



DP60 Series Capacitor

for Power Factor Correction and Harmonic Filters

Type LKT 22.1-690-DP60
Article No. 31-10961

Applicable Standards

UL 810
 CSA 22.2 (No. 190-M1985)
 IEC / EN 60831-1 and -2

Agency Approvals



Conformity



Construction

Dry type capacitor with impregnated windings and flame inhibiting mineral filler
 No PCBs, No inert gas, no SF6 gas

Safety Features

Self-healing polypropylene film
 Segmented metallized film
 3-phase overpressure disconnecter

Electrical Data

Rated Voltage	V_{Nom}	690 V
Rated Frequency	f_N	60 Hz
Rated Power	Q_C	22.1 kvar
Rated Capacitance	C_N	3 x 41.0 μ F
Tolerance (μ F and kvar)		-0 to +5 %
Internal Connection		delta
Nominal Current	I_{Nom}	18.5 A
Maximum Current (continuous)	I_{Max}	27.8 A (1.5 x I_{Nom})
Equivalent Series Resistance (1 kHz)	ESR	3 x 1.3 m Ω
Power Losses (dielectric)	$\tan \delta_0$	≤ 0.2 W / kvar
Power Losses (total)	$\tan \delta_1$	≤ 0.5 W / kvar
Residual Voltage within 60 seconds discharge		≤ 50 V (Resistors factory installed)

Maximum Ratings

Maximum Voltage (8 hours per day)	V_{8h}	759 V
Maximum Voltage (30 minutes per day)	V_{30m}	794 V
Maximum Voltage (5 minutes)	V_{5m}	828 V
Maximum Voltage (1 minute)	V_{1m}	897 V
Maximum Inrush Current	I_S	3,848 A (208 x I_{Nom})
Insulation voltage	V_i	4.3 / 12 kV

Routine Test (each capacitor)

Test Voltage (Terminal / Terminal)	V_{TT}	1484 V for 2 sec. + 1277 V for 18 sec.
Test Voltage (Terminal / Case)	V_{TC}	4,300 V for 2 sec. [UL requires V_{TC} 2,856 V for 1 sec.]

FRAKO also performs a case seal test plus measurements of capacitance, loss factor and resistance

Environmental Data

Temperature Class		-40/60	
Ambient Temperature min / max (continuous)		-40 / +60 °C	-40 / +140 °F
Case Temperature max	T_C	+75 °C	+167 °F
Storage Temperature min / max		-40 / +85 °C	-40 / +185 °F
Humidity max (non-condensating)		95 %	
Altitude max		4,000 meter	13,123 feet

Life expectancy

Life Expectancy when operated within spec. 130,000 hours*

*maximum 40,000 switching operations per year

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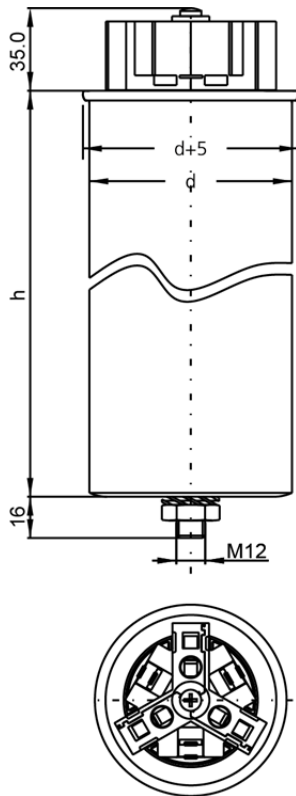
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Design Data

Dimensions (d x h)	85 x 278 mm	3.35 x 10.94 inch
Height including terminal	313 mm	12.32 inch
Weight (including terminal)	1.85 kg (1.90 kg)	4.08 lbs (4.19 lbs)
Mounting	Threaded bolt M12 (1.75 pitch), length 16 mm	
Tightening torque	15 Nm	
Mounting position	Vertical and horizontal	

Drawing



Connection Terminal

Type	Screwless pressure connection	
Conductor size (range accepted by terminal)	1.5 to 16 mm ²	AWG 15 to 6
Conductor type (accepted by terminal)	solid, stranded, flexible	
Degree of protection	IP 20 (fingersafe)	

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