



## OPTIM FRE12-440-240-60Hz

OPTIM FRE12-440-240-60Hz, Static detuned capacitor bank 60 Hz

Code: R64SK4.

- > Frequency (Hz): 60 Hz
- > kvar (240 V): 440
- > Aut.Switch (A): 3 x 1600
- > Composition: 11x40
- > Mounting: Floor-mounted
- > P%: 7

### Description

The capacitor banks with detuned filters of the **OPTIM FRE** series have been designed for reactive energy correction in networks with fluctuating load levels, high harmonic presence and a risk of resonance.

The power variations are relatively quick (measured in milliseconds), and the operation is thus carried out by thyristors, which are connected to a voltage controller board, so that the connection and disconnection of the capacitor is carried out with zero voltage difference. Transients are prevented between the connection and disconnection of the steps, obtaining an immediate response to the load fluctuations.

### Application

The most common application is with individual loads or in installations where a quick compensation response is needed (e.g. welding units, motors for lifting units, lifts, etc.) and where the network has high harmonic content.



# OPTIM FRE12-440-240-60Hz

Automatic capacitor banks with detuned filters and thyristors

Code: R64SK4.

## Specifications

### AC power supply

|           |       |
|-----------|-------|
| Frequency | 60 Hz |
|-----------|-------|

### 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 |
| Tolerance C          | -5% / 10 %                                                                                                       |

### Mechanical characteristics

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Size (mm) width x height x depth | 2400 x 1900 x 650 (mm)                      |
| Envelope                         | Sheet metal RAL 7035 Grey / RAL 3005 Garnet |
| Fastening                        | Vertical / Self-supporting                  |
| Ventilation                      | Natural or forced according to options      |
| Weight (kg)                      | 955                                         |

### 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 / 5A |

### Protection

|         |                                                                                            |
|---------|--------------------------------------------------------------------------------------------|
| Element | Individual protection of each step with fuses with high rupture power (HRP). NH-00 Series. |
|---------|--------------------------------------------------------------------------------------------|

### OPTIM FRE 60Hz

Automatic capacitor banks with rejection filters (static contactor), 60 Hz.

| CODE                                                                                                          | TYPE                   | kvar (240 V) | Aut.Switch (A) | Composition | kvar (480 V) |
|---------------------------------------------------------------------------------------------------------------|------------------------|--------------|----------------|-------------|--------------|
| OPTIM FRES, automatic thyristor banks with computer SMART III regulator. Steps protections by Circuit Breaker |                        |              |                |             |              |
| R64RBN.                                                                                                       | OPTIM FRES-25-240-60Hz | 25           | 3 x 100        | 2x5+10      |              |
| R64RBP.                                                                                                       | OPTIM FRES-30-240-60Hz | 30           | 3 x 125        | 3x10        |              |
| R64RBS.                                                                                                       | OPTIM FRES-40-240-60Hz | 40           | 3 x 160        | 4x10        |              |



## OPTIM FRE12-440-240-60Hz

Automatic capacitor banks with detuned filters and thyristors

Code: R64SK4.

| CODE                                                                                                                         | TYPE                     | kvar (240 V) | Aut.Switch (A) | Composition | kvar (480 V) |
|------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------|----------------|-------------|--------------|
| <b>OPTIM FRE4, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b>  |                          |              |                |             |              |
| R64SF2.                                                                                                                      | OPTIM FRE4-50-240-60Hz   | 50           | 3 x 200        | 2x12,5+25   |              |
| R64SF3.                                                                                                                      | OPTIM FRE4-62,5-240-60Hz | 62,5         | 3 x 250        | 12,5+2x25   |              |
| R64SF4.                                                                                                                      | OPTIM FRE4-75-240-60Hz   | 75           | 3 x 250        | 3x25        |              |
| R64SF5.                                                                                                                      | OPTIM FRE4-87,5-240-60Hz | 87,5         | 3 x 400        | 12,5+3x25   |              |
| R64SF6.                                                                                                                      | OPTIM FRE4-100-240-60Hz  | 100          | 3 x 400        | 4x25        |              |
| R64SF8.                                                                                                                      | OPTIM FRE4-140-240-60Hz  | 140          | 3 x 400        | 20+3x40     |              |
| R64SF9.                                                                                                                      | OPTIM FRE4-160-240-60Hz  | 160          | 3 x 630        | 4x40        |              |
| R64SG3.                                                                                                                      | OPTIM FRE6-180-240-60Hz  | 180          | 3 x 630        | 20+4x40     |              |
| R64SG4.                                                                                                                      | OPTIM FRE6-200-240-60Hz  | 200          | 3 x 630        | 5x40        |              |
| <b>OPTIM FRE6, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b>  |                          |              |                |             |              |
| R64SG6.                                                                                                                      | OPTIM FRE6-220-240-60Hz  | 220          | 3 x 800        | 20+5x40     |              |
| R64SG7.                                                                                                                      | OPTIM FRE6-240-240-60Hz  | 240          | 3 x 800        | 6x40        |              |
| <b>OPTIM FRE8, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b>  |                          |              |                |             |              |
| R64SH1.                                                                                                                      | OPTIM FRE8-280-240-60Hz  | 280          | 3 x 1000       | 7x40        |              |
| R64SH2.                                                                                                                      | OPTIM FRE8-320-240-60Hz  | 320          | 3 x 1000       | 8x40        |              |
| <b>OPTIM FRE10, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b> |                          |              |                |             |              |
| R64SJ4.                                                                                                                      | OPTIM FRE10-360-240-60Hz | 360          | 3 x 1250       | 9x40        |              |
| R64SJ6.                                                                                                                      | OPTIM FRE10-400-240-60Hz | 400          | 3 x 1250       | 10x40       |              |
| <b>OPTIM FRE12, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b> |                          |              |                |             |              |
| R64SK4.                                                                                                                      | OPTIM FRE12-440-240-60Hz | 440          | 3 x 1600       | 11x40       |              |
| R64SK6.                                                                                                                      | OPTIM FRE12-480-240-60Hz | 480          | 3 x 1600       | 12x40       |              |
| <b>FRE4, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b>        |                          |              |                |             |              |
| R63CA1.                                                                                                                      | FRE4-75-480-60Hz         |              | 3 x 125        | 3x25        | 75           |
| R63CA2.                                                                                                                      | FRE4-100-480-60Hz        |              | 3 x 200        | 2x25+50     | 100          |
| R63CA3.                                                                                                                      | FRE4-125-480-60Hz        |              | 3 x 250        | 25+2x50     | 125          |
| R63CA5.                                                                                                                      | FRE4-150-480-60Hz        |              | 3 x 250        | 2x25+2x50   | 150          |
| R63CA6.                                                                                                                      | FRE4-175-480-60Hz        |              | 3 x 400        | 25+3x50     | 175          |
| R63CA7.                                                                                                                      | FRE4-200-480-60Hz        |              | 3 x 400        | 4x50        | 200          |
| R63CA8.                                                                                                                      | FRE4-262,5-480-60Hz      |              | 3 x 400        | 37,5+3x75   | 262,5        |
| R63CA9.                                                                                                                      | FRE4-300-480-60Hz        |              | 3 x 630        | 4x75        | 300          |
| <b>FRE6, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b>        |                          |              |                |             |              |
| R63EA4.                                                                                                                      | FRE6-337,5-480-60Hz      |              | 3 x 630        | 37,5+4x75   | 337,5        |
| R63EA5.                                                                                                                      | FRE6-375-480-60Hz        |              | 3 x 630        | 5x75        | 375          |
| R63EA6.                                                                                                                      | FRE6-412,5-480-60Hz      |              | 3 x 800        | 37,5+5x75   | 412,5        |
| R63EA7.                                                                                                                      | FRE6-450-480-60Hz        |              | 3 x 800        | 6x75        | 450          |
| <b>FRE8, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.</b>        |                          |              |                |             |              |
| R63GA4.                                                                                                                      | FRE8-525-480-60Hz        |              | 3 x 1000       | 7x75        | 525          |
| R63GA6.                                                                                                                      | FRE8-600-480-60Hz        |              | 3 x 1000       | 8x75        | 600          |



# OPTIM FRE12-440-240-60Hz

Automatic capacitor banks with detuned filters and thyristors

Code: R64SK4.

| CODE                                                                                                            | TYPE               | kvar (240 V) | Aut.Switch (A) | Composition | kvar (480 V) |
|-----------------------------------------------------------------------------------------------------------------|--------------------|--------------|----------------|-------------|--------------|
| FRE10, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00. |                    |              |                |             |              |
| R63HA4.                                                                                                         | FRE10-675-480-60Hz |              | 3 x 1250       | 9x75        | 675          |
| R63HA6.                                                                                                         | FRE10-750-480-60Hz |              | 3 x 1250       | 10x75       | 750          |
| FRE12, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00. |                    |              |                |             |              |
| R63KA4.                                                                                                         | FRE12-825-480-60Hz |              | 3 x 1600       | 11x75       | 825          |
| R63KA6.                                                                                                         | FRE12-900-480-60Hz |              | 3 x 1600       | 12x75       | 900          |