

DC 88 M series

High Density, Very Low Inductance DC-Link Capacitors - Prismatic Stainless Steel Case (non magnetic)

The metallic case and open resin casting allows high flexibility of construction: painted / stainless steel or aluminum cases with standard screw terminals or IGBT-specific busbar terminals. DC 88 M 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 88 M 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 88 M 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
- Steel, Stainless Steel or Aluminium Case
- DRY Resin filling
- REAL Low ESL

Main applications:

- DC-Link for Large Drives
- Energy Storage / Pulse Generation

DC 88 m 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÷1550 V(*)
Maximum ripple current	300 A
Capacitance range	Up to 10500 µF
Capacitance tolerance	standard: ±10% / on request: ±5%
Equivalent series inductance (LESR)	35 nH to 50 nH
Terminals	4x M10 screw type lts
Test voltage	$U_{tc} = 4.5 \text{ kVac @} 50 \text{ Hz } 60 \text{ s}$ $U_{tt} = 1.5 \times U_{DC} 10 \text{ s}$
Working temperature ($\theta_{MIN} - \theta_{MAX}$)	-25 / +85 °C
Storage temperature	-25 / +85 °C
Filling	Polyurethane resin
Dielectric	Self healing PPMd film
Container	Non painted, stainless steel, not magnetic casing
Failure quota	50 /10E9
Life expectancy	100.000 h (**)
Maximum altitude	2000 m a.s.l.
Reference standard	IEC 1071-1/2 - IEC 1881
M10 internal thread	Max 6 Nm
Fixing slots	Max 15 Nm

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

(*) Other values on request

(**) For details please refer to page 75.



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Capacitance Cn [μF]	Height H [mm]	Width w [mm]	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]	Inductance Ls nH	Typical Weight [kg]	Part number 416.88.
Un_{DC} = 550 V Up = 8.5 kV Us = 1.3 kV										
3200	170	95	180	22.4	36	< 0.80	1.25	35	< 10.5	1091
5000	240	95	300	25.0	40	< 0.40	0.85	45	< 13.0	1192
5500	170	145	170	24.8	40	< 0.85	1.35	40	< 14.5	1293
8500	240	145	230	25.5	41	< 0.50	1.15	50	< 18.5	1394
6650	170	170	150	21.3	34	< 1.05	1.35	45	< 16.0	1495
10500	240	170	230	26.3	42	< 0.65	0.95	50	< 21.5	1596
Un_{DC} = 700 V Up = 1.05 kV Us = 1.6 kV										
2400	170	95	180	19.2	31	< 0.85	1.25	35	< 10.5	2091
3800	240	95	300	22.8	36	< 0.45	0.85	45	< 13.0	2192
4250	170	145	170	23.4	37	< 0.85	1.35	40	< 14.5	2293
6500	240	145	220	22.8	36	< 0.60	1.15	50	< 18.5	2394
5000	170	170	150	20.5	33	< 1.10	1.35	45	< 16.0	2495
8000	240	170	230	24.8	40	< 0.65	0.95	50	< 21.5	2596
Un_{DC} = 1000 V Up = 1.4 kV Us = 2.3 kV										
1600	170	95	180	19.2	31	< 0.85	1.25	35	< 10.5	3091
2530	240	95	300	20.2	32	< 0.45	0.85	45	< 13.0	3192
2650	170	145	170	18.6	30	< 0.85	1.35	40	< 14.5	3293
4300	240	145	220	21.5	34	< 0.60	1.15	50	< 18.5	3394
3250	170	170	150	16.3	26	< 1.10	1.35	45	< 16.0	3495
5060	240	170	230	20.2	32	< 0.65	0.95	50	< 21.5	3596
Un_{DC} = 1200 V Up = 1.7 kV Us = 2.4 kV										
1100	170	95	170	22.0	35	< 0.90	1.25	35	< 10.5	4091
1750	240	95	280	19.3	31	< 0.50	0.85	45	< 13.0	4192
1900	170	145	160	19.0	30	< 1.00	1.35	40	< 14.5	4293
3000	240	145	250	21.0	34	< 0.55	1.15	50	< 18.5	4394
2250	170	170	140	19.1	31	< 1.25	1.35	45	< 16.0	4495
3700	240	170	240	20.4	33	< 0.65	0.95	50	< 21.5	4596
Un_{DC} = 1350 V Up = 1.9 kV Us = 2.4 kV										
750	170	95	160	21.0	34	< 1.10	1.25	35	< 10.5	5091
1300	240	95	270	18.2	29	< 0.55	0.85	45	< 13.0	5192
1350	170	145	150	20.3	32	< 1.15	1.35	40	< 14.5	5293
2200	240	145	250	22.0	35	< 0.55	1.15	50	< 18.5	5394
1650	170	170	130	19.8	32	< 1.45	1.35	45	< 16.0	5495
2700	240	170	230	21.6	35	< 0.70	0.95	50	< 21.5	5596

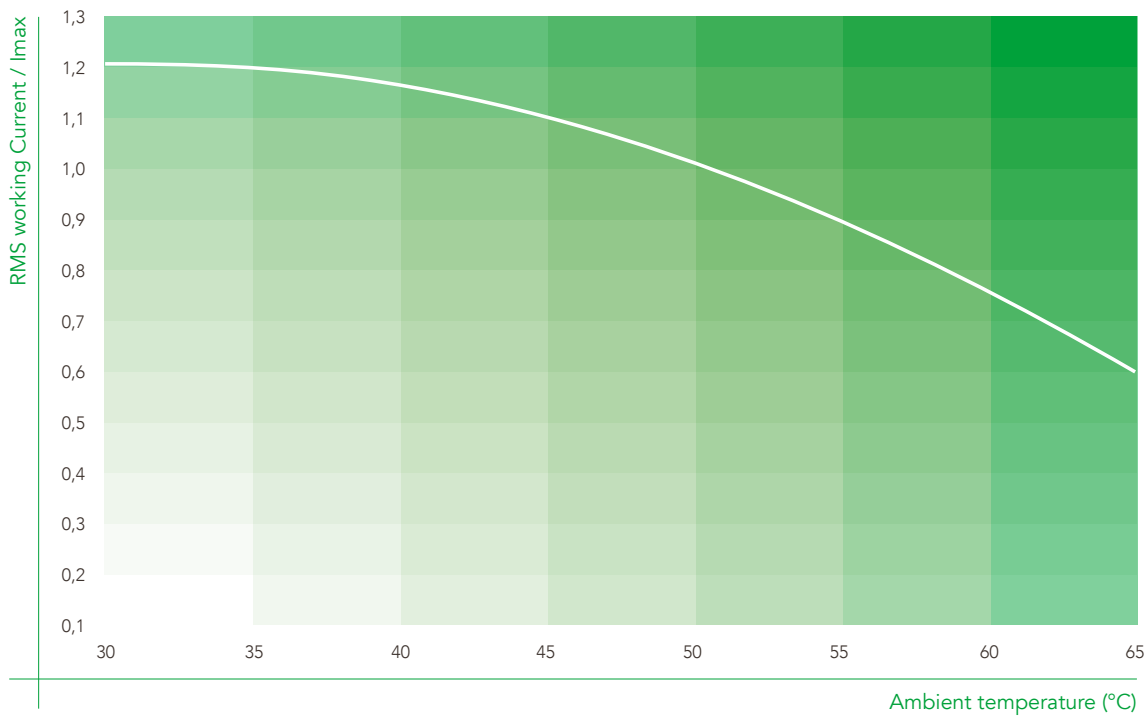


Capacitance Cn [μF]	Height H [mm]	Width w [mm]	Max. RMS Current I _{MAX} [A]	Repet. Peak Current Ip [A]	Surge Current Is [kA]	Series Resistance Rs [mΩ]	Thermal Resistance R _{THC} [°C/W]	Inductance Ls nH	Typical Weight [kg]	Part number 416.88.
Un_{dc} = 1550 V Up = 2.1 kV Us = 2.4 kV										
550	170	95	150	18.7	30	< 1.15	1.25	35	< 10.5	6091
900	240	95	240	18.0	29	< 0.65	0.85	45	< 13.0	6192
1000	170	145	140	22.0	35	< 1.20	1.35	40	< 14.5	6293
1600	240	145	230	19.2	31	< 0.60	1.15	50	< 18.5	6394
1200	170	170	120	21.6	35	< 1.60	1.35	45	< 16.0	6495
2000	240	170	220	20.0	32	< 0.75	0.95	50	< 21.5	6596

NOTES:

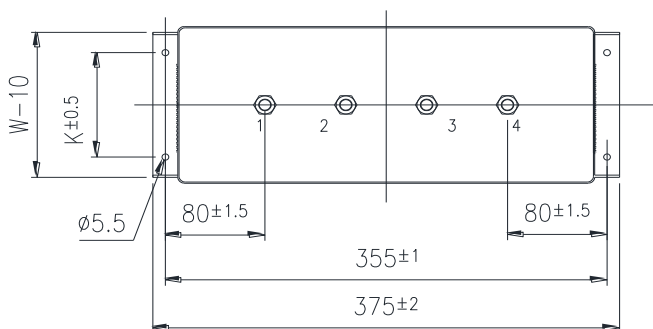
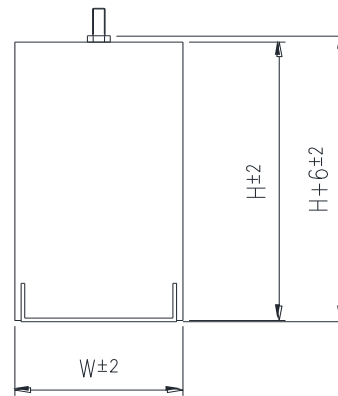
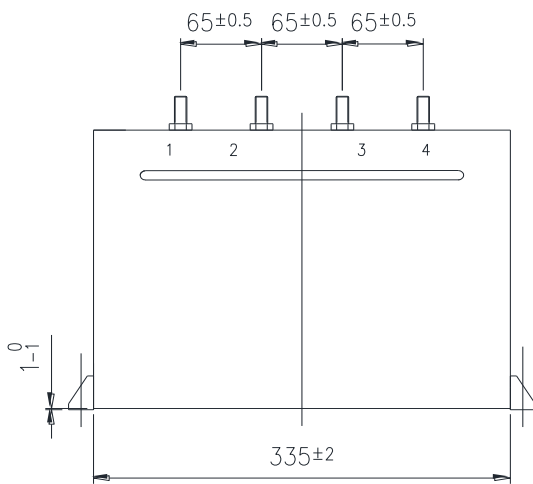
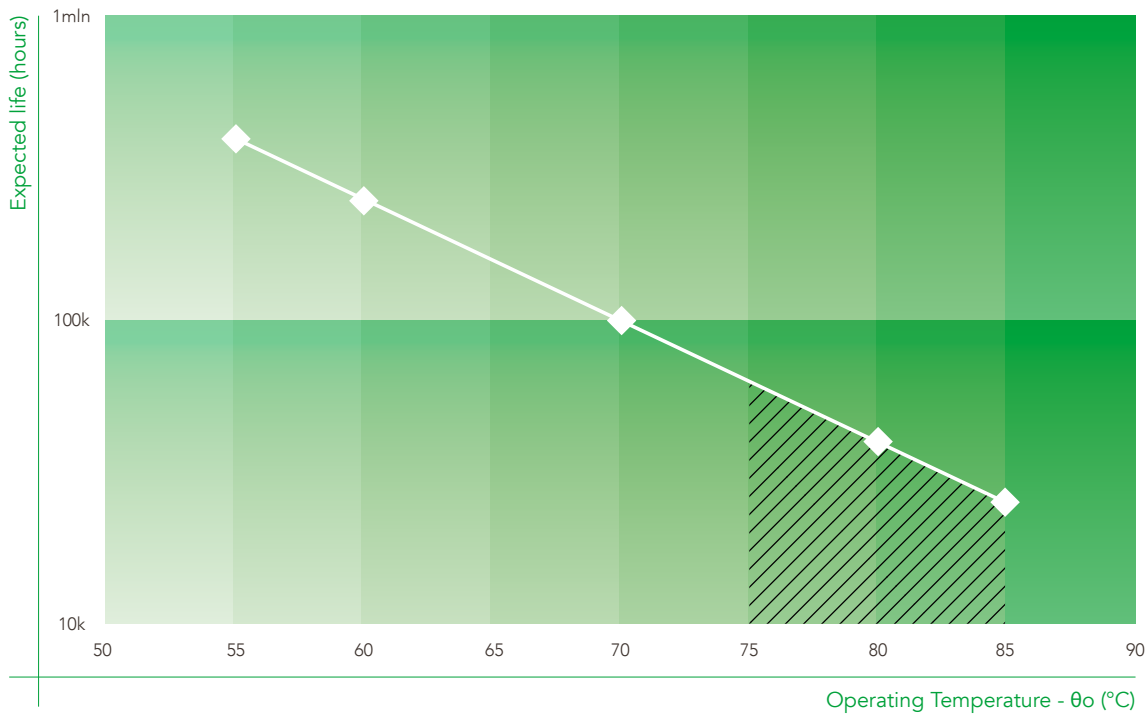
- (Cn) Tolerance standard value: ±10%. Other tolerance values on request.
- (Cn) - (Un) Capacitance and rated voltage standard values, other values on request.
- (Rs) Releated at 1 KHz.
- (R_{THC}) Thermal resistance AMBIENT - CASE.
- (I_{MAX}) Maximum RMS @ 45 °C ambient temperature.
- (Ls) Standard stray inductance. On request very low stray inductance models.

RMS working current vs Ambient temperature





Expected life vs Temperature (on surface case, at 3/4 of height)



Safety system: This capacitors are designed with a particular type of polypropylene metalized film (PPM-D film) that assure an open circuit at the end of life, if the service is within the specification.

Width (Wmm)	k(mm)
95	50
145	100
170	100