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PRODUCT



# DIAM 4200



Constant Current Regulator

IGBT Technology



Sine wave output current.



No degradation of the power factor.



No harmonics rejection in the mains network.



Independant from any type of load.



Rugged, easily operated and maintained.



FABRIQUÉ EN  
FRANCE

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# DIAM4200 - constant CURRENT REGULATOR

## COMPLIANCE

- **OACI** (Aerodrome design manual, part 5).
- **CEI** (61 822 ed2)
- **FAA** (AC150/5345-10H, L828&L829)
- **AENA** (PPT-002 05-13)

## APPLICATIONS

DIAM4200 series CCRs are optimized static devices, controlled by IGBT bridges, designed to maintain a constant, pre-displayed and adjustable output current, independent of load or power supply fluctuations.

These devices are specially studied for the supply of visual aids in accordance with international standards, and more particularly devices using LED and electronic converters.

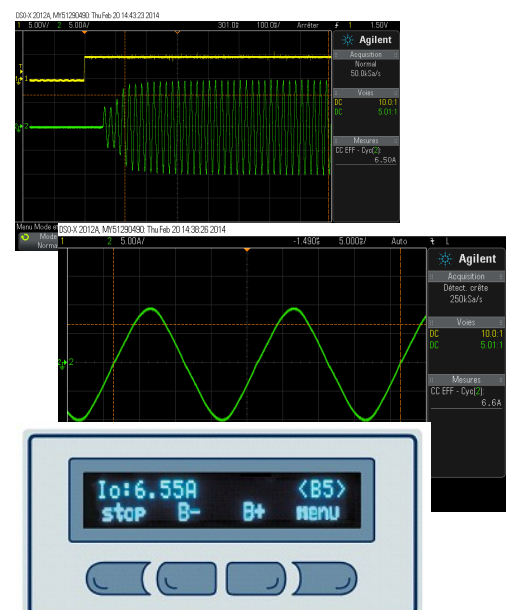
## DESIGN

The electronics of the DIAM4200 is characterized by an innovative but experienced architecture using a direct alternate power chopper with IGBT transistors. It is controlled by electronics using particularly powerful DSP processors, allowing fast and successful calculation and processing.

On the front side, a USB socket allows you to plug a laptop computer for configuration or diagnosis, even when switched off. The control interface supports all popular serial networks, with or without redundancy, as well as a universal multi-wire interface in compliance with all standards of the market.

## ADVANTAGES

- Sinusoidal Input and Output currents, rejecting very low level of harmonics at input or output.
- No tapping needed, thanks to no degradation of the power factor.
- Silent CCR : chopping frequencies 18 & 20kHz are above the audible range.
- Space savings: CCRs can be arranged side by side, and the 2.5kVA is stackable up to 3 devices. Only 20cm is required at the rear for ventilation.
- DIAM3100/4100 compatibility : Same options and control interfaces , same structure of the Modbus table.
- Maintenance optimization : The internal architecture, using a CAN bus ,was designed to minimize the number and the variety of spare parts, and allows a great flexibility.
- A front USB socket allows all operations of configuration, diagnoses or backs up, even when switched off.
- The free friendly software for diagnosis, compatible Windows, displays parameters and wave shapes. It allows modifications, software updates and complete device tests.



# DIAM4200 - TECHNICAL FEATURES

## OVERVIEW

The DIAM4200 CCR is delivered in metallic painted frame containing swivelling castors and lifting rings.

Two types of frame are designed to cover the range:

The frame for CCRs 2.5 up to 15kVA are identical, and receive an upper extension for the 20kVA model.

These metal frames contain different compartments: at the front, a part receiving the electronics, a location for LV devices, and a HV compartment HT including the power transformer, the lightning arresters and output devices. The power terminals (Supply and load) are disposed at the rear, while control-command sockets and terminals are connected by the front.

The electronics, including interface and control boards, are situated in the front part, and the power part (IGBTs and chopper control board) placed either at the back in several modules linked in parallel (from 2.5 up to 20kVA) situated in the higher part, and containing a forced cooling.

The HMI consists of a polyester keyboard located in front, including a display 16 x 140 with screen saver, showing on the higher line the state of the CCR, warnings, alarms and parameters, and on the lower line the definition of 4 keys, which depends on the common menu. A USB plug allows you to connect a laptop computer running ALIZE, for the diagnostic, the configuration or the display of parameters.



## CHARACTERISTICS

- Protection index : IP21
- Dimensions :  
2.5 up to 15kVA : H 1375 x W 509 x D 754 mm  
20kVA : H 1575 x W 509 x D 754 mm
- Temperature : -20 to +55°C
- Regulation & protections : comply with IEC61822
- Supply : Single phase 220V to 240V or 380V to 415V, +/-10%
- Frequency : 45 to 66Hz
- Efficiency : > 90% nominal
- Power factor : > 0.97 typical
- Remote control :  
Multiwire (contact or voltage 20 - 60V)  
Simple or double serial Bus, (ModBus RS485, ETHERNET, LonWorks)
- Back indication : Dry contacts or Bus
- Modbus table : compatible DIAM3100/4100
- Maintenance link : USB
- Brightness : 8 maximum, from 1.5A to 6.6A
- Power : 1, 2.5, 5, 7.5, 10, 15 & 20kVA.

### Optional equipments :

- Earth fault detector (2 levels)
- Serial Bus , simple, double or combined
- Multiwire remote control.
- LV lightning arresters
- LV Circuit breaker
- Output Cut Out device
- Integrated circuit selector (up to 6 circuits)
- Frame with strengthened anticorrosion treatment

### Included equipments :

- 1X Port Modbus RS485 (\*)
- Over current (3 levels), Open circuit, Capacitive load detection
- Output lightning arresters
- Burnt lamps detection (compatible with each way of the integrated circuit selectors)
- Time meters
- Swivel castors and lifting rings

(\*) Only if any other network is selected, see ordering code

# DIAM4200 - ORDERING CODE

The DIAM4200 sinusoidal CCR is identified by a serial ordering number which indicates its type, options and particularity .

Example : **D42-IEC5-4005-A65A ICS2** = DIAM4200 CCR compliant with IEC, 5 brightness, 400V, 5kVA, controlled by wired remote voltage and double ETHERNET, earth fault detector, input lightning arresters and AUGIER output disconnector. The device is associated with a 2-way circuit selector, defined separately.

Note: Included default options are : Tropicalization of electronics and transformers - Output lightning arresters - Time counters - Burnt lamps detection - Swivel castors and lifting rings

