Rowan Elettronica

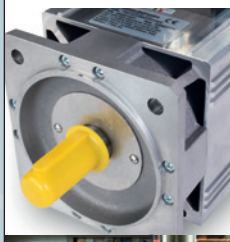
Motori, azionamenti, accessori e servizi per l'automazione

Motors, drives, accessories and services for automation

Inverter

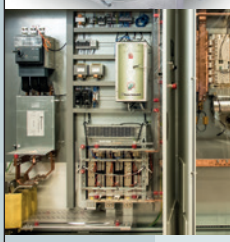
Soft - Start

Vector motor



Permanent magnet motors

Automation



PRODUCTS BROCHURE

Rowan Elettronica

Rowan Elettronica has been designing and producing motors, drives, and automation accessories for 40 years, with the idea of giving its commercial partners the most productive and enduring automation solutions.

Because of this, and because of its productive and projectile autonomy, the quality/convenience relationship of its products and service, and the assistance and consultancy services offered, it has become one of the most interesting international interlocutors.

Index

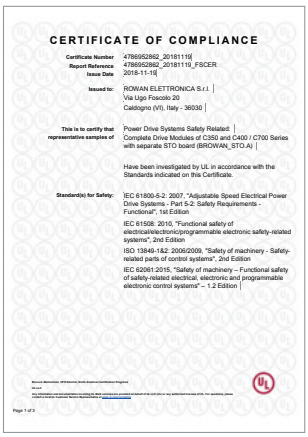
Certifications

Rowan Elettronica

Rowan Elettronica is always involved in research in order to improve the quality, efficiency, and technological level of its products. It collaborates with the University of Padua and the Consortium for Research in Industrial Electronics (KIWA CREI VEN).

Rowan Elettronica obtained the UNI-EN ISO 9001 Quality Certification thanks to the organizational system, product production, and development.

Thanks to highly specialized personnel, checks of materials, using rigid procedures for each individual type of component, a continuous relationship with its suppliers, and a rigorous traceability system Rowan Elettronica has to get UL certification (Underwriters Laboratories) for both electric machine and electronic power converter.
Periodically controlled and calibrated, point-to-point testing sequences and standard settings.



CERTIFICATE OF COMPLIANCE

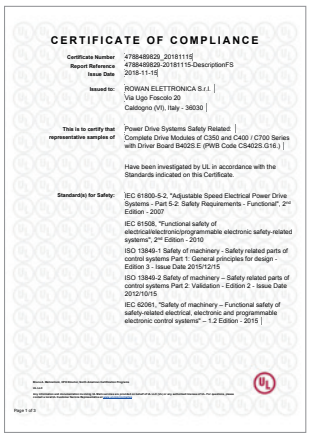
Certificate Number 4786952862_20181119
Report Reference 4786952862_20181119_FSCER
Issue Date 2018-11-19

Issued to: ROWAN ELETTRONICA S.r.l.
Via Ugo Foscolo 20
Caldogno (VI), Italy - 36030

This is to certify that representative samples of: Power Drive Systems Safety Related Complete Drive Modules of C350 and C400 / C700 Series with separate STO board (BROWAN_STO.A)

Have been investigated by UL in accordance with the Standards indicated on this Certificate.

Standard(s) for Safety:
IEC 61800-5-2: 2007, "Adjustable Speed Electrical Power Drive Systems - Part 5-2: Safety Requirements - Functional", 1st Edition
IEC 61508: 2010, "Functional safety of electrical/electronic/programmable electronic safety-related systems", 2nd Edition
ISO 13849-1&2: 2008/2009, "Safety of machinery - Safety-related parts of control systems", 2nd Edition
IEC 62061:2015, "Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems" – 1.2 Edition



CERTIFICATE OF COMPLIANCE

Certificate Number 4788489829_20181115
Report Reference 4788489829_20181115-DescriptionFS
Issue Date 2018-11-15

Issued to: ROWAN ELETTRONICA S.r.l.
Via Ugo Foscolo 20
Caldogno (VI), Italy - 36030

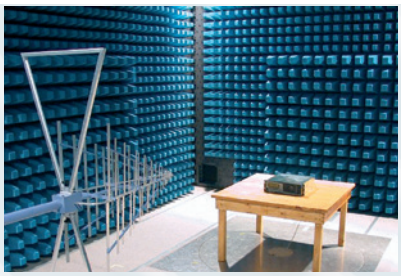
This is to certify that representative samples of: Power Drive Systems Safety Related Complete Drive Modules of C350 and C400 / C700 Series with Driver Board B4025.E (PWB Code CS4025.G16.)

Have been investigated by UL in accordance with the Standards indicated on this Certificate.

Standard(s) for Safety:
IEC 61800-5-2, "Adjustable Speed Electrical Power Drive Systems - Part 5-2: Safety Requirements - Functional", 2nd Edition - 2007
IEC 61508, "Functional safety of electrical/electronic/programmable electronic safety-related systems", 2nd Edition - 2010
ISO 13849-1 Safety of machinery - Safety related parts of control systems Part 1: General principles for design - Edition 3 - Issue Date 2015/12/15
ISO 13849-2 Safety of machinery – Safety related parts of control systems Part 2: Validation - Edition 2 - Issue Date 2012/10/15
IEC 62061, "Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems" – 1.2 Edition - 2015

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK
CERTIFICATE
ROWAN ELETTRONICA SRL
VIA UGO FOSCOLO 20 - 36030 CALDOGNO (VI)
VIA DIVIGLIO 15 - 36030 CALDOGNO (VI)
has implemented and maintains a
Quality Management System
for the following scope:
Design, production and customer service of motors, drives, accessories and electrical panels for industrial automation
which fulfils the requirements of the following standard:
ISO 9001:2015
Issued on: 2021 - 10 - 13
Expires on: 2024 - 10 - 30
Registration Number: IT - 1166

EMC IQNet CSQ CE



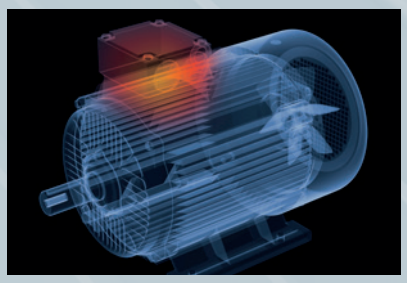
Rowan Elettronica always gives particular attention to Electromagnetic compatibility aspects. To design its products in compliance with the standards has in its facility a pre-compliance laboratory able to detect and check emissions and immunity levels to electromagnetic fields.

EMC laboratory

Rowan Elettronica makes the anechoic shielded chamber and the relative instrumentation available also for external companies that want to carry out compatibility tests on their products in the pre-certification phase. For this purpose, our engineers are available for the management of the complete test or for simple consultancy upon economic agreement.

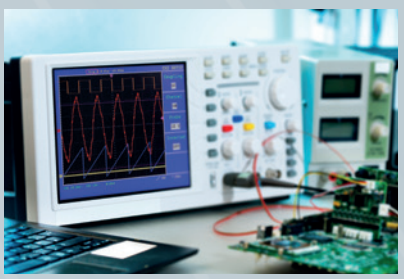
Rowan Elettronica has the following equipment and instruments:

- An anechoic shielded chamber of 3.8 x 2.5 meters and height 2.7 meter.
- Burst, surge, and electrostatic discharge generators of best brands.
- Electromagnetic field generators and couplers
- Spectrum analyzer
- Detection antennas for radiated disturb.
- Harmonic analyzer.



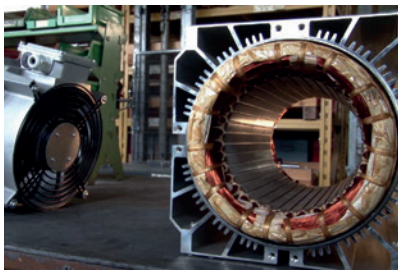
Project laboratory

Rowan Elettronica follows its own made in Italy production philosophy and has an internal hardware and software development laboratory with highly specialized personnel. Thanks to this, all Rowan Elettronica products are completely designed and realized in Italy, taking advantage of suppliers of premium quality and competence.
Rowan Elettronica annually invests more than 10% of its earnings in research and development activities for new products and applications.
The research and development laboratory is available to customers, to design new products or catalogue product customization, satisfying their performance and functionality needs.



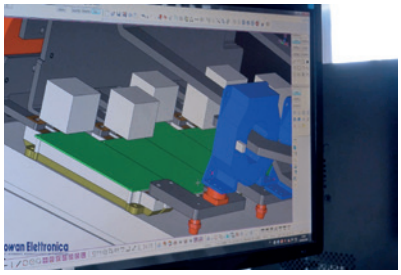
Testing laboratory

Rowan Elettronica using its product has designed and developed an automatic test bench able to test and check the functionality and efficiency of products, recording all results in digital or physical reports.
Thankfully to these checks, the Rowan Elettronica products are optimized to achieve maximum performance.



Motors department

Rowan Elettronica aims to become the unique reference for all-electric drive products, offering on catalog multiple kinds of electric motors internally designed and developed to perfectly match with its drives.
The Rowan Elettronica electric motors are completely made in Italy and include an asynchronous vector motor, permanent magnet brushless AC servo-motor, and high-slip induction motor.



Technical department

Rowan Elettronica technical office draws on highly specialized and prepared personnel, involved in technical consultation and support to all customers. Moreover, it designs complete industrial automation following and satisfying in detail all customer needs.

C400 series inverters

Product information:

The 400 SERIES Inverters along with the G series Vector motors represent our best solution for the “motion control” needs.

The speed and torque control are realized by the FOC VECTOR system with encoder feedback.

3ac 400V 1,1kW – 800kW

Control technical characteristics:
- SCALAR CONTROL VOLT/HERZ WITH HIGH TORQUE FUNCTION
- FIELD-ORIENTED VECTOR CONTROL CLOSED LOOP WITH ENCODER FEEDBACK

Functions available
- ELECTRONIC GEAR, POSITIONER, FLY CUTTER
- DIE CUTTER
- REGULATOR
- WINDING AND UNWINDING
- LIFT FOR LIFTING SYSTEMS

UL-certified STO (Safe Torque Off) safety function.

Field busses and communication protocols included as standard: MODBUS RTU, ROWAN.
Optional field busses and communication protocols: CAN OPEN - MODBUS TCP/IP - EtherCAT - PROFIBUS DPV1 - PROFINET.

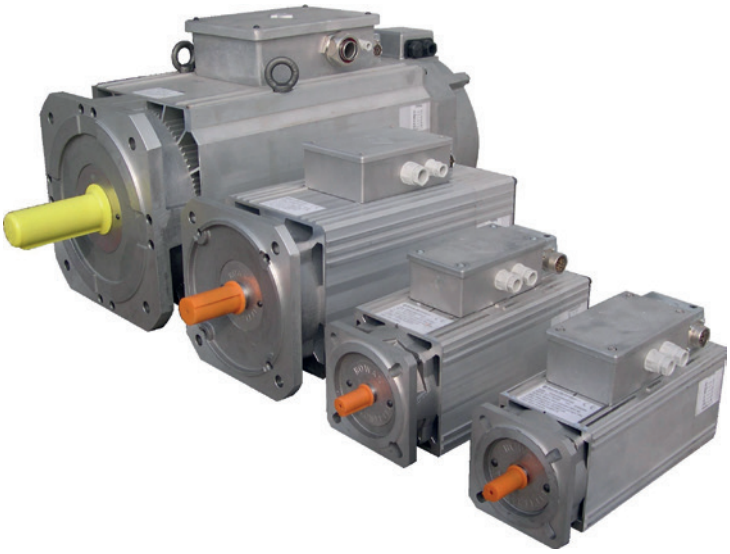
On-demand configuration software are available to optimally set the drive:
- ROWAN KEY MANAGER: management and setting through an Eeprom key, useful as parameters copy backup.
- ROWAN DATA EDITOR: configuration and setting software directly from personal computer to drive.

Vector motors

Product information:

Rowan El. three-phase asynchronous motor with cage rotor can be called “INVERTER DUTY”; they have been designed to work with an inverter that uses the PWM technique and in particular with Rowan El. vector inverters.

3ac 400V 0,25kW – 55kW
3ac 230V 0,44kW - 75kW

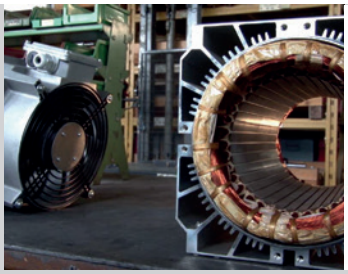


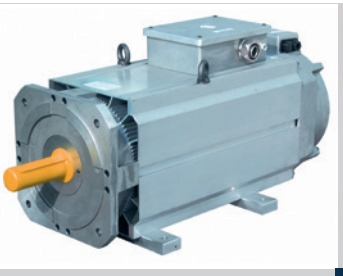
Technical characteristics:
The hardness, the independent ventilation, the thermal circuit breaker and the high insulation ensure the reliability of the motors and the best performances available on the market.

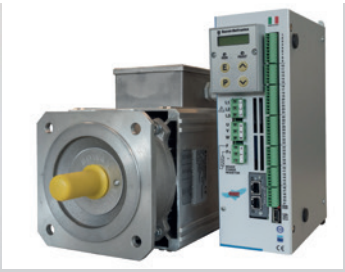
Moreover, the vacuum impregnation of the winding pack ensures a partial attenuation of the background noise caused by the frequency modulation.

The sizes of Rowan El. vector motors are in conformity with MEC standards of the equivalent series, therefore are perfectly interchangeable with commercial asynchronous motors.

Leveraging the solid construction and with appropriate adjustments, the vector motors can be used as spindle motors for high speeds.







C700 series inverter

3ac 400V 1,1kW – 11kW

Product information:

The C700 series inverter coupled with its brushless AC servo-motors represents the most innovative and compact solution for motion control needs with high dynamic and torque performance.

The speed and torque control are realized by the FOC VECTOR system with encoder feedback.

Functions available

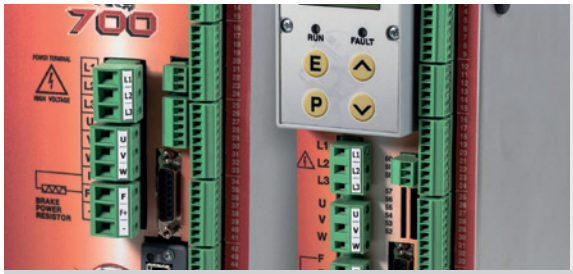
- ELECTRONIC GEAR, POSITIONER, FLY CUTTER
- DIE CUTTER
- REGULATOR
- WINDING AND UNWINDING
- LIFT FOR LIFTING SYSTEMS

UL-certified STO (Safe Torque Off) safety function

Field busses and communication protocols included as standard: MODBUS RTU, ROWAN.
Optional field busses and communication protocols: CAN OPEN - MODBUS TCP/IP - ETHERCAT - PROFIBUS DPV1 - PROFINET.

On-demand configuration software are available to optimally set the drive:

- ROWAN KEY MANAGER: management and setting through an Eeprom key, useful as parameters copy backup.
- ROWAN DATA EDITOR: configuration and setting software directly from personal computer to drive.

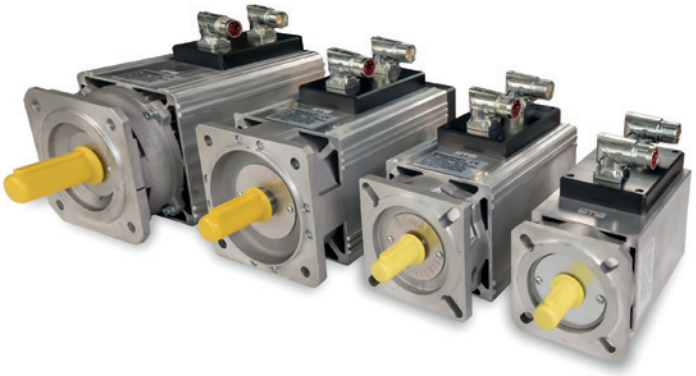


Permanent magnet motors brushless AC

Product information:

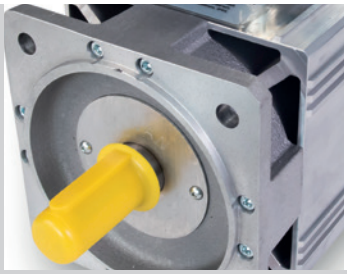
The servomotors brushless AC designed and realized by Rowan Elettronica includes power sizes with multiple configurations with the aim to satisfy all industrial automation needs.

3ac 400V 3,2Nm – 30,7Nm



They are designed from computational and modelling software to check on the test bench to achieve the maximum power and dynamic performances, keeping the torque ripple at a minimum value.

The Rowan Elettronica servomotor is supplied without ventilation or with forced ventilation; the mechanical sizes are in respect of MEC standards, to match with any standard mechanical gear.



C350 series inverter

3ac 400V 1,1kW – 800kW

Product information:

The 350 SERIES Digit Inverters are exclusively designed for the speed control of the asynchronous standard motors through the Voltage/Frequency skill, without speed feedback.

They are especially suggested when you need:
- functioning and setting simplicity
- high starting torque
- low price

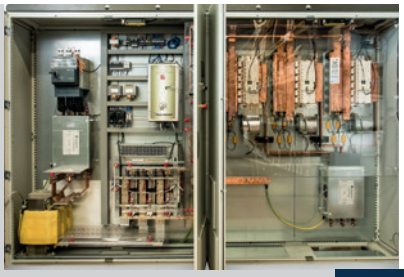
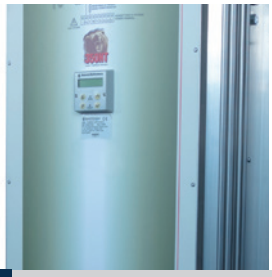
Control technical characteristics:
- Volt/Hertz (V/F) scalar control for standard asynchronous motors
- V/F linear characteristic
- HT (High Torque) controls for high performances of starting torque from empty to loaded.
- loaded starting with a blocked rotor obtaining the maximum torque performance.
- Slow/fast overload control

Functions available:
REGULATOR (P.I.D.) suitable for compressors, pumps, refrigerators closed-loop pressure control.

UL-certified STO (Safe Torque Off) safety function.

Field busses and communication protocols included as standard: MODBUS RTU, ROWAN

On-demand configuration software are available to optimally set the drive:
- ROWAN KEY MANAGER: management and setting through an Eeprom key, useful as parameters copy backup.
- ROWAN DATA EDITOR: configuration and setting software directly from personal computer to drive.


C800 series inverter for synchronous reluctance motors

3ac 400V 1,1kW – 800kW

Product information:

The C800 inverters series are dedicated to controlling the synchronous reluctance motors. They permit the speed and torque control of the motor with encoder feedback or sensorless function. In both cases, the motor can reach a speed over the nominal speed in the defluxing zone.

A precise motor auto-tuning algorithm is developed in the C800 series inverter, allowing a fast parameter setting and drive set-up.

Functions available
- ELECTRONIC GEAR, POSITIONER, FLY CUTTER
- DIE CUTTER
- REGULATOR
- WINDING AND UNWINDING
- LIFT FOR LIFTING SYSTEMS

UL-certified STO (Safe Torque Off) safety function.

Field busses and communication protocols included as standard: MODBUS RTU, ROWAN.
Optional field busses and communication protocols: CAN OPEN - MODBUS TCP/IP - ETHERCAT - PROFIBUS DPV1 - PROFINET.

On-demand configuration software are available to optimally set the drive:
- ROWAN KEY MANAGER: management and setting through an Eeprom key, useful as parameters copy backup.
- ROWAN DATA EDITOR: configuration and setting software directly from personal computer to drive.

C600 series DC drive

Product information:

The C600 series DC drives are exclusively designed for direct current motor speed control using a 4 quadrants PWM technique.

They are suitable for 230 – 460 Vac single-phase or three-phase or 20 - 200 Vdc power supply.

3ac 400V 5A - 800A

The control system in IGBT with high PWM frequencies, compared to the control with SCR to the mains frequency, allows an excellent dynamic response and a moderate current ripple that avoids the downgrading of the motor applied.

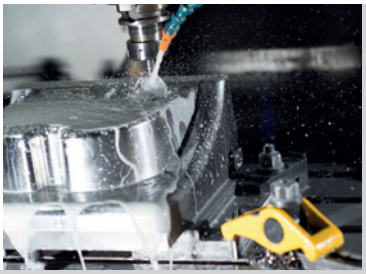
Three types of speed control are available:

- Open loop with slip compensation;
- Closed loop with tachometer;
- Closed loop encoder with line driver.

Each drive is equipped with the basic function of the speed-torque control plus a specialized application is available:

- ELECTRONIC GEAR, POSITIONER, FLY CUTTER
- REGULATOR
- WINDING AND UNWINDING
- DIRECT CURRENT PWM POWER SUPPLIER

Field busses and communication protocols included as standard: MODBUS RTU, ROWAN
Optional field busses and communication protocols:
CAN OPEN - MODBUS TCP/IP - EtherCAT - PROFIBUS DPV1 - PROFINET.
On-demand, a Eeprom memory key is available, useful as parameters copy backup.



C273 – C287 DC drives for 24 / 48V dc motors

19 - 40Vac / 22-60Vdc 3A – 40A
22 - 50Vdc 20A - 70A

Product information:

The product code C273S and C287 are mosfet switching regulators designed to control 24 / 48 V direct current motors.

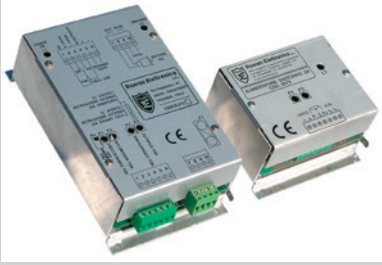
The drive C273 allows a bidirectional control and is suitable for both AC/DC power supplies, the C287 instead realizes a monodirectional control.

Technical control characteristics:
The C273 drives could be used in the following applications:

- Bidirectional speed and torque control of permanent magnet DC motor with closed-loop speed control through armature feedback or through tachometer.
- DC voltage regulation for proportional electro valves with or without feedback.
- DC voltage regulation for brakes or frictions.

The C287S drives could be used for:

- Monodirectional control of DC motors.
- DC voltage regulation for brakes or frictions.
- DC voltage regulation for proportional electro valves with 24 Vdc maximum operating voltage.



C470S soft starter

Product information:

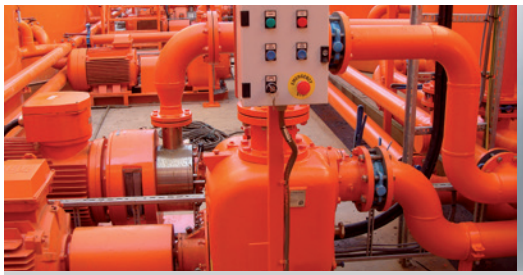
470S-type soft starters are devices that permit the starting of standard three-phase induction motors in a soft and progressive way. The current limitation occurs in a balanced manner on all three phases of power.
Compared to other controls in the two phases on the market, starting is not noisy and power consumptions are lower for the same torque.

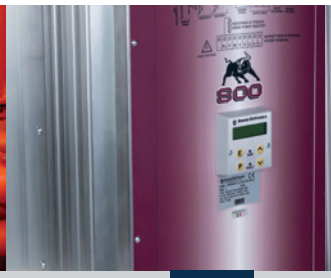
3ac 400V 19kW – 750kW

Technical characteristics:
Designed to control asynchronous motors at single and dual speed (with automatic management of speed and direction change relay switches);
at 3 wire and 6 wire connections: 6 wire connection allows the installation of a 1.73 times smaller soft starter than the 3-wire on equivalent motor powers (the 6-wire connection is automatically available in all replacements of old star/delta systems).

Moreover, C470 soft starter could be applied to realize a progressive mains line connection of asynchronous generators.

Communication protocol included as standard: MODBUS RTU





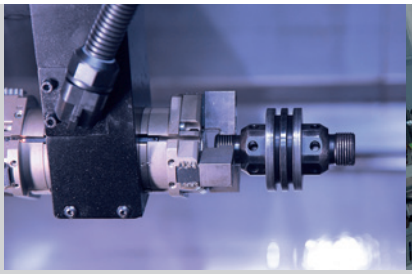
C470S voltage regulator

3ac 400V 40A – 1150A

Product information:

ROWAN ELETTRONICA technologically renews its SCR voltage regulator production including different functionality in the C470 series, settable only by changing a parameter. Four functions are available:

- SOFT-STARTER: three-phase induction motor start-up or deceleration
- THREE-PHASES STATIC SWITCH: to statically supply three-phase loads as alternative to electromechanical contacts, ZERO CROSSING technique avoids noise and distortions on the mains line.
- ENERGY / POWER REGULATOR: used for temperature control of electrical resistances oven, wave trains regulation in ZERO CROSSING technique, setting through 0-10Vdc analog signal.
- PHASE-ANGLE FIRING THREE-PHASE REGULATOR: continuous voltage and current regulation of three-phase load power supply, open loop control of three-phase high slip induction motor.



High Slip motors systems

Product information:

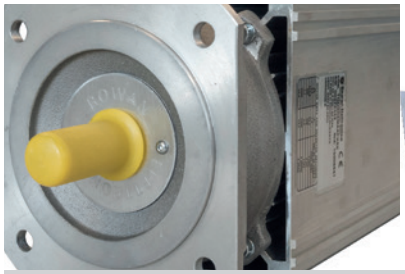
The Rowan Elettronica High Slip system S series is used to speed and torque control and it is composed of a high slip motor and an electronic drive e.g. C390S, C380S, or C119/92 codes.

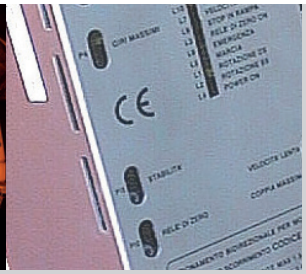
The induction high slip motor could be supplied three-phases or single-phases and it is suitable for variable voltage power supply thanks to the solid high resistance rotor; in the standard version, Rowan Elettronica high slip motor has independent fan ventilation and feedback tachometer.

Technical Characteristics:

- Precise closed-loop speed control through the tachometer.
- Direct proportionality between motor current and torque.
- Zero torque ripple.
- Duration and Reliability.
- Wide range of speed in constant torque conditions.

Reliable and durable electronic regulator suitable also to work in a hard environment.





C100 and C310S voltage regulators

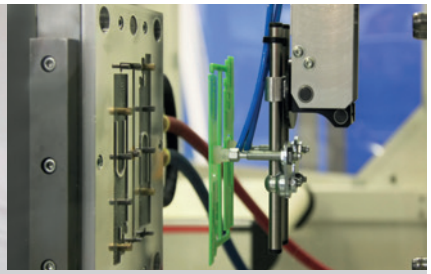
Product information:

The C100 and C310S codes are voltage regulators respectively single-phase and three-phase; they are designed to power supply resistive and inductive loads, unbalanced loads, with or without feedback.

C100 – 1ph 230/400Vac 5,5A – 185A
C310S – 3ph 400Vac 12A – 450A

Technical characteristics:
These regulators are called universal because they could be used in the following applications:

- Torque control of S series Rowan Elettronica motors without tachometer.
- Speed control of fans with single-phase or three-phase standard motors, single or in a group, within 0.75kW maximum power.
- Current or voltage regulation for resistors, transformers, lamps, and feeders.
- Temperature control of thermic-welding resistors, ovens, and polystyrene cutting wires.



Automation

Product information:

Rowan Elettronica thanks to a strong applicative experience of its product in the industrial automation field, is able to design and realize production line control systems taking advantage of the most innovative control technique, PLC or SCADA supervisor panel PC; Moreover Rowan Elettronica designs and develops systems and automation in respect of Industry / Transition 4.0 requirements.

The automation systems are made using principally Rowan Elettronica products, ensuring to the customer all “unique supplier” advantages.

Each realized automation has to pass a severe functional test In Rowan site to avoid a waste of time during the system setup at customer facilities.

Generator and AFE Rigenerator

Product information:

Rowan Elettronica on customer demand designs single-phase and three-phase electronic converters used as open loop or stabilized power suppliers, with separated amplitude and frequency regulation of the generated voltage.

Technical characteristics:

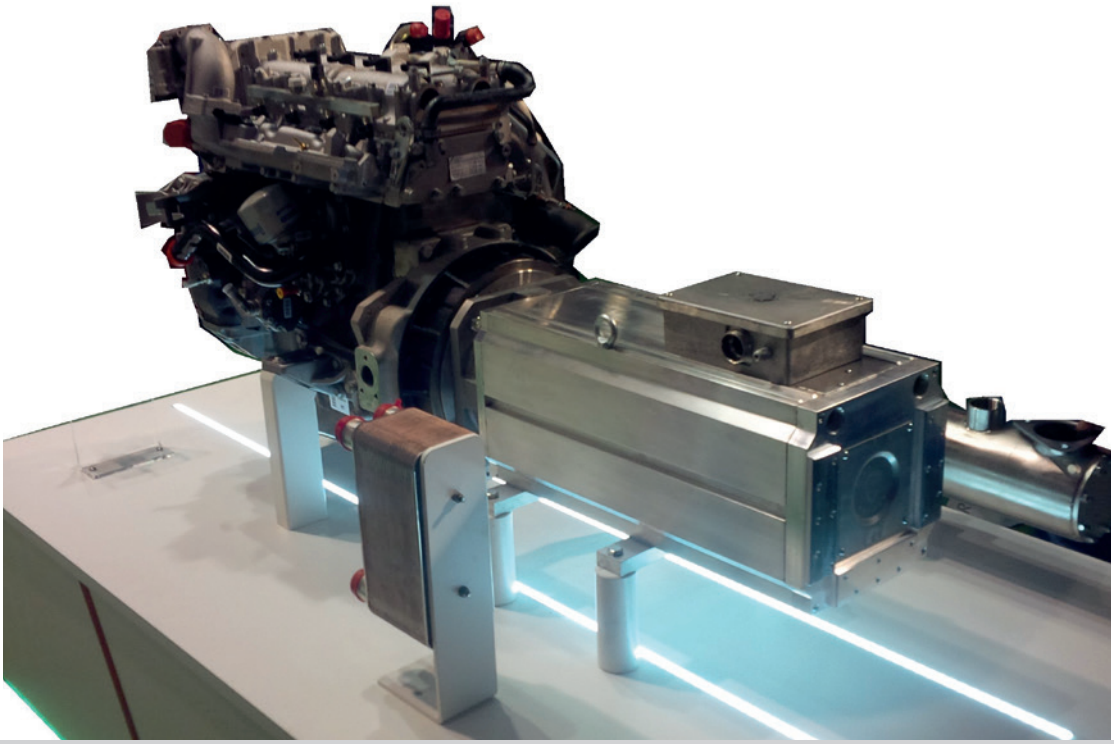
- Separated amplitude and frequency regulation.
- Voltage or current feedbacked single-phase/three-phase output
- PWM voltage output with 0-10 Vdc signal regulation.
- Frequency output range 0-800 Hz, maximum voltage on request.
- Available power range sizes: from 5,5 kW to 500 kW three-phase 400 Vac; from 5,5 kW to 250 kW single-phase 400 Vac.

Fields of use:

- Test laboratory
- frequency converter for 50-60 Hz industrial systems
- Plane and aeronautic tests feeder with frequency conversion from 50 to 400 Hz
- Energy recovery from the electric motor braking phase avoiding any waste and dissipation on braking resistors.

Moreover, Rowan Elettronica designs regeneration systems with AFE inverter (Active Front End) with insulation transformer and without insulation transformer in compliance with control and power quality standards requirements.

These systems are suitable for energy generation plants, e.g., micro-cogenerator, wind, and hydraulic turbine generators, and for energy recovery from the electric motor braking phase avoiding any waste and dissipation on braking resistors.



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Application fields:

- Steel working
- Automotive
- Aeronautic
- Food industry
- Test bench
- Papermills
- Chemistry
- Compressor
- Tannery
- Conveyor
- Energy
- Oenology
- Industrial ovens
- Pump and ventilation
- Brick field
- Woodwork
- Cruscher
- Marble
- Mechanics
- Oil and gas / naval
- Goldsmith's
- Luna park
- Rubber and plastic
- Robotic
- Movementations
- Textile

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