

# micro 200 ccr

led microprocessor  
constant current regulator



# micro 200 ccr

Fitted with sophisticated circuitry, designed to provide fast protection against overcurrent or open circuit fault conditions.

## utilisation

The **atg airports** Micro 200 CCR is specifically designed for the power supply of airfield lighting circuits containing LED lighting fixtures.

## compliance with standards

The **atg airports** Micro 200 CCR is designed to comply with the requirements of:

- IEC 61822
- FAA AC 150/5345-10E
- IEC 61000 -2 -4

## optional functions

- Lighting arrestors
- Earth Leakage detection
- Lamp Failure detection
- Serial Communications Remote Control (JBUS or PROFIBUS) Castors
- Plug In HV Cut Out.

## standard functions

- Sine Wave Output at all brilliances
- Active Control to handle non-linear loads
- Near Unity Power factor at all brilliancy levels
- Brilliancy levels – fully adjustable
- Display of true output current RMS value
- Open Circuit Protection
- Short Circuit Protection
- Over Current Clamp
- Monitoring of Current intolerance
- Output VA drop error
- Dual Hours Run Counter records of runtime at maximum brilliancy and total hours run time at any brilliancy level.

## general features

The **atg airports** Micro 200 CCR employs PWM Control of an IGBT H bridge, to produce a sinusoidal output current wave form and near unity power factor at all brilliancy levels. Furthermore a substantial improvement in the harmonic content of the supply current has been achieved.

The regulator uses the same cubicle footprint as previous designs, which is kept to a minimum for floor space requirements. As in previous designs of **atg airports** Micro CCR's, the Micro 200 CCR is pre programmed with default operating parameters suitable for most applications.

Where necessary adjustments can be made at the front panel, without the need for any special tools or an external PC.

## design

The **atg airports** Micro 200 CCR is a microprocessor supervised Constant Current Regulator but with the current control loop and H bridge output and protection circuitry realised in analogue electronics. Each **atg airports** Micro 200 CCR is a self contained cubicle divided into three main compartments.

- “Microcontroller and Display” compartment constitutes a PCB Sub-assembly using a microcontroller, to allow parameterisation of the CCR characteristics and display of monitored and alarm information. All of the electronic sub – assemblies in this section are accessible from the front of the CCR cubicle.
- The “Analogue Electronic” compartment includes the main PCB's associated with lamp failure detection and earth fault detection. In this section components are accessible from the front of the CCR cubicle.
- The “Power” compartment positioned at the rear of the CCR contains all power components connected to the CCR output current loop, such as IGBT Stack, Main Contractor, Main Transformer, Lighting Arrestor, Feedback Transformer, Fuses, Filter and Cable Terminals. The components in this section are accessible from the rear of the CCR cubicle.

# brief technical specification

## input voltages

220, 230, 240, 380, 400 & 415V Single Phase, 50/60HZ

## output power

220, 230, 210V: 2.5, 4.0, 5.0, 7.5 KW

380, 400, 415V: 2.5, 4.0, 5.0, 7.5, 10.0 KW

## output current

6.6A

## power factor

At nominal resistive load, nominal output, current and nominal input.

Better than 0.9 for ratings up to 10KW.

## efficiency

At nominal power into a resistive load, nominal voltage and maximum brilliancy.

Better than 90%.

## output current accuracy

Within the limits of +/- 1.5% (+/- 0.1A)

- From Short Circuit to full load
- For nominal input Voltage +/- 10%
- For ambient temperatures - 10° to + 50C (operating)
- For altitudes up to 2000m above sea level
- For Relative Humidity range of 10% to 95% non condensing.

## open circuit protection

De-energise in less than 0.5 seconds

## remote control

Digital 24 or 48V DC (6 Wire and Command)

Analogue 0-10MA loop

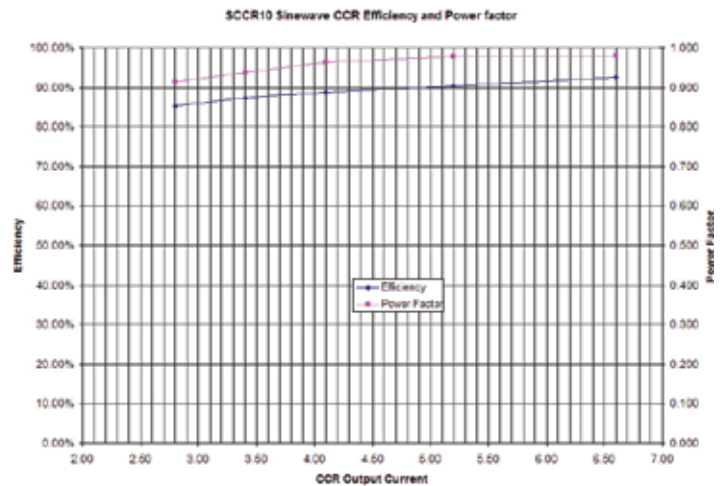
Serial Communication (JBUS, PROFIBUS)

## ventilation

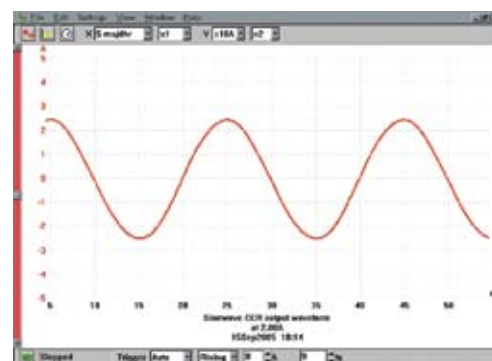
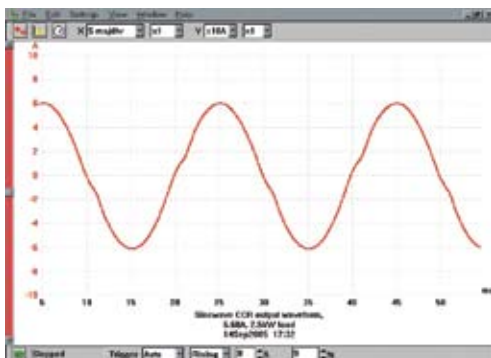
Natural Air Cooled

## cabinet

Steel Construction IP2X



SCCR10 Sinewave CCR Efficiency and Power factor





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