OPTIM HYB2-160-440

OPTIM HYB2-160-440, Capacitor bank

Code: R4E105. **DESCATALOGADO**

> Cable section (mm2): 1 x 120
> kvar (400 V): 135
> kvar (440 V): 165
> Man.Switch (A): Included
> Composition 230V/50Hz (Single-phase): (3 x 3 x 5) +
> Composition 400V/50Hz (Three-phase): (3 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 guarantee a significant reduction in the chance of penalties in comparison with conventional capacitor banks.

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Automatic hybrid switching capacitor banks

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Specifications

AC power supply

Frequency	50 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
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
Thermal management	Natural
Fastening	Vertical
Weight (kg)	42

Environmental characteristics

Protection class	IP 21
Relative humidity (without condensation)	80%
Operating 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

Protection

Circuit breaker type	Single or three-pole circuit breaker protection in each single or three-phase step

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OPTIM HYB

Semi-fast hybrid automatic capacitor banks with phase-by-phase compensation for unbalanced networks

CODE	TYPE	kvar (400 V)	kvar (440 V)	Cable section (mm2)
R4E103.	OPTIM HYB1-90-440	75	90	1 x 95
R4E104.	OPTIM HYB1-110-440	90	110	1 x 95
R4E105.	OPTIM HYB2-160-440	135	165	1 x 120
R4E106.	OPTIM HYB2-200-440	165	200	1 x 185
R4E108.	OPTIM HYB2-270-440	225	270	1 x 240
R4E113.	OPTIM HYB2-325-440	270	325	2 x 150
R4E114.	OPTIM HYB3-400-440	330	400	2 x 240
R4E115.	OPTIM HYB3-470-440	390	470	2 x 240
R4E116.	OPTIM HYB3-540-440	450	540	2 x 240

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Automatic hybrid switching capacitor banks

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Dimensions