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Code:

## Description

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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

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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.



Code:

## Specifications

### Electrical characteristics

|                       |                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------|
| Losses (W)            | < 0,5 W/kvar                                                                                                     |
| Discharge resistance  | 75 V / 3 min                                                                                                     |
| Surge                 | 10 % 8 h over 24 h 15 % up to 15 min over 24 hours 20 % up to 5 min over 24 hours 30 % up to 1 min over 24 hours |
| Manoeuvre voltage     | Contactors: 230 V                                                                                                |
| Reinforcement voltage | 440 V                                                                                                            |
| Tolerance C           | -5% / 10 %                                                                                                       |
| Voltage               | 435 V (other voltages on request)                                                                                |

### Mechanical characteristics

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Size (mm) width x height x depth | 600 x 740 x 260 (mm)                        |
| Envelope                         | Sheet metal RAL 7035 Grey / RAL 3005 Garnet |
| Fastening                        | Vertical / On wall                          |
| Ventilation                      | Natural or forced according to options      |
| Weight (kg)                      | 31                                          |

### Environmental characteristics

|                                          |                                                                                          |
|------------------------------------------|------------------------------------------------------------------------------------------|
| Protection class                         | IP 21                                                                                    |
| Relative humidity (without condensation) | 80%                                                                                      |
| Working temperature                      | T° class D: Daily average: 45 °C, annual average: 35 °C, maximum: 55 °C, minimum: -50 °C |

### Current measurement circuit

|                      |        |
|----------------------|--------|
| Permanent overload   | 1,3 In |
| Transformation ratio | In/5 A |

### Standards

|           |                                   |
|-----------|-----------------------------------|
| Standards | IEC 60831-1, IEC 61921, IEC 60439 |
|-----------|-----------------------------------|

### Features / performance

|            |                                                                                                                                                                                                                                                                                                                                                                          |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Components | Reactive energy regulator, Computer C Wi-Fi, with digital indication and 6 or 12 relay outputs according to type.                                                                                                                                                                                                                                                        |
| Optional   | Manual circuit breaker at capacitor bank header. Circuit breaker at capacitor bank header. Forced ventilation unit + thermostat. Polycarbonate plate to avoid direct exposure. 400/230 V autotransformer (included in OPTIM 8, 9, 8L, 14L, and 16L) Regulator with built-in network analyser and three-phase Computer SMART III measurement. Other frequencies, consult. |

### Protection

|         |                                 |
|---------|---------------------------------|
| Element | Step-Circuit breaker protection |
|---------|---------------------------------|



Code:

**OPTIM P&P**

Automatic capacitor banks, 2.5 to 1600 kvar, 50 Hz.

| CODE                                                                                                                                                                 | TYPE                  | kvar (400 V) | kvar (440 V) | Nr steps | Cable section (mm2) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|--------------|----------|---------------------|
| <b>OPTIM 1, automatic capacitor bank with reactive relay. Requires one measuring transformer - MC series 250 mA (see Measuring current Transformers)</b>             |                       |              |              |          |                     |
| R3Q631EN00000                                                                                                                                                        | OPTIM 1-2,5-440       | 2            | 2,5          | 1        | 6                   |
| R3Q641EN00000                                                                                                                                                        | OPTIM 1-5-440         | 4            | 5            | 1        | 6                   |
| R3Q651EN00000                                                                                                                                                        | OPTIM 1-6,25-440      | 5            | 6,25         | 1        | 6                   |
| R3Q671EN00000                                                                                                                                                        | OPTIM 1-10-440        | 8            | 10           | 1        | 6                   |
| R3Q691EN00000                                                                                                                                                        | OPTIM 1-15-440        | 12,5         | 15           | 1        | 6                   |
| R3Q6E1EN00000                                                                                                                                                        | OPTIM 1A-18,2-440     | 15           | 18,2         | 1        | 6                   |
| R3Q6F1EN00000                                                                                                                                                        | OPTIM 1A-25-440       | 20           | 25           | 1        | 10                  |
| R3Q6D1EN00000                                                                                                                                                        | OPTIM 1A-30-440       | 25           | 30           | 1        | 10                  |
| <b>OPTIM 2, automatic capacitor banks with regulator without display. Requires one measuring transformer - MC series 250 mA (see Measuring current Transformers)</b> |                       |              |              |          |                     |
| R3Q761EN00000                                                                                                                                                        | OPTIM 2-7,5-440       | 6,25         | 7,5          | 2        | 6                   |
| R3Q771EN00000                                                                                                                                                        | OPTIM 2-10,5-440      | 8,5          | 10,5         | 2        | 6                   |
| R3Q781EN00000                                                                                                                                                        | OPTIM 2-12,5-440      | 10           | 12,5         | 2        | 6                   |
| R3Q7E1EN00000                                                                                                                                                        | OPTIM 2-17,5-440      | 14           | 17,5         | 2        | 6                   |
| R3Q7F1EN00000                                                                                                                                                        | OPTIM 2-20-440        | 16,5         | 20           | 2        | 6                   |
| R3Q7G1EN00000                                                                                                                                                        | OPTIM 2-22,5-440      | 18,5         | 22,5         | 2        | 6                   |
| R3Q7H1EN00000                                                                                                                                                        | OPTIM 2-25-440        | 21           | 25           | 2        | 10                  |
| R3Q7J1EN00000                                                                                                                                                        | OPTIM 2-30-440        | 25           | 30           | 2        | 10                  |
| <b>OPTIM 3 P&amp;P, automatic capacitor banks with computer C Wi-Fi regulator</b>                                                                                    |                       |              |              |          |                     |
| R3L110.                                                                                                                                                              | OPTIM 3 P&P-12,5-440  | 10           | 12,5         | 3        | 6                   |
| R3L120.                                                                                                                                                              | OPTIM 3 P&P-17,5-440  | 14           | 17,5         | 3        | 6                   |
| R3L130.                                                                                                                                                              | OPTIM 3 P&P-25-440    | 20           | 25           | 3        | 10                  |
| R3L140.                                                                                                                                                              | OPTIM 3 P&P-31,25-440 | 26           | 31,25        | 3        | 10                  |
| R3L150.                                                                                                                                                              | OPTIM 3 P&P-37,5-440  | 31,25        | 37,5         | 3        | 16                  |
| R3L160.                                                                                                                                                              | OPTIM 3 P&P-43,75-440 | 36           | 43,75        | 3        | 25                  |
| R3L170.                                                                                                                                                              | OPTIM 3 P&P-52,5-440  | 43           | 52,5         | 3        | 25                  |
| R3L180.                                                                                                                                                              | OPTIM 3 P&P-62,5-440  | 51           | 62,5         | 3        | 35                  |
| <b>OPTIM 5 P&amp;P, automatic capacitor banks with computer C Wi-Fi regulator</b>                                                                                    |                       |              |              |          |                     |
| R3L210.                                                                                                                                                              | OPTIM 5 P&P-55-440    | 45           | 55           | 4        | 35                  |
| R3L220.                                                                                                                                                              | OPTIM 5 P&P-70-440    | 58           | 70           | 4        | 50                  |
| R3L230.                                                                                                                                                              | OPTIM 5 P&P-90-440    | 74           | 90           | 4        | 70                  |
| R3L240.                                                                                                                                                              | OPTIM 5 P&P-105-440   | 87           | 105          | 4        | 70                  |
| R3L250.                                                                                                                                                              | OPTIM 5 P&P-135-440   | 112          | 135          | 5        | 95                  |
| R3L260.                                                                                                                                                              | OPTIM 5 P&P-150-440   | 124          | 150          | 5        | 120                 |
| <b>OPTIM 8 P&amp;P, automatic capacitor banks with computer C Wi-Fi regulator. Built-in power supply autotransformer</b>                                             |                       |              |              |          |                     |
| R3L410.                                                                                                                                                              | OPTIM 8 P&P-300-440   | 248          | 300          | 6        | 2x150               |
| R3L420.                                                                                                                                                              | OPTIM 8 P&P-330-440   | 273          | 330          | 6        | 2x150               |
| R3L430.                                                                                                                                                              | OPTIM 8 P&P-390-440   | 322          | 390          | 7        | 2x185               |



Code:

| CODE                                                                                                                       | TYPE                   | kvar (400 V) | kvar (440 V) | Nr steps | Cable section (mm <sup>2</sup> ) |
|----------------------------------------------------------------------------------------------------------------------------|------------------------|--------------|--------------|----------|----------------------------------|
| R3L440.                                                                                                                    | OPTIM 8 P&P-450-440    | 372          | 450          | 8        | 2x240                            |
| R3L450.                                                                                                                    | OPTIM 8 P&P-480-440    | 396          | 480          | 8        | 2x240                            |
| <b>OPTIM 9 P&amp;P, automatic capacitor banks with computer C Wi-Fi regulator. Built-in power supply autotransformer</b>   |                        |              |              |          |                                  |
| R3L310.                                                                                                                    | OPTIM 9 P&P-165-440    | 136          | 165          | 6        | 120                              |
| R3L320.                                                                                                                    | OPTIM 9 P&P-195-440    | 161          | 195          | 7        | 150                              |
| R3L330.                                                                                                                    | OPTIM 9 P&P-225-440    | 186          | 225          | 8        | 185                              |
| R3L340.                                                                                                                    | OPTIM 9 P&P-255-440    | 211          | 255          | 9        | 240                              |
| R3L350.                                                                                                                    | OPTIM 9 P&P-270-440    | 223          | 270          | 9        | 240                              |
| <b>OPTIM 8L P&amp;P, automatic capacitor banks with computer C Wi-Fi regulator. Built-in power supply autotransformer</b>  |                        |              |              |          |                                  |
| R35L10.                                                                                                                    | OPTIM 8L P&P-550-440   | 454          | 550          | 6        | 2x240                            |
| R35L20.                                                                                                                    | OPTIM 8L P&P-650-440   | 537          | 650          | 7        | 3x150                            |
| R35L30.                                                                                                                    | OPTIM 8L P&P-750-440   | 620          | 750          | 8        | 3x185                            |
| R35L40.                                                                                                                    | OPTIM 8L P&P-800-440   | 661          | 800          | 8        | 3x185                            |
| <b>OPTIM 14L P&amp;P, automatic capacitor banks with computer C Wi-Fi regulator. Built-in power supply autotransformer</b> |                        |              |              |          |                                  |
| R36L10.                                                                                                                    | OPTIM 14L P&P-900-440  | 743          | 900          | 10       | 3x150/185                        |
| R36L20.                                                                                                                    | OPTIM 14L P&P-950-440  | 785          | 950          | 10       | 3x185/185                        |
| R36L30.                                                                                                                    | OPTIM 14L P&P-1050-440 | 867          | 1050         | 11       | 3x185/240                        |
| R36L40.                                                                                                                    | OPTIM 14L P&P-1150-440 | 950          | 1150         | 12       | 3x185/2x150                      |
| R36L50.                                                                                                                    | OPTIM 14L P&P-1200-440 | 991          | 1200         | 12       | 3x185/2x185                      |
| R36L60.                                                                                                                    | OPTIM 14L P&P-1300-440 | 1074         | 1300         | 7        | 3x185/2x240                      |
| R36L70.                                                                                                                    | OPTIM 14L P&P-1400-440 | 1156         | 1400         | 8        | 3x185/3x120                      |
| <b>OPTIM 16L P&amp;P, automatic capacitor banks with computer C Wi-Fi regulator. Built-in power supply autotransformer</b> |                        |              |              |          |                                  |
| R37L30.                                                                                                                    | OPTIM 16L P&P-1500-440 | 1239         | 1500         | 8        | 3x185/3x150                      |
| R37L40.                                                                                                                    | OPTIM 16L P&P-1600-440 | 1322         | 1600         | 9        | 3x185/3x185                      |

Cable cross-section for installations with  $U_n = 400$  V. The installation company must ensure compliance with the low voltage directive at all times, in accordance with the characteristics of each installation and type of cable.  
All batteries with **computer C Wi-Fi** regulator come with charge VAR system



Code:

## Dimensions



## Connections

