CERTIFICATION DE SYSTÈME QUALITÉ
DNV·GL
ISO 9001

DIAM 3100

Stackable Constant Current Regulator

SCR Technology

✓ **Optimization of surface area.**

✓ **Maintenance optimization.**

✓ **Full digital technology.**

✓ **Adaptation to any type of load (< 6.5kVA)**

✓ **Robust, flexible, easy to install and maintain..**

FABRIQUÉ EN
FRANCE

DIAM3100 - 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

DIAM3100 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.
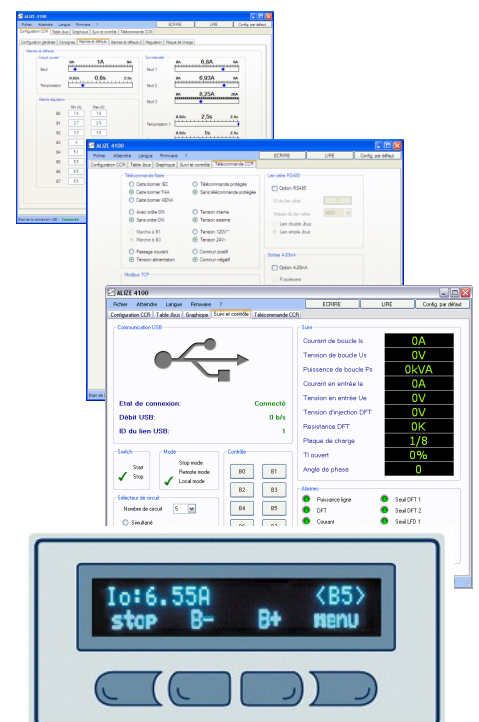
DESIGN

DIAM3100 series CCRs is characterized by an innovative electronic architecture, built around electronic boards using a powerfull 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 marcket 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 joint side to side, and the DIAM3100 model is stackable up to three devices.
- Full compatibility with DIAM4100/4200 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 variely of spare parts, and allow a great flexibility of modification.
- A front USB socket allows any parameter setting, diagnostic or backup oeration 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.

DIAM3100 - TECHNICAL FEATURES

OVERVIEW

The DIAM3100 is delivered in a metallic frame containing swivelling castors and lifting rings.

It takes all the features of the DIAM4100, with an output power limited to 6.5kVA, which allows its assembly in a reduced frame, which can be stacked up to three units.

The metal enclosure shows two separate compartments :

- **Electronic and LV 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 standerd laptop computer.

  Access to this compartment as well as to LV devices (contactor, Thyristors, etc) is done after opening the front door.

- **Power compartment.**

  Locared at the rear, it Includes all components related to output, power supply and CCR's control, as interface board, terminal block, load tapping. It is is accessible after opening the back of the device.

  On the rear panel are located the optional connector sockets and remote control buses.

CHARACTERISTICS

- Protection index : IP21
- Dimensions :
  1x unit :   H 550 x W 500 x D 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 : 220V to 240V or 380V to 415V,
  IEC +/-10%. FAA -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 DIAM3100/3100
- Maintenance link : USB
- Brightness : 8 maximum, from 1.5A to 6.6A
- Power : 1, 2.5, 4, 5, 6.5kVA.

Optionnal equipments :

- Earth fault detector (2 levels)
- Serial Bus, single, double or combined
- Multiwire remote control
- LV lightening 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 (*)
- Ocercurrent (3 levels), Open circuit, Capacitive load detection
- Output lightening arresters
- Burnt lamps detection (compatible with each way of the integrated circuit selector)
- Time meters
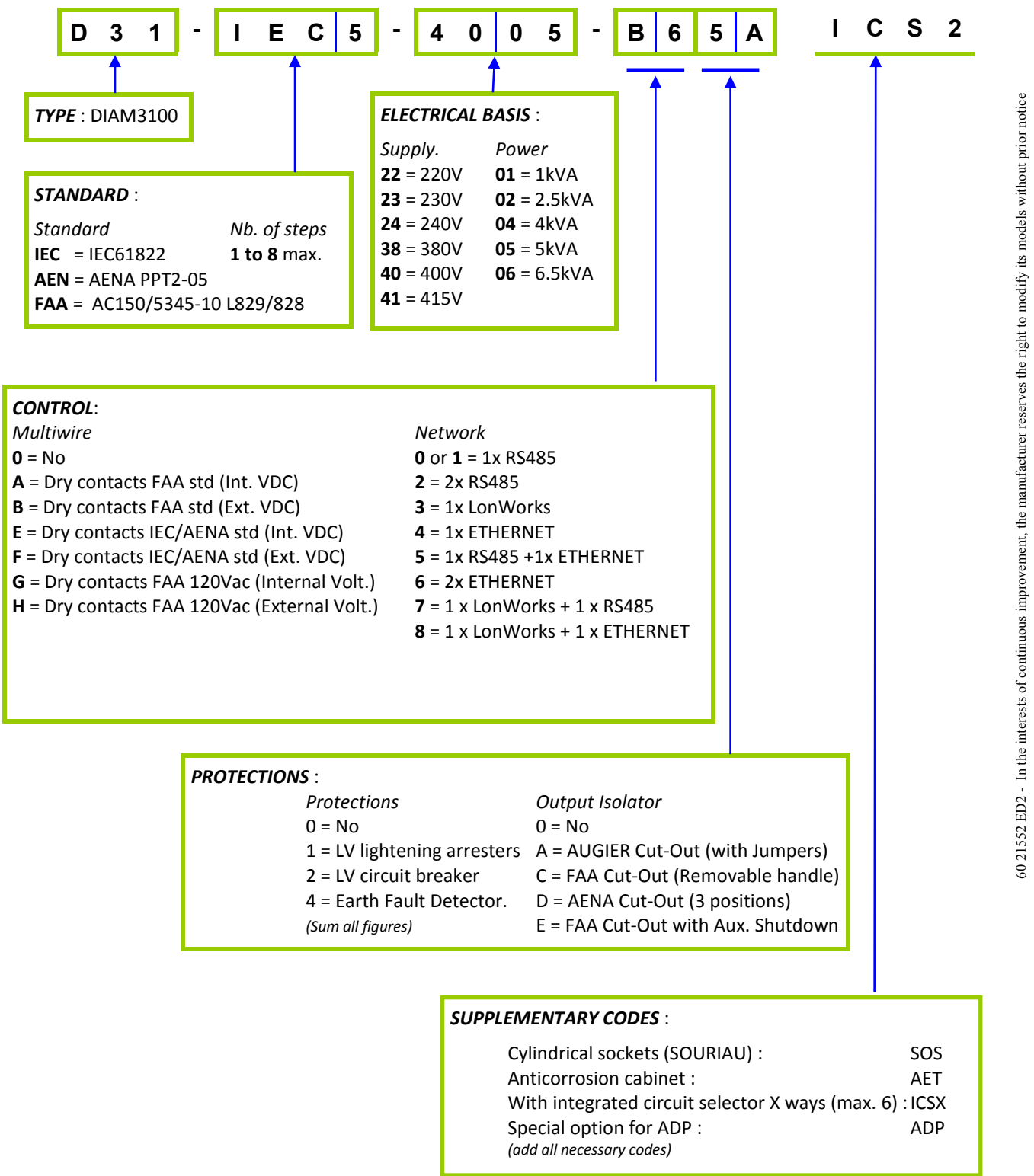- Swivel castors and lifting rings

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

DIAM3100 - ORDERING CODE

The DIAM3100 is identified bt a serial ordering number which indicates its type, options and particularities.

Example : **D31-IEC5-4005-B65A ICS2** = DIAM3100 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.

| D 3 1 | - | I E C 5 | - | 4 0 0 5 | - | B 6 5 A | | I C S 2 |

TYPE : DIAM3100

STANDARD :

Standard	Nb. of steps
IEC = IEC61822	**1 to 8** max.
AEN = AENA PPT2-05	
FAA = AC150/5345-10 L829/828	

ELECTRICAL BASIS :

Supply.		Power	
22 = 220V		**01** = 1kVA	
23 = 230V		**02** = 2.5kVA	
24 = 240V		**04** = 4kVA	
38 = 380V		**05** = 5kVA	
40 = 400V		**06** = 6.5kVA	
41 = 415V			

CONTROL:

Multiwire	Network
0 = No	**0** or **1** = 1x RS485
A = Dry contacts FAA std (Int. VDC)	**2** = 2x RS485
B = Dry contacts FAA std (Ext. VDC)	**3** = 1x LonWorks
E = Dry contacts IEC/AENA std (Int. VDC)	**4** = 1x ETHERNET
F = Dry contacts IEC/AENA std (Ext. VDC)	**5** = 1x RS485 +1x ETHERNET
G = Dry contacts FAA 120Vac (Internal Volt.)	**6** = 2x ETHERNET
H = Dry contacts FAA 120Vac (External Volt.)	**7** = 1 x LonWorks + 1 x RS485
	8 = 1 x LonWorks + 1 x ETHERNET

PROTECTIONS :

Protections	Output Isolator
0 = No	0 = No
1 = LV lightening arresters	A = AUGIER Cut-Out (with Jumpers)
2 = LV circuit breaker	C = FAA Cut-Out (Removable handle)
4 = Earth Fault Detector.	D = AENA Cut-Out (3 positions)
(Sum all figures)	E = FAA Cut-Out with Aux. Shutdown

SUPPLEMENTARY CODES :

Cylindrical sockets (SOURIAU) :	SOS
Anticorrosion cabinet :	AET
With integrated circuit selector X ways (max. 6) :	ICSX
Special option for ADP :	ADP
(add all necessary codes)	