FAC series

Overview

The FAC series capacitors are designed for PFC systems and AC harmonic filtering, consist of metallized polypropylene film, enclosed in cylindrical Al case filled with soft resin, screw terminals or fast-on terminals.

Applications

- PFC and AC filtering.
- LCL systems.

Features

- Self-healing property
- Overpressure disconnection device
- High capacitance density
- Metallized polypropylene film structure
- High reliability

Specifications

Items	Characteristics
Reference Standard	IEC 61071 UL810
Climatic Category	40/70/21 – IEC 60068-1
Operating Temperature	-40°C ~ +70°C
Rated AC Voltage	250Vac ~ 690Vac
Capacitance Range	10μF ~ 600μF
Capacitance Tolerance	±5%(J) or ±10%(K)
Dissipation Factor (DF)	≤ 0.001 (0.1%) at 100Hz at +25°C
Internal Filling	Soft resin (Non PCB)
Test Voltage Between Terminals	2.15 x Vn for 10s (terminal to terminal)
Test Voltage Between Terminals to Case	4.0KVac 50 Hz for 60s at +25°C
Insulation Resistance（IR*Cn）	IR x C≥5000 s at 100VDC 1 minute at +25°C
Surge current (Is)	200 * I rated
Life Expectancy	100,000 hours at Un @ Hot-Spot temperature ≤+70°C △C/C ≤ ±3%
Max Hot-spot Temperature	≤ +85°C
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 1.3Un 1 min
Degree of Protection	IP 00
Max permissible altitude	2000 m above sea level
Mounting	Vertical or horizontal
Installation torque max	M6：4Nm M8 : 6Nm The bottom stud of case M12: 15Nm
RoHS Compliant	Compliant with requirements of Directive 2011/65/EU
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_R (a.c.)
	Test duration : 1000 hours
	Capacitance change :≤ ±3% DF change (△tgδ):≤20 X 10^{-4} at 100Hz
	Insulation resistance: ≥50% of initial limit

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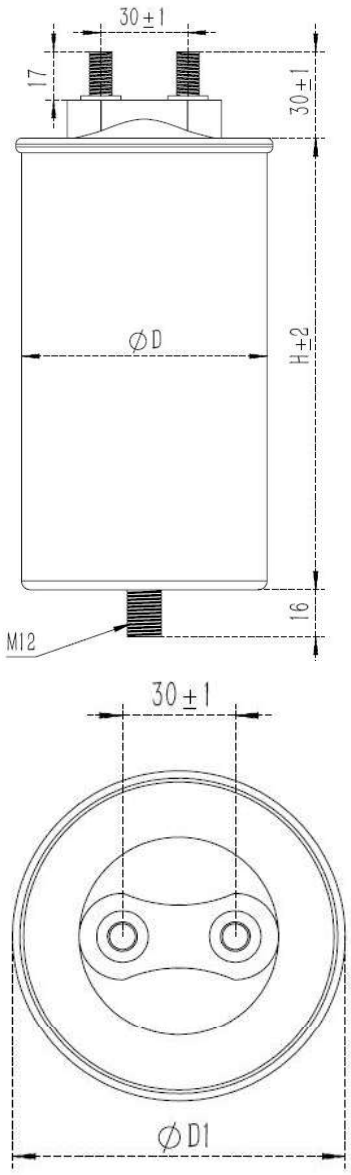
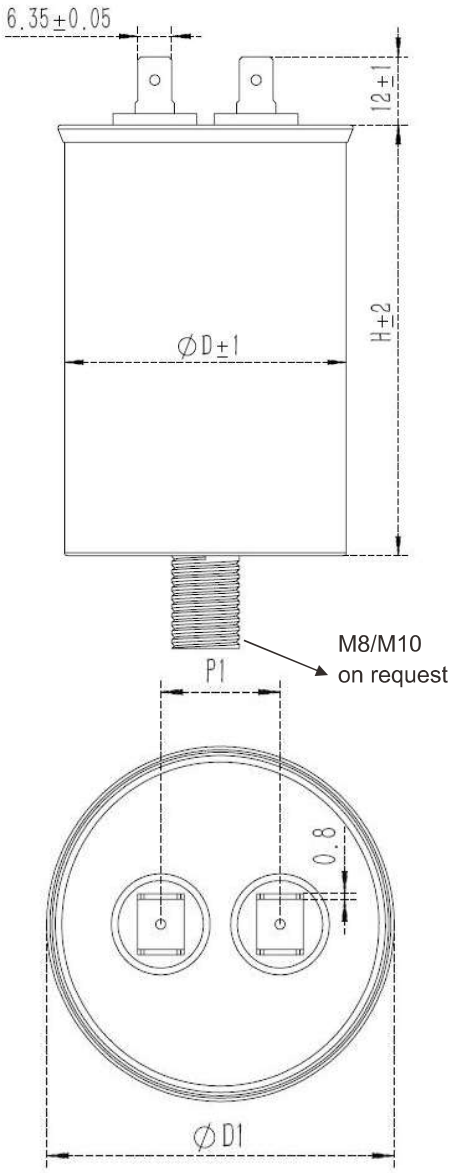
Terminal Configuration

D≥76 Screw terminals



D≤63.5 Fast-on terminals



Notes:

Diameter D	≤ 76mm	86mm	96mm	116mm	136mm
Diameter After Sealed D1	D + 3mm	D + 4mm	D + 4mm	D + 5mm	D + 6mm

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Technical data

Cap Value	Vac	OD±1		H±2		Irms max at 50°C	Peak Current	ESR 1KHz	ESL	Thermal Res	dv/dt	Pkg Qty	Part Number
μF		mm	inch	mm	inch	A	A	mΩ	nH	°C/W	V/us	pcs	
60	250	50	(1.97)	100	(3.9)	16	999	3.9	175	7.8	16.7	15	FAC25K606U++QVEC
80	250	50	(1.97)	100	(3.9)	16	1332	4.4	175	7.8	16.7	15	FAC25K806U++QVEC
100	250	50	(1.97)	125	(4.9)	16	1260	4.8	175	6.3	12.6	15	FAC25K107U++QVEC
120	250	55	(2.17)	125	(4.9)	16	1512	4.6	175	6.0	12.6	15	FAC25K127V++QVEC
150	250	60	(2.36)	125	(4.9)	16	1890	4.3	175	5.3	12.6	12	FAC25K157W++QVEC
150	250	76	(2.99)	125	(4.9)	22	1620	3.3	190	4.7	10.8	12	FAC25K1573++CHHD
200	250	76	(2.99)	125	(4.9)	30	2340	3.0	200	4.7	11.7	12	FAC25K2073++CHHD
250	250	76	(2.99)	150	(5.9)	30	2160	3.4	190	4.3	8.6	12	FAC25K2573++CHHD
300	250	86	(3.39)	150	(5.9)	36	2592	3.2	190	4.3	8.6	8	FAC25K3075++CHHD
350	250	76	(2.99)	200	(7.9)	35	3623	3.1	200	4.0	10.4	12	FAC25K3073++CHHD
400	250	86	(3.39)	200	(7.9)	40	4140	3.0	200	4.0	10.4	8	FAC25K4075++CHHD
500	250	86	(3.39)	200	(7.9)	50	5400	3.3	220	2.9	10.8	8	FAC25K5075++CHHD
600	250	86	(3.39)	250	(10)	50	4806	3.1	200	2.5	8.0	8	FAC25K6075++CHHD
50	330	50	(1.97)	100	(3.9)	16	833	5.1	175	7.8	16.7	15	FAC33K506U++QVEC
60	330	50	(1.97)	125	(4.9)	16	756	5.4	175	6.3	12.6	15	FAC33K606U++QVEC
100	330	60	(2.36)	125	(4.9)	16	1260	4.1	175	5.3	12.6	12	FAC33K107W++PVND
100	330	76	(2.99)	125	(4.9)	30	1305	3.8	190	5.2	13.1	12	FAC33K1073++CHHD
120	330	63.5	(2.50)	125	(4.9)	16	864	3.8	175	5.5	7.2	12	FAC33K1271++QVEC
150	330	76	(2.99)	150	(5.9)	40	1350	3.0	190	4.3	9.0	12	FAC33K1573++CHHD
200	330	86	(3.39)	150	(5.9)	40	2610	3.1	200	4.0	13.1	8	FAC33K2075++CHHD
250	330	76	(2.99)	200	(7.9)	40	2138	3.9	190	4.0	8.6	12	FAC33K2573++CHHD
300	330	86	(3.39)	200	(7.9)	50	3915	3.6	200	2.9	13.1	8	FAC33K3075++CHHD
350	330	86	(3.39)	200	(7.9)	50	4568	3.4	200	2.9	13.1	8	FAC33K3575++CHHD
400	330	86	(3.39)	250	(9.8)	50	3240	3.6	200	2.5	8.1	8	FAC33K4075++CHHD
20	450	50	(1.97)	75	(3.0)	16	700	5.2	175	10.5	35.0	15	FAC45K206U++QVEC
30	450	50	(1.97)	100	(3.9)	16	700	6.9	175	7.8	23.3	15	FAC45K306U++QVEC
40	450	50	(1.97)	100	(3.9)	16	540	5.7	175	7.8	13.5	15	FAC45K406U++QVEC
50	450	50	(1.97)	125	(4.9)	16	540	5.0	175	5.3	10.8	15	FAC45K506U++QVEC
50	450	76	(2.99)	100	(3.9)	20	855	3.3	190	5.3	17.1	12	FAC45K5063++CHHD
70	450	60	(2.36)	125	(4.9)	16	907	4.8	175	5.5	13.0	12	FAC45K706W++QVEC
80	450	60	(2.36)	125	(4.9)	16	907	4.4	175	5.5	11.3	12	FAC45K806W++QVEC
100	450	76	(2.99)	150	(5.9)	35	1080	4.7	190	4.3	10.8	12	FAC45K1073++CHHD
150	450	86	(3.39)	150	(5.9)	40	1958	3.9	200	4.3	13.1	8	FAC45K1575++CHHD
200	450	86	(3.39)	200	(7.9)	40	2700	3.7	220	2.9	13.5	8	FAC45K2075++CHHD
250	450	86	(3.39)	200	(8)	50	2025	3.8	200	2.9	8.1	8	FAC45K2575++CHHD
300	450	86	(3.39)	250	(10)	50	2403	4.1	220	2.5	8.0	8	FAC45K3075++CHHD
20	480	50	(1.97)	75	(3.0)	16	750	4.8	175	10.5	37.5	15	FAC48K206U++QVEC
25	480	50	(1.97)	100	(3.9)	16	750	4.2	175	7.8	30.0	15	FAC48K256U++QVEC
30	480	50	(1.97)	100	(3.9)	16	750	3.9	175	7.8	25.0	15	FAC48K306U++QVEC
40	480	60	(2.36)	100	(3.9)	12	850	5.2	175	7.3	21.3	12	FAC48K406W++QVEC
50	480	55	(2.17)	125	(4.9)	14	850	4.6	175	6.0	17.0	15	FAC48K506V++QVEC
60	480	76	(2.99)	125	(4.9)	18	1053	3.7	190	4.7	17.6	12	FAC48K6063++CHHD
70	480	76	(2.99)	125	(4.9)	20	1050	3.4	190	4.7	15.0	12	FAC48K7063++CHHD
80	480	76	(2.99)	150	(5.9)	30	1224	4.2	190	4.3	15.3	12	FAC48K8063++CHHD

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Cap Value	Vac	OD±1		H±2		Irms max at 50°C	Peak Current	ESR 1KHz	ESL	Thermal Res	dv/dt	Pkg Qty	Part Number
μF		mm	inch	mm	inch	A	A	mΩ	nH	°C/W	V/us	pcs	
100	480	76	(2.99)	200	(7.9)	50	1710	4.1	190	4.0	17.1	12	FAC48K1073++CHHD
150	480	76	(2.99)	200	(7.9)	40	2565	3.5	200	4.0	17.1	12	FAC48K1573++CHHD
200	480	76	(2.99)	250	(9.8)	40	2610	4.6	200	3.0	13.1	12	FAC48K2073++CHHD
250	480	86	(3.39)	250	(9.8)	50	2925	4.2	200	2.5	11.7	8	FAC48K2575++CHHD
20	550	50	(1.97)	100	(3.9)	16.0	600	6.9	175	7.9	30.0	15	FAC55K206U++QVEC
30	550	50	(1.97)	125	(4.9)	16	750	6.6	175	6.3	25.0	15	FAC55K306U++QVEC
40	550	60	(2.36)	125	(4.9)	16.0	750	7.1	175	5.5	18.8	15	FAC55K406W++QVEC
50	550	63.5	(2.50)	125	(5)	16.0	850	6.1	175	5.3	17.0	12	FAC55K5061++QVEC
70	550	76	(2.99)	150	(5.9)	25.0	900	4.6	175	4.2	12.9	12	FAC55K7063++CHHD
80	550	76	(2.99)	150	(5.9)	25.0	1800	4.3	190	4.3	22.5	12	FAC55K8063++CHHD
100	550	86	(3.39)	150	(5.9)	30.0	2821	3.9	200	4.0	28.2	8	FAC55K1075++CHHD
125	550	86	(3.39)	200	(7.9)	30	2821	3.6	200	2.9	22.6	8	FAC55K1275++CHHD
150	550	86	(3.39)	200	(7.9)	40	3217	5.0	200	2.9	21.4	8	FAC55K1575++CHHD
200	550	86	(3.39)	250	(9.8)	50	3217	4.4	200	2.5	16.1	8	FAC55K2075++CHHD
250	550	96	(3.78)	250	(9.8)	50	3500	4.0	240	2.1	14.0	6	FAC55K2576++CHHD
300	550	106	(4.17)	250	(9.8)	50	3500	3.7	240	2.0	11.7	5	FAC55K3077++CHHD
10	600	50	(1.97)	75	(3.0)	16	350	6.4	160	10.5	35.0	15	FAC60K106U++QVEC
20	600	50	(1.97)	125	(4.9)	16	500	11.1	160	6.3	25.0	15	FAC60K206U++QVEC
25	600	50	(1.97)	125	(4.9)	16	600	6.1	175	6.3	24.0	15	FAC60K256U++QVEC
30	600	60	(2.36)	125	(4.9)	16	600	5.4	175	5.3	20.0	12	FAC60K306W++QVEC
35	600	60	(2.36)	125	(5)	16.0	700	7.3	175	5.3	20.0	12	FAC60K356W++QVEC
40	600	63.5	(2.50)	125	(5)	16	700	6.6	175	5.3	17.5	12	FAC60K4061++QVEC
45	600	65	(2.56)	125	(4.9)	16.0	700	6.1	175	5.3	15.6	12	FAC60K4562++QVEC
50	600	76	(2.99)	150	(5.9)	20	850.0	5.7	175	4.3	17.0	12	FAC60K5063++CHHD
10	660	50	(1.97)	125	(4.9)	16	550	5.2	160	10.5	55.0	15	FAC66K106U++QVEC
15	660	60	(2.36)	125	(4.9)	16.0	420	6.2	160	6.3	28.0	12	FAC66K156W++QVEC
20	660	55	(2.17)	125	(4.9)	16	550	8.3	175	6.3	27.5	12	FAC66K206V++QVEC
25	660	60	(2.36)	125	(4.9)	16.0	550	7.9	175	5.3	22.0	12	FAC66K256W++QVEC
30	660	63.5	(2.50)	125	(4.9)	16.0	750	6.3	175	5.5	25.0	12	FAC66K3061++QVEC
40	660	76	(2.99)	150	(5.9)	30	900	5.2	175	4.6	22.5	12	FAC66K4063++CHHD
50	660	86	(3.39)	150	(5.9)	40.0	1000	4.7	175	4.0	20.0	8	FAC66K5065++CHHD
10	690	50	(1.97)	125	(4.9)	16.0	550	5.2	160	6.3	55.0	15	FAC69K106U++PUND
15	690	50	(1.97)	125	(4.9)	16.0	420	6.2	160	6.3	28.0	15	FAC69K156U++QVEC
20	690	55	(2.17)	125	(4.9)	16	550	8.3	175	6.0	27.5	15	FAC69K206V++QVEC
30	690	63.5	(2.50)	125	(4.9)	16.0	750	6.3	175	5.5	25.0	12	FAC69K3061++QVEC
40	690	76	(2.99)	150	(5.9)	25.0	1150	4.8	190	4.3	28.8	12	FAC69K4063++CHHD
50	690	86	(3.39)	150	(5.9)	30	1150	4.3	190	4.0	23.0	8	FAC69K5065++CHHD
70	690	76	(2.99)	250	(9.8)	30.0	1260	3.7	200	2.9	18.0	12	FAC69K7063++CHHD
85	690	86	(3.39)	250	(9.8)	40.0	1530	3.5	220	2.5	18.0	8	FAC69K8565++CHHD
100	690	86	(3.39)	250	(9.8)	40	1800	3.3	200	2.5	18.0	8	FAC69K1075++CHHD
125	690	106	(4.17)	250	(9.8)	50	1563	4.0	220	2.0	12.5	6	FAC69K1277++CHHD
150	690	106	(4.17)	250	(9.8)	50	1875	3.8	240	2.0	12.5	6	FAC69K1577++CHHD
170	690	106	(4.17)	250	(9.8)	50	2125	3.6	240	2.0	12.5	6	FAC69K1777++CHHD

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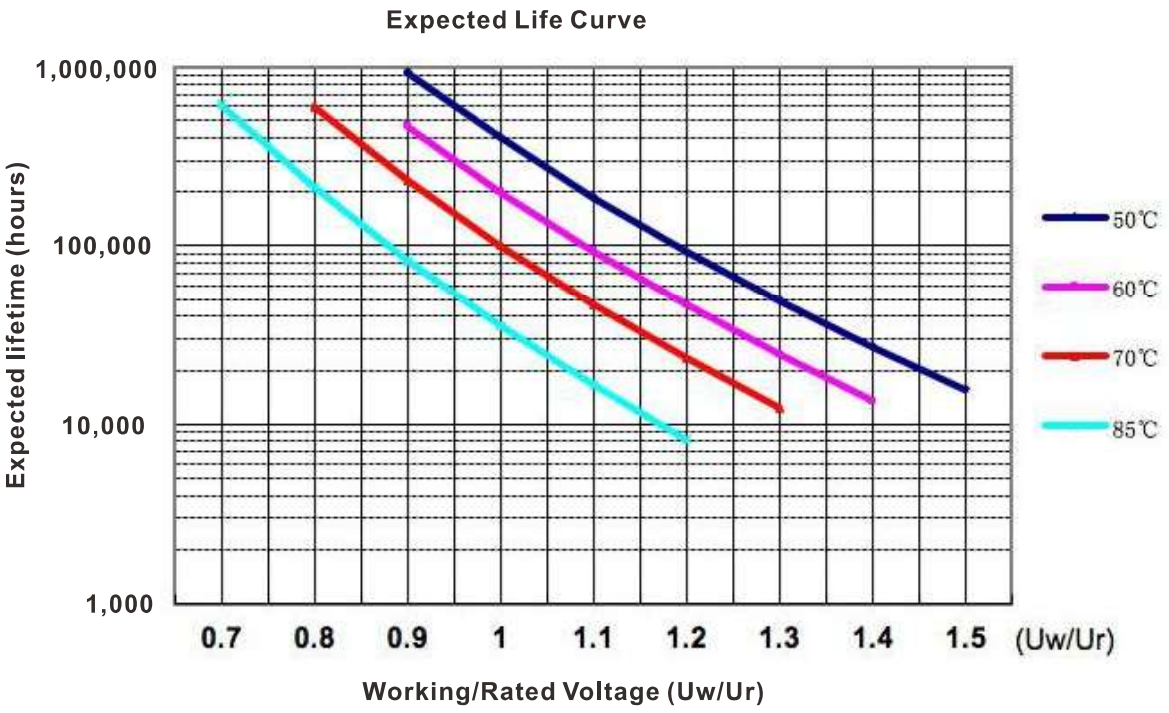
Expected lifetime curves



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.