

DIAM 4100



Constant Current Regulator

SCR Technology

- ✓ Optimization of use.
- ✓ Maintenance optimization.
- ✓ Full digital technology.
- ✓ Adaptation to any type of load.
- ✓ Robust, flexible, easy to install and maintain..

DIAM4100 - 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

DIAM4100 series CCRs are optimized static devices, controlled by SCRs, designed to maintain a constant, pre-displayed and adjustable output current, independent of load or power supply fluctuations.

These devices are specially designed for supplying visual aids, in compliance with all international standards.

Their flexibility allows to adapt to any type of load, such LED devices or electronic converters.

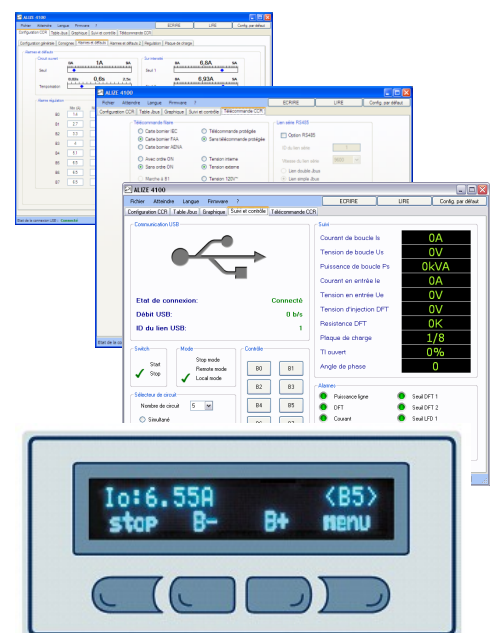
DESIGN

DIAM4100 series CCRs is characterized by an innovative electronic architecture, built around electronic boards using a powerful DSP processor, associated with a CAN bus connecting sub-assembly and boards, allowing fast and efficient computing and processing capabilities.

A front USB socket allows to connect a setting lap-top computer, operation possible even powered off. Remote control interface supports all serial networks, with or without redundancy, as well as a universal multi-wire interface that complies with all market standards.

ADVANTAGES

- Flexibility to needs : many options available, HMI and control tables are the same for the whole DIAM range.
- Space saving : units can be joined side to side, and the DIAM3100 model is stackable up to three devices (see the relevant leaflet).
- Full compatibility with DIAM3100/4200 series : Same control, options and interfaces, as well as Modbus tables.
- Optimization of maintenance : The internal architecture, using a CAN bus was designed to minimize the number and variety of spare parts, and allow a great flexibility of modification.
- A front USB socket allows any parameter setting, diagnostic or backup operation even de-energized .
- The user-friendly and comprehensive Windows-compatible diagnostic software allows to see all parameters and waveforms from the CCR. It allows any modifications, software releases, complete operation tests, etc.



DIAM4100 - TECHNICAL FEATURES

OVERVIEW

The DIAM4100 is delivered in a metallic frame containing swivelling castors and lifting rings.

A special version limited to 6.5kVA, called DIAM3100, is delivered with a reduced cabinet in order to be stacked by three units.

The frame of DIAM4100' series is the same regardless the output power from 2.5kVA to 30kVA, and is able to receive all available options.

The metal enclosure shows three separate compartments :

- **Electronic compartment.** It includes a digital mother board of latest technology, which is attached to the front panel of the unit. It supports the HMI, composed by a 4 keys polyester keyboard and a 16x140 VFD display showing on the top line the current status, warning, alarms or parameters, and on the lower line the 4 keys definition, which depends on the current menu.
An USB socket allows connection to a standard laptop computer.
- **LV compartment.** Includes all components related to inputs, power supply and CCR's control, as interface board, fuses, input surge arresters, terminal block, thyristors. It is located at the top rear, and is accessible from the top or the back of the device.
- **HV compartment.** Located at the lowest part of the CCR, it includes all equipment related to the output and the load, as power transformer, output lightning arresters, output terminals. It is accessible after opening the front panel or door. A door contact switch off the power supply when opened in order to avoid any risk of contact with a live part.



CHARACTERISTICS

- Protection index : IP21
 - Dimensions :
2.5 to 30kVA : H 1380 x L 500 x P 700 mm
 - Castors spacing : 355 x 610 mm
Temperature : IEC -20 to +55°C, FAA -40 to +55°C
 - Regulation & protections : complies with IEC61822
 - Supply : IEC 220V to 240V or 380V to 415V, +/- 10%. FAA 208V to 277V or 380 to 480V -5 / +10%
 - Frequency : 45 to 66Hz
 - Efficiency : > 90% nominal
 - Power factor : > 90% nominal
 - Remote control :
Multiwire, input contact or voltage from 20 to 60V
Single 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, 4, 5, 7.5, 10, 15, 20, 30kVA.
- Optionnal equipments :**
- Earth fault detector (2 levels)
 - Serial Bus, single, 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 (*)
 - Ocurrent (3 levels), Open circuit, Capacitive load detection
 - Output lightning arresters
 - Burnt lamps detection (compatible with each way of the integrated circuit selector)
 - Time meters
 - Swivel castors and lifting rings

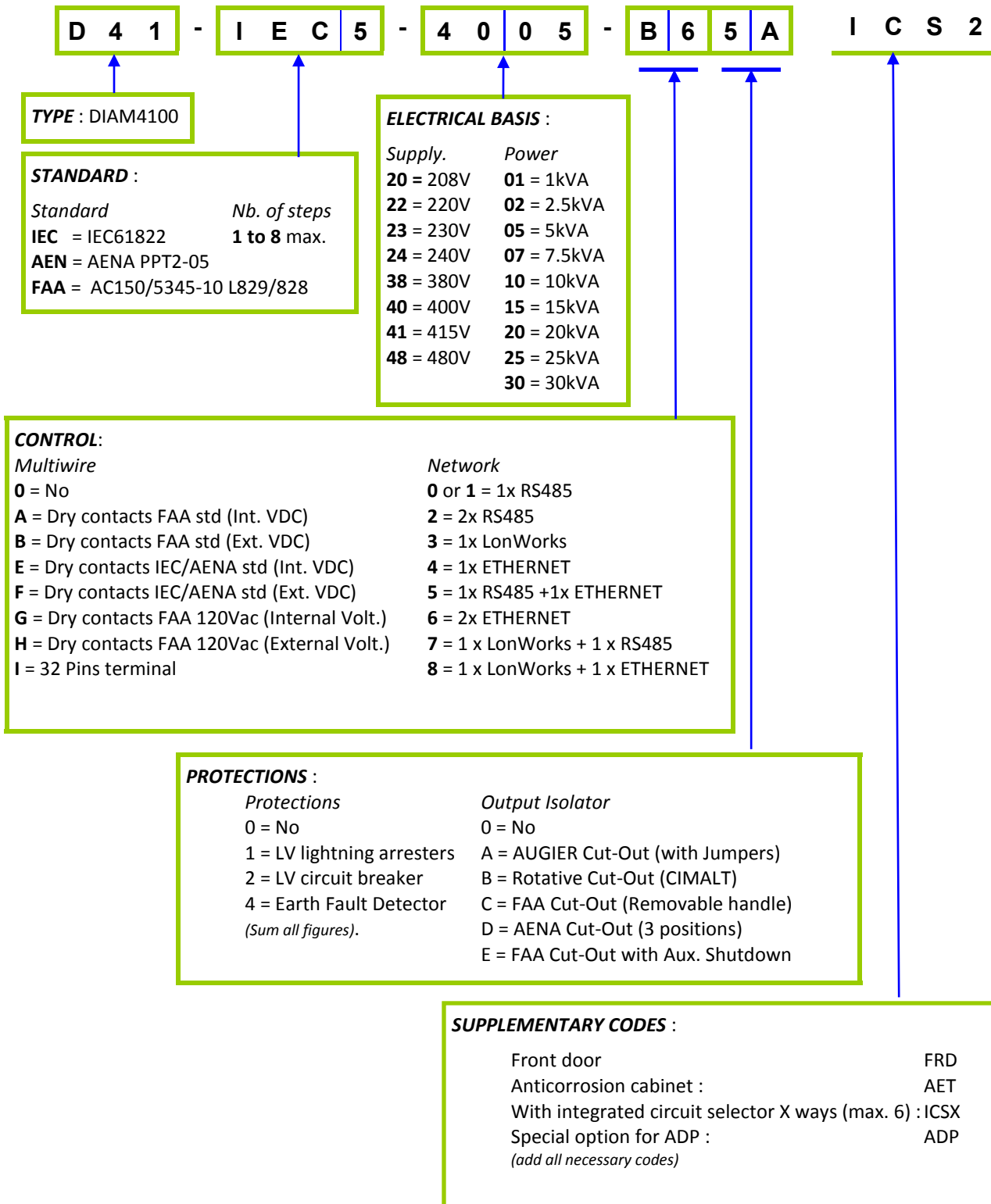
(*) Only if any other network is selected, see ordering code

DIAM4100 - ORDERING CODE

The DIAM4100 is identified by a serial ordering number which indicates its type, options and particularities.

Example : **D41-IEC5-4005-A65A ICS2** = DIAM4100 SCR constant current regulator, compliant to IEC, 5 steps, 400V, 5kVA, controlled by wired remote control and double ETHERNET, with Earth fault detector, input lightening arresters and AUGIER output disconnector. The device is associated with a 2-ways circuit selector defined separately.

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



60 21222 ED3 - In the interests of continuous improvement, the manufacturer reserves the right to modify its models without prior notice