ICAR
technology looking ahead

70 years

2016

POWER ELECTRONICS CAPACITORS

LNK SERIES

DC Applications
Metallized Polypropylene Film
Self Healing

IRIS Certification

Company profile

OUR MISSION:

"Develop and supply high-quality capacitors, providing all the customers with full assistance from the design through the delivery.
We will take care to any particular needs that the customer may have."

Established in 1946, ICAR has rapidly reached, and since then maintained, a leadership position in the research and development of new capacitors and components of which capacitors are key parts.
In the early 60's, first in the world, ICAR started the production of metallized polypropylene film capacitors, by developing the film metallization by its own.
ICAR group nowadays controls all the manufacturing phases of the capacitor: from the polypropylene film extrusion through its metallization, to the production of the finished capacitor.
The know-how accrued in almost 70 years of metallized film production, has enabled ICAR to bring to the market innovative products.
Today ICAR Group is a leader in the production of capacitors, both for power electronics applications and for low and medium voltage power factor correction.

ICAR Group today offers a wide range of products, all manufactured at its 6 plants located in Europe, that includes:

- Power electronics and special capacitors
- Lighting capacitors
- Motor run capacitors
- Power Factor Correction capacitors and Systems
- L.V. and M.V. voltage stabilizers
- Transformers and chokes.

ICAR: products and solutions

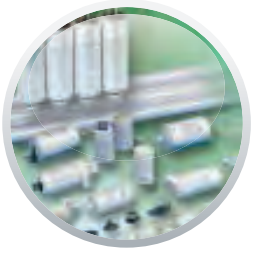
For details of the individual families, download the full catalogs on the web site, www.icar.com. Here are all the equipment and the solutions ICAR proposes.

Bank for power factor correction

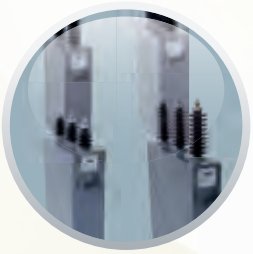
Power electronics capacitors

LV voltage stabilizers

Motor run capacitors



Lighting capacitors



Capacitors and MT power factor correction systems

Active filters

EMI RFI filters

Capacitors for energy storage and rapid discharge

Reactors and LV/LV special transformers

Quality policy

ICAR, a synonym for capacitor since 1946, has always considered the quality and the effectiveness of its internal processes as a key-factor in the company strategy.
The compliance with International Standards has always been kept as a fundamental reference for offering products and processes which completely match customers' requirements and expectations.
ICAR Quality System is certified according to EN ISO 9001:2008 standard and for the products used in railways applications according to IRIS standard.
ICAR representatives are members of the most important international standard committees, in charge for issuing the reference standards for the capacitor industry.
In order to comply with the international regulations and with the most severe customers acceptance criteria, products are submitted to tests both in the internal laboratories and in the most important internationally recognized laboratories.

Selection rules and definitions

SELECTION RULES

VOLTAGE

Select a capacitor with surge peak voltage (U_S), rated voltage (U_N) and max ripple voltage (U_{rms}) higher than the operating ones.

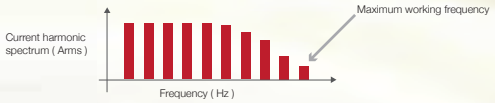
Consider that:
- Rated DC voltage of the capacitor (U_N) shall be higher than the sum of operating dc voltage + operating ripple peak voltage
- Rms ripple voltage shall be lower than 10% of the rated voltage U_N, and it shall not exceed 150V_{rms}

It is possible, within certain limits, to work above the rated voltage but this reduces the expected life of the capacitor.

CURRENT

Select a capacitor with maximum current I_{max}, higher than the operating current I_{rms}

Consider that:
- A thermal check shall be performed (see below) in order to verify that the chosen capacitor does not exceed the max operating temperature at operating I_{rms}
- For each series the I_{max} has been calcultated considering a well defined $\vartheta_h - \vartheta_0$. The dielectric losses (Q tan δ_0) have been considered negligeable and the harmonic spectrum is supposed to be made of different frequency components ending up to the specified maximum working frequency. I_{max} should not be considered totally concentrated at the maximum working frequency.



THERMAL CHECK

Double check the expected working temperature of the capacitor in your application.

Consider that:
the hot spot temperature can be estimated as follows:
$\vartheta_h = R_{th} * P + \vartheta_0$

the total dissipated power can be calculated as follows:
$P = Q \tan \delta_0 + R_S I^2_{rms}$

During stationary operation ϑ_h must not exceed the maximum hot spot temperature given in this catalogue for each families of capacitors.

WARNING

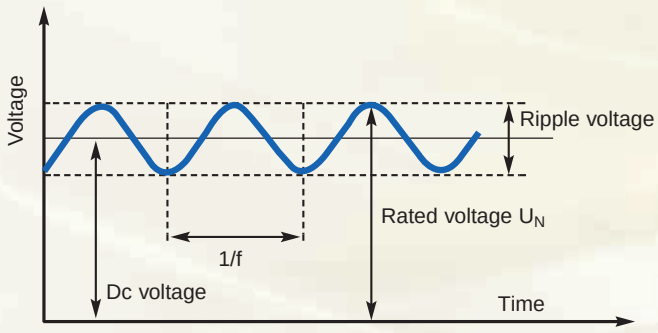
The thermal check is based on the hypothesis that the heat generated into the capacitor is transmitted to the environment through the case surface. Possible localised overheating (poor connections, hot components in the nearby as other capacitors, operation with high harmonics frequency etc.) would bring the capacitor to a dramatic failure or to a reduction of the expected life.
Special tests by means of thermocouples should be performed to be sure that the maximum hot spot temperature is not exceeded even under the most critical ambient circumstances. Capacitors with thermocouples can be supplied on request.

DEFINITIONS

C_N	Rated Capacitance measured at 20°C
U_N	Maximum operating peak voltage of either polarity of a non reversing type waveform for which the capacitor has been designed for continuous operation
U_{rms}	Rated rms ripple voltage = 0.1 x U_N max (max 150 V_{rms})
U_S	Surge (not repetitive) peak voltage
U_I	Rated insulation voltage. Rms value of the AC voltage for which the terminal to case insulation has been designed and tested
I_{MAX}	Maximum rms current value for continuous operation
Clearance	Shortest distance in air between terminals conducting parts or between terminal and case
Creepage	Shortest distance along an insulated surface between terminals conducting parts or between terminal and case
Q	Reactive power = 2 x π x f x C x U^2_{rms}
f	Frequency of the ripple voltage
R_S	Series resistance representing the sum of all ohmic resistances in the capacitor. Rs is a typical estimated value based on average film metallization parameters
ESR	Equivalent Series Resistance defined as ESR = R_S + tan δ_0 /(2 x π x f x C)
tan δ_0	Dielectric dissipation factor. It can be considered constant in the normal working frequency range. Typical value for polypropylene is 2 x 10^{-4}
tan δ	Dissipation factor calculated as follows: tan δ_0 + 2 x π x f x C x R_S
dv/dt	Maximum slope of the voltage waveform
I_{PK}	Peak current I_{PK} = C dV/dt
P	Active power (losses)=Q x tan δ_0+R_s x I^2_{rms}

R_{th}	Thermal resistance between the hot-spot in the winding and the environment (natural cooling), so that: $P=(\vartheta_h - \vartheta_0)/R_{th}$ In case of forced air cooling the thermal resistance will be reduced of 20%. R_{th} is a global parameter that doesn't consider localized overheating due to high frequency current
ϑ_h	Hottest point in the capacitor winding = R_{th} x P+ϑ_0
ϑ_0	Operating ambient temperature. It is the air temperature measured under steady conditions at 0,1m from the capacitor case and at two-thirds of the height from its base
Tc	Temperature coefficient of capacitance. The coefficient is equal to –260 ppm/°C
Ln	Expected life at rated voltage U_N and hot-spot temperature of 70°C
L	Expected life at the actual working conditions
L_S	Self inductance of the capacitor. It is due to the internal connections, terminals, winding characteristics and physical dimensions
λ	Failure rate (FIT) = 10^9 x failures/component x hour

Graphical meaning of rated voltage U_N and peak to peak ripple voltage



The maximum allowed rms ripple voltage has to be lower than 10% of the rated voltage U_N (max 150V_{rms})

Technical Information

Ratings
Capacitance tolerance: ±10%, ±5% on request
Useful life: 100.000 hrs at 70°C hot-spot and U_N

Application
Expressly designed for operation with direct voltage

Environmental conditions
Operating temperature
ϑ_{min} = -25°C or -40°C depending on the capacitors model
ϑ_{max} = 70°C or 80°C depending on the capacitors model

ϑ_{max} temperature of the hottest point on the case at which the capacitor may operate
ϑ_{min} minimum operating ambient temperature at which the capacitor may operate

Storage temperature
ϑs_{min} =-40°C, ϑs_{max} =+85°C
ϑs_{max} maximum ambient temperature at which the capacitor may be continuously maintained non-operating
ϑs_{min} minimum ambient temperature at which the capacitor may be continuously maintained non-operating

Humidity class
Class F Max relative humidity: 75% annual on average, 95% 30 days per year, condensation not permitted

Design
The capacitor consists of metalized polypropylene windings filled with dry resin.
This technology gives many advantages:
- High DC voltage load capability
- High specific ratio capacitance to volume
- High capability to withstand surge currents
- Very good self healig characteristics

Case material and resin
- Self extinguishing in accordance to UL 94 V0

UL Approval
Capacitors families identified with simbol are UL approved:
UL file E191589

Environmental Compatibility
LNK series do not contain PCB and is manufactured in accordance to RoHS restrictions

Protection against accidental contact
All the capacitors are NOT protected against accidental contact

Discharge
All the capacitors are NOT provided with internal/external discharge device

Type of protection
Unprotected: no presence of overpressure disconnector/detector

Assembly/Cooling
The useful life of a capacitor can be dramatically reduced if exposed to excessive heat. In general, an increase in the ambient temperature of 7°C will halve the expected lifetime. Capacitors must be allowed to cool and should be shielded from external heat sources. Special tests by means of thermocouples should be conducted to be sure that the maximum hot spot temperature is not exceeded even under the most critical ambient circumstances. Capacitors shall not be placed near to heat source and a minimum clearance of 20mm between the capacitors shall be maintained

Overvoltages according to IEC 61071

Overvoltage	Maximum duration
1,1 x U_N	30% of on load duration
1,15 x U_N	30 min / day
1,2 x U_N	5 min / day
1,3 x U_N	1 min /day
1,5 x U_N	30 ms, no more than 1000 times in the lifetime

Mounting position

LNK capacitors shown in this catalogue can operate in any position without restrictions

Failure criteria

Capacitors are considered failed when one of the following conditions happens:

a. short circuit
b. open circuit
c. capacitance reduction higher than 5% of the initial value
d. tan δ increase over 3 times the initial value

Please contact ICAR Tech. Dept. in case of doubt

Routine dielectric tests

The performed tests before delivery are the following:

- capacitance and tan δ measurement
- D.C. voltage test between terminals (1.5 U_N for 10s)
- A.C. voltage test between terminals and case 1.414 x U_N + 1000V for 10s but not less than 2000 V

Risk of Esplosion and Fire

Capacitors consist mainly of polypropylene film.
The film may ignite as a result of internal fault or external overload. Appropriate measures should be ensured to avoid any risk of hazard in the event of failure.
FIRE LOAD: 46MJ/kg
EXTINGUISH WITH: solid extinguish agent, CO2, foam

Reference standard

IEC 61071

Storage and handling

We suggest not to keep the capacitors stored for more than 6 years.
After 1 years of storage, we recommend before energizing a preliminary measurement of capacitance and dissipation factor.
Polypropylene film capacitors do not need to be energized before using (polypropylene film capacitor do not need reforming process as for electrolytic one).

Storage condition to be respected are the following:

- Relative humidity: 75% annual on average
- Maximum relative humidity: 95%, 30 days per year
- Condensation: not permitted
- Minimum storage temperature: -40°C
- Maximum storage temperature: +85°C

Capacitors shall be stored indoors packed.
Do not store capacitors in corrosive atmosphere (as example it is not allowed the presence of chloride and sulphide gas, acid, alkali, salt or equivalent substances).
Move packed capacitors with care, especially when using a fork lift truck. Do not strain connectors.
The theoretical expected life time curves given in “Operating Life pag.7” are not applicable after 2 years storage

Maintenance

Before any operation, disconnect the capacitor or the bank, wait 5 minutes, short-circuit and earth the terminals.
Do not touch any capacitor terminal if not previously short circuited and earthed.
Periodical checks and inspections are required to ensure reliable operations: disregarding the following basic maintenance rules may result in severe operation, bursting and fire.

Two weeks after installation

- current measurement in the capacitors and comparison with the nominal one. In case of difference from the nominal value, check the capacitors and the application where they are installed
- check the tightness of the connection and terminals. This operation is always required before the start up.

Periodically* (at least every year)

- visual inspection in order to check mechanical deformation;
- clean the bushings and terminal boards to avoid short circuit due to dust or contaminants
- check the temperature in the cabinet where the capacitors are installed. An increase of temperature could be an indication of reduced efficiency of the cooling systems due to dust and other contaminants
- current measurement in the capacitors and comparison with the nominal one. In case of difference from the nominal value, check the application where they are installed
- check the surface temperature of energized capacitors. In case of excessive temperature is recommended to replace the capacitor. This could be due to an increase of loss angle which is an indication of reached end of life
- check the tightness of the connection and terminals
- perform a C and tan δ measurement. In case of capacitance reduction higher than 3% of the initial value or in case of tan δ increase over 3 times the initial value, capacitors shall be replaced.

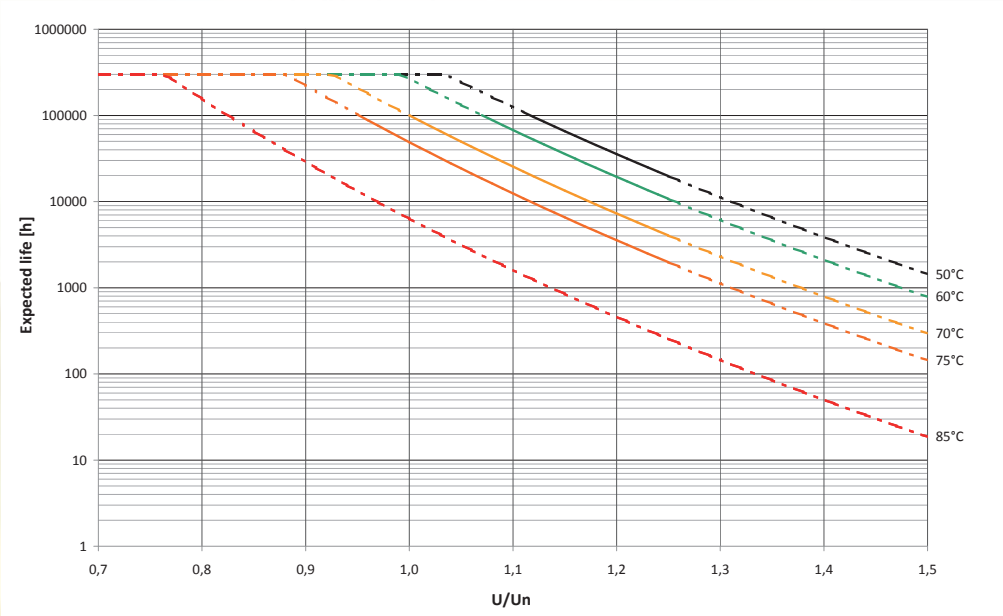
** maintenance schedule has to be established according to the specific operating conditions (for instance, in a polluted environment cleaning should be more frequent) and to the total safety requirement of the whole equipment where they are installed.*

Operating Life

The lifetime of a capacitor depends on the hot spot temperature and on the field strength in its dielectric during operation. The capacitors have been designed for an average probable service life of 100.000hrs at rated duty (voltage, temperature and frequency).
Lifetime is a statistical value calculated on the basis of experience and on theoretical evaluations.
It does not have an absolute value and it is not possible to transfer automatically data coming from a limited quantity of capacitors to a whole population or even to a single batch of capacitors.

The following diagrams show the correlation between useful life, hot spot temperature and operating voltage.
The diagrams should be considered only as a theoretical reference.
In the lifetime graphic, statements for more than 300.000hrs are cut off as they are technically unreasonable.
Dashed lines underline an high degree of uncertainty in case of voltage and hot temperature far from the rated ones, whose effect is a wide scattering in the experimental data. Please consult our technical department in case of working condition different from the rated ones.

Theoretical expected life time vs voltage and hot spot temperature



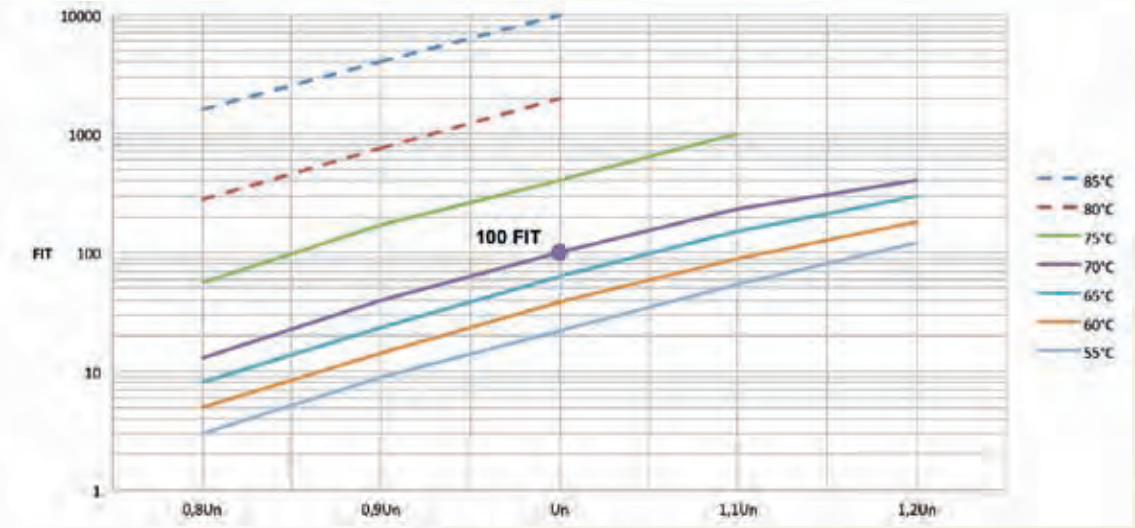
FIT Rate

Failure probability of a component is a statistical value described by a log normal distribution. It is related to an operating lifetime of 100.000hrs with hot spot temperature of 70°C. Failure considered are short circuits, interruptions, capacitance drifts exceeding 5% out of the rated tollerance limit and tan δ increase over 3 times the initial value.

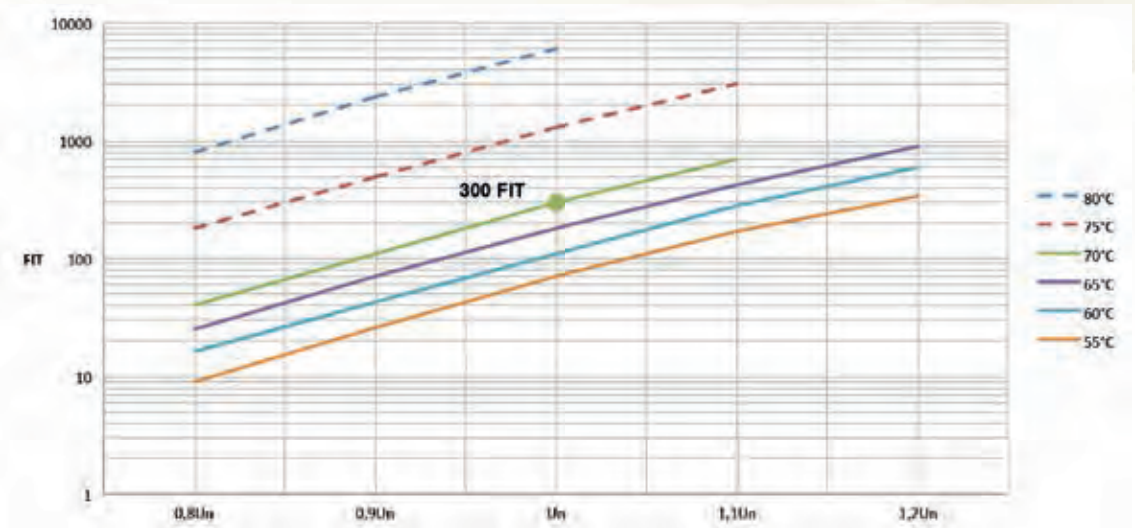
FIT is a statistical parameter coming from the empirical experience and should be considered as an approximate information about the effect of voltage and temperature conditions. It is not possible to automatically transfer the data coming from a limited quantity to a whole population or even to a batch of capacitors.

A simultaneous operation of capacitors at highest permissible voltage and operating temperature should be avoided otherwise, failure rate may increase.

Applicable for LNK-P1, LNK-P2, LNK-P3, LNK-P4, LNK-P5, LNK-P6 LNK-P7 LNK-P8 and LNK-M3 series.

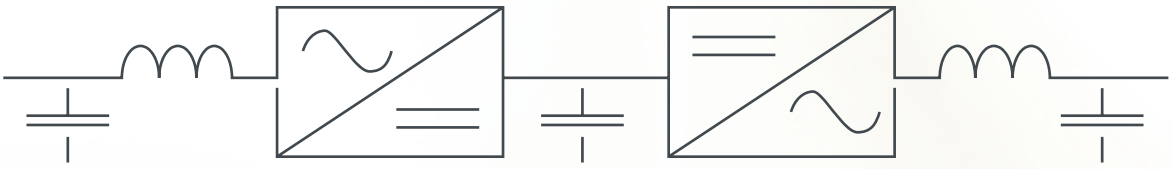


Applicable for LNK-P9 series.



LNK Series

THE EFFECTIVE WAY TO REPLACE ELECTROLYTIC CAPACITORS



LNK SERIES
DC LINK
CAPACITORS

KEY POINTS

- COMPACT DESIGN
- LOW LOSSES
- HIGH RIPPLE CURRENT
- DRY TECHNOLOGY I.E. NO LEAKAGE PROBLEMS
- SELF EXTINGUISHING RESINS AND PLASTICS ACCORDING TO UL94
- ON REQUEST, TECHNICAL DESIGN WITH DIFFERENT REQUIREMENTS AND HAZARD LEVELS ACCORDING TO EN 45545

ADVANTAGES OF LNK CAPACITORS AGAINST ELECTROLITYC CAPACITORS

A typical industrial converter basically consists of an AC/DC section (to convert the AC voltage of the grid into a DC voltage) and a DC/AC section either at variable frequency (motor drive) or fixed frequency (generators or UPS).
These two parts are connected through a DC bus (link circuit) where capacitors are required in order to filter the high frequency components (DC Link Capacitors).

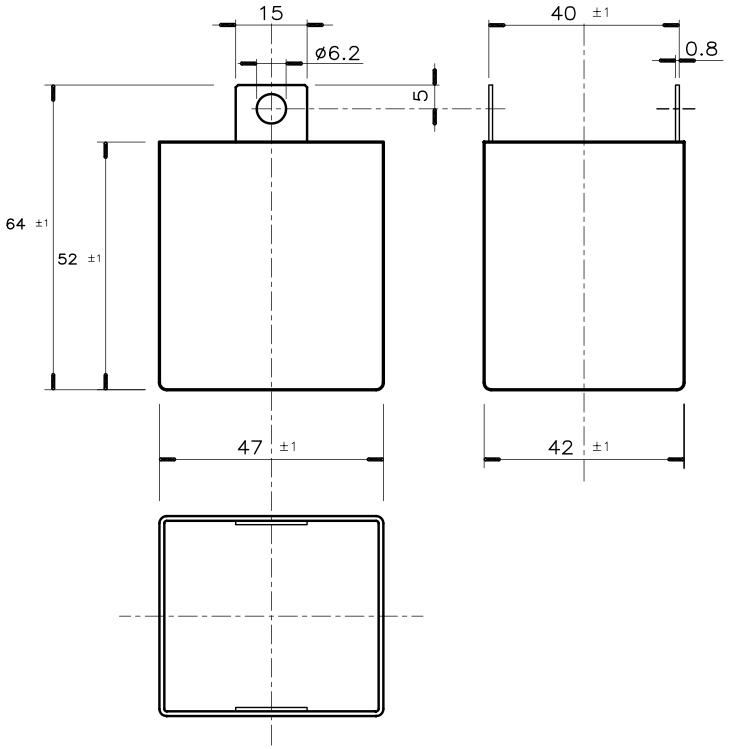
Most important requirements for these capacitors are:
- capability to withstand high currents at frequencies above 1000 Hz
- high energy density (Joule/dm^3)

Electrolytic Capacitors banks are used up to a voltage of 2000V, but their limits are:
- maximum working voltage across each capacitor limited to about 450÷500V
- maximum current, especially at high frequency, limited by the high ESR (Equivalent Series Resistance) typical of this technology.

For these reasons, in general, Electrolytic Capacitors have to be connected in series/parallel to form banks able to withstand the voltages and the currents required by the application.

Polypropylene film capacitors are able to overcome these limits and **in most cases they are able to replace favourably electrolytic capacitors** in applications where the voltage is above 500Vdc.

Main advantages of Metallized Film Capacitor are:
- High current per capacitance (A/µF)
- High voltage per element
- High capability to withstand overvoltages up to 2 times the rated voltage
- More than 10 years estimated lifetime
- Easy connections and low equivalent inductance
- Non polar dielectric
- No leakage of dangerous or poisonous electrolytes.



LNK – P1X

- VERY LOW INDUCTANCE
- SMALL SIZE
- RESIN COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 100 FIT
Operating Temperature -40°C / +70°C
Maximum hot spot 85°C

MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance with natural cooling R_{thn} (°C/W)	Full current max working frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Weight (kg)	Box quantity (pcs)
LNK-P1X-45-70	**45**	700	**1400**	40	**1500**	15	**1,40**	12,8	**40**	36	**36**	0,15	**49**
LNK-P1X-30-90	**30**	900	**1800**	35	**1300**	15	**1,70**	12,8	**40**	36	**36**	0,15	**49**
LNK-P1X-25-100	**25**	1000	**2000**	35	**1300**	15	**1,80**	12,8	**40**	36	**36**	0,15	**49**
LNK-P1X-22-110	**22**	1100	**2200**	35	**1200**	15	**1,90**	12,8	**40**	36	**36**	0,15	**49**
LNK-P1X-16-125	**16**	1250	**2500**	30	**1000**	15	**2,28**	12,8	**40**	36	**36**	0,15	**49**
LNK-P1X-10-145	**10**	1450	**2900**	25	**700**	15	**3,00**	12,8	**40**	36	**36**	0,15	**49**
LNK-P1X-7,5-180	**7,5**	1800	**3600**	20	**700**	15	**3,25**	12,8	**40**	36	**36**	0,15	**49**

- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- Routine dielectric test: DC voltage test between terminals = 1.5 UN x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).

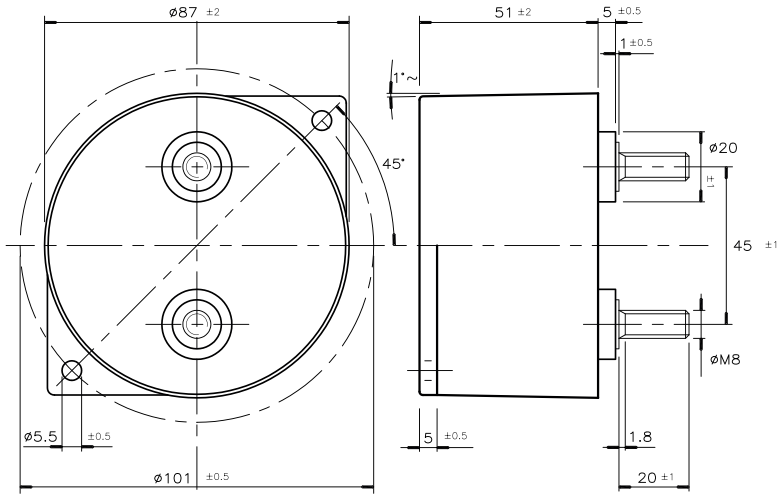
New version at 450V, 600V 2000V and 2200V

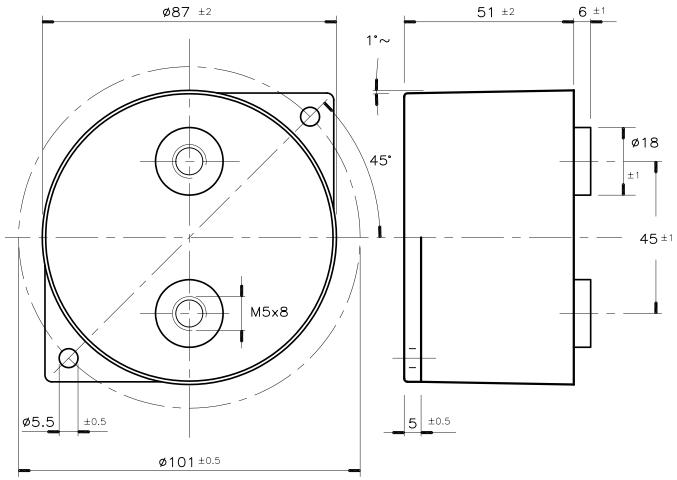
LNK – P2X

MALE TERMINALS

LNK – P2Z

FEMALE TERMINALS





ULfile: E191589 In accordance to EN45545

- HIGH CURRENT
- OPTIMIZED FOR HEATSINK MOUNTING
- RESIN COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 100 FIT
Operating temperature -40°C / +70°C
Max hot spot 85°C (70°C for 450V and 600V)

MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms Current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Tightening torque (Nm)	Fixing feet tightening torque (Nm)	Weight (kg)	Box quantity (pcs)
LNK-P2X-250-45	**250**	450	**900**	80	**6,8**	<30	**0,36**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-200-60	**200**	600	**1200**	80	**6,5**	<30	**0,38**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-150-70	**150**	700	**1400**	85	**5,3**	<30	**0,4**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-100-90	**100**	900	**1800**	75	**4,5**	<30	**0,55**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-80-100	**80**	1000	**2000**	70	**4**	<30	**0,6**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-70-110	**70**	1100	**2200**	70	**3,8**	<30	**0,65**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-50-125	**50**	1250	**2500**	65	**3,2**	<30	**0,75**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-40-145	**40**	1450	**2900**	60	**2,9**	<30	**0,8**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-25-180	**25**	1800	**3600**	55	**2,3**	<30	**1**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-20-200	**20**	2000	**4000**	50	**2**	<30	**1,2**	10	**10**	28	**28**	10	**2**	0,45	**16**
LNK-P2X-16-220	**16**	2200	**4400**	45	**1,7**	<30	**1,3**	10	**10**	28	**28**	10	**2**	0,45	**16**

- In order to decrease the thermal resistance, the capacitor should be installed on a heatsink through an heat conductive paste.
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).

new

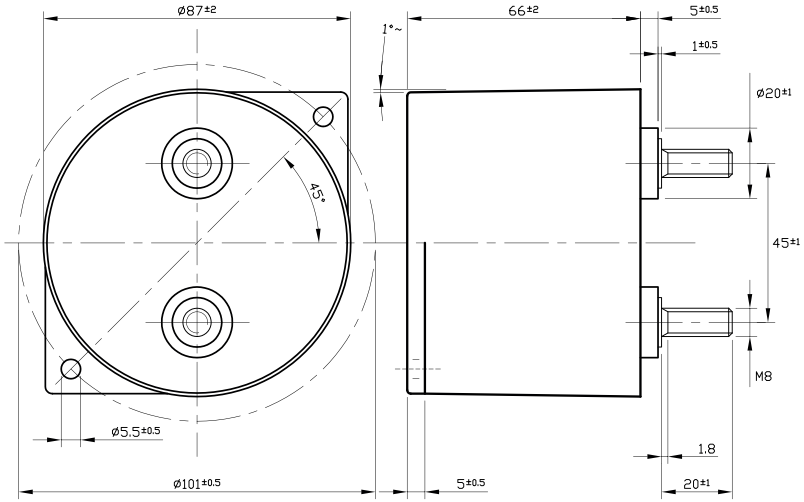
New version at 450V, 600V 2000V and 2200V

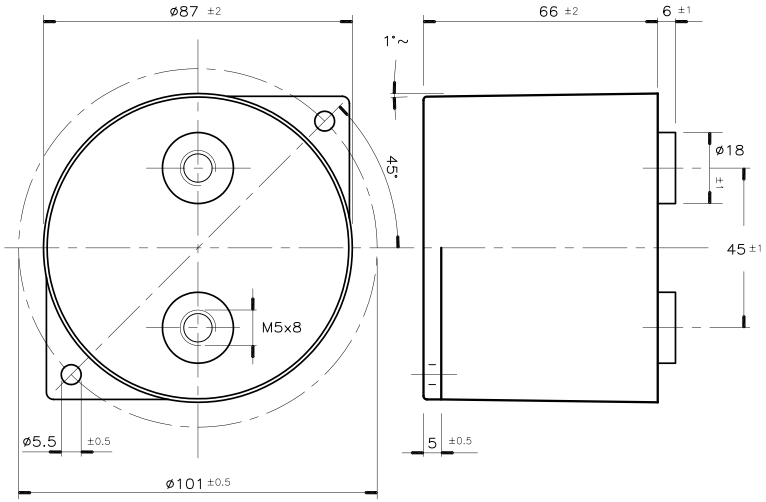
LNK – P2L

MALE TERMINALS

LNK – P2T

FEMALE TERMINALS





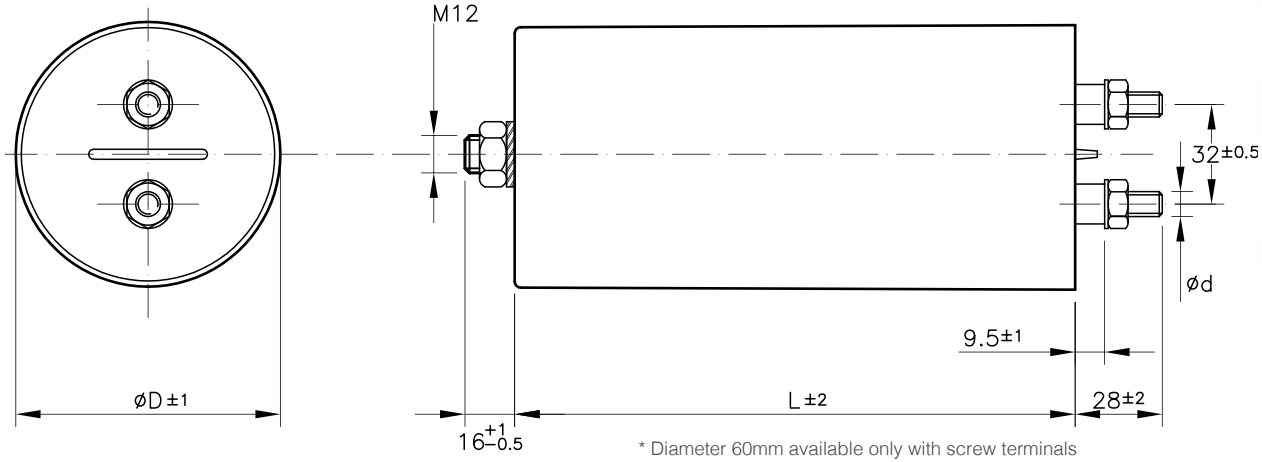
ULfile: E191589

- HIGH CURRENT
- OPTIMIZED FOR HEATSINK MOUNTING
- RESIN COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 100 FIT
Operating temperature -40°C / +70°C
Max hot spot 85°C (70°C for 450V and 600V)

MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Tightening Torque (Nm)	Fixing feet tightening torque (Nm)	Weight (Kg)	Box quantity (pcs)
LNK-P2L-350-45	**350**	450	**900**	60	**6,5**	40	**0,65**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-280-60	**280**	600	**1200**	60	**6**	40	**0,7**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-240-70	**240**	700	**1400**	60	**5,6**	40	**1**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-150-90	**150**	900	**1800**	55	**4,4**	40	**1,1**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-100-110	**100**	1100	**2200**	50	**3,6**	40	**1,3**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-75-125	**75**	1250	**2500**	45	**3,1**	40	**1,5**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-50-145	**50**	1450	**2900**	45	**2,4**	40	**1,6**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-35-180	**35**	1800	**3600**	40	**2,1**	40	**2**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-30-200	**30**	2000	**4000**	40	**2**	40	**2,1**	8,75	**10**	28	**28**	10	**2**	0,55	**16**
LNK-P2L-25-220	**25**	2200	**4400**	35	**1,8**	40	**2,2**	8,75	**10**	28	**28**	10	**2**	0,55	**16**

- In order to decrease the thermal resistance, the capacitor should be installed on a heatsink through an heat conductive paste.
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).



* Diameter 60mm available only with screw terminals

LNK – P3Y

ULfile: E191589

- MECHANICAL LAYOUT OPTIMIZED TO EASY REPLACE ELECTROLYTIC CAPACITORS
- ALSO AVAILABLE WITH THREADED HOLE TERMINALS, ON REQUEST
- RESIN COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

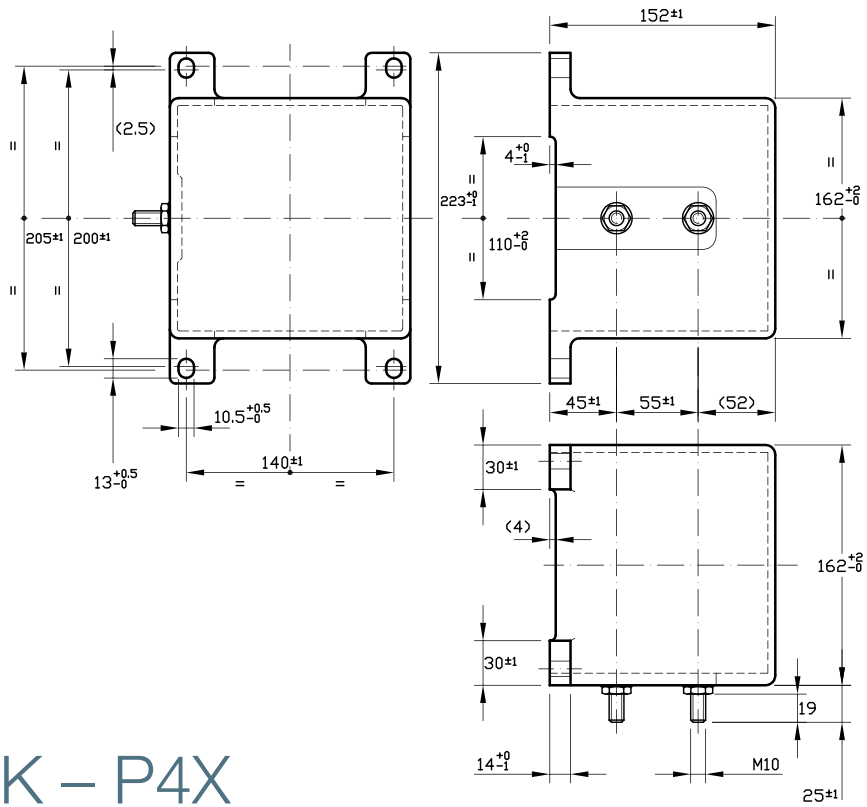
D (mm)	Creepage (mm)	Clearence (mm)	Screw terminals d	Tightening fixing stud (Nm)	Torque terminals (Nm)
60	30	**19,5**	M6	**10**	6
75	30	**19,5**	M6	**10**	6
85	30	**19,5**	M8	**10**	6
100	30	**19,5**	M8	**10**	10

Failure rate: 100 FIT
Operating temperature -40°C / +70°C
Max hot spot 85°C (70°C for 450V and 600V)

MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-P3Y-350-45	**350**	450	**680**	25	**1,4**	65	**4,8**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-630-45	**630**	450	**680**	35	**2,5**	65	**2,9**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-720-45	**720**	450	**680**	33	**2,5**	75	**3,2**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-850-45	**850**	450	**680**	40	**3,3**	65	**2,3**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-1300-45	**1300**	450	**680**	45	**4,4**	75	**2,1**	5,5	**5**	1,4	**100**	155	**9**
LNK-P3Y-260-60	**260**	600	**900**	25	**1,2**	65	**5,3**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-470-60	**470**	600	**900**	35	**2,1**	65	**3,2**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-540-60	**540**	600	**900**	33	**2,1**	75	**3,5**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-640-60	**640**	600	**900**	40	**2,9**	65	**2,6**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-1000-60	**1000**	600	**900**	45	**4**	75	**2,3**	5,5	**5**	1,4	**100**	155	**9**

MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-P3Y-220-80	**220**	800	**1200**	25	**1,1**	65	**5,7**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-400-80	**400**	800	**1200**	35	**2**	65	**3,4**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-460-80	**460**	800	**1200**	30	**2**	75	**3,7**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-540-80	**540**	800	**1200**	40	**2,7**	65	**2,7**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-870-80	**870**	800	**1200**	40	**3,8**	75	**2,4**	5,5	**5**	1,4	**100**	155	**9**
LNK-P3Y-160-110	**160**	1100	**1650**	25	**0,9**	65	**6,5**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-285-110	**285**	1100	**1650**	30	**1,7**	65	**3,9**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-320-110	**320**	1100	**1650**	30	**1,6**	75	**4,4**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-380-110	**380**	1100	**1650**	35	**2,2**	65	**3,1**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-620-110	**620**	1100	**1650**	40	**3,2**	75	**2,6**	5,5	**5**	1,4	**100**	155	**9**
LNK-P3Y-105-130	**105**	1300	**1950**	20	**0,8**	65	**7,8**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-190-130	**190**	1300	**1950**	30	**1,4**	65	**4,6**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-210-130	**210**	1300	**1950**	25	**3**	75	**5,2**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-260-130	**260**	1300	**1950**	30	**1,9**	65	**3,6**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-420-130	**420**	1300	**1950**	35	**2,6**	75	**3**	5,5	**5**	1,4	**100**	155	**9**
LNK-P3Y-65-165	**65**	1650	**2475**	18	**0,6**	65	**9,9**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-120-165	**120**	1650	**2475**	25	**1,1**	65	**5,6**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-140-165	**140**	1650	**2475**	25	**1,1**	75	**6,2**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-160-165	**160**	1650	**2475**	30	**1,4**	65	**4,4**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-270-165	**270**	1650	**2475**	30	**2,1**	75	**3,6**	5,5	**5**	1,4	**100**	155	**9**
LNK-P3Y-50-185	**50**	1850	**2775**	18	**0,5**	65	**11,1**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-90-185	**90**	1850	**2775**	25	**0,9**	65	**6,4**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-100-185	**100**	1850	**2775**	20	**0,9**	75	**7,4**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-125-185	**125**	1850	**2775**	25	**1,3**	65	**4,9**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-200-185	**200**	1850	**2775**	30	**1,8**	75	**4,1**	5,5	**5**	1,4	**100**	155	**9**
LNK-P3Y-40-200	**40**	2000	**3000**	15	**0,5**	65	**12,2**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-70-200	**70**	2000	**3000**	20	**0,8**	65	**7,2**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-80-200	**80**	2000	**3000**	20	**0,8**	75	**8,1**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-100-200	**100**	2000	**3000**	25	**1,1**	65	**5,3**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-160-200	**160**	2000	**3000**	30	**1,6**	75	**4,4**	5,5	**5**	1,4	**100**	155	**9**
LNK-P3Y-33-220	**33**	2200	**3300**	15	**0,4**	65	**13,2**	6,1	**5**	0,5	**60**	140	**36**
LNK-P3Y-60-220	**60**	2200	**3300**	20	**0,8**	65	**7,5**	5,9	**5**	0,75	**75**	140	**16**
LNK-P3Y-65-220	**65**	2200	**3300**	20	**0,7**	75	**8,9**	5,9	**5**	0,8	**75**	155	**16**
LNK-P3Y-80-220	**80**	2200	**3300**	25	**1**	65	**5,8**	5,7	**5**	0,9	**85**	140	**16**
LNK-P3Y-125-220	**125**	2200	**3300**	25	**1,4**	75	**5**	5,5	**5**	1,4	**100**	155	**9**

- In order to decrease the thermal resistance, the capacitor should be installed on a heatsink through an heat conductive paste.
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and fixing stud = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).



LNK – P4X

ULfile: E191589

- HEAVY DUTY CONSTRUCTION
- EXTERNAL RESIN AND CASE COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

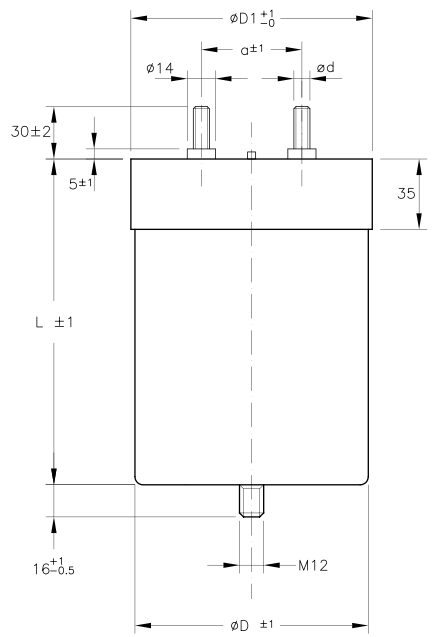
Failure rate: 100 FIT
Operating temperature -40°C / +80°C
Max hot spot 85°C (70°C for 650V)

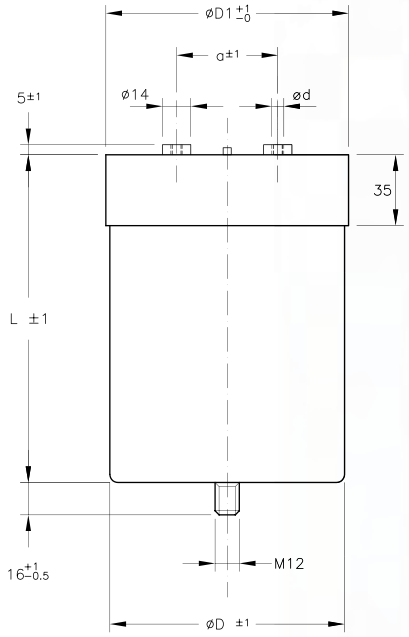
MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance with natural cooling R_{thn} (°C/W)	Full current Max Working Frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Tightening torque (Nm)	Fixing feet tightening torque (Nm)	Weight (kg)	Box quantity (pcs)
LNK-P4X-2750-65	**2750**	650	**975**	120	**10500**	<30	**0,62**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-2000-70	**2000**	700	**1400**	120	**8800**	<30	**0,5**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-2350-80	**2350**	800	**1200**	120	**10000**	<30	**0,65**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-1300-90	**1300**	900	**1800**	120	**7200**	<30	**0,6**	2,75	**15**	47	**35**	20	**8**	5,2	**4**

- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- Maximum hot spot temperature: 85°C
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).

MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance with natural cooling R_{thn} (°C/W)	Full current max working frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Tightening torque (Nm)	Fixing feet tightening torque (Nm)	Weight (kg)	Box quantity (pcs)
LNK-P4X-1500-90	**1500**	900	**1350**	110	**8000**	<30	**0,80**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-900-110	**900**	1100	**2200**	120	**6000**	<30	**0,7**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-1150-110	**1150**	1100	**1650**	105	**7000**	<30	**0,90**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-650-125	**650**	1250	**2500**	115	**5200**	<30	**0,8**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-1000-125	**1000**	1250	**1875**	100	**6500**	<30	**0,95**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-500-145	**500**	1450	**2900**	100	**8800**	<30	**0,9**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-730-145	**730**	1450	**2175**	95	**5500**	<30	**1,10**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-350-180	**350**	1800	**3600**	100	**7600**	<30	**1,1**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-430-180	**430**	1800	**2700**	85	**4000**	<30	**1,40**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-220-220	**220**	2200	**4400**	120	**8400**	<30	**0,7**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-265-220	**265**	2200	**3300**	105	**6800**	<30	**0,90**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-170-280	**170**	2800	**4200**	95	**5400**	<30	**1,10**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-55-400	**55**	4000	**8000**	60	**4200**	<30	**2,85**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-75-400	**75**	4000	**6000**	55	**3400**	<30	**3,25**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-20-500	**20**	5000	**10000**	50	**2300**	<30	**4,5**	2,75	**15**	47	**35**	20	**8**	5,2	**4**
LNK-P4X-50-500	**50**	5000	**7500**	50	**2600**	<30	**4,05**	2,75	**15**	47	**35**	20	**8**	5,2	**4**

- In order to decrease the thermal resistance, the capacitor should be installed on a heatsink through an heat conductive paste.
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).





LNK – M3

ULfile: E191589

- MECHANICAL LAYOUT OPTIMIZED TO EASY REPLACE ELECTROLYTIC CAPACITORS
- AVAILABLE BOTH WITH SCREW AND THREADED HOLES TERMINALS
- RESIN COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Terminals selection	
M3**R**	**M6 threaded holes**
M3**S**	**M8 threaded holes**
M3**T**	**M6 screw terminals**
M3**U**	**M8 screw terminals**

D (mm)	D1 (mm)	a (mm)	Creepage between terminals (mm)	Clearence (mm)	Terminal screw or threaded hole	Torque fixing stud M12 (Nm)	Torque terminals M6/M8 (Nm)
85	**89**	**32**	**36**	**20**	M6/M8	**10**	**6/8**
100	**104**	**32**	**36**	**18**	M6/M8	**10**	**6/8**
116	**120**	**50**	**45**	**36**	M6/M8	**10**	**6/8**
136	**140**	**50**	**48**	**36**	M6/M8	**10**	**6/8**

Failure rate: 100 FIT
Operating temperature -40°C / +75°C
Maximum hot spot 85°C (70°C for 550V and 700V)

*M2 version (lower diameter) available on request.

LNK – M3...1 HIGH CURRENT

U_N: 550V U_S: 820V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-750-55	750	70	6,2	40	0,62	6,2	10	0,9	85	133	16
LNK-M3_1-900-55	900	70	6,2	45	0,75	5,3	10	1,1	85	158	16
LNK-M3_1-1100-55	1100	70	6,2	50	0,85	4,6	10	1,2	85	182	16
LNK-M3_1-1500-55	1500	70	6,2	60	1,25	3,7	10	1,5	85	233	4
LNK-M3_1-1000-55	1000	90	8,5	40	0,53	5,2	10	1,3	100	133	9
LNK-M3_1-1250-55	1250	90	8,5	45	0,53	4,4	10	1,5	100	158	9
LNK-M3_1-1500-55	1500	90	8,5	50	0,68	4	10	1,7	100	182	9
LNK-M3_1-2000-55	2000	80	8,5	60	0,95	3,2	10	2	100	233	3
LNK-M3_1-2300-55	2300	85	8,5	60	0,95	3	10	2,1	100	253	3
LNK-M3_1-2600-55	2600	90	8,5	60	0,95	2,6	10	2,4	100	283	3
LNK-M3_1-1500-55	1500	100	13	40	0,38	4,3	10	1,6	116	133	9
LNK-M3_1-1900-55	1900	100	13	45	0,42	3,7	10	1,9	116	158	9
LNK-M3_1-2300-55	2300	100	13	50	0,48	3,3	10	2,2	116	182	9
LNK-M3_1-3200-55	3200	100	13	60	0,65	2,7	10	2,7	116	233	3
LNK-M3_1-3500-55	3500	100	13	60	0,7	2,5	10	2,9	116	253	3
LNK-M3_1-3200-55	3200	100	18	60	0,48	2,3	10	3,1	116	270	3
LNK-M3_1-4000-55	4000	100	13	60	0,7	2,2	10	3,2	116	283	3
LNK-M3_1-4500-55	4500	100	18	70	0,57	1,9	10	3,9	116	345	3
LNK-M3_1-4700-55 *	4700	120	25	60	0,42	1,9	10	4,3	136	270	2
LNK-M3_1-5600-55 *	5600	120	18	60	0,58	1,8	10	4,4	136	283	2
LNK-M3_1-6400-55 *	6400	120	25	70	0,52	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 700V U_S: 1050V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-560-70	560	70	6	40	0,65	6,2	10	0,9	85	133	16
LNK-M3_1-710-70	710	70	6	45	0,75	5,3	10	1,1	85	158	16
LNK-M3_1-770-70	770	90	8	40	0,55	5,2	10	1,3	100	133	9
LNK-M3_1-870-70	870	70	6	50	0,9	4,6	10	1,2	85	182	16
LNK-M3_1-950-70	950	90	8	45	0,55	4,4	10	1,5	100	158	9
LNK-M3_1-1100-70	1100	100	12	40	0,4	4,3	10	1,6	116	133	9
LNK-M3_1-1180-70	1180	70	6	60	1,3	3,7	10	1,5	85	233	4
LNK-M3_1-1200-70	1200	90	8	50	0,7	4	10	1,7	100	182	9
LNK-M3_1-1450-70	1450	100	12	45	0,45	3,7	10	1,9	116	158	9
LNK-M3_1-1600-70	1600	80	8	60	1	3,2	10	2	100	233	3
LNK-M3_1-1750-70	1750	100	12	50	0,5	3,3	10	2,2	116	182	9
LNK-M3_1-1800-70	1800	85	8	60	1	3	10	2,1	100	253	3
LNK-M3_1-2000-70	2000	90	8	60	1	2,6	10	2,4	100	283	3
LNK-M3_1-2400-70	2400	100	12	60	0,7	2,7	10	2,7	116	233	3
LNK-M3_1-2400-70	2400	100	16	60	0,5	2,3	10	3,1	116	270	3
LNK-M3_1-2650-70	2650	100	12	60	0,75	2,5	10	2,9	116	253	3
LNK-M3_1-3000-70	3000	100	12	60	0,75	2,2	10	3,2	116	283	3
LNK-M3_1-3300-70	3300	100	16	70	0,6	1,9	10	3,9	116	345	3
LNK-M3_1-3500-70 *	3500	120	23	60	0,45	1,9	10	4,3	136	270	2
LNK-M3_1-4200-70 *	4200	120	16	60	0,6	1,8	10	4,4	136	283	2
LNK-M3_1-4700-70 *	4700	120	23	70	0,55	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 900V U_S: 1350V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-470-90	470	70	5,5	40	0,7	6,2	10	0,9	85	133	16
LNK-M3_1-605-90	605	70	5,5	45	0,8	5,3	10	1,1	85	158	16
LNK-M3_1-660-90	660	90	7,3	40	0,55	5,2	10	1,3	100	133	9
LNK-M3_1-740-90	740	70	5,5	50	0,95	4,6	10	1,2	85	182	16
LNK-M3_1-830-90	830	90	7,3	45	0,6	4,4	10	1,5	100	158	9
LNK-M3_1-950-90	950	100	11	40	0,4	4,3	10	1,6	116	133	9
LNK-M3_1-1000-90	1000	70	5,5	60	1,4	3,7	10	1,5	85	233	4
LNK-M3_1-1000-90	1000	85	7,3	50	0,75	4	10	1,7	100	182	9
LNK-M3_1-1220-90	1220	100	11	45	0,45	3,7	10	1,9	116	158	9
LNK-M3_1-1350-90	1350	80	7,3	60	1,1	3,2	10	2	100	233	3
LNK-M3_1-1500-90	1500	85	7,3	60	1,05	3	10	2,1	100	253	3
LNK-M3_1-1500-90	1500	100	11	50	0,55	3,3	10	2,2	116	182	9
LNK-M3_1-1700-90	1700	90	7,3	60	1,05	2,6	10	2,4	100	283	3
LNK-M3_1-2000-90	2000	100	14	60	0,5	2,3	10	3,1	116	270	3
LNK-M3_1-2030-90	2030	100	11	60	0,75	2,7	10	2,7	116	233	3
LNK-M3_1-2250-90	2250	100	11	60	0,78	2,5	10	2,9	116	253	3
LNK-M3_1-2570-90	2570	100	11	60	0,78	2,2	10	3,2	116	283	3
LNK-M3_1-2800-90	2800	100	14	70	0,65	1,9	10	3,9	116	345	3
LNK-M3_1-3000-90 *	3000	120	21	60	0,45	1,9	10	4,3	136	270	2
LNK-M3_1-3500-90 *	3500	120	14	60	0,65	1,8	10	4,4	136	283	2
LNK-M3_1-4000-90 *	4000	120	21	70	0,55	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 1100V U_S: 1650V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-335-110	335	70	4,7	40	0,75	6,2	10	0,9	85	133	16
LNK-M3_1-430-110	430	70	4,7	45	0,9	5,3	10	1,1	85	158	16
LNK-M3_1-470-110	470	85	6,1	40	0,6	5,2	10	1,3	100	133	9
LNK-M3_1-530-110	530	70	4,7	50	1,05	4,6	10	1,2	85	182	16
LNK-M3_1-580-110	580	90	6,1	45	0,6	4,4	10	1,5	100	158	9
LNK-M3_1-680-110	680	100	9,4	40	0,45	4,3	10	1,6	116	133	9
LNK-M3_1-720-110	720	65	4,7	60	1,55	3,7	10	1,5	85	233	4
LNK-M3_1-730-110	730	85	6,1	50	0,8	4	10	1,7	100	182	9
LNK-M3_1-870-110	870	100	9,4	45	0,5	3,7	10	1,9	116	158	9
LNK-M3_1-950-110	950	80	6,1	60	1,2	3,2	10	2	100	233	3
LNK-M3_1-1065-110	1065	100	9,4	50	0,58	3,3	10	2,2	116	182	9
LNK-M3_1-1100-110	1100	80	6,1	60	1,2	3	10	2,1	100	253	3
LNK-M3_1-1250-110	1250	90	6,1	60	1,15	2,6	10	2,4	100	283	3
LNK-M3_1-1450-110	1450	100	9,4	60	0,85	2,7	10	2,7	116	233	3
LNK-M3_1-1450-110	1450	100	12	60	0,55	2,3	10	3,1	116	270	3
LNK-M3_1-1600-110	1600	100	9,4	60	0,85	2,5	10	2,9	116	253	3
LNK-M3_1-1850-110	1850	100	9,4	60	0,85	2,2	10	3,2	116	283	3
LNK-M3_1-2000-110	2000	100	12	70	0,7	1,9	10	3,9	116	345	3
LNK-M3_1-2100-110 *	2100	120	18	60	0,5	1,9	10	4,3	136	270	2
LNK-M3_1-2500-110 *	2500	120	12	60	0,7	1,8	10	4,4	136	283	2
LNK-M3_1-2900-110 *	2900	120	18	70	0,6	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 1300V U_S: 1950V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-225-130	225	65	3,8	40	0,85	6,2	10	0,9	85	133	16
LNK-M3_1-290-130	290	65	3,8	45	1,05	5,3	10	1,1	85	158	16
LNK-M3_1-310-130	310	80	5,1	40	0,7	5,2	10	1,3	100	133	9
LNK-M3_1-350-130	350	65	3,8	50	1,25	4,6	10	1,2	85	182	16
LNK-M3_1-400-130	400	85	5,1	45	0,7	4,4	10	1,5	100	158	9
LNK-M3_1-455-130	455	100	7,7	40	0,5	4,3	10	1,6	116	133	9
LNK-M3_1-480-130	480	60	3,8	60	1,8	3,7	10	1,5	85	233	4
LNK-M3_1-480-130	480	75	5,1	50	0,95	4	10	1,7	100	182	9
LNK-M3_1-585-130	585	100	7,7	45	0,55	3,7	10	1,9	116	158	9
LNK-M3_1-650-130	650	75	5,1	60	1,35	3,2	10	2	100	233	3
LNK-M3_1-710-130	710	100	7,7	50	0,65	3,3	10	2,2	116	182	9
LNK-M3_1-720-130	720	75	5,1	60	1,4	3	10	2,1	100	253	3
LNK-M3_1-810-130	810	80	5,1	60	1,4	2,6	10	2,4	100	283	3
LNK-M3_1-970-130	970	100	7,7	60	0,95	2,7	10	2,7	116	233	3
LNK-M3_1-980-130	980	100	10,5	60	0,6	2,3	10	3,1	116	270	3
LNK-M3_1-1070-130	1070	100	7,7	60	1	2,5	10	2,9	116	253	3
LNK-M3_1-1230-130	1230	100	7,7	60	1	2,2	10	3,2	116	283	3
LNK-M3_1-1350-130	1350	100	10,5	70	0,8	1,9	10	3,9	116	345	3
LNK-M3_1-1400-130 *	1400	120	15	60	0,55	1,9	10	4,3	136	270	2
LNK-M3_1-1700-130 *	1700	120	10,5	60	0,8	1,8	10	4,4	136	283	2
LNK-M3_1-1900-130 *	1900	120	15	70	0,65	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 1650V U_S: 2475V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-145-165	145	60	3,1	40	1	6,2	10	0,9	85	133	16
LNK-M3_1-190-165	190	60	3,1	45	1,2	5,3	10	1,1	85	158	16
LNK-M3_1-200-165	200	75	4,1	40	0,8	5,2	10	1,3	100	133	9
LNK-M3_1-230-165	230	60	3,1	50	1,45	4,6	10	1,2	85	182	16
LNK-M3_1-260-165	260	80	4,1	45	0,8	4,4	10	1,5	100	158	9
LNK-M3_1-300-165	300	100	6,2	40	0,55	4,3	10	1,6	116	133	9
LNK-M3_1-310-165	310	70	4,1	50	1,1	4	10	1,7	100	182	9
LNK-M3_1-315-165	315	55	3,1	60	2,15	3,7	10	1,5	85	233	4
LNK-M3_1-380-165	380	100	6,2	45	0,65	3,7	10	1,9	116	158	9
LNK-M3_1-420-165	420	65	4,1	60	1,6	3,2	10	2	100	233	3
LNK-M3_1-465-165	465	100	6,2	50	0,75	3,3	10	2,2	116	182	9
LNK-M3_1-470-165	470	70	4,1	60	1,65	3	10	2,1	100	253	3
LNK-M3_1-550-165	550	75	4,1	60	1,6	2,6	10	2,4	100	283	3
LNK-M3_1-635-165	635	90	6,2	60	1,1	2,7	10	2,7	116	233	3
LNK-M3_1-640-165	640	100	8,5	60	0,65	2,3	10	3,1	116	270	3
LNK-M3_1-700-165	700	90	6,2	60	1,15	2,5	10	2,9	116	253	3
LNK-M3_1-800-165	800	95	6,2	60	1,15	2,2	10	3,2	116	283	3
LNK-M3_1-880-165	880	100	8,5	70	0,9	1,9	10	3,9	116	345	3
LNK-M3_1-920-165 *	920	120	12	60	0,6	1,9	10	4,3	136	270	2
LNK-M3_1-1100-165 *	1100	100	8,5	60	0,95	1,8	10	4,4	136	283	2
LNK-M3_1-1250-165 *	1250	120	12	70	0,75	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 1850V U_S: 2780V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-112-185	112	60	2,7	40	1,1	6,2	10	0,9	85	133	16
LNK-M3_1-145-185	145	60	2,7	45	1,35	5,3	10	1,1	85	158	16
LNK-M3_1-150-185	150	70	3,5	40	0,9	5,2	10	1,3	100	133	9
LNK-M3_1-175-185	175	55	2,7	50	1,6	4,6	10	1,2	85	182	16
LNK-M3_1-200-185	200	75	3,5	45	0,9	4,4	10	1,5	100	158	9
LNK-M3_1-225-185	225	95	5,5	40	0,6	4,3	10	1,6	116	133	9
LNK-M3_1-240-185	240	50	2,7	60	2,4	3,7	10	1,5	85	233	4
LNK-M3_1-240-185	240	70	3,5	50	1,2	4	10	1,7	100	182	9
LNK-M3_1-290-185	290	95	5,5	45	0,75	3,7	10	1,9	116	158	9
LNK-M3_1-330-185	330	65	3,5	60	1,75	3,2	10	2	100	233	3
LNK-M3_1-350-185	350	65	3,5	60	1,95	3	10	2,1	100	253	3
LNK-M3_1-355-185	355	95	5,5	50	0,85	3,3	10	2,2	116	182	9
LNK-M3_1-410-185	410	70	3,5	60	1,8	2,6	10	2,4	100	283	3
LNK-M3_1-480-185	480	100	7,3	60	0,75	2,3	10	3,1	116	270	3
LNK-M3_1-485-185	485	85	5,5	60	1,25	2,7	10	2,7	116	233	3
LNK-M3_1-535-185	535	85	5,5	60	1,3	2,5	10	2,9	116	253	3
LNK-M3_1-610-185	610	90	5,5	60	1,3	2,2	10	3,2	116	283	3
LNK-M3_1-670-185	670	100	7,3	70	1	1,9	10	3,9	116	345	3
LNK-M3_1-700-185 *	700	120	10	60	0,6	1,9	10	4,3	136	270	2
LNK-M3_1-850-185 *	850	100	7,3	60	1	1,8	10	4,4	136	283	2
LNK-M3_1-950-185 *	950	120	10	70	0,8	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 2000V U_S: 3000V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-85-200	85	55	2,2	40	1,25	6,2	10	0,9	85	133	16
LNK-M3_1-110-200	110	55	2,2	45	1,45	5,3	10	1,1	85	158	16
LNK-M3_1-120-200	120	70	3,1	40	0,95	5,2	10	1,3	100	133	9
LNK-M3_1-135-200	135	50	2,2	50	1,8	4,6	10	1,2	85	182	16
LNK-M3_1-150-200	150	75	3,1	45	1	4,4	10	1,5	100	158	9
LNK-M3_1-170-200	170	85	4,6	40	0,7	4,3	10	1,6	116	133	9
LNK-M3_1-180-200	180	45	2,2	60	2,75	3,7	10	1,5	85	233	4
LNK-M3_1-190-200	190	65	3,1	50	1,35	4	10	1,7	100	182	9
LNK-M3_1-220-200	220	90	4,6	45	0,8	3,7	10	1,9	116	158	9
LNK-M3_1-250-200	250	60	3,1	60	2	3,2	10	2	100	233	3
LNK-M3_1-280-200	280	60	3,1	60	2,1	3	10	2,1	100	253	3
LNK-M3_1-280-200	280	85	4,6	50	0,95	3,3	10	2,2	116	182	9
LNK-M3_1-320-200	320	65	3,1	60	2	2,6	10	2,4	100	283	3
LNK-M3_1-380-200	380	80	4,6	60	1,35	2,7	10	2,7	116	233	3
LNK-M3_1-380-200	380	100	6,5	60	0,8	2,3	10	3,1	116	270	3
LNK-M3_1-410-200	410	80	4,6	60	1,5	2,5	10	2,9	116	253	3
LNK-M3_1-470-200	470	80	4,6	60	1,45	2,2	10	3,2	116	283	3
LNK-M3_1-520-200	520	100	6,5	70	1,1	1,9	10	3,9	116	345	3
LNK-M3_1-550-200 *	550	120	9,4	60	0,65	1,9	10	4,3	136	270	2
LNK-M3_1-670-200 *	670	100	6,5	60	1,1	1,8	10	4,4	136	283	2
LNK-M3_1-750-200 *	750	120	9,4	70	0,85	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 2200V U_S: 3300V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max workingfrequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-70-220	70	55	2,1	40	1,3	6,2	10	0,9	85	133	16
LNK-M3_1-90-220	90	50	2,1	45	1,55	5,3	10	1,1	85	158	16
LNK-M3_1-100-220	100	65	2,8	40	1	5,2	10	1,3	100	133	9
LNK-M3_1-110-220	110	50	2,1	50	1,95	4,6	10	1,2	85	182	16
LNK-M3_1-125-220	125	70	2,8	45	1,05	4,4	10	1,5	100	158	9
LNK-M3_1-140-220	140	85	4,2	40	0,75	4,3	10	1,6	116	133	9
LNK-M3_1-150-220	150	45	2,1	60	2,95	3,7	10	1,5	85	233	4
LNK-M3_1-150-220	150	60	2,8	50	1,5	4	10	1,7	100	182	9
LNK-M3_1-180-220	180	85	4,2	45	0,85	3,7	10	1,9	116	158	9
LNK-M3_1-210-220	210	60	2,8	60	2,1	3,2	10	2	100	233	3
LNK-M3_1-220-220	220	80	4,2	50	1,05	3,3	10	2,2	116	182	9
LNK-M3_1-230-220	230	60	2,8	60	2,3	3	10	2,1	100	253	3
LNK-M3_1-260-220	260	60	2,8	60	2,2	2,6	10	2,4	100	283	3
LNK-M3_1-300-220	300	75	4,2	60	1,55	2,7	10	2,7	116	233	3
LNK-M3_1-310-220	310	100	5,9	60	0,85	2,3	10	3,1	116	270	3
LNK-M3_1-330-220	330	75	4,2	60	1,6	2,5	10	2,9	116	253	3
LNK-M3_1-380-220	380	80	4,2	60	1,6	2,2	10	3,2	116	283	3
LNK-M3_1-420-220	420	100	5,9	70	1,2	1,9	10	3,9	116	345	3
LNK-M3_1-450-220 *	450	120	8,4	60	0,7	1,9	10	4,3	136	270	2
LNK-M3_1-530-220 *	530	100	5,9	60	1,2	1,8	10	4,4	136	283	2
LNK-M3_1-600-220 *	600	120	8,4	70	0,95	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 2600V U_S: 3900V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-45-260	45	55	3,5	40	1,1	6,2	10	0,9	85	133	16
LNK-M3_1-55-260	55	60	3,5	45	1,05	5,3	10	1,1	85	158	16
LNK-M3_1-60-260	60	70	4,8	40	0,9	5,2	10	1,3	100	133	9
LNK-M3_1-70-260	70	60	3,5	50	1,4	4,6	10	1,2	85	182	16
LNK-M3_1-80-260	80	85	4,8	45	0,7	4,4	10	1,5	100	158	9
LNK-M3_1-90-260	90	95	6,9	40	0,6	4,3	10	1,6	116	133	9
LNK-M3_1-95-260	95	70	4,8	50	1,1	4	10	1,7	100	182	9
LNK-M3_1-100-260	100	50	3,5	60	2,15	3,7	10	1,5	85	233	4
LNK-M3_1-110-260	110	100	6,9	45	0,6	3,7	10	1,9	116	158	9
LNK-M3_1-140-260	140	70	4,8	60	1,55	3,2	10	2	100	233	3
LNK-M3_1-140-260	140	95	6,9	50	0,8	3,3	10	2,2	116	182	9
LNK-M3_1-155-260	155	60	4,8	60	1,85	3	10	2,1	100	253	3
LNK-M3_1-180-260	180	75	4,8	60	1,45	2,6	10	2,4	100	283	3
LNK-M3_1-200-260	200	85	6,9	60	1,15	2,7	10	2,7	116	233	3
LNK-M3_1-200-260	200	100	9,8	60	0,6	2,3	10	3,1	116	270	3
LNK-M3_1-220-260	220	85	6,9	60	1,35	2,5	10	2,9	116	253	3
LNK-M3_1-260-260	260	95	6,9	60	1,05	2,2	10	3,2	116	283	3
LNK-M3_1-280-260	280	100	9,8	70	0,9	1,9	10	3,9	116	345	3
LNK-M3_1-280-260 *	280	120	14	60	0,55	1,9	10	4,3	136	270	2
LNK-M3_1-360-260 *	360	120	9,8	60	0,85	1,8	10	4,4	136	283	2
LNK-M3_1-410-260 *	410	120	14	70	0,75	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s,AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...1 HIGH CURRENT

U_N: 3000V U_S: 4500V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_1-32-300	32	55	2,9	40	1,25	6,2	10	0,9	85	133	16
LNK-M3_1-40-300	40	60	2,9	45	1,2	5,3	10	1,1	85	158	16
LNK-M3_1-45-300	45	65	4	40	1	5,2	10	1,3	100	133	9
LNK-M3_1-50-300	50	55	2,9	50	1,65	4,6	10	1,2	85	182	16
LNK-M3_1-55-300	55	80	4	45	0,8	4,4	10	1,5	100	158	9
LNK-M3_1-65-300	65	90	5,9	40	0,7	4,3	10	1,6	116	133	9
LNK-M3_1-70-300	70	50	2,9	60	2,55	3,7	10	1,5	85	233	4
LNK-M3_1-70-300	70	70	4	50	1,2	4	10	1,7	100	182	9
LNK-M3_1-80-300	80	95	5,9	45	0,65	3,7	10	1,9	116	158	9
LNK-M3_1-100-300	100	65	4	60	1,8	3,2	10	2	100	233	3
LNK-M3_1-100-300	100	90	5,9	50	0,9	3,3	10	2,2	116	182	9
LNK-M3_1-110-300	110	60	4	60	2,2	3	10	2,1	100	253	3
LNK-M3_1-130-300	130	75	4	60	1,65	2,6	10	2,4	100	283	3
LNK-M3_1-145-300	145	100	8,5	60	0,65	2,3	10	3,1	116	270	3
LNK-M3_1-150-300	150	85	5,9	60	1,25	2,7	10	2,7	116	233	3
LNK-M3_1-160-300	160	80	5,9	60	1,55	2,5	10	2,9	116	253	3
LNK-M3_1-190-300	190	95	59	60	1,2	2,2	10	3,2	116	283	3
LNK-M3_1-210-300	210	100	8,5	70	1	1,9	10	3,9	116	345	3
LNK-M3_1-210-300 *	210	120	12	60	0,55	1,9	10	4,3	136	270	2
LNK-M3_1-260-300 *	260	100	8,3	60	0,95	1,8	10	4,4	136	283	2
LNK-M3_1-300-300 *	300	120	12	70	0,8	1,6	10	5,4	136	345	2

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...2 HIGH SPECIFIC CAPACITANCE

U_N: 550V U_S: 820V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-600-55	600	45	3,5	45	1,3	7,7	10	0,7	85	102	16
LNK-M3_2-820-55	820	45	3,5	45	1,8	6,4	10	0,8	85	127	16
LNK-M3_2-900-55	900	45	3,5	45	1,9	6	10	0,9	85	137	16
LNK-M3_2-1000-55	1000	45	3,5	50	1,9	5,5	10	1	85	152	16
LNK-M3_2-800-55	800	60	4,7	45	1,1	6,2	10	1	100	102	9
LNK-M3_2-1100-55	1100	55	4,7	45	1,4	5,3	10	1,1	100	127	9
LNK-M3_2-1200-55	1200	55	4,7	45	1,5	5	10	1,2	100	137	9
LNK-M3_2-1400-55	1400	60	4,7	50	1,4	4,6	10	1,4	100	152	9
LNK-M3_2-1600-55	1600	70	6,8	45	1	4,5	10	1,5	116	127	9
LNK-M3_2-1800-55	1800	70	6,8	45	1,05	4,2	10	1,6	116	137	9
LNK-M3_2-2000-55	2000	75	6,8	50	1,1	3,8	10	1,8	116	152	9
LNK-M3_2-2800-55 *	2800	90	9	50	0,85	3,1	10	2,5	136	152	4

* Not UL approved

U_N: 700V U_S: 1050V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-445-70	445	45	3,1	45	1,45	7,7	10	0,7	85	102	16
LNK-M3_2-610-70	610	45	3,1	45	2,05	6,4	10	0,8	85	127	16
LNK-M3_2-670-70	670	45	3,1	45	2,15	6	10	0,9	85	137	16
LNK-M3_2-770-70	770	45	3,1	50	2,1	5,5	10	1	85	152	16
LNK-M3_2-600-70	600	55	4	45	1,2	6,2	10	1	100	102	9
LNK-M3_2-800-70	800	55	4	45	1,6	5,3	10	1,1	100	127	9
LNK-M3_2-900-70	900	55	4	45	1,7	5	10	1,2	100	137	9
LNK-M3_2-1000-70	1000	55	4	50	1,65	4,6	10	1,4	100	152	9
LNK-M3_2-1220-70	1220	70	6,2	45	1,1	4,5	10	1,5	116	127	9
LNK-M3_2-1350-70	1350	70	6,2	45	1,15	4,2	10	1,6	116	137	9
LNK-M3_2-1550-70	1550	75	6,2	50	1,15	3,8	10	1,8	116	152	9
LNK-M3_2-2000-70 *	2000	85	7,9	50	1	3,1	10	2,5	136	152	4

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s,AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...2 HIGH SPECIFIC CAPACITANCE

U_N: 900V U_S: 1350V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-380-90	380	45	2,9	45	1,65	7,7	10	0,7	85	102	16
LNK-M3_2-520-90	520	40	2,9	45	2,2	6,4	10	0,8	85	127	16
LNK-M3_2-570-90	570	40	2,9	45	2,3	6	10	0,9	85	137	16
LNK-M3_2-655-90	655	45	2,9	50	2,25	5,5	10	1	85	152	16
LNK-M3_2-500-90	500	55	3,7	45	1,3	6,2	10	1	100	102	9
LNK-M3_2-680-90	680	50	3,7	45	1,7	5,3	10	1,1	100	127	9
LNK-M3_2-750-90	750	50	3,7	45	1,8	5	10	1,2	100	137	9
LNK-M3_2-850-90	850	55	3,7	50	1,75	4,6	10	1,4	100	152	9
LNK-M3_2-1040-90	1040	65	5,7	45	1,15	4,5	10	1,5	116	127	9
LNK-M3_2-1150-90	1150	70	5,7	45	1,25	4,2	10	1,6	116	137	9
LNK-M3_2-1320-90	1320	70	5,7	50	1,25	3,8	10	1,8	116	152	9
LNK-M3_2-1700-90 *	1700	85	7,3	50	1,05	3,1	10	2,5	136	152	4

* Not UL approved

U_N: 1100V U_S: 1650V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-270-110	270	40	2,4	45	1,95	7,7	10	0,7	85	102	16
LNK-M3_2-370-110	370	40	2,4	45	2,55	6,4	10	0,8	85	127	16
LNK-M3_2-420-110	420	40	2,4	45	2,6	6	10	0,9	85	137	16
LNK-M3_2-470-110	470	40	2,4	50	2,6	5,5	10	1	85	152	16
LNK-M3_2-350-110	350	50	3,1	45	1,45	6,2	10	1	100	102	9
LNK-M3_2-480-110	480	45	3,1	45	2	5,3	10	1,1	100	127	9
LNK-M3_2-540-110	540	45	3,1	45	2,1	5	10	1,2	100	137	9
LNK-M3_2-620-110	620	50	3,1	50	2	4,6	10	1,4	100	152	9
LNK-M3_2-740-110	740	60	4,8	45	1,35	4,5	10	1,5	116	127	9
LNK-M3_2-820-110	820	65	4,8	45	1,45	4,2	10	1,6	116	137	9
LNK-M3_2-940-110	940	65	4,8	50	1,4	3,8	10	1,8	116	152	9
LNK-M3_2-1200-110 *	1200	80	6,1	50	1,2	3,1	10	2,5	136	152	4

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...2 HIGH SPECIFIC CAPACITANCE

U_N: 1300V U_S: 1950V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-180-130	180	40	2	45	2,2	7,7	10	0,7	85	102	16
LNK-M3_2-245-130	245	35	2	45	3,05	6,4	10	0,8	85	127	16
LNK-M3_2-275-130	275	35	2	45	3,2	6	10	0,9	85	137	16
LNK-M3_2-310-130	310	35	2	50	3,1	5,5	10	1	85	152	16
LNK-M3_2-240-130	240	45	2,5	45	1,7	6,2	10	1	100	102	9
LNK-M3_2-330-130	330	45	2,5	45	2,3	5,3	10	1,1	100	127	9
LNK-M3_2-350-130	350	40	2,5	45	2,6	5	10	1,2	100	137	9
LNK-M3_2-420-130	420	45	2,5	50	2,35	4,6	10	1,4	100	152	9
LNK-M3_2-495-130	495	60	4	45	1,6	4,5	10	1,5	116	127	9
LNK-M3_2-550-130	550	60	4	45	1,7	4,2	10	1,6	116	137	9
LNK-M3_2-625-130	625	60	4	50	1,65	3,8	10	1,8	116	152	9
LNK-M3_2-800-130 *	800	70	5	50	1,4	3,1	10	2,5	136	152	4

* Not UL approved

U_N: 1650V U_S: 2475V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-118-165	118	35	1,6	45	2,65	7,7	10	0,7	85	102	16
LNK-M3_2-160-165	160	30	1,6	45	3,65	6,4	10	0,8	85	127	16
LNK-M3_2-180-165	180	30	1,6	45	3,85	6	10	0,9	85	137	16
LNK-M3_2-205-165	205	35	1,6	50	3,75	5,5	10	1	85	152	16
LNK-M3_2-150-165	150	40	2	45	2,1	6,2	10	1	100	102	9
LNK-M3_2-210-165	210	40	2	45	2,9	5,3	10	1,1	100	127	9
LNK-M3_2-240-165	240	40	2	45	3	5	10	1,2	100	137	9
LNK-M3_2-270-165	270	40	2	50	2,9	4,6	10	1,4	100	152	9
LNK-M3_2-325-165	325	50	3,2	45	1,95	4,5	10	1,5	116	127	9
LNK-M3_2-360-165	360	50	3,2	45	2,05	4,2	10	1,6	116	137	9
LNK-M3_2-410-165	410	55	3,2	50	1,95	3,8	10	1,8	116	152	9
LNK-M3_2-550-165 *	550	65	4,2	50	1,6	3,1	10	2,5	136	152	4

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...2 HIGH SPECIFIC CAPACITANCE

U_N: 1850V U_S: 2780V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-90-185	90	35	1,4	45	3	7,7	10	0,7	85	102	16
LNK-M3_2-122-185	122	30	1,4	45	4,15	6,4	10	0,8	85	127	16
LNK-M3_2-135-185	135	30	1,4	45	4,4	6	10	0,9	85	137	16
LNK-M3_2-155-185	155	30	1,4	50	4,25	5,5	10	1	85	152	16
LNK-M3_2-120-185	120	40	1,8	45	2,25	6,2	10	1	100	102	9
LNK-M3_2-160-185	160	35	1,8	45	3,25	5,3	10	1,1	100	127	9
LNK-M3_2-180-185	180	35	1,8	45	3,45	5	10	1,2	100	137	9
LNK-M3_2-200-185	200	40	1,8	50	3,3	4,6	10	1,4	100	152	9
LNK-M3_2-245-185	245	50	2,8	45	2,15	4,5	10	1,5	116	127	9
LNK-M3_2-270-185	270	50	2,8	45	2,3	4,2	10	1,6	116	137	9
LNK-M3_2-310-185	310	50	2,8	50	2,25	3,8	10	1,8	116	152	9
LNK-M3_2-420-185 *	420	65	3,7	50	1,8	3,1	10	2,5	136	152	4

* Not UL approved

U_N: 2000V U_S: 3000V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max workingfrequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-70-200	70	30	1,2	45	3,3	7,7	10	0,7	85	102	16
LNK-M3_2-95-200	95	30	1,2	45	4,8	6,4	10	0,8	85	127	16
LNK-M3_2-100-200	100	25	1,2	45	5,4	6	10	0,9	85	137	16
LNK-M3_2-120-200	120	30	1,2	50	4,85	5,5	10	1	85	152	16
LNK-M3_2-90-200	90	40	1,5	45	2,6	6,2	10	1	100	102	9
LNK-M3_2-125-200	125	35	1,5	45	3,65	5,3	10	1,1	100	127	9
LNK-M3_2-140-200	140	35	1,5	45	3,9	5	10	1,2	100	137	9
LNK-M3_2-160-200	160	35	1,5	50	3,65	4,6	10	1,4	100	152	9
LNK-M3_2-190-200	190	45	2,4	45	2,45	4,5	10	1,5	116	127	9
LNK-M3_2-210-200	210	45	2,4	45	2,7	4,2	10	1,6	116	137	9
LNK-M3_2-240-200	240	50	2,4	50	2,5	3,8	10	1,8	116	152	9
LNK-M3_2-330-200	330	60	3,3	50	2	3,1	10	2,5	136	152	4

* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...2 HIGH SPECIFIC CAPACITANCE

U_N: 2200V U_S: 3300V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-55-220	55	30	1	45	3,7	7,7	10	0,7	85	102	16
LNK-M3_2-75-220	75	25	1	45	5,4	6,4	10	0,8	85	127	16
LNK-M3_2-85-220	85	25	1	45	5,7	6	10	0,9	85	137	16
LNK-M3_2-100-220	100	30	1	50	5,2	5,5	10	1	85	152	16
LNK-M3_2-75-220	75	35	1,4	45	2,8	6,2	10	1	100	102	9
LNK-M3_2-100-220	100	30	1,4	45	4,1	5,3	10	1,1	100	127	9
LNK-M3_2-110-220	110	30	1,4	45	4,4	5	10	1,2	100	137	9
LNK-M3_2-130-220	130	35	1,4	50	4	4,6	10	1,4	100	152	9
LNK-M3_2-150-220	150	45	2,1	45	2,8	4,5	10	1,5	116	127	9
LNK-M3_2-170-220	170	45	2,1	45	3	4,2	10	1,6	116	137	9
LNK-M3_2-190-220	190	45	2,1	50	2,8	3,8	10	1,8	116	152	9
LNK-M3_2-260-220 *	260	55	2,9	50	2,2	3,1	10	2,5	136	152	4

* Not UL approved

U_N: 2600V U_S: 3900V

MODEL	Capacitance C(µF)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Weight (kg)	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-M3_2-35-260	35	35	1,7	45	2,6	7,7	10	0,7	85	102	16
LNK-M3_2-50-260	50	30	1,7	45	3,8	6,4	10	0,8	85	127	16
LNK-M3_2-55-260	55	30	1,7	45	4,8	6	10	0,9	85	137	16
LNK-M3_2-66-260	66	35	1,7	50	3,4	5,5	10	1	85	152	16
LNK-M3_2-47-260	47	45	2,3	45	2	6,2	10	1	100	102	9
LNK-M3_2-66-260	66	40	2,3	45	2,9	5,3	10	1,1	100	127	9
LNK-M3_2-75-260	75	35	2,3	45	3,6	5	10	1,2	100	137	9
LNK-M3_2-90-260	90	45	2,3	50	2,5	4,6	10	1,4	100	152	9
LNK-M3_2-100-260	100	50	3,5	45	2	4,5	10	1,5	116	127	9
LNK-M3_2-115-260	115	50	3,5	45	2,4	4,2	10	1,6	116	137	9
LNK-M3_2-130-260	130	55	3,5	50	1,8	3,8	10	1,8	116	152	9
LNK-M3_2-180-260 *	180	70	4,9	50	1,45	3,1	10	2,5	136	152	4

* Not UL approved

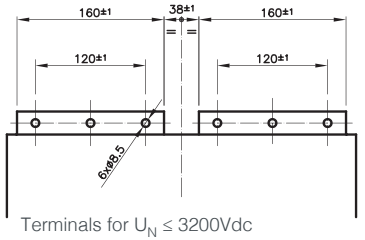
- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

LNK – M3...2 HIGH SPECIFIC CAPACITANCE

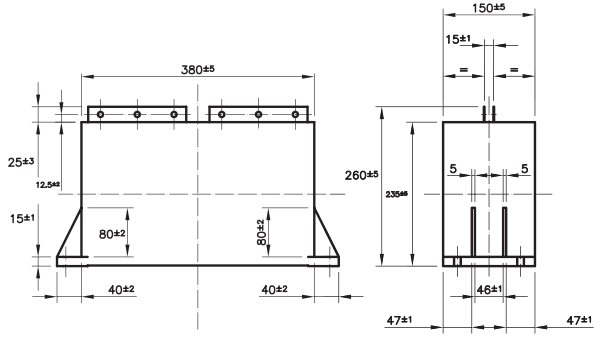
	U_N: 3000V	U_S: 4500V								
MODEL	**Capacitance C(µF)**	**Max rms current I_{max} (A)**	**Peak current I_{PK} (A)**	**Self inductance Ls(nH)**	**Series resistance Rs (mΩ)**	**Thermal resistance R_{th} (°C/W)**	**Full current max working frequency (KHz)**	**Weight (kg)**	**Diameter (mm)**	**Length (mm)**	**Box quantity (pcs)**
LNK-M3_2-25-300	**25**	30	**1,5**	45	**3,1**	7,7	**10**	0,7	**85**	102	**16**
LNK-M3_2-35-300	**35**	30	**1,5**	45	**4,6**	6,4	**10**	0,8	**85**	127	**16**
LNK-M3_2-40-300	**40**	25	**1,5**	45	**5,6**	6	**10**	0,9	**85**	137	**16**
LNK-M3_2-47-300	**47**	30	**1,5**	50	**4**	5,5	**10**	1	**85**	152	**16**
LNK-M3_2-35-300	**35**	40	**2**	45	**2,3**	6,2	**10**	1	**100**	102	**9**
LNK-M3_2-50-300	**50**	35	**2**	45	**3,2**	5,3	**10**	1,1	**100**	127	**9**
LNK-M3_2-55-300	**55**	35	**2**	45	**4,1**	5	**10**	1,2	**100**	137	**9**
LNK-M3_2-65-300	**65**	40	**2**	50	**2,9**	4,6	**10**	1,4	**100**	152	**9**
LNK-M3_2-75-300	**75**	50	**3**	45	**2,2**	4,5	**10**	1,5	**116**	127	**9**
LNK-M3_2-85-300	**85**	45	**3**	45	**2,7**	4,2	**10**	1,6	**116**	137	**9**
LNK-M3_2-90-300	**90**	55	**3**	50	**2,2**	3,8	**10**	1,8	**116**	152	**9**
LNK-M3_2-130-300 *	**130**	65	**4,2**	50	**1,65**	3,1	**10**	2,5	**136**	152	**4**

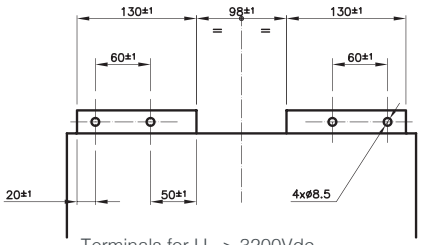
* Not UL approved

- In case of doubt regading the full current maximun working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention).
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and case = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).

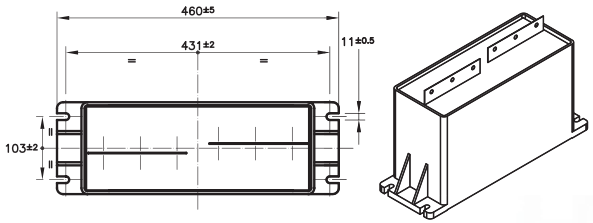


Terminals for $U_N \leq 3200Vdc$





Terminals for $U_N > 3200Vdc$



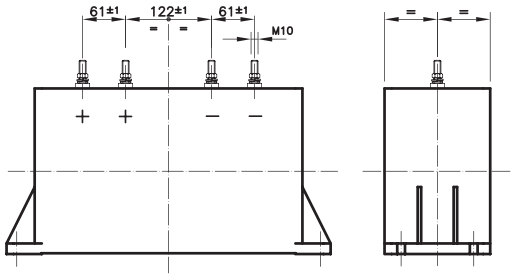
LNK – P5Y

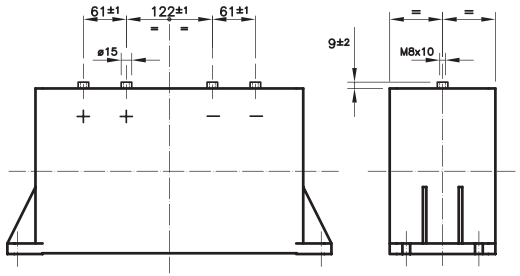
ULfile: E191589

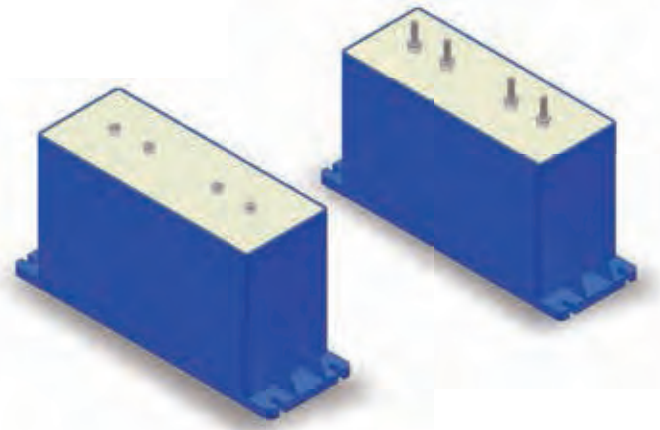
- HIGH CAPACITANCE
- LOW INDUCTANCE CONNECTIONS
- STANDARD CONFIGURATION
- EXTERNAL RESIN COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 100 FIT
Operating temperature -25°C / +70°C
Maximum hot spot 85°C (70°C for 450V and 600V)

CUSTOM VERSIONS WITH SCREWS OR THREADED HOLES TERMINALS ARE AVAILABLE ON REQUEST



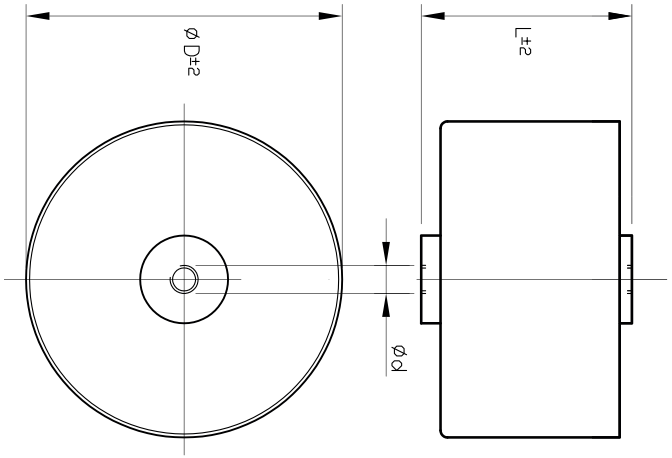




MODEL	Capacitance C(µF)	Rated DC voltage U_N (V)	Peak voltage U_S (V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls (nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Fixing feet tightening torque (Nm)	Weight (kg)	Box quantity (pcs)
LNK-P5Y-12000-45	**10000**	450	**680**	300	**40**	<30	**0,19**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-10000-60	**10000**	600	**900**	300	**39**	<30	**0,2**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-8000-80	**8000**	800	**1200**	250	**34**	<30	**0,22**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-5500-110	**5500**	1100	**1650**	250	**28**	<30	**0,25**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-5000-130	**5000**	1300	**1950**	250	**27**	<30	**0,26**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-2700-165	**2700**	1650	**2475**	220	**21**	<30	**0,35**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-2000-185	**2000**	1850	**2775**	200	**17,5**	<30	**0,38**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-1600-200	**1600**	2000	**3000**	200	**16**	<30	**0,4**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-1300-220	**1300**	2200	**3300**	200	**14,5**	<30	**0,45**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-900-260	**900**	2600	**3900**	220	**24,5**	<30	**0,28**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-650-300	**650**	3000	**4500**	220	**21**	<30	**0,32**	1,45	**20**	40	**40**	8	**16**	1
LNK-P5Y-500-340	**500**	3400	**5100**	200	**18**	<30	**0,36**	1,45	**20**	95	**95**	8	**16**	1
LNK-P5Y-300-400	**300**	4000	**6000**	180	**14**	<30	**0,45**	1,45	**20**	95	**95**	8	**16**	1

- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fi xed and in free air condition (natural convention)
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).

New version at 450V, 600V 2000V and 2200V



LNK – P6X

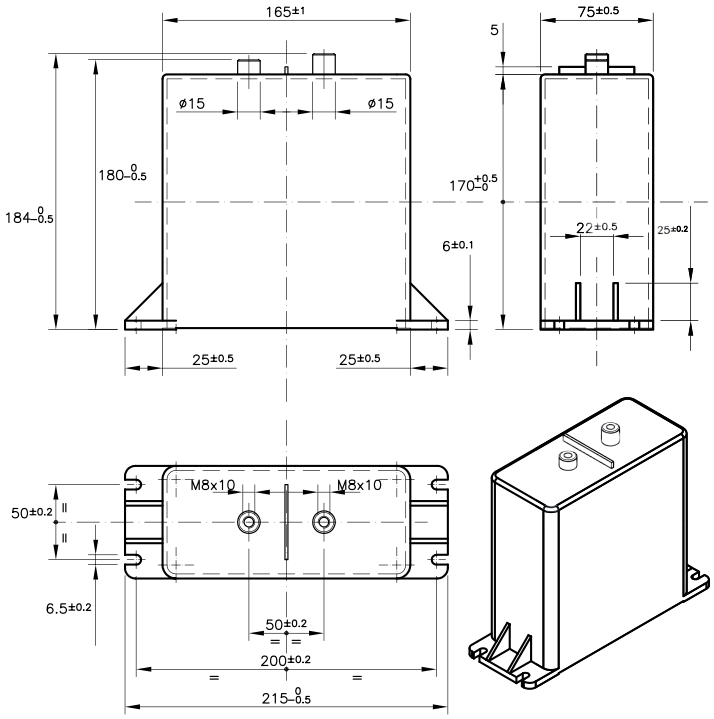
- VERY LOW INDUCTANCE
- RESIN COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 100 FIT
Operating temperature -25°C / +70°C
Maximum hot spot 85°C (70°C for 450V and 600V)

MODEL	Capacitance C(µF)	Rated DC voltage U_N(V)	Peak voltage U_S(V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Tightening torque (Nm)	Weight (kg)	Terminals d	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-P6X-140-45	**140**	450	**900**	80	**3,9**	15	**0,6**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-190-45	**190**	450	**900**	80	**5,3**	15	**0,45**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-230-45	**230**	450	**900**	90	**6,4**	15	**0,33**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-110-60	**110**	600	**1200**	80	**3,5**	15	**0,65**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-140-60	**140**	600	**1200**	80	**4,5**	15	**0,5**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-175-60	**175**	600	**1200**	90	**5,7**	15	**0,37**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-90-70	**90**	700	**1400**	80	**3,1**	15	**0,7**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-125-70	**125**	700	**1400**	80	**4,4**	15	**0,5**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-150-70	**150**	700	**1400**	80	**5,3**	15	**0,4**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**

MODEL	Capacitance C(µF)	Rated DC voltage U_N(V)	Peak voltage U_S(V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Tightening torque (Nm)	Weight (kg)	Terminals d	Diameter (mm)	Length (mm)	Box quantity (pcs)
LNK-P6X-50-90	**50**	900	**1800**	55	**2,2**	15	**1**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-75-90	**75**	900	**1800**	70	**3,4**	15	**0,7**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-100-90	**100**	900	**1800**	80	**4,4**	15	**0,5**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-33-110	**33**	1100	**2200**	50	**1,7**	15	**1,3**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-50-110	**50**	1100	**2200**	60	**2,7**	15	**0,9**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-66-110	**66**	1100	**2200**	75	**3,5**	15	**0,6**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-30-125	**30**	1250	**2500**	50	**1,9**	15	**1,6**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-40-125	**40**	1250	**2500**	55	**2,5**	15	**1,1**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-50-125	**50**	1250	**2500**	65	**3,1**	15	**0,8**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-20-145	**20**	1450	**2900**	45	**1,4**	15	**1,6**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-30-145	**30**	1450	**2900**	55	**2,1**	15	**1,1**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-40-145	**40**	1450	**2900**	65	**2,9**	15	**0,8**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-15-180	**15**	1800	**3600**	40	**1,3**	15	**1,7**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-20-180	**20**	1800	**3600**	50	**1,8**	15	**1,3**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-25-180	**25**	1800	**3600**	60	**2,3**	15	**1**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-10-200	**10**	2000	**4000**	40	**1**	15	**1,8**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-15-200	**15**	2000	**4000**	45	**1,5**	15	**1,6**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-18-200	**18**	2000	**4000**	50	**1,8**	15	**1,3**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**
LNK-P6X-9-220	**9**	2200	**4400**	35	**0,9**	15	**1,9**	7,3	**20**	6	**0,27**	M6	**70**	59	**25**
LNK-P6X-12-220	**12**	2200	**4400**	40	**1,3**	15	**1,8**	7	**20**	10	**0,41**	M8	**80**	60	**16**
LNK-P6X-15-220	**15**	2200	**4400**	45	**1,6**	15	**1,4**	6,7	**20**	10	**0,47**	M8	**90**	60	**16**

- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 35°C (for more details see “Selections rules and definitions”).



LNK – P7Y

ULfile: E191589

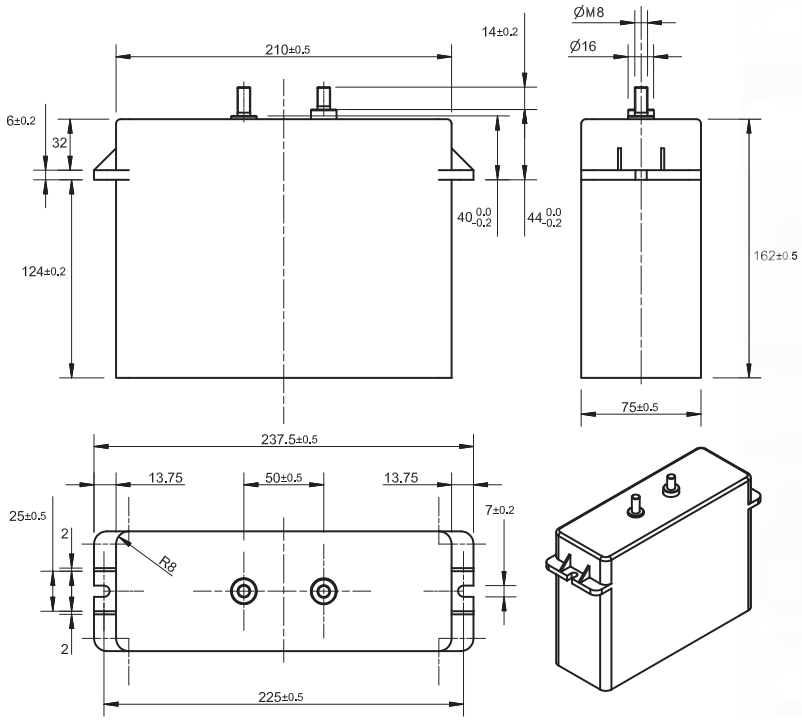
- HIGH CURRENT
- DESIGNED FOR BUSBARS CONNECTIONS
- RESIN AND CASE COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 100 FIT
Operating temperature -25°C / +80°C
Maximum hot spot 85°C (70°C for 450V and 600V)

MODEL	Capacitance C(µF)	Rated DC voltage U_N(V)	Peak voltage U_S(V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current max working frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Tightening torque (Nm)	Fixing feet tightening torque (Nm)	Weight (kg)	Box quantity (pcs)
LNK-P7Y-2000-45	**2000**	450	**680**	150	**14**	30	**0,25**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-1450-60	**1450**	600	**900**	150	**12**	30	**0,29**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-1200-80	**1200**	800	**1200**	140	**11**	30	**0,32**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-850-110	**850**	1100	**1650**	130	**9,1**	30	**0,37**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-600-130	**600**	1300	**1950**	120	**7,9**	30	**0,42**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-400-165	**400**	1650	**2475**	110	**6,5**	30	**0,5**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-290-185	**290**	1850	**2775**	100	**5,4**	30	**0,6**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-220-200	**220**	2000	**3000**	90	**4,6**	30	**0,7**	4,1	**15**	45	**35**	12	**6**	2,8	**8**
LNK-P7Y-180-220	**180**	2200	**3300**	90	**4,2**	30	**0,75**	4,1	**15**	45	**35**	12	**6**	2,8	**8**

- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 30°C (for more details see “Selections rules and definitions”).

new



LNK – P8Y

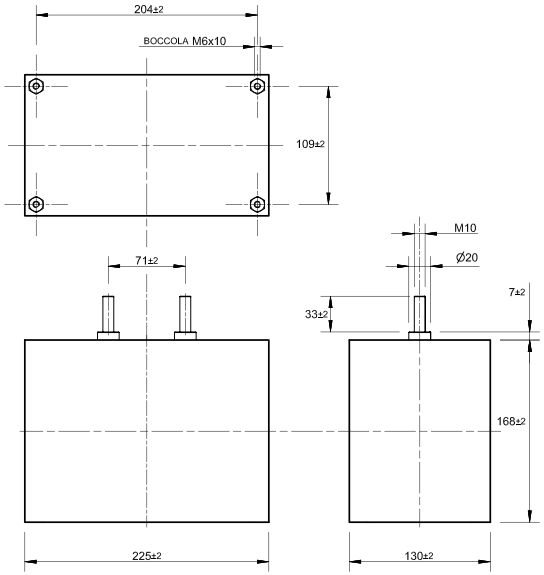
ULfile: E191589

- HEAVY DUTY CONSTRUCTION
- DESIGNED FOR BUSBARS CONNECTIONS
- LOW INDUCTANCE
- EXTERNAL RESIN AND CASE COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 100 FIT
Operating temperature -25°C / +80°C
Maximum hot spot 85°C (70°C for 450V and 600V)

MODEL	Capacitance C(µF)	Rated DC voltage U_N(V)	Peak voltage U_S(V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance R_{th} (°C/W)	Full current Max Working Frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Tightening torque (Nm)	Fixing feet tightening torque (Nm)	Weight (kg)	Box quantity (pcs)
LNK-P8Y-2200-45	**2200**	450	**680**	150	**15**	30	**0,24**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-1700-60	**1700**	600	**900**	150	**14**	30	**0,26**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-1500-80	**1500**	800	**1200**	150	**13,5**	30	**0,27**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-1000-110	**1000**	1100	**1650**	140	**10,7**	30	**0,33**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-680-130	**680**	1300	**1950**	130	**9**	30	**0,39**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-430-165	**430**	1650	**2475**	115	**7**	30	**0,48**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-330-185	**330**	1850	**2775**	110	**6,1**	30	**0,53**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-250-200	**250**	2000	**3000**	100	**5,2**	30	**0,62**	3,4	**15**	34	**34**	12	**6**	3,8	**6**
LNK-P8Y-200-220	**200**	2200	**3300**	95	**4,7**	30	**0,68**	3,4	**15**	34	**34**	12	**6**	3,8	**6**

- In case of doubt regarding the full current maximum working frequency, please contact ICAR Tech. Dept. for de-rating according to current spectrum
- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 25°C (for more details see “Selections rules and definitions”).



LNK – P9X

ULfile: E191589

- HIGH CURRENT
- LOW INDUCTANCE
- DESIGNED FOR BUSBARS CONNECTIONS
- EXTERNAL RESIN AND CASE COMPLIES WITH REQUIREMENT R22, HL2 ACCORDING TO EN 45545

Failure rate: 300 FIT
Operating temperature -25°C / +80°C
Maximum hot spot 85°C

MODEL	Capacitance C(µF)	Rated DC voltage U_N(V)	Peak voltage U_S(V)	Max rms current I_{max} (A)	Peak current I_{PK} (A)	Self inductance Ls(nH)	Series resistance Rs (mΩ)	Thermal resistance with natural cooling R_{thn} (°C/W)	Full current max working frequency (KHz)	Creepage between terminals (mm)	Clearence (mm)	Fixing feet tightening torque (Nm)	Weight (kg)	Box quantity (pcs)
LNK-P9X-3000-80	**3000**	800	**1400**	150	**14500**	<30	**0,32**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-1750-100	**1750**	1000	**2000**	150	**11000**	<30	**0,41**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-1350-110	**1350**	1100	**2200**	150	**9500**	<30	**0,46**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-1250-120	**1250**	1200	**2400**	150	**9500**	<30	**0,46**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-850-140	**850**	1400	**2800**	140	**7500**	<30	**0,56**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-650-160	**650**	1600	**3200**	135	**6500**	<30	**0,63**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-500-180	**500**	1800	**3600**	125	**11000**	<30	**0,71**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-400-200	**400**	2000	**4000**	120	**10000**	<30	**0,79**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-330-220	**330**	2200	**4400**	150	**13500**	<30	**0,27**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-300-240	**300**	2400	**4800**	150	**13000**	<30	**0,28**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-220-270	**220**	2700	**5400**	150	**11000**	<30	**0,30**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-200-280	**200**	2800	**5600**	150	**10000**	<30	**0,38**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-150-320	**150**	3200	**6400**	150	**8500**	<30	**0,38**	2,75	**10**	51	**51**	6	**6,5**	4
LNK-P9X-120-350	**120**	3500	**7000**	150	**8000**	<30	**0,41**	2,75	**10**	51	**51**	6	**6,5**	4

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- The thermal resistance is estimated considering the capacitor alone, not fixed and in free air condition (natural convention)
- Routine dielectric test: DC voltage test between terminals = 1.5 U_N x 10 s, AC voltage test between terminals and fixing bolts = 1.414Un + 1000 x10s or 2000V whichever is the highest value
- I_{max} has been calculated for a thermal rise $\vartheta_h - \vartheta_0$ within about 35°C (for more details see "Selections rules and definitions").

Custom DC link capacitors

Beside the standard products shown in this catalogue, ICAR produces also a wide range of custom capacitors.
ICAR technical department is ready to support customers in developing capacitors based on their requests and specifications.

Custom capacitors for DC link are grouped as follows:

- **LNK-P** series are the capacitors based on the same technology as standard products: metallised polypropylene film, plastic case, dry type resin filled. Customization is mostly related to connections, capacitance value and other special characteristics; the cases are the same used in the standard series.
- **LNK-M** series are metallised polypropylene film, metal cases (aluminium or steel) capacitors, dry type resin filled.
  Beside the personalization of the P series, the metal case allows our designers to follow mechanical requirements of the customer without any investment related to the plastic case mould.
- **BIOENERGY-D65** series are metallised polypropylene film, metal case (aluminium or steel) capacitors, oil filled.
  This solution is generally suggested for higher voltage applications

The range of our customized products is extremely wide and covers most of the possible requirements in the railway and traction equipments, industrial drives, wind and solar inverters, special industrial plants.

For any further information please contact our sales department: **sales@icar.com**.

Warning

DO NOT MISAPPLY CAPACITORS FOR POWER ELECTRONICS

Icar is not responsible for any kind of possible damages to persons or things, derived from the improper installation and application of Power Electronics capacitors

MOST COMMON MISAPPLICATION FORMS:

- Ripple current and peak current beyond specification or not according the maximum power that can be dissipated.
- Surge or working voltage beyond specified value.
- Hot spot or storage temperature beyond the specified limits or not according the maximum power that can be dissipated.
- Incorrect mounting or wrong installation
  - installation nearby hot components or heat sources
  - not suitable connections (not adequate cable or busbars cross section)
  - nuts and washers material, shape or size not suitable for the application
  - tightening torque not according to the specification
- Unusual service conditions as:
  - mechanical shock and vibrations
  - corrosive or abrasive conductive parts in cooling air
  - oil or water vapour or corrosive substances
  - explosive gas or dust
  - radioactivity
  - excessive and fast variations of ambient conditions
  - areas higher than 2000 m above sea level

Periodic check of the connection conditions and tightening torque is strongly recommended.

In case of doubt in the right capacitor **Icar technical service MUST be contacted.**

DISCLAIMER

All the information and data shown in this catalogue are not binding and can be modified without notice.
Contact ICAR sales department to get updated specifications.
Reliability data by ICAR are based on statistical evaluations, and does not guarantee performances of each single component.

All the products described in the catalogue shall be used within the limits stated in the technical specifications, nevertheless it is that a failure or an abnormal operation, even when capacitors are working within the specified limits, cannot be completely excluded or foreseen at the current state of the art of technology.

Capacitors may become hazardous.
Most common risks are related to combustible gas generation, explosion, fire, electrocution or abnormal operation of the capacitor. In order to reduce the risk of explosion, capacitors shall not be mounted in ermetically sealed enclosure with no air exchange. Not all the possible risks and safety measures are mentioned in this catalogue, further information are available on request. It is on customer responsibility to select and take all the necessary safety measures in order to avoid any possible personal injury or property damage related to the use of capacitors.
This is particulary valid in for applications in which a failure or an abnormal operation of the capacitors could put at risk human life or health.

ICAR SpA and all the persons acting on its behalf, disclaim any and all liabilities for possible damages resulting from the use of the products described in this catalogue or in any other publication.

ICAR reserves the right to discontinue the production of any item without notice. All orders are subject to ICAR General Conditions of Sales – latest revision.

NOTES

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ICAR technology looking ahead