



## DD60 Series Capacitor

for Power Factor Correction and Harmonic Filters

**Type** LKT 9.4-480-DD60  
**Article No.** 31-10927

### 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	$V_{Nom}$	480 V
Maximum Voltage (continuous)	$V_{Max\ cont.}$	528 V
Rated Frequency	$f_N$	60 Hz
Rated Power	$Q_C$	9.4 kvar
Rated Capacitance	$C_N$	3 x 35.9 $\mu F$
Tolerance ( $\mu F$ and kvar)		-0 to +5 %
Internal Connection		delta
Nominal Current	$I_{Nom}$	11.3 A
Maximum Current (continuous)	$I_{Max}$	18.6 A (1.65 x $I_{Nom}$ )
Equivalent Series Resistance (1 kHz)	ESR	3 x 1.5 m $\Omega$
Power Losses (dielectric)	$\tan \delta_0$	$\leq 0.2$ W / kvar
Power Losses (total)	$\tan \delta_1$	$\leq 0.5$ W / kvar
Residual Voltage within 60 seconds discharge		$\leq 50$ V

### Maximum Ratings

Maximum Voltage (8 hours per day)	$V_{8h}$	581 V
Maximum Voltage (30 minutes per day)	$V_{30m}$	607 V
Maximum Voltage (5 minutes)	$V_{5m}$	634 V
Maximum Voltage (1 minute)	$V_{1m}$	686 V
Maximum Inrush Current	$I_S$	2,576 A (228 x $I_{Nom}$ )
Insulation Voltage	$V_i$	3.9 / 12 kV

### Routine Test (each capacitor)

Test Voltage (Terminal / Terminal)	$V_{TT}$	1135 V for 2 seconds + 977 V for 18 seconds
Test Voltage (Terminal / Case)	$V_{TC}$	3,900 V for 2 seconds [UL requires $V_{TC}$ 2,352 V for 1 second]

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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### Design Data

Dimensions (d x h)	85 x 163 mm	3.35 x 6.42 inch
Height including terminal	198 mm	7.80 inch
Weight (including terminal)	1.15 kg (1.20 kg)	2.54 lbs (2.65 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 <sup>2</sup>	AWG 15 to 6
Conductor types (accepted by terminal)	solid, stranded and flexible	
Degree of protection	IP 20 (fingersafe)	

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