



OPTIM HYB2-200-440, Capacitor bank

Code: R4E106. (CONSULTAR DISPONIBILIDAD)

- > Cable section (mm2): 1 x 185
- > kvar (400 V): 165
- > kvar (440 V): 200
- > Man.Switch (A): Included
- > Composition 230V/50Hz (Single-phase): (3 x 3 x 5) +
- > Composition 400V/50Hz (Three-phase): (4 x 30)
- > Use voltage (V): 440

Description

The **OPTIM HYB** automatic capacitor banks with hybrid switching are units designed for automatic compensation of reactive energy in networks in which the load levels fluctuate, with power variation rates of seconds and also independently of the level of unbalance in the installation. The compensation system is based on the combination of switching by three-phase step contact breakers and single-phase step semiconductors (thyristors), controlled by a smart regulator that uses the electrical parameters provided via communications by a power analyzer of the **CVM-MINI** range for its calculations.

Application

The OPTIM HYB series is ideal for achieving very accurate reactive power compensation in any installation, and especially those that present a certain degree of unbalance, since the compensation between phase and neutral adds to the fast reply provided by the static switching of the thyristor. It is therefore possible to quarantee a significant reduction in the chance of penalties in comparison with conventional capacitor banks.







Automatic hybrid switching capacitor banks

Code: R4E106.

Specifications

| Electrical safety, Maximum height (m) < 2000 Standards IEC 61921, IEC 61642, IEC 60831 | AC power supply | |
|--|--|--|
| 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 20 % up to 5 min over 24 hours 30 % up to 1 min over 24 hours 20 % up to 5 min over 24 hours 20 % up to 6 min over 24 hours 20 % up | Frequency | 50 Hz |
| 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 20 % up to 5 min over 24 hours 30 % up to 1 min over 24 hours 20 % up to 5 min over 24 hours 30 % up to 1 min over 24 hours 20 % up to 5 min over 24 hours 30 % up to 1 min over 24 hours 20 % up to 5 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours | Electrical characteristics | |
| 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 20 % up to 5 min over 24 hours 30 % up to 1 min over 24 hours 20 % up to 5 min over 24 hours 30 % up to 1 min over 24 hours 20 % up to 5 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % up to 6 min over 24 hours 20 % | Losses (W) | < 0,5 W/kvar |
| Manoeuvre voltage Contactors; 230 V Reinforcement voltage 3 x 440 V F-F / 1 x 254 V F-N Tolerance C -5% / +10% Mechanical characteristics Size (mm) width x height x depth 800 x 1840 x 640 (mm) Envelope Steel sheet grey RAL 7035 Fastering Vertical Ventilation Natural Weight (kg) 42 Environmental characteristics Protection class IP 21 Relative humidity (without condensation) 80% Working temperature -25 +45 °C Current measurement circuit Allowable overload 3,3 in Standards Electrical safety, Maximum height (m) Standards Electrical safety, Maximum height (m) Standards Components Cylindrical capacitor, CL2-FP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional Protection | Discharge resistance | 75 V / 3 min |
| Reinforcement voltage 3 x 440 V F-F / 1 x 254 V F-N Tolerance C -5% / +10% Mechanical characteristics Size (mm) width x height x depth 800 x 1840 x 640 (mm) Envelope Steel sheet grey RAL 7035 Fastening Vertical Ventilation Natural Weight (kg) 42 Environmental characteristics Protection class IP 21 Relative humidity (without condensation) 80% Working temperature -25 445 °C Current measurement circuit Allowable overload 1,3 In Standards Electrical safety, Maximum height (m) < 2000 Standards IEC 61921, IEC 61642, IEC 60831 Features / performance Components Cylindrical capacitor, CLZ-FP type aluminium casing Reactive energy regulator, HYB computer communicating via R5-485 with a CVM-MINI-R5485 type power analyser Optional 4-pole circuit breaker + earth leakage protection at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header | Surge | |
| Tolerance C -5% / +10% Mechanical characteristics Size (mm) width x height x depth 800 x 1840 x 640 (mm) Envelope Steel sheet grey RAL 7035 Fastening Vertical Vertical Vertical Weight (kg) 42 Environmental characteristics Protection class IP 21 Relative humidity (without condensation) 80% Working temperature -25 +45 °C Current measurement circuit Allowable overload 1,3 In Standards Electrical safety, Maximum height (m) < 2000 Standards IEC 61921, IEC 61642, IEC 60831 Features / performance Components Cylindrical capacitor, CLZ-FP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS-485 type power analyser Optional 4-pole circuit breaker at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header | Manoeuvre voltage | Contactors: 230 V |
| Size (mm) width x height x depth 800 x 1840 x 640 (mm) Envelope Steel sheet grey RAL 7035 Fastening Vertical Ventilation Natural Weight (kg) 42 Environmental characteristics Protection class IP 21 Relative humidity (without condensation) 80% Working temperature -25 +45 °C Current measurement circuit Allowable overload 1,3 In Standards Electrical safety, Maximum height (m) < 2000 Standards Electrical safety, Maximum height (m) < 2000 Standards Features / performance Components Cylindrical capacitor, CLZ-PP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional 4-pole circuit breaker at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header | Reinforcement voltage | 3 x 440 V F-F / 1 x 254 V F-N |
| Size (mm) width x height x depth Envelope Steel sheet grey RAL 7035 Vertical Vertical Vertical Vertical Weight (kg) 42 Environmental characteristics Protection class IP 21 Relative humidity (without condensation) 80% Working temperature -25 +45 °C Current measurement circuit Allowable overload 1,3 In Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 2000 \$\$ Standards Electrical safety, Maximum height (m) \$\$ < 20 | Tolerance C | -5% / +10% |
| Envelope Steel sheet grey RAL 7035 Fastening Vertical Ventilation Natural Weight (kg) 42 Environmental characteristics Protection class Protection class Protection class Relative humidity (without condensation) 80% Working temperature -25 +45 °C Current measurement circuit Allowable overload 1,3 In Standards Electrical safety, Maximum height (m) Standards Electrical safety, Maximum height (m) Standards Electrical safety, Maximum height (m) Standards Features / performance Components Cylindrical capacitor, CLZ-FP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional Protection | Mechanical characteristics | |
| Fastening Vertical Ventilation Natural Weight (kg) 42 Environmental characteristics Protection class IP 21 Relative humidity (without condensation) 80% Working temperature -25 +45 °C Current measurement circuit Allowable overload 1,3 In Standards Electrical safety, Maximum height (m) < 2000 Standards IEC 61921, IEC 61642, IEC 60831 Features / performance Components Cylindrical capacitor, CLZ-FP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional 4-pole circuit breaker at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header | Size (mm) width x height x depth | 800 x 1840 x 640 (mm) |
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| Allowable overload 1,3 In Standards Electrical safety, Maximum height (m) Standards IEC 61921, IEC 61642, IEC 60831 Features / performance Components Cylindrical capacitor, CLZ-FP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional 4-pole circuit breaker at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header | Working temperature | -25 +45 °C |
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| Features / performance Components Cylindrical capacitor, CLZ-FP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional 4-pole circuit breaker at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header | Standards | |
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| Cylindrical capacitor, CLZ-FP type aluminium casing Reactive energy regulator, HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional 4-pole circuit breaker at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header | | IEC 61921, IEC 61642, IEC 60831 |
| HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power analyser Optional 4-pole circuit breaker at capacitor bank header 4-pole circuit breaker + earth leakage protection at capacitor bank header Protection | Features / performance | |
| leakage protection at capacitor bank header Protection | Components | HYB computer communicating via RS-485 with a CVM-MINI-RS485 type power |
| | Optional | |
| Circuit breaker type Single or three-pole circuit breaker protection in each single or three-phase step | Protection | |
| | Circuit breaker type | Single or three-pole circuit breaker protection in each single or three-phase step |







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Dimensions



