

DD60 Series Capacitor

for Power Factor Correction and Harmonic Filters

Type LKT 4.0-240-DD60
Article No. 31-10906

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} | 240 V |
| Maximum Voltage (continuous) | $V_{Max\ cont.}$ | 264 V |
| Rated Frequency | f_N | 60 Hz |
| Rated Power | Q_C | 4.0 kvar |
| Rated Capacitance | C_N | 3 x 61.4 μ F |
| Tolerance (μ F and kvar) | | -0 to +5 % |
| Internal Connection | | delta |
| Nominal Current | I_{Nom} | 9.6 A |
| Maximum Current (continuous) | I_{Max} | 15.8 A (1.65 x I_{Nom}) |
| Equivalent Series Resistance (1 kHz) | ESR | 3 x 0.9 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 |

Maximum Ratings

| | | |
|--------------------------------------|-----------|----------------------------|
| Maximum Voltage (8 hours per day) | V_{8h} | 290 V |
| Maximum Voltage (30 minutes per day) | V_{30m} | 304 V |
| Maximum Voltage (5 minutes) | V_{5m} | 317 V |
| Maximum Voltage (1 minute) | V_{1m} | 343 V |
| Maximum Inrush Current | I_S | 2,189 A (228 x I_{Nom}) |
| Insulation Voltage | V_i | 3.9 / 12 kV |

Routine Test (each capacitor)

| | | |
|------------------------------------|----------|---|
| Test Voltage (Terminal / Terminal) | V_{TT} | 568 V for 2 seconds + 488 V for 18 seconds |
| Test Voltage (Terminal / Case) | V_{TC} | 3,900 V for 2 seconds [UL requires V_{TC} 1,776 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

DD60 Series Capacitor

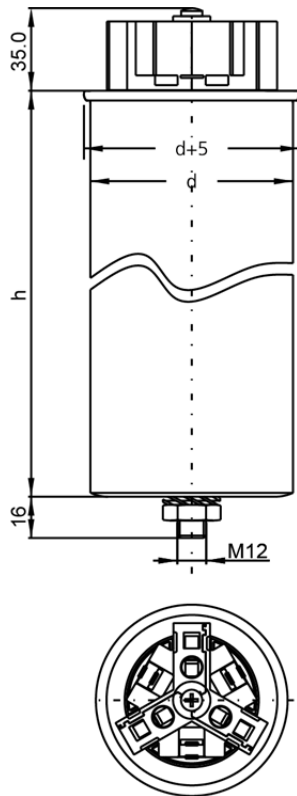
for Power Factor Correction and Harmonic Filters

Type LKT 4.0-240-DD60
Article No. 31-10906

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 ² | AWG 15 to 6 |
| Conductor types (accepted by terminal) | solid, stranded and flexible | |
| Degree of protection | IP 20 (fingersafe) | |

TDD60 0006 | © FRAKO GmbH – Subject to technical changes