

# Metallized Polypropylene Film Capacitor (Aluminum Can, Three-Phase)

## FAD series



### Overview

The FAD series capacitors are designed for PFC systems and AC harmonic filtering at the AC output of large inverter system, consist of metallized polypropylene film, enclosed in cylindrical Al case filled with soft resin.

### Applications

- PFC and AC filtering.
- LCL system.
- Three-phase, delta connected.

### Features

- Self-healing property
- Overpressure disconnection device
- PFC controllers
- Metallized polypropylene film structure

### Specifications

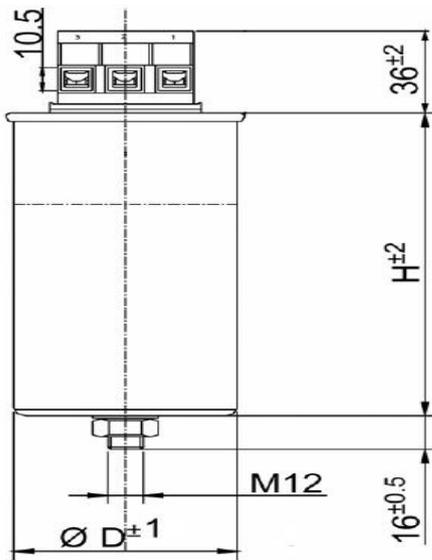
Items	Characteristics
Reference Standard	IEC 60831 / IEC 61071 , UL 810
Climatic Category	40/70/21 - IEC 60068-1
Operating Temperature	-40°C ~ +55°C (IEC 60831) -40°C ~ +70°C (IEC 61071)
Rated AC Voltage	230Vac ~ 690Vac
Capacitance Range	3 x 40μF ~ 3 x 335μF
Capacitance Tolerance	±5% or ±10%
Dissipation Factor (DF)	≤ 0.002 (0.2%) at 100Hz
Internal filling	Soft resin (Non PCB)
Test Voltage Between Terminals	2.15 *Urms/10s
Test Voltage Between Terminals to Case	4.0KVac / 50 Hz/10s
Insulation Resistance (IR*Cn)	Ris x C≥5,000 s (20°C, 100Vdc/ 1 min)
Life Expectancy	100,000 hours at 1.0Urms @ Hot-Spot temperature ≤70°C ΔC/C ≤ ±3%
Max Hot-spot Temperature	≤85°C
Surge current Is	200 * I rated
Storage Temperature	-40°C ~ +85°C
Over Voltage	1.1Un up to 8h / day 1.15Un up to 30 min / day 1.2Un 5 min / day 1.3Un 1 min / day
Degree of Protection	IP 20
Max permissible altitude	2000 m above sea level
Mounting	Vertical or horizontal
Installation torque	Max 3Nm for terminal block with M5 screw-clamps. The bottom stud of case M12: 15Nm max
RoHS Compliant	Compliant with requirements of directive 2002/95/EC
Permissible Humidity	Annual average ≤95% on 30days/ year. Dewing not admissible
Storage Conditions	Storage time: ≤ 24 months from the date marked on the label package Temperature and relative humidity should be -10°C ~ +40°C and not more than 75%RH RH ≤ 85% for 30 days randomly distributed throughout the year
Endurance Test	Test conditions & performance:
	Temperature: +70°C ±2°C Voltage applied: 1.25 X V <sub>R</sub> (a.c.)
	Test duration : 1000 hours
	Capacitance change : ≤±3% DF change (Δtgδ): ≤20 X 10 <sup>-4</sup> at 100Hz Insulation resistance: ≥50% of initial limit

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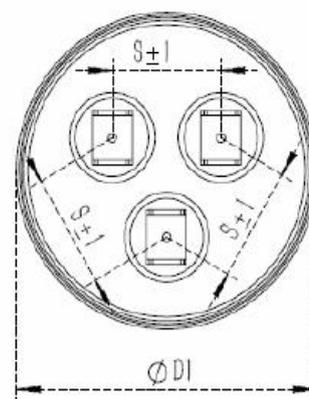
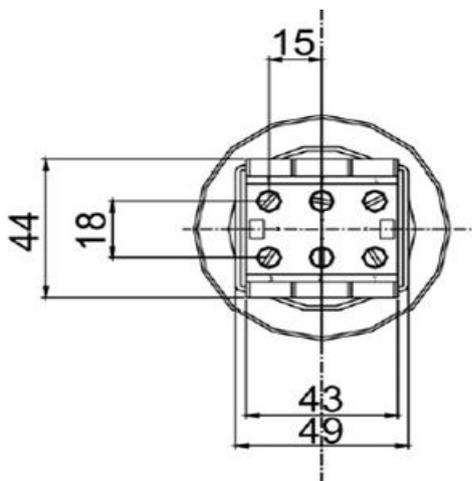
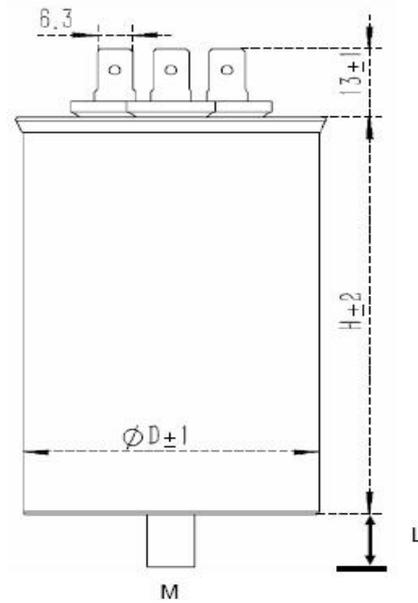
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### ■ Terminal Configuration

Screw terminals



Fast-on terminals



# Metallized Polypropylene Film Capacitor (Aluminum Can, Three-Phase)

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### ■ Technical data

Cap Value μF	Vac	OD±1		H±2		Output Kvar @50Hz	I rms at 40°C A	Surge	dv/dt V/us	Pkg Qty pcs	Part Number
		mm	inch	mm	inch			Current A			
3 x 200.6	230	86	(3.39)	275	(10.83)	10.0	25.1	5021	25	8	FAD23K2075++DEPD
3 x 200.6	230	116	(4.57)	160	(6.30)	10.0	25.1	5021	25	5	FAD23K2079++DEPD
3 x 250.7	230	86	(3.39)	275	(10.83)	12.5	31.4	6276	25	8	FAD23K2575++DEPD
3 x 250.7	230	116	(4.57)	200	(7.87)	12.5	31.4	6276	25	5	FAD23K2579++DEPD
3 x 300.9	230	86	(3.39)	350	(13.78)	15.0	37.7	7531	25	8	FAD23K3075++DEPD
3 x 300.9	230	116	(4.57)	200	(7.87)	15.0	37.7	7531	25	5	FAD23K3079++DEPD
3 x 335.0	230	116	(4.57)	230	(9.06)	16.7	41.9	8384	25	5	FAD23K3379++DEPD
3 x 66.3	400	86	(3.39)	200	(7.87)	10.0	14.4	2887	44	8	FAD40K6665++DEPD
3 x 82.9	400	86	(3.39)	200	(7.87)	12.5	18.0	3609	44	8	FAD40K8365++DEPD
3 x 99.5	400	86	(3.39)	275	(10.83)	15.0	21.7	4330	44	8	FAD40K1075++DEPD
3 x 110.7	400	86	(3.39)	275	(10.83)	16.7	24.1	4821	44	8	FAD40K1175++DEPD
3 x 110.7	400	116	(4.57)	160	(6.30)	16.7	24.1	4821	44	5	FAD40K1179++DEPD
3 x 132.6	400	86	(3.39)	275	(10.83)	20.0	28.9	5774	44	8	FAD40K1375++DEPD
3 x 132.6	400	116	(4.57)	200	(7.87)	20.0	28.9	5774	44	5	FAD40K1379++DEPD
3 x 165.8	400	86	(3.39)	350	(13.78)	25.0	36.1	7217	44	8	FAD40K1675++DEPD
3 x 165.8	400	116	(4.57)	200	(7.87)	25.0	36.1	7217	44	5	FAD40K1679++DEPD
3 x 198.9	400	136	(5.35)	200	(7.87)	30.0	43.3	8661	44	2	FAD40K2070++DEPD
3 x 46	440	86	(3.39)	160	(6.30)	8.3	10.9	2178	48	8	FAD44K4665++DEPD
3 x 68.5	440	86	(3.39)	200	(7.87)	12.5	16.4	3280	48	8	FAD44K6965++DEPD
3 x 82.2	440	86	(3.39)	200	(7.87)	15.0	19.7	3937	48	8	FAD44K8365++DEPD
3 x 109.0	440	86	(3.39)	275	(10.83)	20.0	26.2	5249	48	8	FAD44K1175++DEPD
3 x 109.0	440	116	(4.57)	160	(6.30)	20.0	26.2	5249	48	5	FAD44K1179++DEPD
3 x 123.3	440	86	(3.39)	275	(10.83)	22.5	29.5	5905	48	8	FAD44K1275++DEPD
3 x 123.3	440	116	(4.57)	200	(7.87)	22.5	29.5	5905	48	5	FAD44K1279++DEPD
3 x 137.0	440	116	(4.57)	200	(7.87)	25.0	32.8	6561	48	5	FAD44K1479++DEPD
3 x 156	440	116	(4.57)	200	(7.87)	28.1	36.9	7375	48	5	FAD44K1579++DEPD
3 x 164.4	440	86	(3.39)	350	(13.78)	30.0	39.4	7873	48	8	FAD44K1675++DEPD
3 x 164.4	440	116	(4.57)	200	(7.87)	30.0	39.4	7873	48	5	FAD44K1679++DEPD
3 x 40	480	86	(3.39)	200	(7.87)	8.7	10.5	2093	52	8	FAD48K4065++DEPD
3 x 60	480	86	(3.39)	275	(10.83)	13.0	15.6	3127	52	8	FAD48K6065++DEPD
3 x 80	480	116	(4.57)	200	(7.87)	17.4	20.9	4186	52	5	FAD48K8069++DEPD
3 x 120	480	116	(4.57)	275	(10.83)	26.0	31.3	6255	52	5	FAD48K1279++DEPD
3 x 38.5	525	86	(3.39)	200	(7.87)	10	11.0	2199	57	8	FAD52K3965++DEPD
3 x 48.1	525	86	(3.39)	200	(7.87)	12.5	13.7	2749	57	8	FAD52K4865++DEPD
3 x 58	525	86	(3.39)	230	(9.06)	15.0	16.5	3299	57	8	FAD52K5865++DEPD
3 x 77.0	525	86	(3.39)	275	(10.83)	20.0	22.0	4399	57	8	FAD52K7765++DEPD
3*96	525	86	(3.39)	350	(13.78)	25.0	27.5	5499	57	8	FAD52K9665++DEPD
3*96	525	116	(4.57)	200	(7.87)	25.0	27.5	5499	57	5	FAD52K9669++DEPD
3*115.4	525	136	(5.35)	200	(7.87)	30.0	33.0	6598	57	2	FAD52K1170++DEPD

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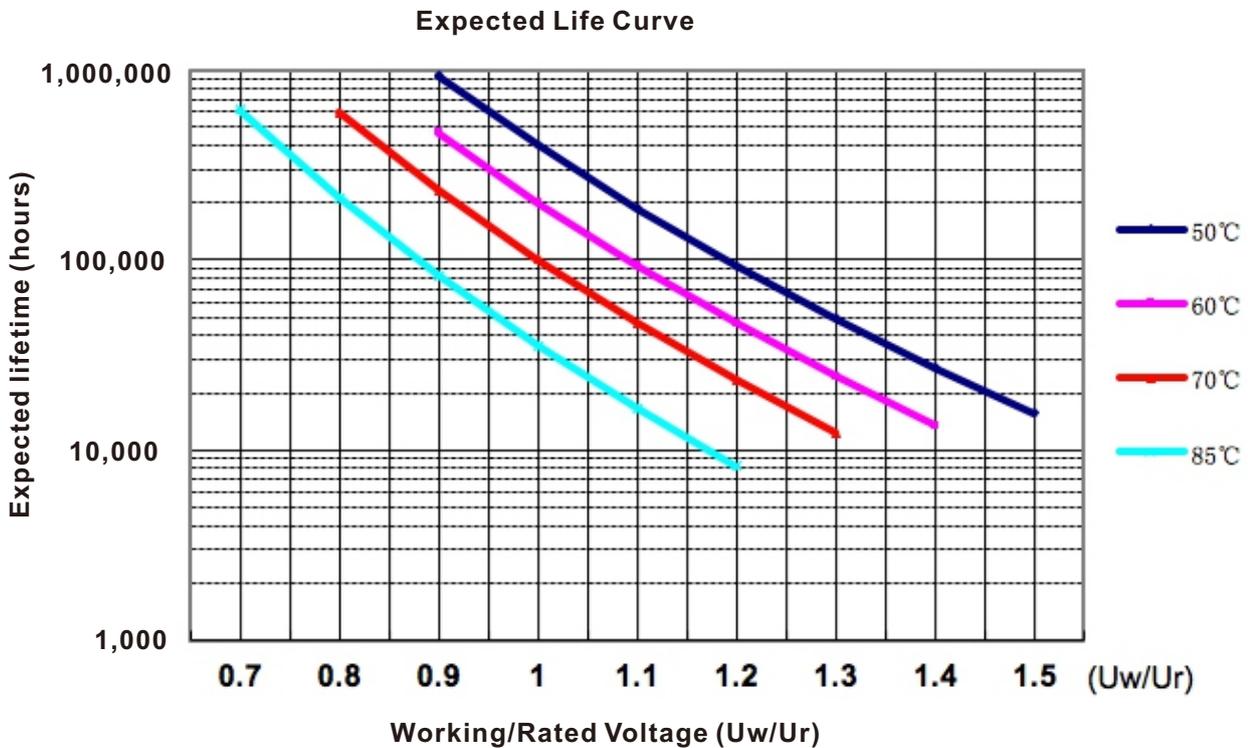
Cap Value	Vac	OD±1		H±2		Output Kvar @50Hz	I rms at 40°C A	Surge Current A	dv/dt V/us	Pkg Qty pcs	Part Number
		mm	inch	mm	inch						
3 x 20.3	660	86	(3.39)	200	(7.87)	8.33	7.3	1457	72	8	FAD66K2065++DEPD
3 x 24.4	660	86	(3.39)	200	(7.87)	10.0	8.7	1750	72	8	FAD66K2565++DEPD
3 x 30.4	660	86	(3.39)	230	(9.06)	12.5	10.9	2187	72	8	FAD66K3065++DEPD
3 x 36.5	660	96	(3.78)	230	(9.06)	15.0	13.1	2624	72	6	FAD66K3666++DEPD
3 x 48.7	660	86	(3.39)	350	(13.78)	20.0	17.5	3499	72	8	FAD66K4965++DEPD
3 x 27.9	690	86	(3.39)	230	(9.06)	12.5	10.5	2092	75	8	FAD69K2865++DEPD
3 x 33.4	690	96	(3.78)	230	(9.06)	15.0	12.6	2510	75	6	FAD69K3366++DEPD
3 x 44.6	690	86	(3.39)	350	(13.78)	20.0	16.7	3347	75	8	FAD69K4565++DEPD
3 x 55.7	690	86	(3.39)	350	(13.78)	25.0	20.9	4184	75	8	FAD69K5665++DEPD

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### Expected lifetime curves



### Cautions and Warnings

- In case of dents of more than 1 mm depth or any other mechanical damage, capacitor must not be used at all.
- To ensure full functionality of capacitor, a minimum space of 12 mm has to be kept above each capacitor.
- Do not handle the capacitor before it is discharged.
- Check tightness of the connection/terminals periodically.
- The threaded bottom of the capacitor has to be used for grounding. The maximum tightening torque is 15Nm.
- Do not use or store capacitor in corrosive atmosphere, in the dusty environments. Regular maintenance and cleaning especially of the terminals is required to avoid conductive path between phase or phase and ground.