

OPTIM P&P

Automatic capacitor banks



Description

The **OPTIM P&P** series automatic capacitor bank units have been designed for the automatic compensation of reactive energy in networks with fluctuating load levels and power variations during seconds, by switching operations carried out by contactors.

Application

Their simple installation, high-technology and robustness make the **OPTIM P&P** series the ideal unit for compensating reactive energy in installations with fluctuating load levels.

Technical features

Electrical features	Operating voltage	400 V (50 Hz), 230/480 V (60 Hz) (please ask about other voltages)
	Support voltage	440 V 50 Hz
	Frequency	50 Hz or 60 Hz (please ask about other frequencies)
	Capacity tolerance	-5%, +10%
	Impulse test	15 kV, ray type wave 1.2 / 50 μ s
	Current transformer input	250 mA in OPTIM 2 model (50 Hz) 5 A in OPTIM 3, OPTIM 5, OPTIM 9, OPTIM 8, OPTIM 8L, OPTIM 14L and OPTIM 16L models
	Contactor operation voltage	230 V
Capacitors	CLZ type capacitor	
	Appropriate contactors for capacitive currents.	
Protection	Built-in general circuit breaker protection in OPTIM 2 and OPTIM 3 models (50 Hz). Circuit breaker protection by stages in the OPTIM 5 . Fuses with high cut off power(APR) type NH-00 in OPTIM 8, OPTIM 9, OPTIM 8L, OPTIM 14L and OPTIM 16L models.	
Power factor regulator	TWO Computer with 2 relay outputs in the OPTIM 2 model (50 Hz). MAX P&P Computer with digital indication and 6 or 12 relay outputs depending on the type, in all other models.	
Add-ons (optional)	Manual capacitor bank header switch. Automatic capacitor bank header switch. Circuit breaker + earth leakage protection in the capacity bank header. Forced ventilation unit + thermostat. Polycarbonate board for protection against direct contacts. Auto-transformer 400/230 V (included in the OPTIM 8, 9, 8L, 14L, and 16L). Regulator with built-in power analyzer and SMART III Computer three-phase measuring system. Regulator with built-in power analyzer and PLUS Computer three-phase measuring system.	
Residual discharge voltage	75 V / 3 minutes	
Capacitor losses	< 0.5 W / kvar	
Overload	1.3 times the nominal hold current	
Overvoltage	10%, 8 over 24 hours 15%, up to 15 minutes over 24 hours	20%, up to 5 minutes over 24 hours 30%, up to 1 minute over 24 hours
Temperature	Class D according to IEC-60831 : Daily mean: 45 °C, annual mean: 35 °C, maximum: 55 °C, minimum: -50 °C	
Environmental conditions	Humidity	80% without condensation
	Altitude	1,000 max. (For higher altitude, forced ventilation should always be provided)
Mechanical features	Enclosure material	Thermoplastic in OPTIM 2 model Metal plate in all other models
	Protection Degree	Marked on the label
	Colour	RAL 7035 Grey RAL 3005 Maroon
Assembly conditions	Wall assembly in OPTIM 2, OPTIM 3, and OPTIM 5 models Freestanding assembly in OPTIM 8, OPTIM 9, OPTIM 8L, OPTIM 14L and OPTIM 16L models	
	Positioning the unit	Vertical
	Ventilation	Natural or forced, in accordance with the options
Standards	IEC 60831-1, IEC 61921, IEC 60439	

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References

400 V, 50 Hz

Type	Code	Kvar 440 V	400 V	Composition	Switch (A)	Cable section (mm ²)	Weight (kg)	Dimensions (mm) width x height x depth
OPTIM 1, automatic capacitor bank with reactive relay. Requires 1 MC series 250 mA measuring transformer								
OPTIM 1-2,5-440	R3Q631EN	2,5	2	1 x 2,5	Included	6	4	215 x 500 x 166
OPTIM 1-5-440	R3Q641EN	5	4	1 x 5	Included	6	4,5	215 x 500 x 166
OPTIM 1-6,25-440	R3Q651EN	6,25	5	1 x 6,25	Included	6	5	215 x 500 x 166
OPTIM 1-10-440	R3Q671EN	10	8	1 x 10	Included	6	5	215 x 500 x 166
OPTIM 1-12,5-440	R3Q681EN	12,5	10	1 x 12,5	Included	6	5	215 x 500 x 166
OPTIM 1-15-440	R3Q691EN	15	12,5	1 x 15	Included	6	5	215 x 500 x 166
OPTIM 1A-18,2-440	R3Q6E1EN	18,2	15	1 x 18,2	Included	6	6	270 x 500 x 166
OPTIM 1A-25-440	R3Q6F1EN	25	20	1 x 25	Included	10	7	270 x 500 x 166
OPTIM 1A-30-440	R3Q6D1EN	30	25	1 x 30	Included	10	7	270 x 500 x 166
OPTIM 2, automatic capacitor banks with regulator without display. Requires 1 MC series 250 mA measuring transformer								
OPTIM 2-7,5-440	R3Q761EN	7,5	6,25	2,5 + 5	Included	6	7	362 x 500 x 166
OPTIM 2-10,5-440	R3Q771EN	10,5	8,5	3 + 7,5	Included	6	7	362 x 500 x 166
OPTIM 2-12,5-440	R3Q781EN	12,5	10	5 + 7,5	Included	6	7	362 x 500 x 166
OPTIM 2-17,5-440	R3Q7E1EN	17,5	14	5 + 12,5	Included	6	7	362 x 500 x 166
OPTIM 2-20-440	R3Q7F1EN	20	16,5	7,5 + 12,5	Included	6	7	362 x 500 x 166
OPTIM 2-22,5-440	R3Q7G1EN	22,5	18,5	7,5 + 15	Included	6	7	362 x 500 x 166
OPTIM 2-25-440	R3Q7H1EN	25	21	10 + 15	Included	10	8	362 x 500 x 166
OPTIM 2-30-440	R3Q7J1EN	30	25	15 + 15	Included	10	8	362 x 500 x 166
OPTIM 3 P&P, automatic capacitor banks with regulator and Max P&P computer								
OPTIM 3 P&P-12,5-440	R3L110	12,5	10	2,5 + 5 + 5	Included	6	30	400 x 600 x 260
OPTIM 3 P&P-17,5-440	R3L120	17,5	14	2,5 + 5 + 10	Included	6	31	400 x 600 x 260
OPTIM 3 P&P-25-440	R3L130	25	20	5 + 10 + 10	Included	10	32	400 x 600 x 260
OPTIM 3 P&P-31,25-440	R3L140	31,25	26	6,25 + 12,5 + 12,5	Included	10	33	400 x 600 x 260
OPTIM 3 P&P-37,5-440	R3L150	37,5	31,25	7,5 + 15 + 15	Included	16	35	400 x 600 x 260
OPTIM 3 P&P-43,75-440	R3L160	43,75	36	6,25 + 12,5 + 25	Included	25	36	400 x 600 x 260
OPTIM 3 P&P-52,5-440	R3L170	52,5	43	7,5 + 15 + 30	Included	25	38	400 x 600 x 260
OPTIM 3 P&P-62,5-440	R3L180	62,5	51	12,5 + 25 + 25	Included	35	40	400 x 600 x 260
OPTIM 5 P&P, automatic capacitor banks with Max P&P computer regulator								
OPTIM 5 P&P-55-440	R3L210	55	45	5 + 10 + 20 + 20	125	35	42	600 x 740 x 260
OPTIM 5 P&P-70-440	R3L220	70	58	10 + 3 x 20	125	50	43	600 x 740 x 260
OPTIM 5 P&P-90-440	R3L230	90	74	15 + 15 + 30 + 30	200	70	47	600 x 740 x 260
OPTIM 5 P&P-105-440	R3L240	105	87	15 + 30 + 30 + 30	200	87	50	600 x 740 x 260
OPTIM 5 P&P-135-440	R3L250	135	112	15 + 30 + 30 + 30 + 30	250	95	53	600 x 740 x 260
OPTIM 5 P&P-150-440	R3L260	150	124	30 + 30 + 30 + 30 + 30	250	120	55	600 x 740 x 260
OPTIM 9 P&P, automatic capacitor banks with Max P&P computer regulator. Built in auto-transformer power supply operation								
OPTIM 9 P&P-165-440	R3L310	165	136	15 + 5 x 30	400	120	123	700 x 1350 x 440
OPTIM 9 P&P-195-440	R3L320	195	161	15 + 6 x 30	400	150	126	700 x 1350 x 440
OPTIM 9 P&P-225-440	R3L330	225	186	15 + 7 x 30	400	185	129	700 x 1350 x 440
OPTIM 9 P&P-255-440	R3L340	255	211	15 + 8 x 30	630	240	132	700 x 1350 x 440
OPTIM 9 P&P-270-440	R3L350	270	223	9 x 30	630	240	134	700 x 1350 x 440
OPTIM 8 P&P, automatic capacitor banks with Max P&P computer regulator. Built in operation auto-transformer power supply								
OPTIM 8 P&P-300-440	R3L410	300	248	2 x 30 + 4 x 60	630	2 x 150	235	1000 x 1750 x 440
OPTIM 8 P&P-330-440	R3L420	330	273	30 + 5 x 60	630	2 x 150	240	1000 x 1750 x 440
OPTIM 8 P&P-390-440	R3L430	390	322	30 + 6 x 60	800	2 x 185	250	1000 x 1750 x 440
OPTIM 8 P&P-450-440	R3L440	450	372	30 + 7 x 60	800	2 x 240	260	1000 x 1750 x 440
OPTIM 8 P&P-480-440	R3L450	480	396	8 x 60	1000	2 x 240	265	1000 x 1750 x 440
OPTIM 8L P&P, automatic capacitor banks with computer Max P&P regulator. Built-in operation auto-transformer power supply								
OPTIM 8L P&P-550-440	R35L10	550	454	50+5x100	1000	2x240	280	1200 x 1900 x 650
OPTIM 8L P&P-650-440	R35L20	650	537	50+6x100	1250	3x150	315	1200 x 1900 x 650
OPTIM 8L P&P-750-440	R35L30	750	620	50+7x100	1600	3x185	340	1200 x 1900 x 650
OPTIM 8L P&P-800-440	R35L40	800	661	8x100	1600	3x185	350	1200 x 1900 x 650
OPTIM 14L P&P, automatic capacitor banks with Max P&P computer regulator. Built-in operation auto-transformer power supply								
OPTIM 14L P&P-900-440	R36L10	900	743	2X50+8x100	1250/400	3x150/185	525	2100 x 1900 x 650
OPTIM 14L P&P-950-440	R36L20	950	785	50+9x100	1600/400	3x185/185	535	2100 x 1900 x 650
OPTIM 14L P&P-1050-440	R36L30	1050	867	50+10x100	1600/630	3x185/240	560	2100 x 1900 x 650
OPTIM 14L P&P-1150-440	R36L40	1150	950	50+11x100	1600/1000	3x185/2x150	585	2100 x 1900 x 650
OPTIM 14L P&P-1200-440	R36L50	1200	991	12x100	1600/800	3x185/2x185	595	2100 x 1900 x 650
OPTIM 14L P&P-1300-440	R36L60	1300	1074	100+6x200	1250/1250	3x185/2x240	625	2100 x 1900 x 650
OPTIM 14L P&P-1400-440	R36L70	1400	1156	100+100+6x200	1600/1250	3x185/3x120	650	2100 x 1900 x 650
OPTIM 16L P&P, automatic capacitor banks with computer Max P&P regulator. Built-in operation auto-transformer power supply								
OPTIM 16L P&P-1500-440	R37L30	1500	1239	100+7x200	1600/1600	3x185/3x150	675	2400 x 1900 x 650
OPTIM 16L P&P-1600-440	R37L40	1600	1322	100+100+7x200	1600/1600	3x185/3x185	700	2400 x 1900 x 650

Switch and cable section for installations with $U_n = 400$ V. The installer must ensure compliance with the Low Voltage Directive in real time, in accordance with the characteristics of each installation and the type of cable.

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230 V, 60 Hz

Type	Code	kvar	Composition	Switch (A) optional	Cable section (mm ²)	Weight (kg)	Dimensions (mm) width x height x depth
OPTIM 5 P&P, automatic capacitor banks with Max P&P computer regulator							
OPTIM 5 P&P-25-230-60Hz	R35A00	25	5+2x10	3 x 125 A	Not necessary	38	600 x 740 x 260
OPTIM 5 P&P-50-230-60Hz	R3A501	50	5x10	3 x 200 A	Not necessary	50	600 x 740 x 260
OPTIM 9 P&P, automatic capacitor banks with Max P&P computer regulator. Built in auto-transformer power supply operation							
OPTIM 9 P&P-60-230-60Hz	R3A502	60	6x10	3 x 250 A	Not necessary	114	700 x 1350 x 440
OPTIM 9 P&P-70-230-60Hz	R3A503	70	7x10	3 x 250 A	Not necessary	119	700 x 1350 x 440
OPTIM 9 P&P-80-230-60Hz	R3A504	80	8x10	3 x 400 A	Not necessary	124	700 x 1350 x 440
OPTIM 9 P&P-90-230-60Hz	R3A505	90	9x10	3 x 400 A	Not necessary	128	700 x 1350 x 440
OPTIM 8 P&P, automatic capacitor banks with Max P&P computer regulator. Built in operation auto-transformer power supply							
OPTIM 8 P&P-100-230-60Hz	R3A506	100	5x20	3 x 400 A	Not necessary	180	1000 x 1750 x 440
OPTIM 8 P&P-120-230-60Hz	R3A507	120	6x20	3 x 630 A	Not necessary	200	1000 x 1750 x 440
OPTIM 8 P&P-140-230-60Hz	R3A508	140	7x20	3 x 630 A	Not necessary	225	1000 x 1750 x 440
OPTIM 8 P&P-160-230-60Hz	R3A509	160	8x20	3 x 630 A	Not necessary	240	1000 x 1750 x 440
OPTIM 8L P&P, bancos automáticos con regulador computer Max P&P. Autotransformador alimentación maniobra incorporado							
OPTIM 8L P&P-220-230-60Hz	R3A510	220	20+5x40	3 x 800 A	Not necessary	290	1180 x 1805 x 460
OPTIM 8L P&P-260-230-60Hz	R3A511	260	20+6x40	3 x 1000 A	Not necessary	305	1180 x 1805 x 460
OPTIM 8L P&P-300-230-60Hz	R3A512	300	20+7x40	3 x 1600 A	Not necessary	330	1180 x 1805 x 460
OPTIM 8L P&P-320-230-60Hz	R3A513	320	8x40	3 x 1600 A	Not necessary	340	1180 x 1805 x 460
OPTIM 14L P&P, automatic capacitor banks with Max P&P computer regulator. Built-in operation auto-transformer power supply							
OPTIM 14L P&P-360-230-60Hz	R3A514	360	9x40	3 x 1600 A	Not necessary	505	1930 x 1805 x 460
OPTIM 14L P&P-400-230-60Hz	R3A515	400	10x40	3 x 1600 A	Not necessary	530	1930 x 1805 x 460
OPTIM 14L P&P-440-230-60Hz	R3A516	440	11x40	3 x 1600 A	Not necessary	560	1930 x 1805 x 460
OPTIM 14L P&P-480-230-60Hz	R3A517	480	12x40	3 x 1600 A	Not necessary	580	1930 x 1805 x 460
480 V, 60 Hz							
OPTIM 5 P&P, automatic capacitor banks with Max P&P computer regulator							
OPTIM 5 P&P-50-480-60Hz	R3A530	50	10+2x20	3 x 125 A	Included	41	600 x 740 x 260
OPTIM 5 P&P-75-480-60Hz	R3A531	75	2x12,5+2x25	3 x 160 A	Included	45	600 x 740 x 260
OPTIM 5 P&P-100-480-60Hz	R3A532	100	4x25	3 x 200 A	Included	51	600 x 740 x 260
OPTIM 5 P&P-125-480-60Hz	R3A533	125	5x25	3 x 250 A	Included	53	600 x 740 x 260
OPTIM 9 P&P, automatic capacitor banks with Max P&P computer regulator. Built in auto-transformer power supply operation							
OPTIM 9 P&P-150-480-60Hz	R3A534	150	6x25	3 x 250 A	Included	122	700 x 1350 x 440
OPTIM 9 P&P-175-480-60Hz	R3A535	175	7x25	3 x 400 A	Included	126	700 x 1350 x 440
OPTIM 9 P&P-200-480-60Hz	R3A536	200	8x25	3 x 400 A	Included	128	700 x 1350 x 440
OPTIM 9 P&P-225-480-60Hz	R3A537	225	9x25	3 x 400 A	Included	132	700 x 1350 x 440
OPTIM 8 P&P, automatic capacitor banks with Max P&P computer regulator. Built in operation auto-transformer power supply							
OPTIM 8 P&P-250-480-60Hz	R3A538	250	5x50	3 x 630 A	Included	215	1000 x 1750 x 440
OPTIM 8 P&P-300-480-60Hz	R3A539	300	6x50	3 x 630 A	Included	225	1000 x 1750 x 440
OPTIM 8 P&P-350-480-60Hz	R3A540	350	7x50	3 x 800 A	Included	240	1000 x 1750 x 440
OPTIM 8 P&P-400-480-60Hz	R3A541	400	8x50	3 x 800 A	Included	255	1000 x 1750 x 440
OPTIM 8L P&P, automatic capacitor banks with computer Max P&P regulator. Built-in operation auto-transformer power supply							
OPTIM 8L P&P-440-480-60Hz	R3A542	440	40+5x80	3 x 800 A	Included	285	1180 x 1805 x 460
OPTIM 8L P&P-520-480-60Hz	R3A543	520	40+6x80	3 x 1000 A	Included	320	1180 x 1805 x 460
OPTIM 8L P&P-600-480-60Hz	R3A544	600	40+7x80	3 x 1600 A	Included	345	1180 x 1805 x 460
OPTIM 8L P&P-640-480-60Hz	R3A545	640	8x80	3 x 1600 A	Included	355	1180 x 1805 x 460
OPTIM 14L P&P, automatic capacitor banks with Max P&P computer regulator. Built-in operation auto-transformer power supply							
OPTIM 14L P&P-720-480-60Hz	R3A546	720	9x80	3 x 1600 A	Included	540	1930 x 1805 x 460
OPTIM 14L P&P-800-480-60Hz	R3A547	800	10x80	3 x 1600 A	Included	560	1930 x 1805 x 460
OPTIM 14L P&P-880-480-60Hz	R3A548	880	11x80	3 x 1600 A	Included	580	1930 x 1805 x 460
OPTIM 14L P&P-960-480-60Hz	R3A549	960	12x80	3 x 1600 A	Included	605	1930 x 1805 x 460

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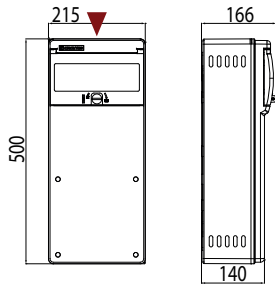
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Dimensions

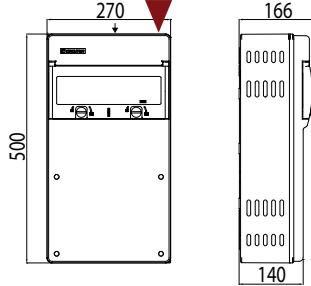
OPTIM 1

Cable input

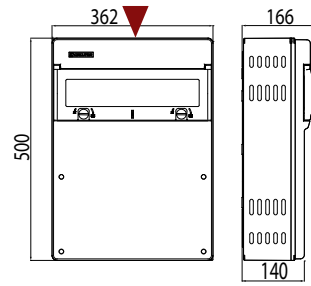


OPTIM 1A

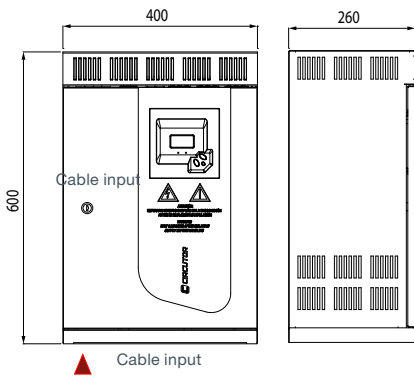
Cable input



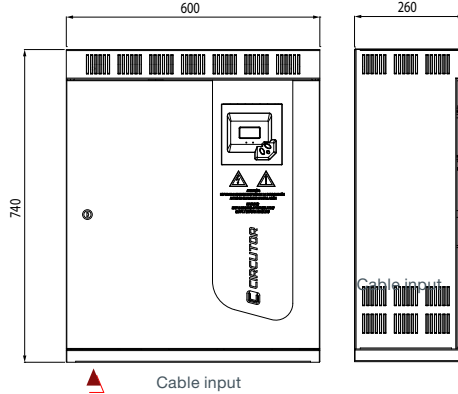
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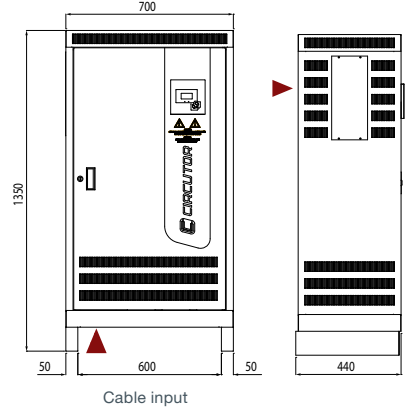
OPTIM 3 P&P



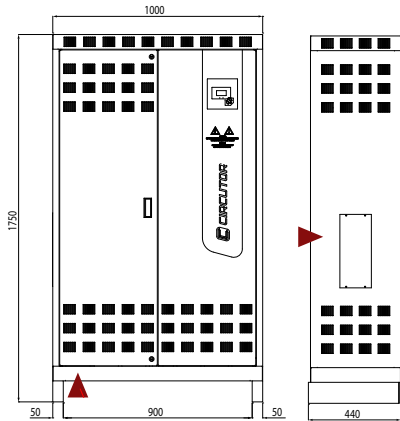
OPTIM 5 P&P



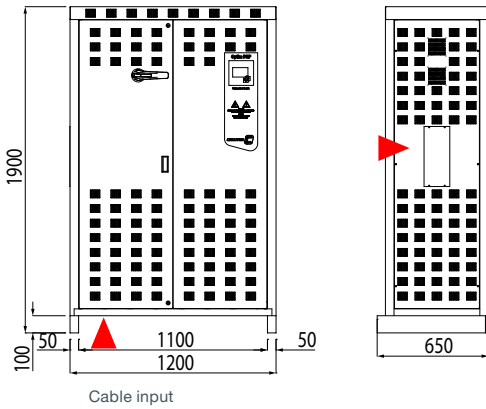
OPTIM 9 P&P



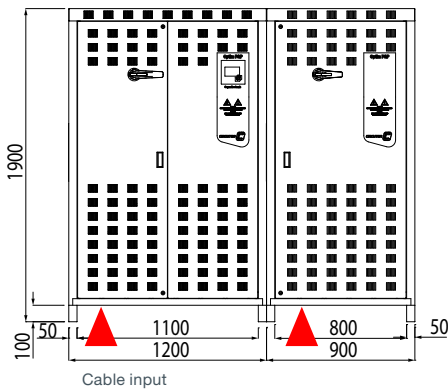
OPTIM 8



OPTIM 8L



OPTIM 14L



OPTIM 16L

