Suggested Specification: VIS and CRE CCRs

The Constant Current Regulator connected to a linear load shall produce a pure sine wave output. It shall be fully digitally controlled and regulated by embedded high speed Digital Signal Processors microprocessors driving an IGBT bridge to power the output transformer. It shall comply strictly with IEC 61822 and FAA specifications L-828 and L-829 except for the input voltage, when making use of the required monitoring options, of Advisory Circular 150/5345-10 (current edition).

Use: indoor in ambient temperature up to 55°C.

* Mains supply: 400V +/-10% single phase or three phase
* Design and construction: self-contained, metal sheet, floor standing or stackable (only for 2.5kVA rack version).
* Cooling: natural air cooled for ratings up to 10kVA. Forced air cooling by means of thermostat controlled fans for higher power ratings. Degree of protection IP 21.
* Full digital current regulation, with response time of only 0.3 seconds.
* Brightness control: in 3, 4, 5, 6, 7, 8 brightness steps adjustable over 65k values (1mA resolution).
* Operational parameters will be adjustable directly from the front keyboard and display of the CCR and/or via a PC connected to the CCR over a dongle. Software updates will be possible using flash memory.
* Possibility to display the status values.
* Remote control and monitoring via a single or two redundant well established field bus(ses) or multi-wire remote control with either 24 V or 48 to 60 V DC or ZigBee wireless control.
* Automatic input voltage compensation.
* Permanent monitoring of input voltage with automatic shutdown on low voltage (lower than 0,8 of nominal voltage) and automatic restart when the supply voltage exceeds 0,85 of nominal voltage.
* Tripping in case of output overcurrent and open circuit.
* In case of shutdown due to loss of mains supply, the CCR will be reenergized, in the last brightness condition in less than 0.5 seconds after restored mains.
* Fused switch in power input (HRC: High Rupture Capacity) and fuses in auxiliary circuits.
* Primary power factor, efficiency, temperature rise: as per FAA L-828 / IEC 61288.
* Local control and monitoring: to be provided for all regular functions.
* True RMS output current digital ammeter.
* Positive back indication of operation such as:
  + Shutdown by output overcurrent
  + Shutdown by output open circuit
  + Discrepancy between actual and selected output current
* The regulator shall be fully compatible with our L-827 monitoring system.
* For detailed specification of the options, see paragraph “standard options”.