overvoltage:	$U_N + 10\%$ (up to 8 hours daily) $U_N + 15\%$ (up to 30 minutes daily) $U_N + 20\%$ (up to 5 minutes) $U_N + 30\%$ (up to 1 minutes)			
Overcurrent (according to above standards):	$1,5 \cdot I_N$			
Capacitance tolerance:	-5 / +10%			
Test voltage, terminal/terminal:	$2,15 \cdot U_N$, AC, 2 s			
Test voltage, terminal / case:	$U_N \leq 660$ V : 3000 V AC, 10 s $U_N > 660$ V : 6000 V AC, 10 s			
Inrush current:	max. $200 \cdot I_N$			
Dielectric losses:	cca 0,25 W / kvar (without discharge resistors)			
Capacitor losses:	cca 0,5 W / kvar (with discharge resistors)			
Statistical life expectancy:	cca 100 000 hours			
Degree of protection:	IP 20, on request IP 54, indoor mounting			
Ambient temperature category:	-25 / C			
	symbol	maximum	highest mean over any period of:	
	C	50°C	24 h 40°C	1 year 30°C
Cooling:	naturally air cooled			
Permissible relative humidity:	IP 20 – maximum 95 % IP 54 – maximum 95 %			
Max above sea level:	2 000 m above sea level			
Mounting position:	any position possible			
Mounting:	threaded M12 stud at the bottom of the case (max. twisting moment 5 Nm)			
Safety features:	overpressure tear-off fuse			
Case:	cylindrical, Aluminium can			
Dielectric:	MKP - metallized polypropylene film, self healing			
Impregnant:	soft resin, non PCB			
Terminals:	Double, tree-way (connected to terminal with bolt M5 by max twisting moment of 2,5 Nm)			
Discharge resistors:	Included - 1minute, 50 V (by type CSADP1-0,4/30 3 minute, 75 V)			

Three-phase capacitors: 440 V, 50 Hz, IP 20, MKP - dry

Type	Power	Current	Capacitance	Dimensions	Weight	Drawing
	(kvar)	(A)	(μ F)	D x H (mm)	(kg)	No.
CSADP1-0,44/1	1,00	1,3	3 x 5,4	85 x 175	1,2	1
CSADP1-0,44/1,5	1,50	2,0	3 x 8,2	85 x 175	1,2	1
CSADP1-0,44/2	2,00	2,6	3 x 11,0	85 x 175	1,2	1
CSADP1-0,44/2,5	2,50	3,3	3 x 13,7	85 x 175	1,2	1
CSADP1-0,44/3,15	3,15	4,1	3 x 17,3	85 x 175	1,2	1
CSADP1-0,44/4	4,00	5,3	3 x 21,9	85 x 175	1,2	1
CSADP1-0,44/5	5,00	6,6	3 x 27,4	85 x 175	1,2	1
CSADP1-0,44/6,25	6,25	8,2	3 x 34,3	85 x 175	1,2	1
CSADP1-0,44/8	8,00	10,5	3 x 43,9	85 x 245	1,6	1
CSADP1-0,44/10	10,00	13,1	3 x 54,8	85 x 245	1,6	1
CSADP1-0,44/12,5	12,50	16,4	3 x 68,5	85 x 245	1,6	1
CSADP1-0,44/15	15,00	19,6	3 x 82,2	110 x 245	2,6	1
CSADP1-0,44/20	20,00	26,2	3 x 110,0	110 x 245	2,6	1
CSADP1-0,44/25	25,00	32,8	3 x 137,0	110 x 245	2,6	1
CSADP1-0,44/30	30,00	39,4	3 x 164,5	146 x 220	3,6	1

Drawing on page 4

Three-phase capacitors: 440 V, 50 Hz, IP 20, MKP



Typový označení / Type designation	Učinnost / Efficiency	Učinnost při 100°C / Efficiency at 100°C	Učinnost při 125°C / Efficiency at 125°C	Učinnost při 150°C / Efficiency at 150°C	Učinnost při 175°C / Efficiency at 175°C	Učinnost při 200°C / Efficiency at 200°C
CSADP 1-0,44/1	1,0	3x 5,5	3x 1,3			
CSADP 1-0,44/1,5	1,5	3x 8,2	3x 2,0			
CSADP 1-0,44/2	2,0	3x 11,0	3x 2,6			
CSADP 1-0,44/2,5	2,5	3x 13,7	3x 3,3			
CSADP 1-0,44/3,15	3,15	3x 17,3	3x 4,1		1,2	
CSADP 1-0,44/4	4,0	3x 21,9	3x 5,3			
CSADP 1-0,44/5	5,0	3x 27,4	3x 6,6			
CSADP 1-0,44/6,25	6,25	3x 34,3	3x 8,2			
CSADP 1-0,44/8	8,0	3x 43,8	3x 10,5			
CSADP 1-0,44/10	10,0	3x 54,8	3x 13,1			
CSADP 1-0,44/12,5	12,5	3x 66,5	3x 16,4			
CSADP 1-0,44/15	15,0	3x 82,2	3x 19,7			
CSADP 1-0,44/16,5	16,5	3x 90,9	3x 21,0			
CSADP 1-0,44/20	20,0	3x 111	3x 26,2			
CSADP 1-0,44/25	25,0	3x 137	3x 32,6			
CSADP 3-0,44/25	25,0	3x 137	3x 32,6			
CSADP 3-0,44/30	30,0	3x 165	3x 39,4			

Technická data / Technical data:


Teplotní kategorie / Temperature category: -25/0

Výbijecí odpory / Discharge resistors: 75 V/ 3 min

Izolační hladina / Insulation level: 3 / -KV

Konstrukce / Design: SH - suché provedení / SH - dry soft resin, non PCB

Norma / Standard: IEC 60831/56

Kreslil / Drawn: Michal Kováč	Dne / Date: 1.3.2005	Změna / Change:
Schválil / Checked: Falka Vladimír	Dne / Date: 1.3.2005	
		
Název / Name: TECHNICAL SPECIFICATION 440 V, 50 HZ, 3-F, IP20		
3J 1840 A		