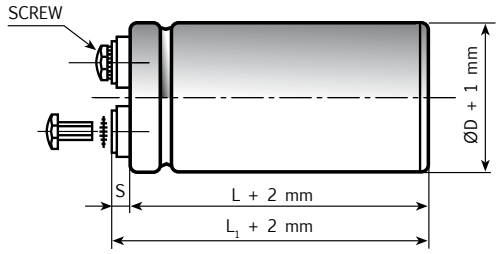
K71 TYPE -40°C +85°C 15000H

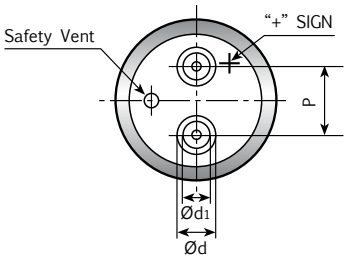
RoHS Compliant

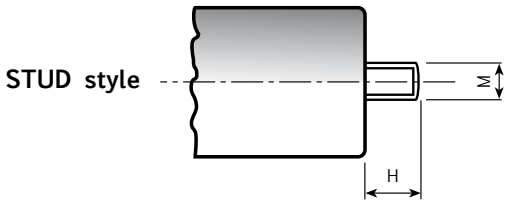
- **Design optimized for extremely high miniaturization.**
- **Surge-proof capacitor in aluminium can with insulation sleeve.**
- **To be mounted with ring clips or with threaded stud.**

APPLICATIONS

Designed for professional application.
Switch mode power suppliers, high ripple current converters, motor drives.







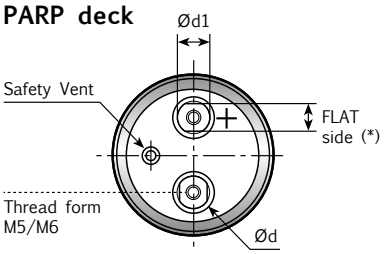


Diagram of dimensions (unit=mm)
Insert and screw threads: Metric (mm), UNF (inches)

ØD	d	d1	P	STUD M	STUD H	INSERT	SCREW	L1 -L[-1+3]	S[-1+1]	INSERT STYLE CODE
35	11	7.9	12.7	M8	12	M5	5MA x 9.5	2.5	5	0
51	18.5	13	22.7	M12	16	M5	5MA x 9.5	2.5	5	H
63	18.5	13	28.6	M12	16	M5	5MA x 9.5	2.5	5	H
63	17.3	17.3	28.6	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	3	4	W
63	17.3	17.3	28.6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	6	7	R
63	7.9	7.9	28.6	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	2	2.5	Z
63	12	7.9	28.6	M12	16	UNF 10-32 High Post	10-32 x 3/8"	6	7	U
76	18.5	13	31.8	M12	16	M5	5MA x 9.5	2.5	5	H
76	18.5	13	31.8	M12	16	M5	5MA x 9.5	2.5	7	L
76	23.2	17.7	31.8	M12	16	M6	6MA x 10	4.5	7	6
76	17.3	17.3	31.8	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	3	4	W
76	17.3	17.3	31.8	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	6	7	R
76	7.9	7.9	31.8	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	2	2.5	Z
76	12	7.9	31.8	M12	16	UNF 10-32 High Post	10-32 x 3/8"	6	7	U
90	23.2	17.7	31.8	M12	16	M6	6MA x 10	4.5	7	H
51	13	13 (10)*	22.7	M12	16	PARP M5	5MA x 9.5	6	7	K
63	15	15 (13)*	28.6	M12	16	PARP M5	5MA x 9.5	6	7	K
76	19	15 (13)*	31.8	M12	16	PARP M5	5MA x 9.5	6	7	K
76	19	15 (13)*	31.8	M12	16	PARP M6	6MA x 10	6	7	Q
90	19	15 (13)*	31.8	M12	16	PARP M6	6MA x 10	6	7	Q

Note: (*) quote on the PARP deck of the flat side (PARP = Protection Against Reverse Polarity).

SPECIFICATIONS

Temperature Range	Operating : -40°C +85°C [Environmental classification 40/85/56 IEC-68] Storage : Preferably below +25°C, not exceeding +40°C
Rated Voltage Range (V_r)	from 350V to 450V DC
Surge Voltage (V_p)	V_p = 1.10 V_r
Rated Capacitance Range	from 2200 µF to 36000 µF
Capacitance Tolerance	±20% at 100 Hz, 20°C [M class IEC-62] on request : -10% +30% at 100 Hz, 20°C [Q class IEC-62]
Leakage Current (I_L) **(mA, 5 min, 20°C)**	max I_L= 0.006 C_r V_r + 4 µA
Ripple current (I_r)	Refer to table at 85°C and 100Hz : FREQUENCY 50Hz 100Hz 500Hz 1000Hz >10kHz MULTIPLIER 0.8 1.0 1.2 1.3 1.5 AMBIENT TEMP 35°C 45°C 55°C 65°C 75°C 85°C 95°C MULTIPLIER 2.2 2.1 1.8 1.6 1.4 1.0 0.5 Due to the current load capability of the contact elements, the following limits must not be exceeded: CAPACITOR DIAMETER 51mm 63mm 76mm 90mm Maximum current 30A 40A 50A 70A
Insulation Resistance	At 100V DC for 1 min is >100 MΩ across insulating sleeve and terminals.
Vibration Resistance	Frequency range : 10 Hz to 55 Hz, amplitude 0.75 mm Capacitor length ≤ 143 : max acceleration 10g for 3x2 h Capacitor length > 143 : max acceleration 5g for 3x0.5 h
Withstand voltage **(between terminals bundled and plate)**	2500 VAC for 1 min
Life test	After 2,000 hours application of rated voltage at 85°C capacitors meet characteristics aside Cap change ≤ 10% tan δ ≤ 130% Leakage current (I_L) < initial limit Impedance (Z) ≤ 130%
Shelf life	After leaving capacitors under no load for 2000 hours at 85°C, when restored at 20°C meet specifications aside Cap change ≤ ±15% tan δ ≤ 150% Leakage current (I_L) < initial limit
Useful life **(85°C, Vn, Ir applied)** **Operation up to 105°C with voltage derating 0,88 x V rated**	> 15.000 h at 85°C
Failure percentage **Failure rate**	≤ 1% (during useful life) ≤ 33 fit (33 10^{-9}/h)
Self inductance	Approx. 20 nH
Damp heat test **(Vn applied, 2000 hours, 85% RH)**	Stable electrical parameters in humidity ambient condition 85°C
Electrolyte	All the capacitors of this series have self-extinguishing electrolyte in accordance with IEC EN 60695-11-10
Reference standards	CECC 30.300 IEC 60384-4 LONG LIFE GRADE

K71 TYPE STANDARD RATINGS

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
3300	51x79	0.09	25	20	9.00	K71350332__M0G079	350V
3500	51x79	0.09	24	17	9.05	K71350352__M0G079	
4700	51x105	0.09	17	13	11.60	K71350472__M0G105	
6800	63x105	0.09	15	11	17.60	K71350682__M0H105	
7600	63x105	0.09	14	10	18.00	K71350762__M0H105	
10000	76x105	0.10	12	11	22.20	K71350103__M0J105	
11000	76x105	0.10	12	11	22.30	K71350113__M0J105	
16000	90x105	0.11	10	8	26.10	K71350163__M0L105	
17000	76x143	0.11	9	8	30.80	K71350173__M0J143	
24000	76x214	0.11	7	5	44.00	K71350243__M0J214	
24000	90x145	0.11	7	5	35.90	K71350243__M0L145	
36000	90x220	0.13	5	4	51.30	K71350363__M0L220	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
2200	51x79	0.09	42	33	8.21	K71400222__M0G079	400V
2900	51x79	0.09	38	30	8.64	K71400292__M0G079	
3300	51x105	0.09	29	22	10.80	K71400332__M0G105	
3900	51x105	0.09	28	19	11.10	K71400392__M0G105	
4700	63x79	0.09	21	17	9.97	K71400472__M0H079	
5600	63x105	0.09	19	15	16.60	K71400562__M0H105	
6200	63x105	0.09	18	14	17.10	K71400622__M0H105	
6800	76x105	0.09	17	13	18.60	K71400682__M0J105	
8200	76x105	0.09	16	12	19.00	K71400822__M0J105	
9200	76x105	0.09	14	11	21.20	K71400922__M0J105	
13000	76x143	0.10	9	8	29.30	K71400133__M0J143	
13000	90x105	0.10	10	9	25.20	K71400133__M0L105	
20000	76x214	0.11	8	7	41.90	K71400203__M0J214	
20000	90x145	0.11	8	7	34.50	K71400203__M0L145	
30000	90x220	0.13	6	5	49.50	K71400303__M0L220	

K71 TYPE STANDARD RATINGS

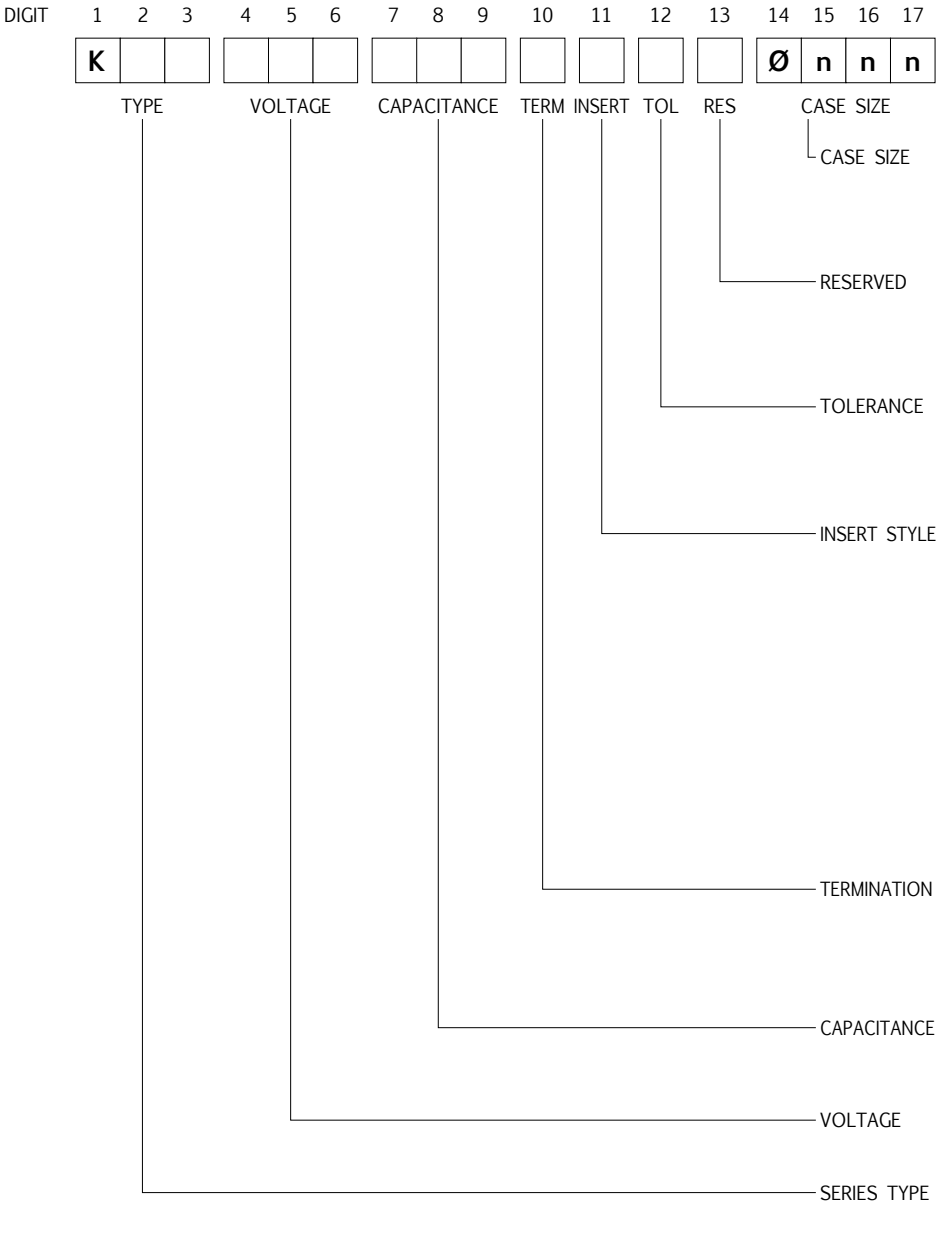
Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
2200	51x79	0.09	42	33	8.21	K71420222__M0G079	420V
2500	51x79	0.09	40	22	8.42	K71420252__M0G079	
3300	51x105	0.09	29	22	10.80	K71420332__M0G105	
4700	63x79	0.09	21	17	9.97	K71420472__M0H079	
5600	63x105	0.09	19	15	16.60	K71420562__M0H105	
6800	76x105	0.09	17	13	18.60	K71420682__M0J105	
8200	76x105	0.09	16	12	19.00	K71420822__M0J105	
12000	76x143	0.09	9	8	28.60	K71420123__M0J143	
12000	90x105	0.09	9	8	24.50	K71420123__M0L105	
15000	90x145	0.09	8.5	7	32.60	K71420153__M0L145	
18000	76x214	0.10	8	7	40.90	K71420183__M0J214	
23000	90x220	0.13	7	6	46.80	K71420233__M0L220	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
2200	51x79	0.09	43	34	8.07	K71450222__M0G079	450V
3100	51x105	0.09	32	24	10.40	K71450312__M0G105	
4700	63x105	0.09	23	19	15.80	K71450472__M0H105	
5600	76x105	0.09	21	18	17.60	K71450562__M0J105	
6800	76x105	0.09	18	12	17.70	K71450682__M0J105	
10000	90x105	0.09	14	11	22.90	K71450103__M0L105	
11000	76x143	0.09	12	10	27.30	K71450113__M0J143	
12000	76x214	0.09	11	9	39.10	K71450123__M0J214	
15000	90x145	0.09	9	8	32.60	K71450153__M0L145	
23000	90x220	0.13	7	6	46.80	K71450233__M0L220	

PLEASE TO CONTACT OUR TECHNICAL SERVICE FOR MORE INFORMATION OR SPEC-IN ANALYSIS.

PART NUMBER SYSTEM
FOR SCREW TYPE CAPACITORS

New PART-NUMBER CODE in use since Sep 2010. Total length is 17 digits.
Please see examples below and have a reference code from the standard ratings capacitors pages.



CASE SIZE: Ø=DIAMETER code: E=35 G=51 H=63 M=72 J=76 L=90; nnn=LENGTH (in mm)

RESERVED: 0 = standard ratings, 1= special, n= others
G = double sleeve
S = no end disk
W = special design charge/discharge welding apps

TOLERANCE: tolerance range as IEC62
M= ±20%, Q= -10% +30%, X= custom
T= -10% +50%
U= -10% +75%

INSERT STYLE: insert type on decks
0= diam 35 small diameter M5
C= M6 small diameter insert
H= STD High Ripple:
diam 51-63-76 (M5), diam.90 (M6)
I= small diameter M5
L= M5 long insert style (*)
6= M6 diam 76 ONLY
K= M5 PARP (Protection Against Reversal Polarity)
Q= M6 PARP (Protection Against Reversal Polarity)
U= thread size 10-32 UNF High Post
R= 1/4 28 UNF High Post
Z= thread size 10-32 UNF Low Post
W= 1/4 28 UNF Low Post

TERMINATION: terminal as follows:
0= no stud (flat bottom)
M= M8x12 stud ONLY diam 35 mm
S= M12x16 stud for diam 51-63-72-76-90 mm

CAPACITANCE: [µF] - 2 significant digits plus multiplying factor
1= x10, 2= x100, 3= x1000, 4= x10000

VOLTAGE: DC rated voltage [V]

SERIES TYPE: Kendeil Aluminium Electrolytic Capacitor Type:
K01, K02, K03, K04, K07, K11, K21, K22,
K41, K42, K61, K71, K72, K91, K92

EXAMPLES

K	0	1	1	0	0	2	2	3	0	H	M	0	H	1	0	5
K	0	1	0	6	3	2	2	3	S	H	Q	0	G	1	0	5
K	0	2	0	4	0	1	0	4	0	H	M	0	J	1	4	3

K01 100V 22000µF, Hi ripple, -20%+20%, 63x105

K01 63V 22000µF, stud M12x16, Hi rip. -10%+30%, 51x105

K02 40V 100000µF, Hi ripple, -20%+20%, 76x143

Specifications subject to change without notice

(*) Note for INSERT STYLE digit_11

M5 long insert style dedicated to not insulated bus bar (+2 mm height versus STD High Ripple code)