new

LV PFC Capacitors

Patent Pending

DWCAP Series

RTR

DWCAP SERIES

Three phase capacitors

230, 400,415,440,480,525,690 V, 50Hz

Characteristics and utility

- Three phase capacitor DUAL WINDING internally delta connected
- Discharge resistors Incorporated
- Reactive power factor correction
- Dry type
- Connector type terminal
- Indoor mounting

Triple safety

- Overpressure disconnection system
- Protection by internal fuses
- DWCAP system (patent) internal windings Displacement

Construction and materials

- Low losses metallized self-healing polypropylene film, high density, high temperature and greater dielectric resistance Volt/µ
- Polyurethane self-extinguishing resin V0, developed under standard UL 94 by RTR Energía
- Aluminium case with botton fixing M12x16

Standards

- IEC 60831-1/2
- EN 60831-1/2

DWCAP TRIPLE SAFETY

Patent Peding

Technical Characteristics	
Capacitance tolerance	-5% +10%
Frequency	50 Hz (60 Hz upon request)
Temperature range	-25ºC +55ºC
Dielectric losses	≤0.2 W/KVAr
Total losses	≤0.45 W/KVAr *
Over voltage	1.10 x Un (8h/day) 1.15 x Un (30min/day) 1.20 x Un (5 min/day) 1.30 x Un (1 min/day)
Over current	1.50 x In
Max. THD in voltage	2%
Max. THD in current	25%
Discharge resistance	Incorporated
Connection	Delta
Voltage test between terminals	2,15 x Un 2 sec.
Voltage test between terminals and case	3kV for 10 sec. AC
Inrush current	upto 200 x In
Protection	IP-20
Humidity	Max. 95%
Life Expectancy	100 000 h (Temp. type D) 120 000 h (Temp. type C)
Altitude	2000 a.s.l.
Mounting position	Universal

* Without resistors

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D2300505TER0000	5	230	50	12,55	3x100,29	85 x 230
D2300755TER0000	7,5	230	50	18,83	3x150,43	100 x 230
D2301005TER0000	10	230	50	25,10	3x200,57	120 x 230
D2301255TER0000	12,5	230	50	31,38	3x250,72	136 x 230
D2301505TER0000	15	230	50	37,65	3x300,86	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4001005TER0000	10	400	50	14,43	3x66,31	85 x 230
D4001255TER0000	12,5	400	50	18,04	3x82,89	85 x 230
D4001505TER0000	15	400	50	21,65	3x99,47	100 x 230
D4002005TER0000	20	400	50	28,87	3x132,63	120 x 230
D4002505TER0000	25	400	50	36,08	3x165,79	120 x 230
D4003005TER0000	30	400	50	43,30	3x198,94	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4151005TER0000	10	415	50	13,91	3x61,61	85 x 230
D4151255TER0000	12,5	415	50	17,39	3x77,01	85 x 230
D4151505TER0000	15	415	50	20,87	3x92,41	100 x 230
D4152005TER0000	20	415	50	27,82	3x123,21	120 x 230
D4152505TER0000	25	415	50	34,78	3x154,02	120 x 230
D4153005TER0000	30	415	50	41,74	3x184,82	136 x 230
D4153505TER0000	35	415	50	48,69	3x215,63	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4401005TER0000	10	440	50	13,12	3x54,81	70 x 230
D4401255TER0000	12,5	440	50	16,40	3x68,51	85 x 230
D4401505TER0000	15	440	50	19,68	3x82,21	85 x 230
D4402005TER0000	20	440	50	26,24	3x109,61	100 x 230
D4402505TER0000	25	440	50	32,80	3x137,01	120 x 230
D4403005TER0000	30	440	50	39,36	3x164,42	120 x 230
D4403505TER0000	35	440	50	45,93	3x191,82	136 x 230
D4404005TER0000	40	440	50	52,49	3x219,22	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4801005TER0000	10	480	50	12,03	3x46,05	85 x 230
D4801255TER0000	12,5	480	50	15,04	3x57,56	100 x 230
D4801505TER0000	15	480	50	18,04	3x69,08	100 x 230
D4802005TER0000	20	480	50	24,06	3x92,10	120 x 230
D4802505TER0000	25	480	50	30,07	3x115,13	136 x 230
D4803005TER0000	30	480	50	36,08	3x138,16	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D5251005TER0000	10	525	50	11,00	3x38,50	85 x 230
D5251255TER0000	12,5	525	50	13,75	3x48,12	85 x 230
D5251505TER0000	15	525	50	16,50	3x57,74	100 x 230
D5252005TER0000	20	525	50	21,99	3x76,99	120 x 230
D5252505TER0000	25	525	50	27,49	3x96,24	120 x 230
D5253005TER0000	30	525	50	32,99	3x115,49	136 x 230
D5253505TER0000	35	525	50	38,49	3x134,73	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D6901005TER0000	10	690	50	8,37	3x22,29	70 x 230
D6901255TER0000	12,5	690	50	10,46	3x27,86	85 x 230
D6901505TER0000	15	690	50	12,55	3x33,43	85 x 230
D6902005TER0000	20	690	50	16,73	3x44,57	100 x 230
D6902505TER0000	25	690	50	20,92	3x55,71	120 x 230
D6903005TER0000	30	690	50	25,10	3x66,86	120 x 230
D6903505TER0000	35	690	50	29,29	3x78,00	120 x 230
D6904005TER0000	40	690	50	33,47	3x89,14	136 x 230

Other power and voltage upon request

Reinforced three phase capacitors with connector

230/400/415/440/480 V, 50 Hz

Characteristics and utility

- Three phase capacitor DUAL WINDING internally delta connected
- Discharge resistors Incorporated
- Reactive power factor correction
- Reinforced design to support over voltage
- Dry type
- Connector type terminal
- Indoor mounting

Triple safety

- Overpressure disconnection system
- Protection by internal fuses
- DWCAP system (patent) internal windings Displacement

Construction and materials

- Low losses metallized self-healing polypropylene film, high density, high temperature and greater dielectric resistance Volt/µ
- Polyurethane self-extinguishing resin V0, developed under standard UL 94 by RTR Energía
- Aluminium case with botton fixing M12x16

Standards

- IEC 60831-1/2
- EN 60831-1/2

DWCAP TRIPLE SAFETY

Patent Peding

Technical Characteristics	
Capacitance tolerance	-5% +10%
Frequency	50 Hz (60 Hz upon request)
Temperature range	-25ºC +55ºC
Dielectric losses	≤0.2 W/KVAr
Total losses	≤0.45 W/KVAr *
Over voltage	1.15 x Un (30min/day)
Over current	1.50 x In
Max. THD in voltage	3%
Max. THD in current	30%
Discharge resistance	Incorporated
Connection	Delta
Voltage test between terminals	2,15 x Un 2 sec.
Voltage test between terminals and case	3kV for 10 sec. AC
Inrush current	upto 200 x In
Protection	IP-20
Humidity	Max. 95%
Life Expectancy	130 000 h (Temp. type C) 120 000 h (Temp. type D)
Altitude	2000 a.s.l.
Mounting position	Universal

* Without resistors

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D2300505TER0RTF	5	230	50	12,55	3x100,29	85 x 230
D2300755TER0RTF	7,5	230	50	18,83	3x150,43	100 x 230
D2301005TER0RTF	10	230	50	25,10	3x200,57	120 x 230
D2301255TER0RTF	12,5	230	50	31,38	3x250,72	136 x 230
D2301505TER0RTF	15	230	50	37,65	3x300,86	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4001005TER0RTF	10	400	50	14,45	3 x 66,3	85 x 230
D4001255TER0RTF	12,5	400	50	18,06	3 x 82,9	85 x 230
D4001505TER0RTF	15	400	50	21,68	3 x 99,5	100 x 230
D4002005TER0RTF	20	400	50	28,90	3 x 132,6	120 x 230
D4002505TER0RTF	25	400	50	36,13	3 x 165,8	120 x 230
D4003005TER0RTF	30	400	50	43,35	3 x 198,9	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4151005TER0RTF	10	415	50	13,93	3 x 61,6	85 x 230
D4151255TER0RTF	12,5	415	50	17,41	3 x 77	100 x 230
D4151505TER0RTF	15	415	50	20,89	3 x 92,4	100 x 230
D4152005TER0RTF	20	415	50	27,86	3 x 123,2	120 x 230
D4152505TER0RTF	25	415	50	34,82	3 x 154	136 x 230
D4153005TER0RTF	30	415	50	41,79	3 x 184,8	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4401005TER0RTF	10	440	50	13,12	3x54,81	85 x 230
D4401255TER0RTF	12,5	440	50	16,40	3x68,51	100 x 230
D4401505TER0RTF	15	440	50	19,68	3x82,21	100 x 230
D4402005TER0RTF	20	440	50	26,24	3x109,61	120 x 230
D4402505TER0RTF	25	440	50	32,80	3x137,01	136 x 230
D4403005TER0RTF	30	440	50	39,36	3x164,42	136 x 230

Code	Power	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	V	Hz	A	µF	mm
D4801005TER0RTF	10	480	50	12,03	3x46,05	85 x 230
D4801255TER0RTF	12,5	480	50	15,04	3x57,56	100 x 230
D4801505TER0RTF	15	480	50	18,04	3x69,08	100 x 230
D4802005TER0RTF	20	480	50	24,06	3x92,10	120 x 230
D4802505TER0RTF	25	480	50	30,07	3x115,13	136 x 230
D4803005TER0RTF	30	480	50	36,08	3x138,16	136 x 230

Other power and voltage upon request

Three phase capacitors with connector for harmonics filter application

230/400/440 V, 50Hz

Characteristics and utility

- Three phase capacitor DUAL WINDING internally delta connected
- Discharge resistors Incorporated
- Reactive power factor correction
- Special design to install with 210, 189 or 134 Hz three phase harmonic filters.
- Dry type
- Connector type terminal
- Indoor mounting

Triple safety

- Overpressure disconnection system
- Protection by internal fuses
- DWCAP system (patent) internal windings Displacement

Construction and materials

- Low losses metallized self-healing polypropylene film, high density, high temperature and greater dielectric resistance Volt/µ
- Polyurethane self-extinguishing resin V0, developed under standard UL 94 by RTR Energía
- Aluminium case with botton fixing M12x16

Standards

- IEC 60831-1/2
- EN 60831-1/2

DWCAP TRIPLE SAFETY

Patent Peding

Technical Characteristics	
Capacitance tolerance	-5% +5%
Frequency	50 Hz (60 Hz upon request)
Temperature range	-25ºC +55ºC
Dielectric losses	≤0.2 W/KVAr
Total losses	≤0.45 W/KVAr *
Over voltage	1.15 x Un (30min/day)
Over current	1.50 x In
Discharge resistance	Incorporated
Connection	Delta
Voltage test between terminals	2,15 x Un 2 sec.
Voltage test between terminals and case	3kV for 10 sec. AC
Inrush current	upto 200 x In
Protection	IP-20
Humidity	Max. 95%
Life Expectancy	130 000 h (Temp. type C) 120 000 h (Temp. type D)
Altitude	2000 a.s.l.
Mounting position	Universal

* Without resistors

Code	Power	Detuning	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	Factor	V	Hz	A	µF	mm
D2300255TER7RCT	2,5	7%	230	50	6,28	3x46,63	70 x 230
D2300505TER7RCT	5	7%	230	50	12,55	3x93,27	85 x 230
D2300755TER7RCT	7,5	7%	230	50	18,83	3x139,90	100 x 230
D2301005TER7RCT	10	7%	230	50	25,10	3x186,53	120 x 230
D2301255TER7RCT	12,5	7%	230	50	31,38	3x233,17	136 X 230
D2301505TER7RCT	15	7%	230	50	37,65	3x279,80	136 X 230

Code	Power	Detuning	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	Factor	V	Hz	A	µF	mm
D2300255TER1RCT	2,5	14%	230	50	6,28	3x43,12	70 x 230
D2300505TER1RCT	5	14%	230	50	12,55	3x86,25	85 x 230
D2300755TER1RCT	7,5	14%	230	50	18,83	3x129,37	100 x 230
D2301005TER1RCT	10	14%	230	50	25,10	3x172,49	120 x 230
D2301255TER1RCT	12,5	14%	230	50	31,38	3x215,62	120 x 230
D2301505TER1RCT	15	14%	230	50	37,65	3x258,74	136 X 230

Code	Power	Detuning	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	Factor	V	Hz	A	µF	mm
D4001005TER7RCT	10	7%	400	50	14,43	3x61,67	85 x 230
D4001255TER7RCT	12,5	7%	400	50	18,04	3x77,09	100 x 230
D4001505TER7RCT	15	7%	400	50	21,65	3x92,51	100 x 230
D4002005TER7RCT	20	7%	400	50	28,87	3x123,35	120 x 230
D4002505TER7RCT	25	7%	400	50	36,08	3x154,18	136 X 230
D4003005TER7RCT	30	7%	400	50	43,30	3x185,02	136 x 230

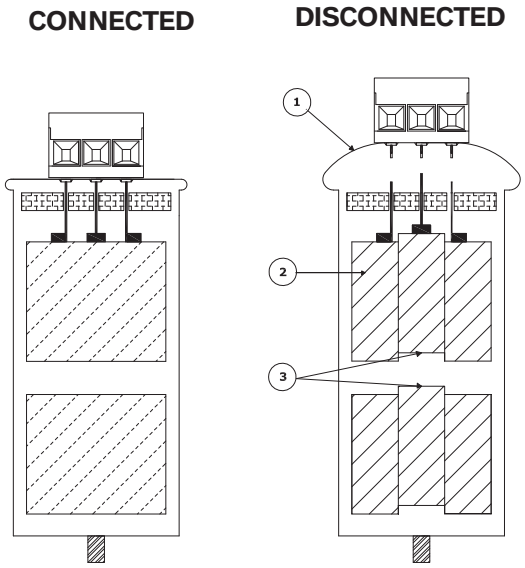
Code	Power	Detuning	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	Factor	V	Hz	A	µF	mm
D4001005TER1RCT	10	14%	400	50	14,43	3x57,03	100 x 230
D4001255TER1RCT	12,5	14%	400	50	18,04	3x71,29	100 x 230
D4001505TER1RCT	15	14%	400	50	21,65	3x85,55	120 x 230
D4002005TER1RCT	20	14%	400	50	28,87	3x114,06	136 X 230
D4002505TER1RCT	25	14%	400	50	36,08	3x142,58	136 x 230

Code	Power	Detuning	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	Factor	V	Hz	A	µF	mm
D4401005TER5RCT	10	5.67%	440	50	13,12	3x51,70	85 x 230
D4401255TER5RCT	12,5	5.67%	440	50	16,40	3x64,62	100 x 230
D4401505TER5RCT	15	5.67%	440	50	19,68	3x77,55	120 x 230
D4402005TER5RCT	20	5.67%	440	50	26,24	3x103,40	120 x 230
D4402505TER5RCT	25	5.67%	440	50	32,80	3x129,24	136 X 230

Code	Power	Detuning	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	Factor	V	Hz	A	µF	mm
D4401005TER7RCT	10	7%	440	50	13,12	3x50,97	85 x 230
D4401255TER7RCT	12,5	7%	440	50	16,40	3x63,71	100 x 230
D4401505TER7RCT	15	7%	440	50	19,68	3x76,45	120 x 230
D4402005TER7RCT	20	7%	440	50	26,24	3x101,94	120 x 230
D4402505TER7RCT	25	7%	440	50	32,80	3x127,42	136 X 230
D4403005TER7RCT	30	7%	440	50	39,36	3x152,91	136 x 230

Code	Power	Detuning	Voltage	Frequency	Current	Capacitance	Dimensions
	KVAr	Factor	V	Hz	A	µF	mm
D4401005TER1RCT	10	14%	440	50	13,12	3x47,13	100 x 230
D4401255TER1RCT	12,5	14%	440	50	16,40	3x58,92	100 x 230
D4401505TER1RCT	15	14%	440	50	19,68	3x70,70	120 x 230
D4402005TER1RCT	20	14%	440	50	26,24	3x94,27	136 X 230
D4402505TER1RCT	25	14%	440	50	32,80	3x117,83	136 x 230

Other power and voltage upon request



SYSTEM DISCONNECTION
1: Overpressure disconnection
2: Fuses
3: Patent DWCAP disconnection

Triple safety

Temperature (IEC 60831-1/2)

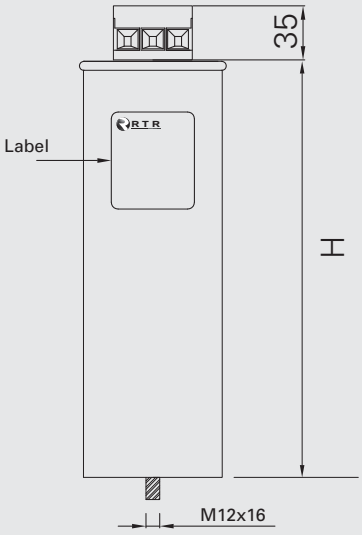
Symbol	Ambient temperature ˚C		
	Maximun	Highest mean over any period of	
		24h	1 year
A	40	30	20
B	45	35	25
C	50	40	30
D	55	45	35

Dimensions

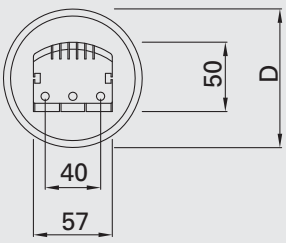
Dimensions	Connection terminal	DRAWING
D x H (mm²)	Max. cable section 1 kV-RV (mm²)	
70x230	10	DRAWING A
85x230	10	
100x230	10	
120x230	35	DRAWING B
136x230	35	

Dimensions

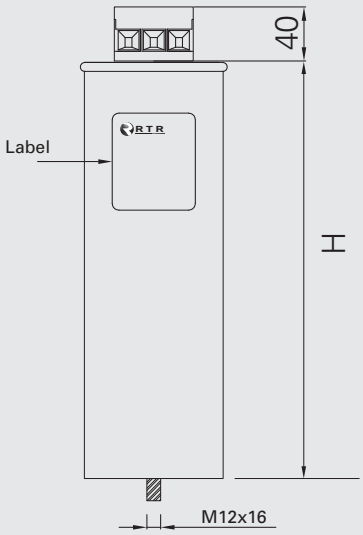
DRAWING A



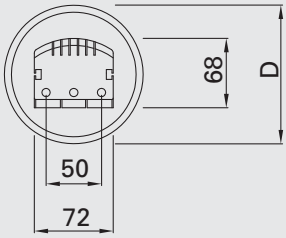
Washer DIN 6798 A M12
Screw DIN 936 M12 ZNC



DRAWING B



Washer DIN 6798 A M12
Screw DIN 936 M12 ZNC



ENGINEERING AND MANUFACTURING

RTR Energía has the most modern technology for electric capacitors, harmonic filters, transformers, capacitor banks and polyurethane resins in its production centre in Madrid. Furthermore, its large team of work designs adapted solutions for any different need and offers technical assistance for clients during every project phase.

QUALITY AND INNOVATION

The success of RTR Energia philosophy, oriented to the research and development of new solutions in the field of energy, is based on its capacity of management and innovation. These new solutions are being developed in order to provide a personal response for the clients' needs, and the whole philosophy has been reinforced during the last years with the UL certification concession.

GLOBAL PRESENCE

RTR Energía has a marked International vocation. Since its foundation in Spain there is a production facility in Chile and several new trade offices have been opened, such as China, Russia and South Korea. In addiction, over the past year RTR Energia has reached collaboration agreements in most emerging markets and being now present in more than 60 countries, 65% of its turnover is based on exports.

LV Capacitors

MA/C/CE/TER Series

New Series
DW CAP
Patent Peding

BO/R Series

Medium Voltage

Capacitors

Capacitor Banks

Automatic Capacitor Banks

Compact-3

Compact-5

Compact-9

Mini Mural

Filters & Transformers

Harmonic filters

Transformers (IP-45)

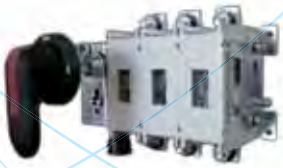
Single phase
transformers (IP-00)

Accesories

Capacitor
duty contactors

MCB

MCCB



On-load break switch

Fixed Capacitors Banks

PRE Serie

PR0 Serie

PRBA Serie

PRBD Serie

Compact-1

Mural

Modular

ARM Series with harmonic filters

ST Series with static contactors

Controllers

PR12-D12
Automatic power factor controller

Split core current transformers

Lighting

Lighting components

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