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ALPIMATIC - Automatic power factor correction

Part Number: MH7540-F

Alpimatic capacitor bank, standard type, is an automatic PFC system, with electromechanical contactors to switch on or off each step. Contactors are controlled by ALPTEC power factor controller.

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1. Technical data

Range:	ALPIMATIC
Type:	H
Nominal power:	75 kVAr
Steps:	3 x 25 kVAr
Nominal voltage:	400 V - 50 Hz - Tri
Max permissible voltage:	520 V (capacitor)
Insulation class:	6 / 25 kV (capacitor)
Harmonic level:	2% < THDU < 3% & 5% < THDI < 10%
	15% < SH/ST ≤ 25%
Loss factor:	2 W / kVAr
Temperature class:	-10℃ / +45℃
	Average over 24H : +40℃
	Annual average : +35℃
Weight:	75 kg
Dimensions (W x D x H mm):	260 x 320 x 770 mm
Type:	Indoor
Storage:	-30℃ / +60℃
Environment:	Dry
	Dust-free
	Non-corrosive
	Vibration-free
Standard:	IEC 61439-1 and 2

2. Description

This automatic capacitor bank includes:

- **3 Steps made of:**
  - 1 ALPIVAR² capacitor:
    - Totally dry unit (without oil impregnation)
    - Double insulation or class II
    - Internal electrical protection by self-healing film, electrical fuse and disconnection device in case of overpressure
    - With discharge resistors (discharging time 3 minutes)
    - Complies with international standard (IEC 60831-1 & 2)
  - 1 electromechanical contactor suitable for capacitive currents, with pre-insertion resistive contacts to limit inrush current. (coil 400 Vac).
- **1 protection by 3 HRC fuses, gG type, with power connection by M8 screw.**
- **1 digital Power Factor controller – Alptec3.400 type:**
  - 3 controlled steps
  - LED screen : 3 digits, 7 segments
  - RS 232 serial port
  - Switching by electromechanical relays
  - Displays: cos φ, U, I, temperature, ΔkVAr …
  - Displays alarms: under compensation, over compensation, low current, high current, low voltage ...
  - Disconnection on current overload and over temperature
- **1 single-phase power supply for auxiliary circuits.**
- **1 NC dry contact to disconnect the capacitor bank when operation with GenSet (to be wired on site).**
- **1 cubicle in which are mounted and wired the above components:**
  - IP 31-IK 05
  - Power cable entry from the bottom of the cabinet (from the top on request)
  - Ventilation louvers on the front, sides and rear
  - RAL 7035 grey, black base (height = 100 mm)

3. Additional equipment

The capacitor bank must be protected against overloads and short circuits with a thermal-magnetic circuit breaker 160 A, set at 150 A.

Power connecting cables with minimum cross section of 50 mm² Cu/phase.

1 CT (Current Transformer) to be located on phase L1 of the general installation, primary current to be defined / secondary 5 A, Class 1-10 VA (Supply on request).

4. Installation instructions

External environment for the cubicle:

- Dry and dust free
- Non-corrosive atmosphere
- Maximum temperature: +40℃
- Average over 24 hours: +35℃
- Annual average: +25°C

A minimum clearance distance of 200 mm must be respected against any obstacle (wall, distribution board) to insure good ventilation.

For more details on the commissioning and maintenance, refer to installation instructions.