



EGB DCL 1000/

$C_N = 1000$

$U_N = 600\text{ V}$

$I_{\max} = 60\text{ A}$

temp. -40

no internal p

Filling:

IEC 61071/

About us

Who we are



HYDRA is one of the most experienced producers of capacitors in the world having been in the business for over 100 years. Originally founded in Germany (Berlin) HYDRA was teamed with AEG for 60 years before branching out on its own. HYDRA produces more than 20 million capacitors per year with two production facilities.

History

- 1899: HYDRA was founded as Elektrizitäts-Aktiengesellschaft HYDRAwerk by akquisition of HYDRA werke Krays & Koenig
- 1922: Began the production of paper capacitors
- 1924: Began the production of power capacitors for Power Factor Correction (PFC)
- 1925: HYDRA was purchased by AEG
- 1936: Elektrizitäts-Aktiengesellschaft HYDRAwerk was renamed into HYDRAwerk AG
- 1939: New factories opened in Berlin and in Freiberg
- 1941: 2 new factories were opened in Berlin
- 1945: During Worldwar 2, HYDRA was completely destroyed.
- 1975: AEG-Telefunken overtakes the development, production and sales of the HYDRAwerke AG, specializing in high voltage capacitors.
- 1985: AEG-Telefunken was bought by Daimler Benz and renamed to AEG AG
- 1992: Switch from paper capacitors to foil capacitors
- 1996: HYDRAwerke AG was renamed to AEG Kondensatoren und Wandler GmbH and sold to a British Investment Company.
- 1998: AEG Kondensatoren und Wandler GmbH were bought by their own management and private investors. In addition, the founding of AEG components s.r.o in Czech Republic.
- 2011: The company in Berlin was renamed to HYDRA Components GmbH and AEG Components in Czech Republic was renamed to HYDRA a.s.
- 2012: Construction began for a new productiuon facility in Vietnam.
- 2014: Production begins at additional new factory HYDRA Vietnam.



About us

Locations

In order to supply our customers more efficiently, our production facilities are located on two continents. The first factory and HQ location is in the heart of Central Europe in the Czech Republic in the city of Jičín. The second production plant is located on the Asian continent in Vietnam in the city of DaNang, which is located on the coast of the South China Sea and is one of the most important ports and cities in this region.



HYDRA a.s. (HQ)

- Czech Republic / Jičín
- R&D
- Manufacturing
- Sales

HYDRA Vietnam CO., Ltd.

- DaNang
- Manufacturing

Why us

Quality / Reliability

Random inspection, possible definition of tests based on customer requirements. All electrical tests are evaluated during the production test (100%). HYDRA has full control of the process.

Flexibility

95% of orders are customized products

Technical support

R&D, quick response to requests and personal approach

Availability

Production plants in Europe (Czech Republic) and Asia (Vietnam)



Why us

In today's technologically advanced world, it is essential to have reliable and efficient components for electronic devices. Our high-quality foil capacitors meet these demands and offer exceptional value for your projects. Here are the top reasons to choose our products.

Superior quality and reliability

Our foil capacitors are manufactured with an emphasis on the highest quality standards. We use superior materials and advanced manufacturing technologies, which ensures the long life and high reliability of our capacitors. They are designed to withstand harsh operating conditions and provide stable performance even in extreme situations.

Optimized performance

Foil capacitors offer excellent electrical characteristics such as low equivalent series resistance (ESR) and high capacitance stability. These properties are crucial for applications requiring high accuracy and efficiency, such as audio amplifiers, power supplies and frequency filters.

Wide range of applications

Due to their versatility, our film capacitors are ideal for a variety of applications in industrial electronics, automotive, power and consumer electronics. Whatever your specific needs, our capacitors provide a customized solution that improves the performance and reliability of your equipment.

Ecological and sustainable production

We are aware of our responsibility towards the environment. Our manufacturing processes are designed to minimize our environmental impact. We use recyclable materials and implement energy-efficient practices, which contribute to sustainability and environmental protection.

Support and technical assistance

In addition to high-quality products, we also offer excellent customer support and technical assistance. Our team of experts is ready to help you select the right capacitor for your application and provide technical advice to ensure optimal use of our products.

Competitive pricing

We understand that cost is an important factor when selecting components. That is why we offer our high quality film capacitors at competitive prices without compromising quality. We believe that our products represent the best price/performance ratio in the market.

Our high quality foil capacitors are the ideal choice for anyone looking for a reliable, powerful and environmentally friendly solution for their electronic applications. Invest in quality that won't let you down and experience the difference with our capacitors.

Contact us today to learn more about our products and services.

Products



DC Link Capacitors

Filled with polyurethane and epoxy resin and fulfill highest requirements

Application

- AC/DC power converters (wind, solar, drives)
- UPS systems
- Active filter



Filter Capacitors

Filter capacitors are used for the filtering of undesirable frequencies.

Application

- AC/DC power converters
- UPS systems
- Active filter



Lightning Capacitors

For Fluorescent and Gas Discharge Lamps

Application

- Industrial lighting (HID)
- Area Lighting
- Floodlighting
- Roadway lighting
- Fluorescent lighting



PFC Capacitors

Capacitors for reactive power compensation (power factor correction)

Application

- Fixed individual low voltage power factor correction
- Low voltage automatic power factor correction cabinets
- Low voltage detuned/tuned capacitor bank



Motor Capacitors

Secured / Not secured

Application

- Single phase motors for
- White goods, pumps
- Compressors, fans



Defibrillator Capacitors

External defibrillators, biphasic and monophasic waveforms, high energy density and extremely low leakage current

Application

- External defibrillators in emergency room
- Public access defibrillator

Power Factor Correction Capacitors

Applications

- Individual fixed PFC of Motors, Transformers, etc.
- Automatic PFC equipment
- Tuned or detuned capacitor banks

Features

- Metallized PP Self-Healing high quality film for 1-phase or 3-phase Y, Δ capacitor, in indoor application.
- Safe disconnection thanks to overpressure expansion fuses on active leads in case of abnormal operation, self-overheating or frequent overvoltage stress.
- Low losses, optimal surge current performance and good heat dissipation.
- Gas (N₂), oil or soft gel filled impregnant.



Parameters	PAB DPM(d)	PMB DPM(d)	PRB DPMg	PRB DPM(d)
	Oil / Soft Resin	Gas (N ₂) filled	Gas (N ₂) filled	Oil / Soft Resin
Connection type	1-phase only	1-3 phase Δ	1-3 phase Y, Δ	
Rated voltage Un	230 – 400 – 440 – 480 – 525Vac		230 – 400 – 440 – 480 – 525 - 690 Vac	
Rated kVAR	1 – 6.5kVAR		5 – 35 kVAR	5 – 56 kVAR
Rated frequency	50 / 60Hz		50 / 60Hz	
Capacitance tolerance	-5% /+10%		-5% /+10%	
Overcurrent	1.3 x In permanent		1.5 x In (incl. harmonics)	
Inrush current	Max 100 x I _{in}		Max 200 x I _{in}	
Over voltages	Un +10% up to 8h daily, Un +15% up to 30min daily, Un +20% up to 5min (200x during lifetime), Un +30% up to 1min 200x during lifetime			
Test voltages	UT/T 2.15 x Un AC (2s) UT/C 4.3kV AC (10s)		UT/T 2.15 x Un AC (2s) UT/C 3.6kV AC (10s)	
Capacitor Losses	Dielectric losses 0.2W/kVAR Total capacitor < 0.4W/kVAR		Dielectric losses 0.2W/kVAR Total capacitor < 0.4W/kVAR	
Lifetime expectancy	> 100 000 h 5000 switching per year		> 135 000 h 5000 switching per year	> 150 000 h 5000 switching per year
Operating temp. Range	-25°C /+55°C		-45°C /+55°C	-25°C /+60°C
Max ambient temp.	55°C		55°C	60°C
Over 24h / over 1 year	45°C / 35°C		45°C / 35°C	50°C / 40°C
Operating altitude	4500m			
Terminals	Tab or dual tab connector 6.3 x 0,8mm		Double 3-pole terminal block (IP20) 16/25/35mm ²	
Fixation	Threaded bolt M12, max torque 12Nm			
Mounting position	Vertical or horizontal		Any position	Vertical or horizontal
Cooling	Natural or forced air cooling, indoor application			
Compliance	EN/IEC 60831-1/2, UL810, RoHS III (EU 2015/863), REACH (1907/2006) Annex XVII			

- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

Snubber Capacitors

HYDRA® Snubber Capacitors are special types of capacitors designed to suppress surges and transients in electrical circuits. These capacitors help protect sensitive components and improve overall system performance and reliability. HYDRA® damping capacitors are manufactured as film capacitors due to their advantages such as low loss factor and high stability.

Key Features

- Low loss factor ensures minimal power loss and effective surge suppression.
- Stable performance even at high frequencies and temperatures.
- Resistance to high voltages and surges.
- High reliability and long service life even under harsh conditions.

Advantages

- Effectively suppresses surge peaks and protects against damage to sensitive components.
- Contribute to higher reliability and equipment lifetime.
- Help reduce electromagnetic interference and improve signal quality.

Exaples of use

Power supplies and inverters, Electric drives and motors, Power systems and distribution, Telecommunication equipment, Industrial automation and control, Automotive, Renewable energy...



Specifications

Dielectric	Metallized polypropylene film
Dissipation factor (tan δ_0)	$<2 \times 10^{-4}$ (1 kHz)
Capacitance range (Cn)	30 μ F to 200 μ F
Capacitance tolerance	$\pm 10\%$
Voltage range (Un)	700 V DC to 2000 V DC
Operating temperature (case)	-40°C ... 85°C
Storage temperature	-40°C ... 85°C
Life expectancy	200 000 h
Capacitor Size range	Diameter: 55, 75, 95, 105, 115 mm, Height: 60 mm
Terminals	Axial thread terminals M6 x 10 mm or M8 x 10 mm
Test voltage terminal/terminal (Vdc)	1,5 x Undc (10s)
Case material	Plastic PA (UL 94: V-0)
Filling	Solid resin (UL 94: V-0)
Mounting position	any
Standards	IEC 61071

- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

Motor Running Capacitors

Applications

- AC 1-F Motors, fridges, dish washers, dryers, compressors
- Pumps, window shutters, blowers
- Air fans, Ventilators, driver, other electronic devices

Features

- Metallized PP Self-Healing high quality film for 1-phase, AC-motor indoor application.
- Plastic or Aluminum case with/without stud
- Safety, realized by overpressure disconnecter
- Impulse resistance, low dissipation factor
- Environmentally friendly filler (vegetable oil, or recyclable dry resin)
- Tested safety by 100% routine test



Parameters	MKP type	MKP-SI type
	S0 safety class Recyclable PUR resin	S2 safety class Vegetable oil
Connection type	1-phase only	
Rated voltage Un	400-500Vac 50/60Hz	400-500Vac 50/60Hz
Rated capacitance	0,8-40uF	1-160uF
Capacitance tolerance	-5% /+5%	+5% /-0%
Max. allowable operating voltage	1.1 x Un	
Max. allowable operating current	1.3 x In	
Test voltages (100% in production)	U _{T/T} 2.0 x Un; 50Hz (2s) U _{T/C} 3.6 kV; 50Hz (2s)	
Operating temp. range	-25°C /+85°C	
Life time class	Class A – 30000 h 420V 1-100 μF; Class B – 10000 h 470V 1-100 μF; 420V 35-80 μF; Class C – 3000 h 470V 35-80 μF; Class D – 1000 h 500V 1.5-30 μF	
Installation	Indoor, altitude max 4500m	
Mounting position	Vertical or horizontal	
Connection type	Upon customer request: various terminals, solder tab, single/double tabs, cables	
Cooling	Natural or forced air cooling, indoor application	
Compliance	EN 60252-1/2, UL810, RoHS III (EU 2015/863), REACH (1907/2006) Annex XVII	

HYDRA Motor Capacitors MKP types S0/S2 technology with/without overpressure disconnectors comply with international standard EN 60252.

- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

Flat Motor Running Capacitors

Applications

- Industrial electronics
- Window shutters
- Blowers
- Drives
- Fans

Features

- Safety Class S0
- Compact design, plastic case on customer request
- Resin impregnation (PU or epoxy)
- Various connection options
- Low dissipation factor, low ESR, low inductance
- Tested safety by 100% routine test



General characteristics

Dielectric	Metallized polypropylene film
Capacitance range	1,8 µF to 7,5 µF
Capacitance tolerance	± 5%, ± 10%
Rated voltage Un	400Vac, 450Vac
Operating temperature range	-25 °C to +85 °C
Max. allowable operating voltage	1,1 x Un
Max. allowable operating current	1,3 x In
Humidity class	F (75% annual means, 95%, 30 days/year)
Test voltage terminal/terminal (Vac)	2,0 x Un; 50Hz (2s)
Test voltage terminal/case (Vac)	3,6 kV; 50Hz (2s)
Life expectancy	Class C – 3000 h (400V); Class D – 1000 h (450V)
Case material	Plastic UL 94 (V-0)
Filling	Polyurethane or epoxy resin
Mounting	Indoor in any position
Compliance	EN 60252-1, UL 810

Flat Motor Capacitors are made of metallized polypropylene film in oval plastic case and sealed with resin. Comply with international standard EN 60252.

- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

Defibrillator Capacitors

HYDRA's defibrillator capacitors are custom designed for the use in public access external Defibrillators. They offer high reliability, long lifetime, and small size. The Company Quality Management System, continuous control and validation of processes with full traceability, enables to guarantee the high quality defibrillator capacitors.



Applications

- Bi-Phasic and/or Mono-Phasic Waveforms
- Manual External Defibrillator (MED) or Automated External Defibrillator (AED)
- Highly reliable and High energy density and Ultra low leakage current for battery operated portable Defibrillators

Features

- Metallized Polypropylene Self-Healing high quality film capacitor
- Dry polyurethane/epoxy filled impregnation
- Faston or customer defined terminal connection, AWG22 10kV insulated silicon stranded wire
- Round housing: Aluminum or Plastic
- RoHS III (EU 2015/863), REACH (1907/2006) Annex XVII compliant

Specification A (MEDs for hospitals)

Capacitance Range Cn	68 to 200uF +5% /-5%
Rated Voltage Un	1800 to 2300Vdc
U surge	2500 Vdc
Rated Energy	180 to 515 Joules
Dissipation Factor @100Hz	< 160 x 10 ⁻⁵
Test Voltages	UT/T=2500Vdc / 10s (terminal-to-terminal) UT/C=4000Vac / 10s (terminal-to-case)
Tested Operating Lifetime	10000 discharges into 50 Ohm load
Operating Temperature Range	-40°C to +65°C
Storage Temperature	-40°C to +65°C

Description	Cn [uF]	Rated Voltage Un [Vdc]	U surge [Vdc]	TAND [x10 ⁻⁵]	Energy [J]	D x H* [mm]	A* [mm]
EL MKP 68/2300/E1	68	2300	2500	<70	180	40 x 125	100
EL MKP 90/2300/E1	90	2300	2500	<90	238	45 x 140	100
EL MKP 105/2300/E1	105	2300	2500	<100	277	60 x 100	100
EL MKP 195/2300/E1	195	2300	2500	<160	515	65 x 125	100

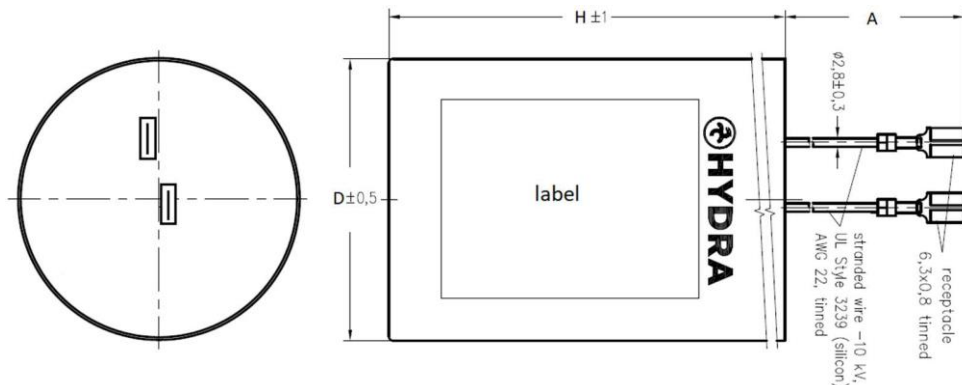
- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

Defibrillator Capacitors

Specification B (MEDs for hospitals)

Capacitance Range Cn	60 to 200uF +5% /-5%
Rated Voltage Un	2000 to 2500Vdc
U surge	2300 to 2750 Vdc
Rated Energy	180 to 609 Joules
Dissipation Factor @100Hz	< 160 x 10 ⁻⁵
Test Voltages	UT/T=2300Vdc or 2750Vdc / 10s (terminal-to-terminal) UT/C=4000Vac / 10s (terminal-to-case)
Tested Operating Lifetime	100 discharges from Un, max. load 100A
Operating Temperature Range	-20°C to +50°C
Storage Temperature	-20°C to +65°C

Description	Cn [uF]	Rated Voltage Un [Vdc]	U surge [Vdc]	TAND [x10 ⁻⁵]	Energy [J]	D x H* [mm]	A* [mm]
EL MKP 60/2500/E1	60	2500	2750	<70	188	40 x 109	105
EL MKP 90/2000/E1	90	2500	2300	<90	180	40 x 109	105
EL MKP 100/2500/E1	100	2500	2750	<100	313	50 x 109	105
EL MKP 195/2000/E1	195	2500	2300	<160	390	55 x 109	105
EL MKP 195/2500/E1	195	2500	2750	<160	609	65 x 125	105



- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

AC Filter Capacitors

Applications

- filter capacitors for damping of undesirable voltage spikes during the switching of power semiconductors
- quenching of conductive state of thyristor.
- UPS-Systems
- Wind Power



Features

- Profile metallization of polypropylene film for better overvoltage reliability
- Wave-cut design of film guarantees high current performance (RMS, peak current)
- Environmentally friendly vegetable oil filling or soft resin for best thermal performance
- Build-in overpressure interrupter for a safe operation in case of any internal failure
- High reliability and life expectancy

Parameters	EAB MKP(d) Oil / Soft Resin	EBB MKP(d) Oil / Soft Resin	ERB DPM(d) Oil / Soft Resin	ECB DPM(d) Oil / Soft Resin
Connection type	1-phase	1-phase	1-3 phase Y, Δ	3 phase Δ
Terminals	Single tab 6.3 x 0.8mm (A1), Double tab 6.3 x 0.8mm (A2)	Terminal screw M6, M8, M10	Double 3-pole terminal block (IP20) 16/25/35mm ²	Tab connector 6.3 x 0.8mm
Dielectric	Metallized polypropylene			
Rated voltage Un AC	420 V-1200 V	420 V-1350 V	640 V-1400 V	640 V-1400 V
Capacitance tolerance	-5% / +5%			
Rated current	6-10A (A1) 10-16A (A2)	40-80A	Max. 80 A	Max. 16 A
Operating temp. range	-25°C /+85°C	-25°C /+60°C	-25°C /+60°C	-25°C /+70°C
Storage temperature	-40°C / +85°C			
Lifetime expectancy	100 000h at <85°C hotspot	100 000h at <70°C hotspot	100 000h at <70°C hotspot	100 000h at <70°C hotspot
Case material	Aluminum			
Cover material	Plastic UL 94 (V-0)	Steel	Steel	Steel
Filling	Oil / Soft resin			
Mounting position	Indoor / Vertical or Horizontal			
Mounting torque	Threaded bolt: 5Nm for M8 12Nm for M12	Threaded bolt: 12Nm for M12	Terminals: M6=3Nm, M8=6Nm, M10=9Nm Threaded bolt: 12Nm for M12	Threaded bolt: 12Nm for M12
Operating altitude	4500m			
Cooling	Natural or forced air cooling, indoor application			
Compliance	IEC 61071 (2017-08) Ed.2.0, UL 810 (file E201956)			

- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

DC-Link Capacitors

Applications

- DC-filter in industrial Inverters (Wind Turbines, Solar Power, Power Drives)
- Replacement of Aluminum Electrolytic Capacitors
- AC filter Capacitor Banks in UPS

Features

- Terminals with internal thread (EGB) or stud (EBB)
- High RMS current rating (ripple)
- Low ESR resistance allows high currents
- Low self-inductance for high-speed IGBT converters (special low inductance design)
- Dry resin filling (no leakage of poisonous electrolytes)
- Self-Healing dielectric withstand over voltages 2 times rated voltage
- No series connections of capacitors necessary
- High reliability and life expectancy



Parameters	EGB DCL Cn/Un DC	EBB DCL Cn/Un DC
Dielectric	Metallized polypropylene film	
Dissipation factor (tan δ_0)	<2 x 10 ⁻⁴ (1 kHz)	
Capacitance range	120 μ F to 2800 μ F	
Capacitance tolerance	\pm 10%, optionally \pm 5%	
Voltage range	700 Vdc to 2000 Vdc	
Operating temperature (case)	-25°C...60°C (70°C max.)	
Storage temperature	-40°C ... 85°C	
Capacitor Size range	\varnothing 85 H min 70 – max. 255mm	
	\varnothing 116 H min 70 – max. 315mm	
	\varnothing 136 H min 120 – max. 370mm	
Operating altitude	4500m	
Humidity class	F (75% annual means, 95%, 30 days/year)	
Inductance	< 50nH	
Test voltage terminal/terminal (Vdc)	1.5 x Undc (10s)	
Test voltage terminal/case (Vac)	2 x Ui + 1000V; min. 3600V (10s)	
Life expectancy	200000h at Un and <70°C hotspot	
Case material	Aluminum	
Cover material	Plastic UL 94 (V-0)	
Filling	Polyurethane/epoxy resin	
Mounting	Indoor in any position	
Mounting torque	Max 15 Nm for M12 bottom stud	
	Max 8Nm for M6 internal thread terminal (EGB DCL)	
	Max 5Nm for M8 bolt terminal (EBB DCL)	
Compliance	IEC 61071; UL file E201956	

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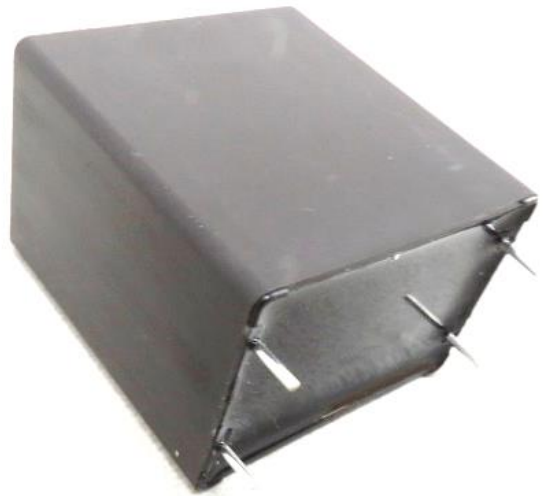
DC-Link Capacitors Box Type

Applications

- Automotive
- Wind and solar power plants
- Filtering applications and UPS

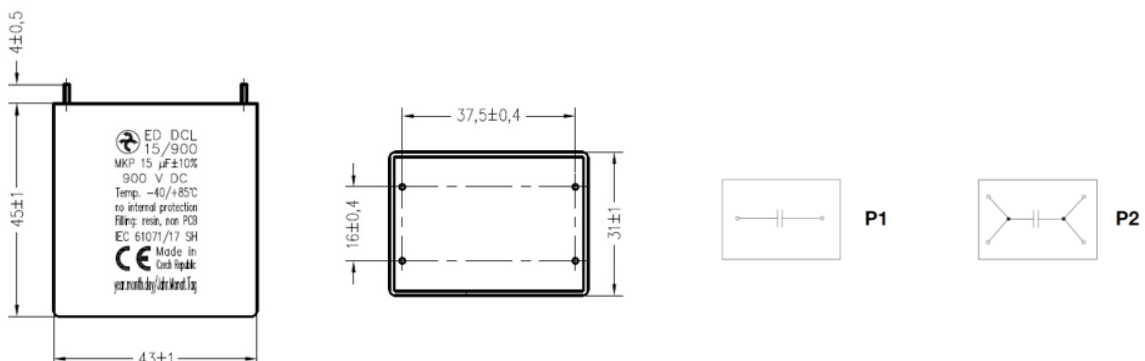
Features

- Self-healing dielectric withstand overvoltages 2 times rated voltage
- 2 pins (P1) and 4 pins (P2) connection variants
- High ripple current
- Low self-inductance
- Low dissipation factor
- High reliability



General characteristics

Dielectric	Metallized polypropylene film
Dissipation factor ($\tan \delta_0$)	$< 2 \times 10^{-4}$ (1 kHz)
Capacitance range	5 μF to 40 μF
Capacitance tolerance	$\pm 5\%$, $\pm 10\%$
Voltage range	700 Vdc, 900 Vdc, 1100 Vdc, 1300 Vdc, 1500 Vdc
Operating temperature range	-40 °C to +85 °C
Humidity class	F (75% annual means, 95%, 30 days/year)
Self inductance	$< 35\text{nH}$
Test voltage terminal/terminal (Vdc)	1,5 x Undc (10s)
Test voltage terminal/case (Vac)	2 x Ui + 1000V; min. 3600V (10s)
Life expectancy	100000h at Un and < 70 °C hotspot
Case material	Plastic UL 94 (V-0)
Filling	Polyurethane/epoxy resin
Mounting	Indoor in any position
Compliance	IEC 61071



- In case the customer's application requires the different capacitor parameters our R&D expert engineers are ready to help and find the best capacitor solution.

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