



rEvolution R5, R8

rEvolution SERIES (R5, R8)

The reactive power controllers are efficient systems that automatically manage capacitor banks to compensate the reactive power absorbed by the loads in order to avoid the penalties imposed by the electric providers. DUCATI energia, thanks to the experience and the know-how gained from years of designing and manufacturing energy and power analyzers, has developed an innovative series of reactive power regulators: **rEvolution**.

The compact size, the latest generation technology and the full range of features and data communication options make rEvolution controllers extremely adaptable to any application context for power factor correction systems, for both single-phase and three-phase, low and medium voltage networks, with or without the presence of energy generation systems (eg PV, cogeneration).

The various models are equipped with all most common connectivity options (Wireless-radio, NFC, Ethernet, RS485, Bluetooth, USB), both for local data exchange with the new App "**Ducati Smart Energy**", and for remote monitoring of equipment performance, status of capacitor banks and events related to electrical parameters.

rEvolution do away with additional expansion modules that increase the size of the controller; the reduced depth of only 57mm includes all communication options and additional relays.

The 96x96 panel format is IEC 61554 compliant.

Model	Part. N.	Connectivity	Relays
R5	415984050 NNNN	NFC	5
R5 485 radio	415984050 QNDN	NFC, radio, RS-485	5
R8 radio	415986080 NNDN	NFC, radio	8
R8 485 radio	415986080 QNDN	NFC, radio, RS-485	8
R8 ETH radio	415986080 ENDN	NFC, radio, Ethernet	8
R8 USB radio	415986080 NSDN	NFC, radio, USB	11
R8 BLT radio	415986080 NBDN	NFC, radio, Bluetooth	11
R8 485 BLT radio	415986080 QBDN	NFC, radio, RS-485, Bluetooth	11

App DUCATI Smart Energy

The dedicated smartphone app "**Ducati Smart Energy**" is designed to simplify the setup and maintenance operations of all PFC Equipment using the **rEvolution R5** and **R8** power factor controllers. The communication with the smartphone can be made via NFC (standard for all the models) or via Bluetooth (optional on rEvolution R8).

Features and functions:

- Easy and intuitive setup of configuration parameters
- Firmware updates available in real time
- At a glance device status check (battery power, contactor operations, etc.)
- Configuration and log files shared by mail



DOWNLOAD APP

rEvolution R5

Reactive power controller

The new **rEvolution R5** Power Factor Controller has been designed to allow simplify installation and allow a quick and easy startup of the PFC unit. The R5 models are equipped with connection technology allowing the exchange of performance and system status data both locally to the **Ducati Smart Energy** Smartphone App (via NFC) and remotely for monitoring purposes (RS485 / radio) through the new **ENERGY GEAR** and **ENERGY BRIDGE** dataloggers.

The big display with bright, red LEDs is easily readable in every lighting condition and from great distance.

The 5 button keypad simplifies the navigation of the menus and allows a more intuitive the setup of the configuration parameters. One keys is dedicated to the quick change from manual to automatic mode and vice versa.

The advanced detection algorithms can sense on which phase the CT is installed and in which direction, automatically setting the relevant parameters to avoid common installation errors.

The dual power input, 400VAC and 230VAC, allows to use the controller in single-phase networks with neutral or three-phase networks with or without neutral.

Thanks to a powerful microprocessor, R5 calculates the real power factor from the voltage-current displacement of the fundamental harmonic at the nominal voltage, and in addition it measures the total harmonic distortion of voltage (THDV%) and current (THDI%) with a global spectrum up to 60th harmonic order.

Smart communications

The NFC connection (available on all models) provides fast data exchange with the **Ducati Smart Energy Smartphone App**, whereas the optional radio and RS485 interfaces allow permanent communication either wirelessly (868MHz) to the **ENERGY BRIDGE** gateway or to the **ENERGY GEAR** datalogger/gateway, respectively.

It's also possible to download all the Event logs stored in the local memory to perform a local diagnostic on the Smartphone (useful for on-site maintenance) or remotely in real-time.

Technical features

Power supply:

- Rated voltage: 400 or 230 VAC
- Frequency range: 45 ÷ 66 Hz
- Power consumption: 2.5 W – 3 VA

Current input:

- Current rating: 5 A (1 A programmable)
- Input consumption: < 1.8 VA

Relays outputs:

- Number of outputs: 5 with 1 common terminal
- Contact type: NO (Normally Open)
- Maximum operating voltage: 440 VAC
- Nominal Capacity: AC1 6 A – 250 V~, AC15 1.5 A - 440 V~

Alarms:

- Over-Voltage and Over-Current
- Low Voltage and Low Current
- THDV_v and THDI_i threshold
- Max Temperature with double threshold (optional): forced ventilation/ Temperature Alarm & Standby
- Insufficient power factor correction (low cosφ)

Environment conditions:

- Operating temperature: -20 ÷ 70 °C
- Storage temperature: -30 ÷ 80 °C
- Insulation voltage: 600 V~
- Relative humidity: < 80%
- Condensation: not allowed

Enclosure:

- Format: 96x96 recessed
- Protection degree: IP51 on the front – IP20 rear / terminals
- Weight: 350g

RS485 interface:

- Modbus-RTU
- Ascii-Ducbus

radio interface:

- Carrier frequency: 868 MHz
- Protocol: Modbus-RTU

NFC interface:

- Data exchange with smartphone app via antenna (behind display)

Compliance with standards:

- IEC/EN 61010-1
- IEC/EN 61000-6-2
- IEC/ EN 61000-6-4

