POWER EQUIPMENT

IDM8000

Constant Current Regulator (CCR)

THYRISTOR, AIR-COOLED

Compliance

- IEC 61822
- ICAO Aerodrome Design Manual, Part 5, Electrical systems

Uses

- Thyristor type constant current regulator especially designed for supply and control of airport lighting series circuits.

Characteristics

- Powerful and reliable 16-bit microprocessor provides extensive monitoring functions and also possibility for future upgrades.
- Modular electrical design with plug-in electronic boards and possibility to add options later on.
- Space saving, user and maintenance friendly mechanical "slim-line" design. 4 hooks for lifting and moving.

Features

Standard functions

- Output current and voltage RMS-values
- Input voltage and frequency
- Lamp fault no and % of total lamps
- Earth fault value
- Actual power and load power factor
- Apparent power and % of full load value
- Cumulative energy consumption
- Thyristor element temperature
- Time and date
- 10 patch fault log with time and date labels
- Operating hour counters for all steps
- CCR/system information aux displays
- 1kVA Small size, wall mounted version available. Ideal for very small circuits and test circuits in maintenance shops.

Monitoring functions

Lamp Fault

- Accuracy ± 1 lamps up to10 faults and ± 3 lamps up to 30 lamps on all brilliancy steps with loads from 50% to full of the CCR rating
- No and % of fault lamps displayed
- 2 alarm levels with adjustable threshold and delay levels and remote control indication

VA Drop

- Monitors the apparent output power against recorded full load values
- Selectable tripping option for example. PAPI tilt-switch applications
- 2 alarm levels with adjustable threshold and delay levels and remote control indication

Protective functions

All protections with adjustable threshold and delay levels, selectable reset mode and remote control indication.

- Open circuit
- Over current

Protections with 2 levels; the first is a pre-warning and the second the actual tripping function.

- Input voltage, 2 levels
- Input frequency, 2 levels
- Temperature, 2 levels

Power Unit

- Dry-type output transformer with taping to adjust the CCR capacity to actual load and therefore to improve the primary power factor of the CCR.
- Integrated thyristor pair with controller and RC-filter to ensure reliable operation.
- Passive filter to suppress harmonic distortion and RFI interference.

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Local Control Interface

- Operation rotary switch: Remote / off / brilliancy steps
- All display, monitoring and protective functions easily accessed via graphical multi-function display and 5 soft keys

Remote Control Interface

Parallel Control

- Selectable control mode Dec/Bin and static/impulse.
- Selectable control voltage 24/48/60V DC
- Selectable fail-safe step for static controls
- 24 potential free back indication signals
- Optional built in DC-source

Serial Control

- Integrated field-bus cards available for most major field buses
- Duplicated interface as an option
- Additional measuring data can be transmitted, for example no of lamps, isolation resistance, and so on

Optional units

Direction changer (1)

- 2 alternative directions can be fed and controlled with dedicated control switch
- Current less switching to ensure maximum lamp and contactor contact life

Circuit selector (2-6)

- Up to 6 circuits controlled via display soft keys
- Presentable low current when switching off circuits to ensure maximum lamp life and minimum flickering of lights

Earth fault monitor (E)

- Measuring range from 50 M ohm to 10 k ohms
- Isolation resistance display and 2 alarm levels with adjustable threshold levels and delay times and remote control indication
- Selectable maintenance mode provides extended protection by tripping the CCR on level 2 earth fault alarm

Surge arresters (S)

- On request high voltage surge arresters on output and normal surge arresters on input

Wheels (W)

- 2 fixed wheels under the rear side
- 2 swivel wheels under the front side

Series cut-out switch (U)

- In-built

Other features

- Parallel control interface with terminal block (PB)
- Parallel D37 interface is wired to additional terminals
- Serial interface, Profibus DP (SP)
- Serial interface, Modbus TCP (SM
- Duplicated serial interface, Profibus DP (S2P)
- Duplicated serial interface, Modbus TCP (S2M

Technical Data

Supply voltage:	· 230 V for 3,4, 5 10, 15 and 20 kVA · 400 V for 5 to 30 kVA · Full power down to -10%
Power ratings:	1, 3, 4, 5, 7½, 10, 12½, 15, 17½, 20, 25 and 30 kVA
Output current:	6.6 A nominal
Brilliancy control:	7-step control standard, others on request
Remote control:	Parallel or serial interface
Operating temperature:	-20°C to +50°C
Altitude:	2000 m

Dimensions

	IDM8000	IDM8001
Width:	495 mm (up to 17,5 kVA) 660 mm (from 20 kVA)	608 mm
Depth:	650 mm	412 mm (floor mounting) 425 mm (wall mounting)
Height:	1735 mm 1865 mm (with wheels)	609 mm (floor mounting) 633 mm (wall mounting)

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IDM8000

Ordering Code

ID0 X X X XX XX X XXX X X

CCR Type
ID0 = IDM 8000

Power Rating/Output Current (A)
B = 3 kVA/ 6.6 A (size only available in 220V)
C = 4 kVA/ 6.6 A (size only available in 220V)
D = 5 kVA/ 6.6 A (size available in both 220V and 400V)
E = 7.5 kVA/ 6.6 A (size only available in 400V)
F = 10 kVA/ 6.6 A (size available in both 220V and 400V)
G = 12.5 kVA/ 6.6 A (size only available in 400V)
H = 15 kVA/ 6.6 A (size available in both 220V and 400V)
I = 17.5 kVA/ 6.6 A (size only available in 400V)
J = 20 kVA/ 6.6 A (size available in both 220V and 400V)
K = 25 kVA/ 6.6 A (size only available in 400V)
L = 30 kVA/ 6.6 A (size only available in 400V)

Frequency
1 = 50/60 Hz

Input Voltage Range (VAC)/Supply Type
1 = 230 V/1 phase
2 = 400/1 phase

Remote Control
0 = No
B = PBT (Parallel/MW Control with Terminal Block)
C = SP (Single Profibus)
D = STCP (Single Modbus TCP/IP)
E = dP (Dual Profibus)
F = dTCP (Dual Modbus TCP/IP)

EFD
0 = EFD (Always included in the standard set up)

Free Digit
0 = Free Digit

Software Version/Date
1 = v01/Nov-18

Internal DC Power
0 = None
1 = 24 V
2 = 48 V

Series Cut-out Switch
0 = No
1 = Yes

Free Digit
0 = Free Digit

Internal SCF
0 = None
F = Internal SCF

Support
0 = Wheels (Wheels are included in the standard design)

Slot for integrated Devices
0 = No devices
1 = Direction Charger
2 = Circuit selector for 2 circuits
4 = Circuit selector for 4 circuits
6 = Circuit selector for 6 circuits

Note:

- If digit 4 is B or C, then digit 6 must be 1.
- If digit 4 is E,G,I,K or L, then digit 6 must be 2.
- If digit 7 is 0,C,D,E,F or G, then digit 15 must be 0.
- If this digit 10 is 4 or 6 A AND digit 4 is J, K, L, then digit 14 must be 0: A series cut-out switch cannot be fitted high power CCRs (20 to 30 kVA) equipped with more than a 2-way circuit selector (4 and 6). Low power CCRs (3 to 17,5 kVA) with circuit selector without series cut-out will be delivered in the standard narrow low-power cabinets. Low power CCRs (3 to 17,5 kVA) with 2 to 4-WAY circuit selector with series cut-out will be delivered in the standard narrow low-power cabinets. Low power CCRs (3 to 17,5 kVA) with 6-WAY circuit selector with series cut-out will be delivered in the wider high-power cabinets.

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IDM8000

Ordering Code   I D 1 ☐☐☐☐☐☐☐☐☐☐☐☐☐

Power Rating (kVA)/Output current (A)
A = 1 kVA/ 6.6 A

Frequency
1 = 50/60 Hz

Input Voltage Range (VAC)/Supply Type
1 = 230 V/1 phase

Remote Control
0 = No
B = PBT (Parallel/MW Control with Terminal Block)
C = SP (Single Profibus)
D = STCP (Single Modbus TCP/IP)
E = dP (Dual Profibus)
F = dTCP (Dual Modbus TCP/IP)

EFD
0 = EFD (Always included in the standard set up)

Options
0 = No options

Options
0 = No options

Options
0 = No options

Options
0 = No options

Options
0 = No options

Series Cut-out switch
0 = No
1 = Yes

Internal DC power
0 = None
1 = 24 V
2 = 48 V

Software Version/Date
1 = v01/Nov-18

Note:

- If digit 7 is 0,C,D,E, or F, then digit 15 must be 0.

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