



DCH 86 PS series

Very High Density, Very Low Inductance DC-Link Capacitors - Prismatic Plastic Case

Thanks to the exclusive Ducati Energia High Crystallinity Film DCH 86 PS Prismatic DC-link Capacitors provide leading Capacity Density without any de-rating or limitation, respective to standard makes.

The very high capacity density allows substantial cost reductions due to the reduction of capacitor size and/or number, as well as particularly low inductance values.

The exclusive Ducati Energia metallization profiles guarantee high capacity stability and a controlled, open-circuit condition at the end of DCH 86 PS operational life, while maximizing the current capability.

A special internal construction allows the minimization of field effects, thus guaranteeing real-life low ESL.

Main characteristics:



- Very High Capacity Density
- Self-Healing Metallized Polypropylene Film
- UL-Approved Construction
- Aluminum Case
- DRY Resin filling
- REAL Low ESL

Main applications:

- DC-Link
- Energy Storage / Pulse Generation



General Characteristics

DC Voltage range	700÷2500 V
Maximum ripple current	165 A
Capacitance range	Up to 2100 µF
Capacitance tolerance	±10%
Thermal resistance natural cooling (RThc)	2.60 °C/W
Equivalent series inductance (LESR)	< 30 nH
Terminals	M8 x 15 internal threads
Test voltage	$U_{tc} = 4.5 \text{ kVac @50 Hz 60 s}$ $U_{tt} = 1.5 \times U_{nDC} 10 \text{ s}$
Climatic Ambient Temperature	-25 / +45 °C
Working temperature ($\theta_{MIN} - \theta_{MAX}$)	-25 / +85 °C
Storage temperature	-25 / +85 °C
Filling	Self-extinguishing (UL94 V0) polyurethane resin
Container	Self-extinguishing (UL94 V0) plastic box
Failure quota	50/10E9
Life expectancy	100.000 h
Maximum altitude	100.000 h
Maximum altitude	2000 m a.s.l.
Reference standard	IEC 1071-1/2 - IEC 1881 - UL 810
M8 internal thread terminals	Max 4 Nm
M8 screw terminals	Max 6 Nm
Fixing slots	Max 10 Nm
UL - CSA approved ( us)	File n. E192559
In according to fire protection standard 	EN 45545-2

Safety system: These capacitors are designed with a particular type of polypropylene metallized film (PPMd film) that assures an open circuit at the end of life, if the operation is within the specification.



Capacitance Cn [μF]	Rated DC Voltage Un [V]	Repet. Peak Voltage Up [KV]	Surge Voltage Us [KV]	Max. RMS Current I _{MAX} [A]	Repet. Peak Current Ip [A]	Surge Current Is [kA]	Series Resistance Rs [m Ω]	Thermal Resistance R _{THS} [°C/W]	Weight [kg]	Part number 416.86.V.xxxx
2.100	700	1.1	1.2	165	15.000	28.0	< 0.48	2.60	< 4.5	1095
1.500	850	1.0	1.5	155	13.800	26.0	< 0.50	2.60	< 4.5	1595
1.150	1100	1.7	2.3	150	12.000	25.0	< 0.55	2.60	< 4.5	2095
750	1250	1.9	2.625	140	11.400	23.0	< 0.59	2.60	< 4.5	2595
600	1400	2.1	2.9	130	11.000	21.5	< 0.66	2.60	< 4.5	3095
1100	1600	2.4	3.36	120	10.640	20.5	< 0.73	2.60	< 4.5	3595
380	1800	2.7	3.8	120	10.500	19.0	< 0.85	2.60	< 4.5	4095
300	2100	3.2	4.5	110	9.660	18.5	< 0.89	2.60	< 4.5	4595
230	2500	3.8	4.5	100	8.200	14.5	< 0.98	2.60	< 4.5	5095

NOTES:

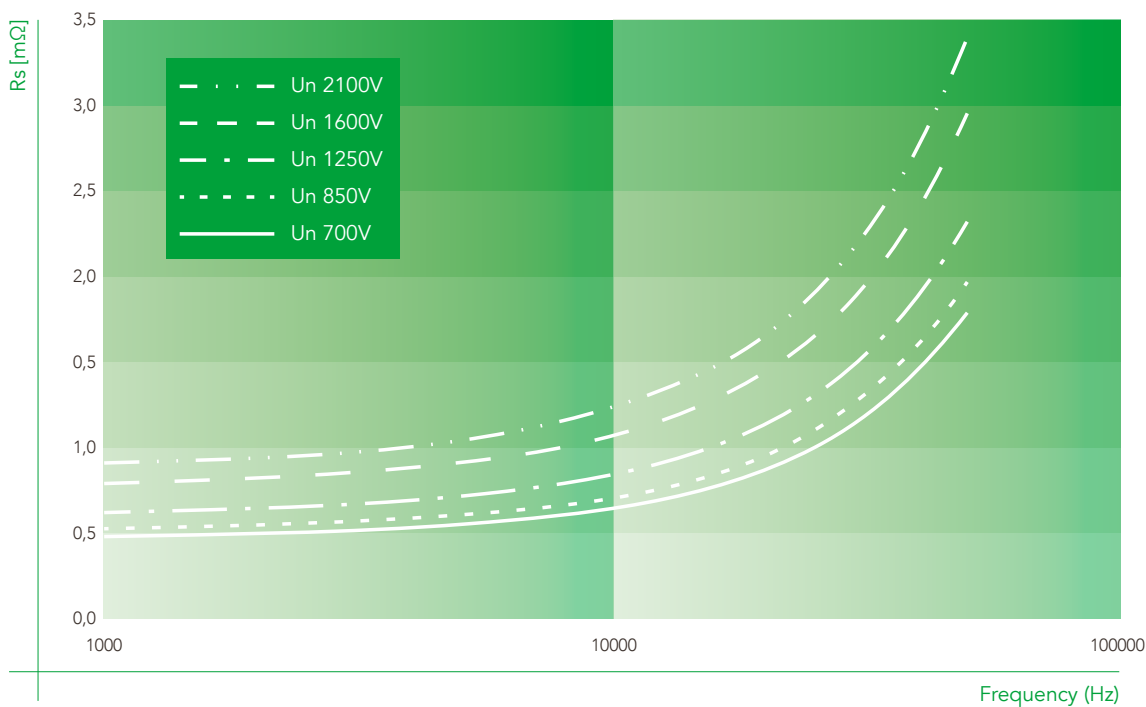
- (Cn) Tolerance standard value: ±10%. Other tolerance values on request.
- (Cn) - (Un) Capacitance and rated voltage standard values, other values on request.
- (Ur) Maximum peak to peak alternating voltage component on the DC working voltage.
- (Rs) Releated at 1 KHz.
- (R_{THS}) Thermal resistance AMBIENT - HOT SPOT (air forced cooling system).
- (Imax) Maximum RMS @ 50 °C ambient temperature.

Insulation spacing	
Surface (mm)	Air (mm)
37	27

Box TYPE

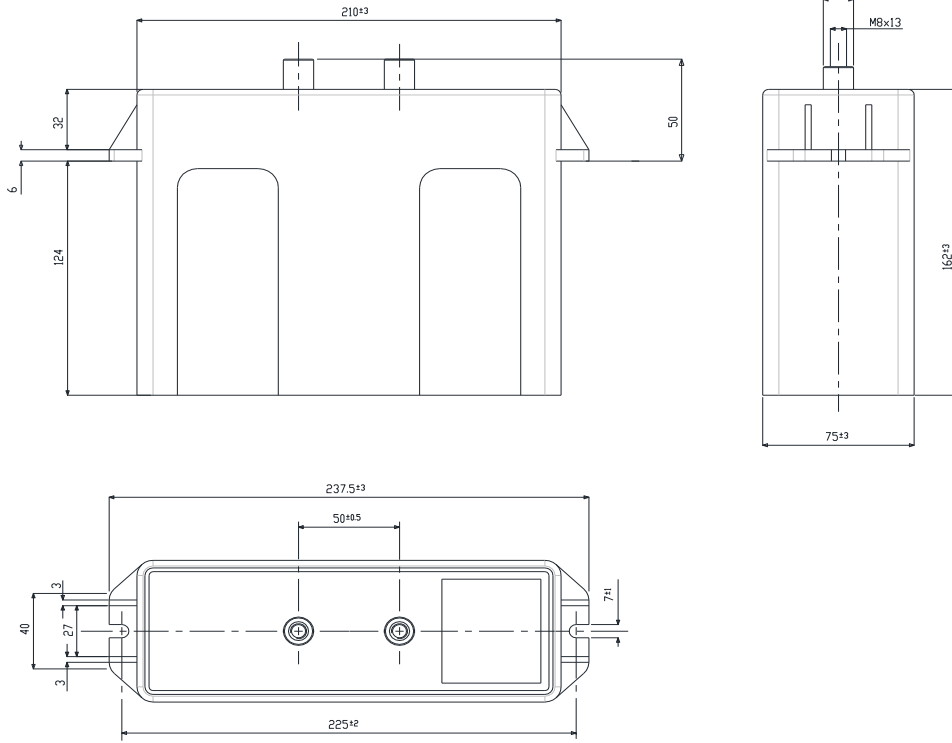
Standard box dimensions: mm 195 x 390 x 250
No. pieces per box: 16

Typical Series Resistance at 23 °C

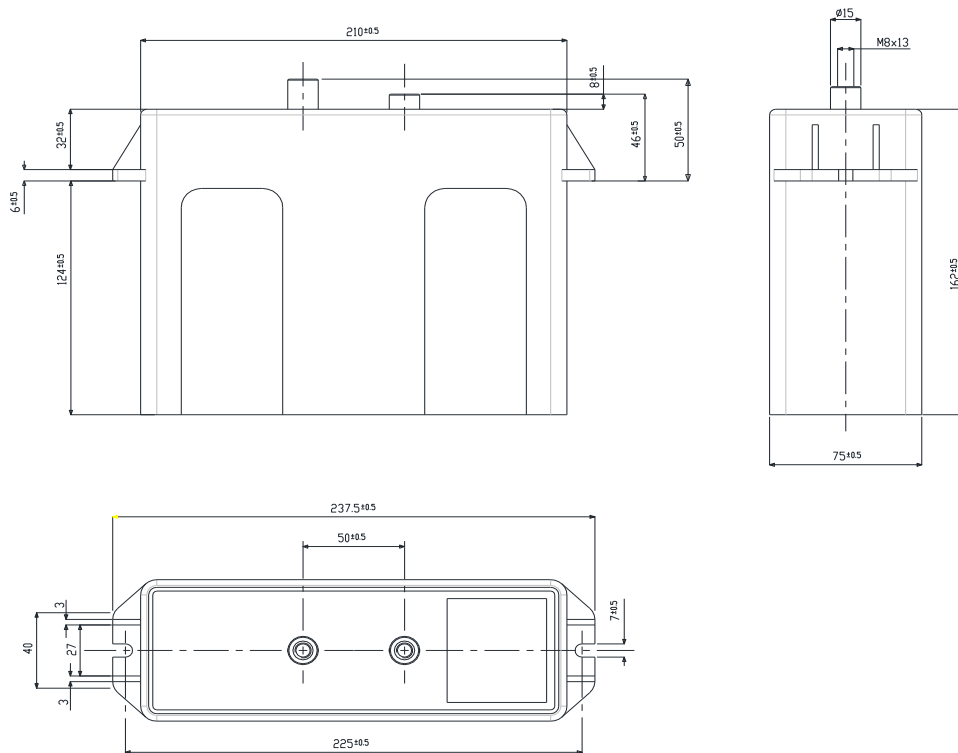




M8 standard terminals solution:



Available on request: M8 staggered terminals solution:



DC 86 PS series

High Density, Very Low Inductance DC-Link Capacitors Prismatic Plastic Case

This Prismatic Box variant is powered by the tried and proven Ducati Energia PPMh technology making it a competitive and reliable solution to all common DC-Link applications.

When coupled with the exclusive Ducati Energia High Crystallinity Film the DC 85 B construction provides superior temperature performance with 100khrs life @ 90°C HotSpot or extended life of 400khrs @70°C HotSpot.

The exclusive Ducati Energia metallization profiles guarantee high capacity stability and a controlled, open-circuit condition at the end of DC 86 PS operational life, while maximizing the current capability.

A special internal construction allows the minimization of field effects, thus guaranteeing real-life low ESL

Main characteristics:

- High Capacity Density
- Self-Healing Metallized Polypropylene Film
- UL-Approved Construction
- V0 Plastic Case
- DRY Resin filling
- REAL Low ESL

Main applications:



- DC-Link
- Energy Storage / Pulse Generation

DC 86 PS Versions with Ducati Energia High Crystallinity Film:

- Standard Life expectancy 100.000hrs at 90°C HotSpot
- Extended Life expectancy 400.000hrs at 70°C HotSpot



General Characteristics

DC Voltage range	550÷2700 V
Maximum ripple current	165 A
Capacitance range	Up to 2100 µF
Capacitance tolerance	±10%
Thermal resistance natural cooling (R _{THC})	2.60 °C/W
Equivalent series inductance (ESL)	< 30 nH
Terminals	M8 x 15 internal threads
Test voltage	U _{tc} = 4.5 kVac @50 Hz 60 s U _{tt} = 1.5 x U _{nDC} 10 s
Working temperature (θ _{MIN} - θ _{MAX})	-25 / +85 °C
Storage temperature	-25 / +85 °C
Filling	Self-extinguishing (UL94 V0) polyurethane resin
Dielectric	Self healing PPMd film
Container	Self-extinguishing (UL94 V0) plastic box
Failure quota	50 /10E9
Life expectancy	100.000 h (*)
Maximum altitude	2000 m a.s.l.
Reference standard	IEC 1071-1/2 - IEC 1881 - UL 810
M6 internal thread terminals	Max 4 Nm
Fixing slots	Max 10 Nm
UL - CSA approved (c  us)	File n. E192559
In according to fire protection standard 	EN 45545-2

Safety system: These capacitors are designed with a particular type of polypropylene metallized film (PPMd film) that assures an open circuit at the end of life, if the operation is within the specification.

(*) For details please refer to page 75.



Capacitance Cn [µF]	Rated DC Voltage Un [V]	Repet. Peak Voltage Up [kV]	Surge Voltage Us [kV]	Max. RMS Current I _{MAX} [A]	Repet. Peak Current Ip [A]	Surge Current Is [kA]	Series Resistance Rs [mΩ]	Thermal Resistance R _{THC} [°C/W]	Weight [kg]	Part number 416.86.xxxx
2100	550	0.8	1.2	165	16800	29.5	< 0.48	2.60	< 4.5	0095
1500	700	1.0	1.5	165	15000	28.0	< 0.50	2.60	< 4.5	1095
1150	850	1.3	1.8	155	13800	26.0	< 0.55	2.60	< 4.5	1595
750	1100	1.7	2.3	150	12000	25.0	< 0.59	2.60	< 4.5	2095
600	1250	1.9	2.6	140	11400	23.0	< 0.66	2.60	< 4.5	2595
500	1400	2.1	2.9	130	11000	21.5	< 0.73	2.60	< 4.5	3095
380	1600	2.4	3.4	120	10640	20.5	< 0.85	2.60	< 4.5	3595
300	1800	2.7	3.8	120	10500	19.0	< 0.89	2.60	< 4.5	4095
230	2100	3.2	4.4	110	9660	18.5	< 0.98	2.60	< 4.5	4595
120	2700	4.1	5.7	100	7800	14.5	< 1.15	2.60	< 4.5	5095

NOTES:

- (Cn) Tolerance standard value: ±10%. Other tolerance values on request.
- (Cn) - (Un) Capacitance and rated voltage standard values, other values on request.
- (Rs) Releated at 1 KHz.
- (R_{THS}) Thermal resistance AMBIENT - HOT SPOT (air forced cooling system).
- (I_{MAX}) Maximum RMS @ 50 °C ambient temperature.

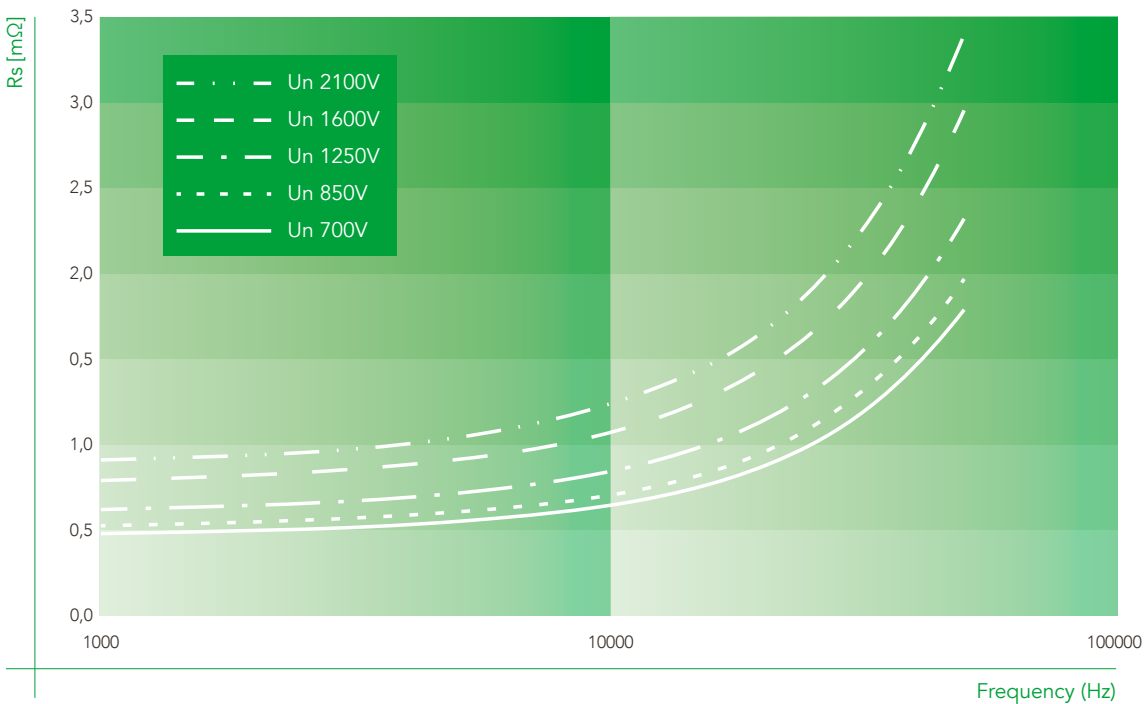
Insulation spacing	
Surface (mm)	Air (mm)
37	27

Box TYPE

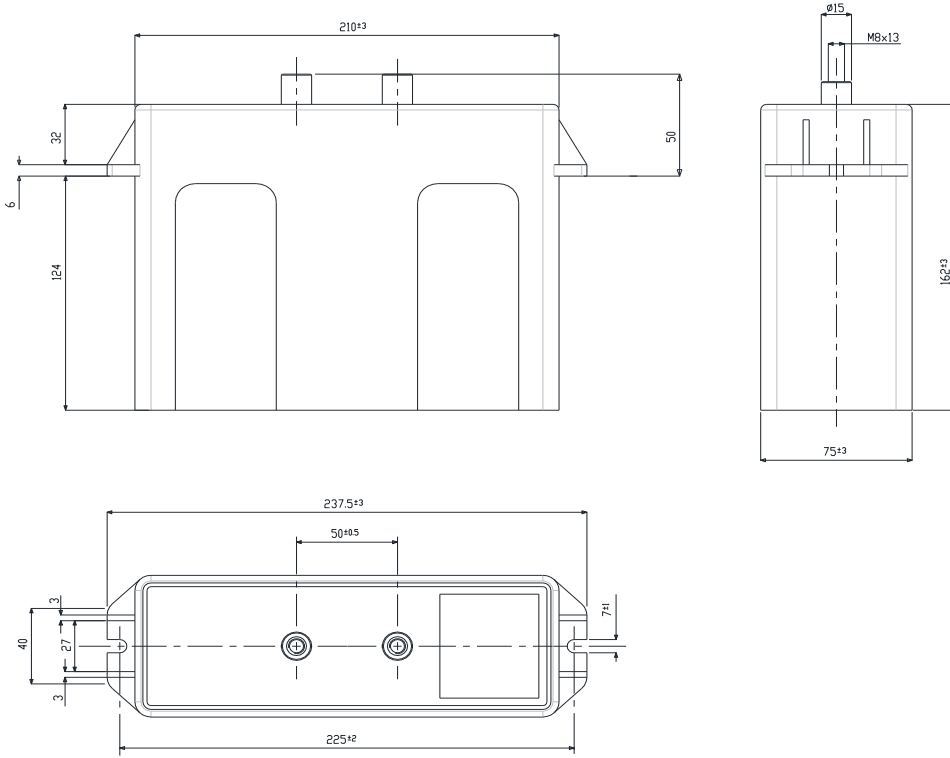
Standard box dimensions: mm 195 x 390 x 250

No. pieces per box: 16

Typical Series Resistance at 23 °C



M8 standard terminals solution:



Available on request: M8 staggered terminals solution:

