HCR - POWER FACTOR CONTROLLER

HCR.XXX

Compliance to:

2014/35/EU (Low Voltage)
2014/30/EU (Electromagnetic compatibilliity)
2011/65/CE (RoHS directive)
2015/863/CE
2017/2102/CE
2012/19/CE (RAEE directive)

Reference standards:

EN 61010-1:2010+A1:2019
EN 61326-1:2013
EN 61000-6-2:2019
EN 61000-6-3:2007+A1:2011

Automatic power factor controllers with microprocessor designed for signal processing of strongly distorted waveform to ensure accurate control of the electrical parameters of the plant. All measurements are made starting from the analysis of the waveform using FFT (Fast Fourier Transform) algoritm in floating point to ensure the maximum precision.

In addition to the normal power factor managment functions, the device monitors the network and preserve the capacitor banks by disconnecting them in cases of high harmonic distortion on current and voltage waveforms, or in case of mains voltage interruptions or drops.The microprocessor management allows to distribute the insertion/disconnection of the capacitive banks extending the life time. Using the the active timing mode, the time to reach the power factor set point will be fixed, and the connection time encrease or decrease depending on the distance from the set point.The software allows to set each battery with the nominal value of the capacitor and also to set advanced functions such as battery fixed (useful for fixed rephasing), thresholds of temperature for ventilation control and relay and / or trip intervention, TA setting, trip times activation / deactivation and reconnection time.The measures of Power Factor (Inductive / Capacitive), RMS Voltage, RMS Current, Delta Power (Inductive, Capacitive), THDI, THDV,and temperature are displayed.

The advanced custom display permits to show the status, the measure, the alarms, and to setup the device with a user friendly interface.

Serial interface with RS485 - standard modbus RTU optional.

Power supply

Maximum rated voltage	85 → 490Vac
Operating voltage range	85 → 490Vac
Frequency	50 / 60Hz
Power consumption	10VA
Recommended fuse	0.5A

Voltage measure

Measuring range	85 → 490Vac
Frequency range	45 → 65Hz
Input impedance	6MΩ

Current measure

Maximum rated current	6.0A
Operating current range	0.1 - 5.0A
Input type	Shunt for external C.T.
Power consumption	< 1VA

Relay output

Quantity	7
Maximum rated voltage, open contacts	440V
Maximum rated current	8A → 250Vac (AC1)
Maximum current common terminal	10A
Maximum power	2kW
Electrical Life	1*105
Mechanical working life	2*107

Connection

Type	Plug in – removable
Diameter of wire	0.5mm → 2.0 mm

User interface

Display	LCD with back light
Backlight color	White
Keypad	4 keys

Optical interface

Standard	IEC 62056
Protocol	Modbus-RTU
Baud rate	9600bps
Parity	None
Stop bit	1

Serial plug*

Type	RS232 TTL
Protocol	Modbus-RTU
Baud rate	1200 → 115200bps
Parity	None – Even - Odd
Stop bit	1

*Optional communication module:
  -RS485/RS232
  -USB
  -ETHERNET

Environment operating condition

Operating temperature	-20 → +55°C
Storage temperature	-30 → +60°C
Relative humidity (non-condensing)	< 80%

Mechanical characteristics

Dimensions	96*96*57mm
Weight	280g
Enclosure	Self-extinguishing V0 plastic
Mounting type	Panel Flush mount
Protection degree	IP54 front IP20 rear
Panel Cutout	92*92mm

OPTION COMBINATION

OPTICAL INTERFACE

| | Order code: AC.012.004 |
| | Type: Optical interface USB 2.0 |

SERIAL INTERFACE

| | Order code: AC.012.003.01 |
| | Type: Serial interface |

IP54 PROTECTION DEGREE (6 banks)

	Order code: SC.004.01
	Type: IP54 Protection degree
	Dimensions: 96×96 cm (6 banks)

IP54 PROTECTION DEGREE (12 banks)

	Order code: SC.055.01
	Type: IP54 Protection degree
	Dimensions: 144×144 cm (12 banks)