



Multi Electric Mfg., Inc.

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sales@multielectric.com - www.multielectric.com

Installation & maintenance

DIAM 4100

L828/L829 and IEC Single-phase SCR-type Constant Current Regulator



Compliance with standards:
ICAO Aerodrom design manual, part 5
IEC 61822 et 61821
FAA (AC 150/5345-10F Spec.L828/L829)
AENA (PPT2 ed4(2004))

RECORD OF CHANGES

Rev.	Pages	Description	From S/N	By	App.	Date
1.0		First issue		ED	RG	17/09/07
1.1		corrections		RG	RG	09/10/07
1.2	33, 56	LV and HV Intervention instruction and warning		RG	RG	22/10/07
1.3		Interface board & Jbus table		ED	RG	18/07/08
1.4	46,47,51	Jbus address 105 →70, 98→69		ED	RG	14/10/08
1.5	65, 68	Spare parts list modification		OE	RG	28/11/08
1.6	27,28	LFD measurement		ED	RG	18/12/08
1.7	37	SOURIAU remote control		ED	RG	23/12/08
1.8	21	Capacitive current detection		ED	RG	26/03/09
1.9	92	Ordering information		ED	RG	04/05/09
1.10	67, 68	Spare list (thyristor board)		ED	RG	22/06/09
1.11	26	Rotative cutout		ED	RG	03/10/09
1.12	29 33	Note on insulation measurement §I.8.3 Circuit breaker recommendation update §II.1.5.2		TVD	RG	29/03/11
1.13	27	Add external rotative cutout – page setup		TVD	RG	18/05/11
1.14	54	Remote priority, remote fail safe		ED	RG	26/05/11
1.15	27	Note lightning arrestor status using EFD		TVD	RG	13/09/11
1.16	40,41	AENA modifications		ED	RG	19/03/12
1.17	39	SOURIAU connections		ED	RG	28/03/12
1.18	32	Update low voltage protection table		TVD	RG	22/05/12
1.19	71, 72, 73	Update spare parts codes		TVD	RG	12/06/12
1.20	69, 70	Internal error codes description		TVD	ED	18/10/12
1.21	56	Remote control Ethernet + serial link Remove Jbus table compatible 4000		ED	ED	30/06/15
1.22		Add reference in spare parts list		ED	ED	15/11/16
1.23	2	Warranty modification		RG	RG	15/05/17
1.24	50, 78	FAA terminal block		RG	RG	15/05/17

WARRANTIES

Guarantee

AUGIER's goods has been manufactured and will perform in accordance with applicable specifications, and any defect in design, materials or workmanship which may occur during proper and normal use during a period of 1 year from date of installation or 2 years from date of shipment will be corrected by repair or replacement by the manufacturers f.o.b factory.

The guarantee covers repair, modification or replacement of parts or products recognised to be defective, in the shortest possible time, at AUGIER's cost, provided always that the goods have been properly handled and stored prior installation, properly installed and properly operated after installation.

Unless otherwise specifically laid down in contract, the guarantee does not cover:

- Costs of consignment to factory and re-consignment of defective goods to Buyer
- Travelling & sojourn expenses of AUGIER's personnel if goods have to be repaired on site; assembly and dismantling of any goods other than those recognised to be defective; expenses incurred for waiting times by AUGIER's personnel on site for reasons independent of their will;
- Unjustified travel expenses.

Guarantee shall not apply in the following cases:

- Defects in materials supplied by Buyer or due to any designs imposed by them;
- Repairs or replacements due to normal wear and tear, or damages or accidents.
- Repairs or replacements due to damages or accidents resulting from negligence or lack of due care, inadequate supervision or maintenance, or erroneous use of the equipment or software;
- Any other causes for which AUGIER shall not be held responsible, e.g. resulting from an case of Force Majeure.
- When Buyer has replaced AUGIER's parts with other parts.

Buyer must inform AUGIER in writing and without delay of any defects in goods, giving all necessary information and detailed description of how equipment has been utilised, together with purchase date. Buyer undertakes not to have repairs carried out by third parties; any repairs carried out without AUGIER's express prior agreement shall invalidate the guarantee.

It is expressly agreed between the two parties that Buyer cannot avail himself of the beneficial dispositions contained in the guarantee without having first satisfied payment conditions laid down in contract

Disclaimers

This manual could contain technical or typographical errors. AUGIER reserves the right to make changes and revise this manual from time to time without obligation to notify any person or organisation of such changes or revision.

Values and measurements given in this manual are average values and are not binding. AUGIER disclaims any liability for damages suffered as a result of reliance on the information given in this manual, or the use of equipment or processes which this manual refers.

No guarantee is made that the use of the products, equipment, processes or information to which this manual refers will not infringe any third party's patent or rights. Information given does not release the buyer from making their own tests.

SAFETY

Safety precautions

This equipment is normally used or connected to circuits that may employ dangerous and lethal voltages. Extreme caution should be exercised by operating or maintenance people when working on or with this equipment.

See IEC 61820 & 61821 standard (CCR type IEC), or FAA AC150/5340-26 advisory circular (CCR type FAA), concerning safety rules and precautions. While practical safety precautions have been incorporated in this equipment, the following rules must be strictly observed :

- **KEEP AWAY FROM LIVE CIRCUITS :**
Operating and maintenance people must at all time observe all safety regulations. Do not change components nor perform maintenance inside equipment with power ON or the lighting loop energised.
- **RESUSCITATION :**
Operating and maintenance personnel should familiarise and keep themselves trained with resuscitation techniques found in widely published manuals about first aid instructions.
- **ELECTROSTATIC DISCHARGE (ESD) :**
Electronic sub-assemblies and boards should be touched only for unavoidable operation (replacement, for example). Before to operate, maintenance people must first of all eliminate unwanted electronic charges, discharging his own body while touching a conductive earthed object or part. Electronic boards and components as power semiconductors must be stored and carried in a conductive packing.
- **DESTRUCTION :**
In case of dismantling, scrapping or placing out of service, the user must follow all the required precautions for component, materials or equipment elimination, according to the local rules.

EEC DIRECTIVES



This equipment complies with the requirements of EC directives :

- 89/336/EEC, 92/31/EEC and 93/68/EEC with regard of Electromagnetic Compatibility
- 73/23/EEC with regard of Low Voltage Equipment

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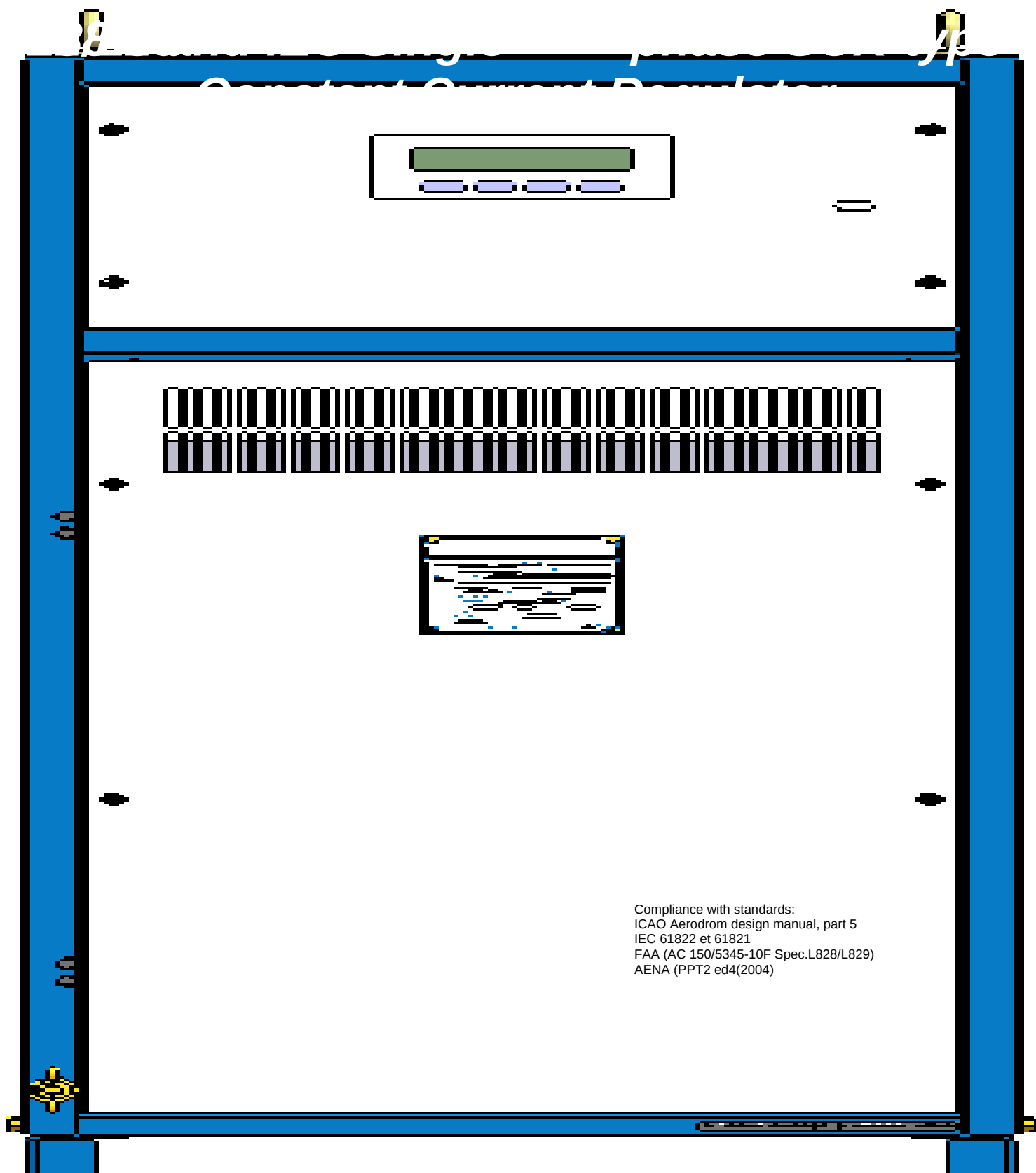


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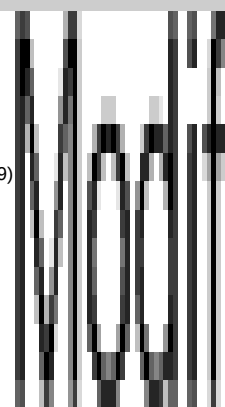


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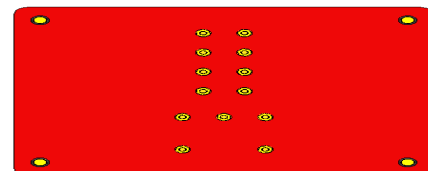
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L828/L829 and IEC Single -phase SCR -type
Constant Current Regulator

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**L828/L829 and IEC Single -phase SCR-type
Constant Current Regulator**

HV2

HV1

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Constant Current Controller



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OK for X B. Lamp?

esc

←

→

OK

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Reset LFD meas.?

esc

←

→

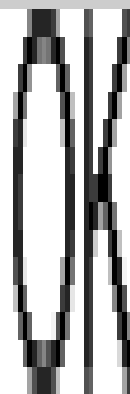
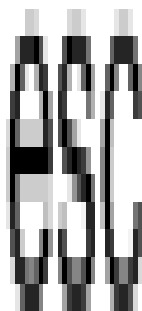
OK

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Constant Current Regulator

OK for X B. Lamp?



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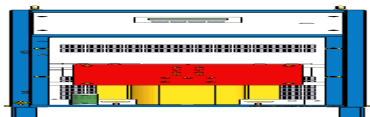


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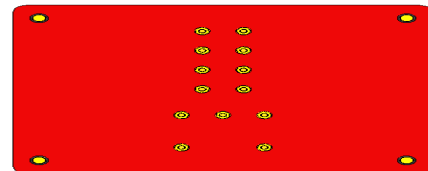
3-Phase 400V AC Single -phase Constant Current Regulator



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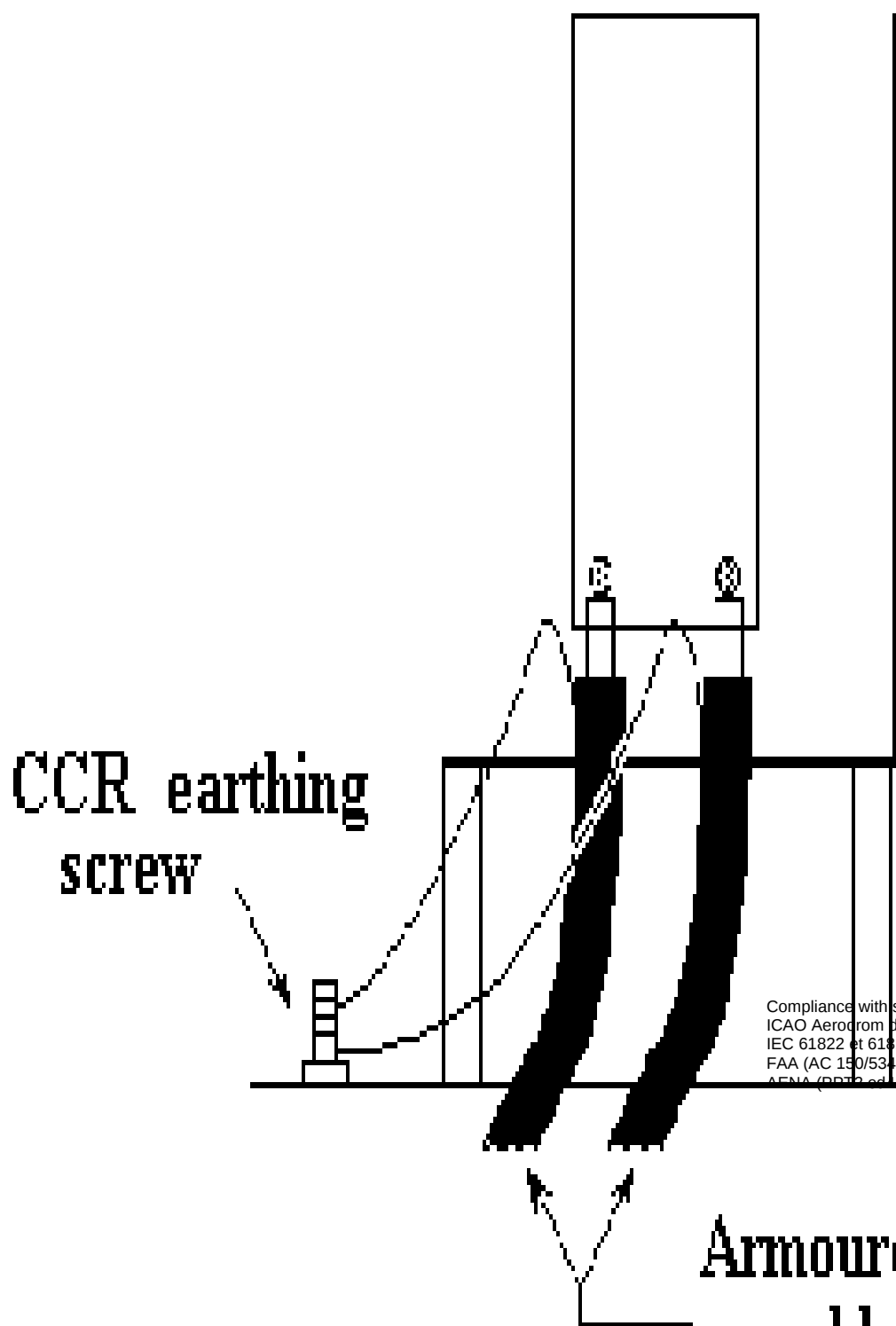


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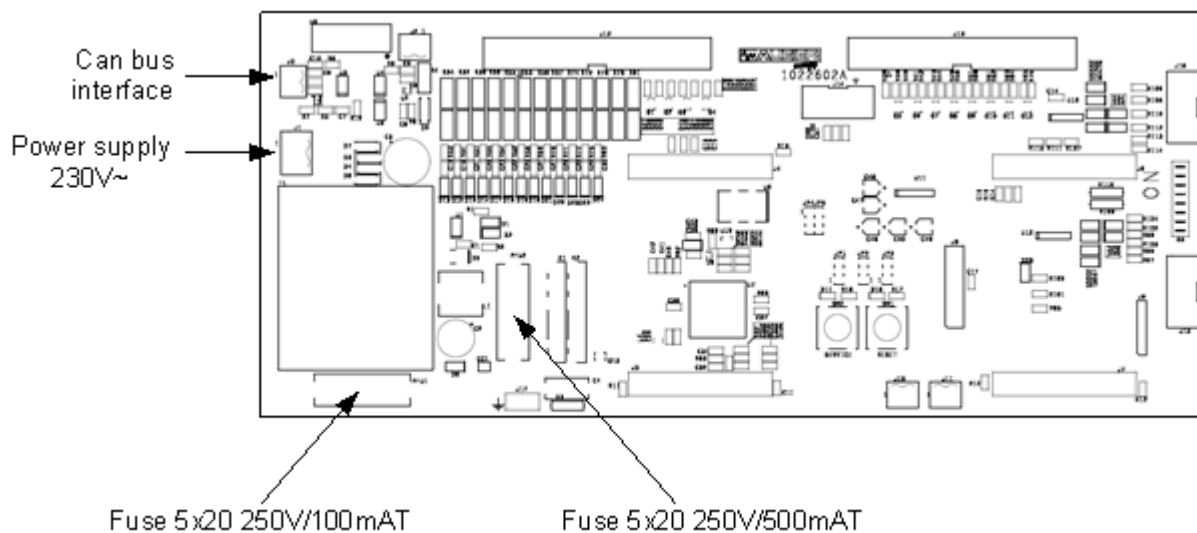
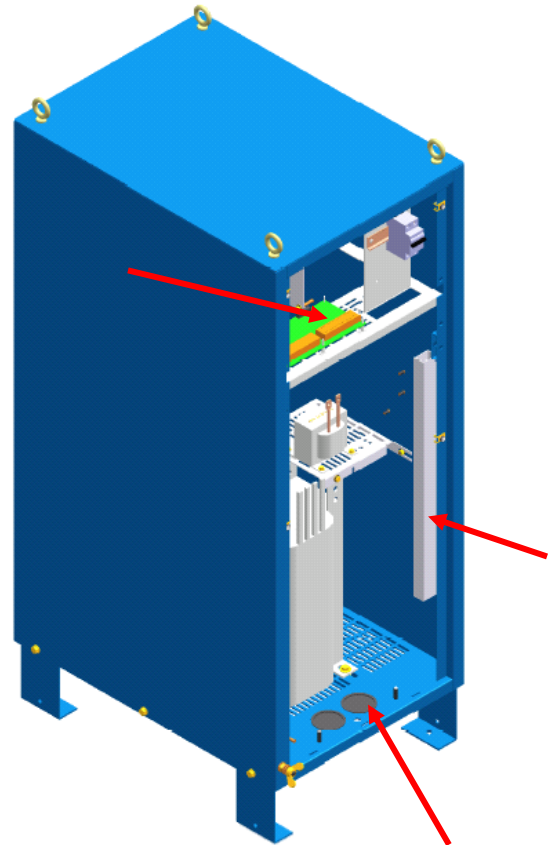


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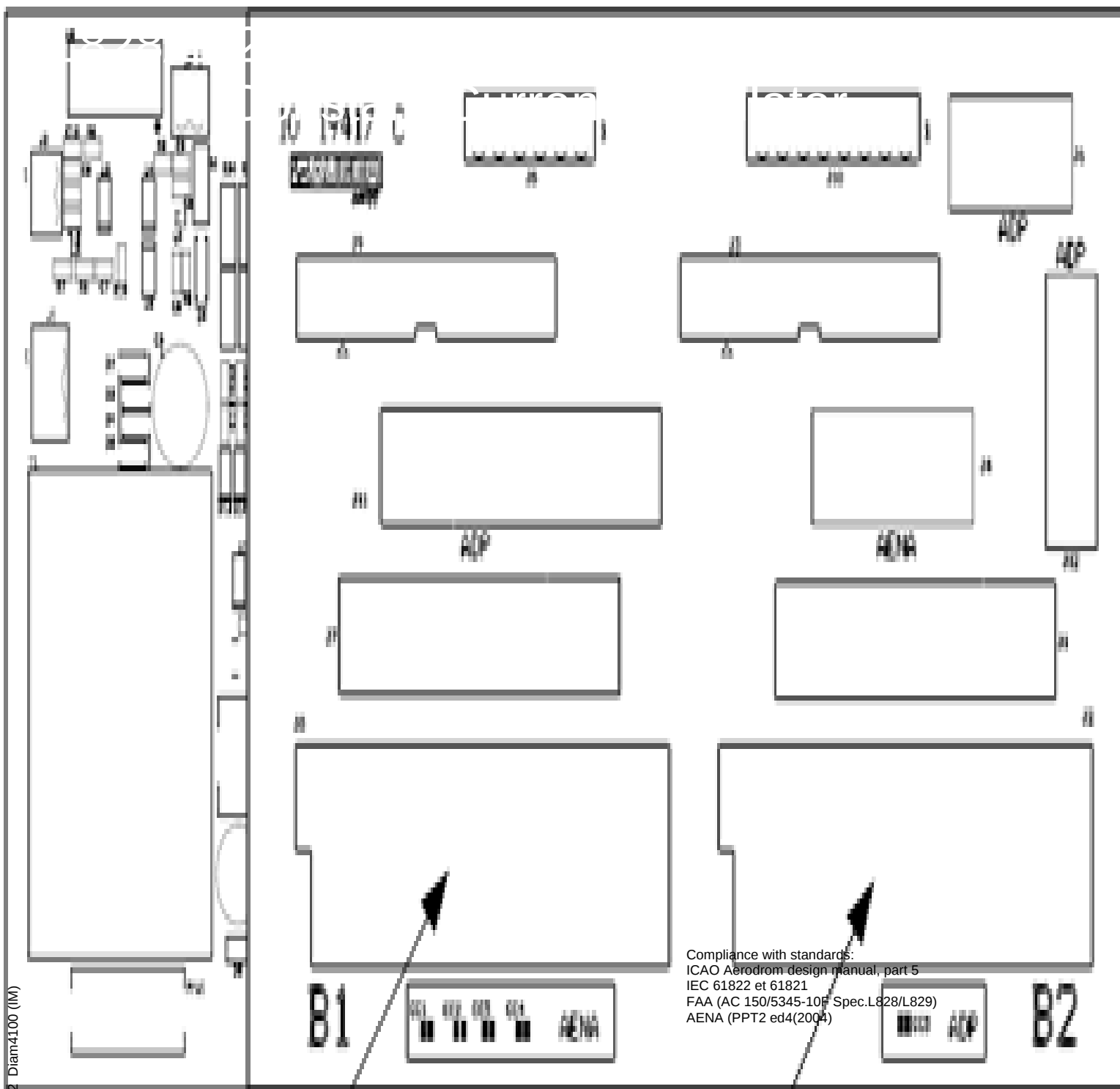
II.2.2 REMOTE CONTROL CONNECTIONS

Connections to the control system is made at the back of the CCR, on terminal bloc provided on the interface board (FAA or IEC type). If the cable is screened, connect the shield only on 1 side, to the frame or at controller's ground terminal.

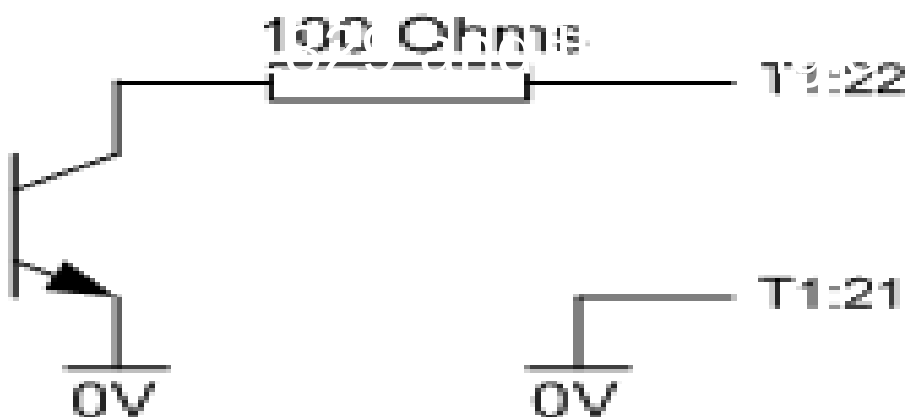
The control cables run from beneath the frame in the right duct, and have to be connected to interface board laid on the LV unit.



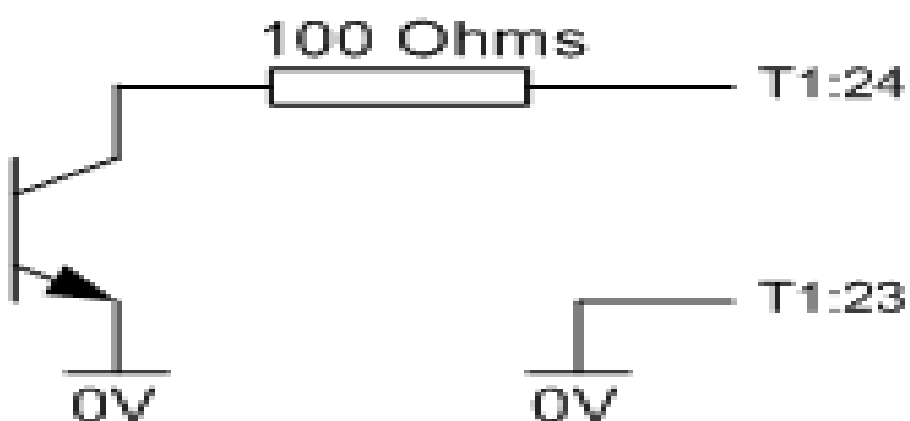
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$U_{maxi} = 60V$
 $I_{maxi} = 150mA$



$U_{maxi} = 60V$
 $I_{maxi} = 150mA$

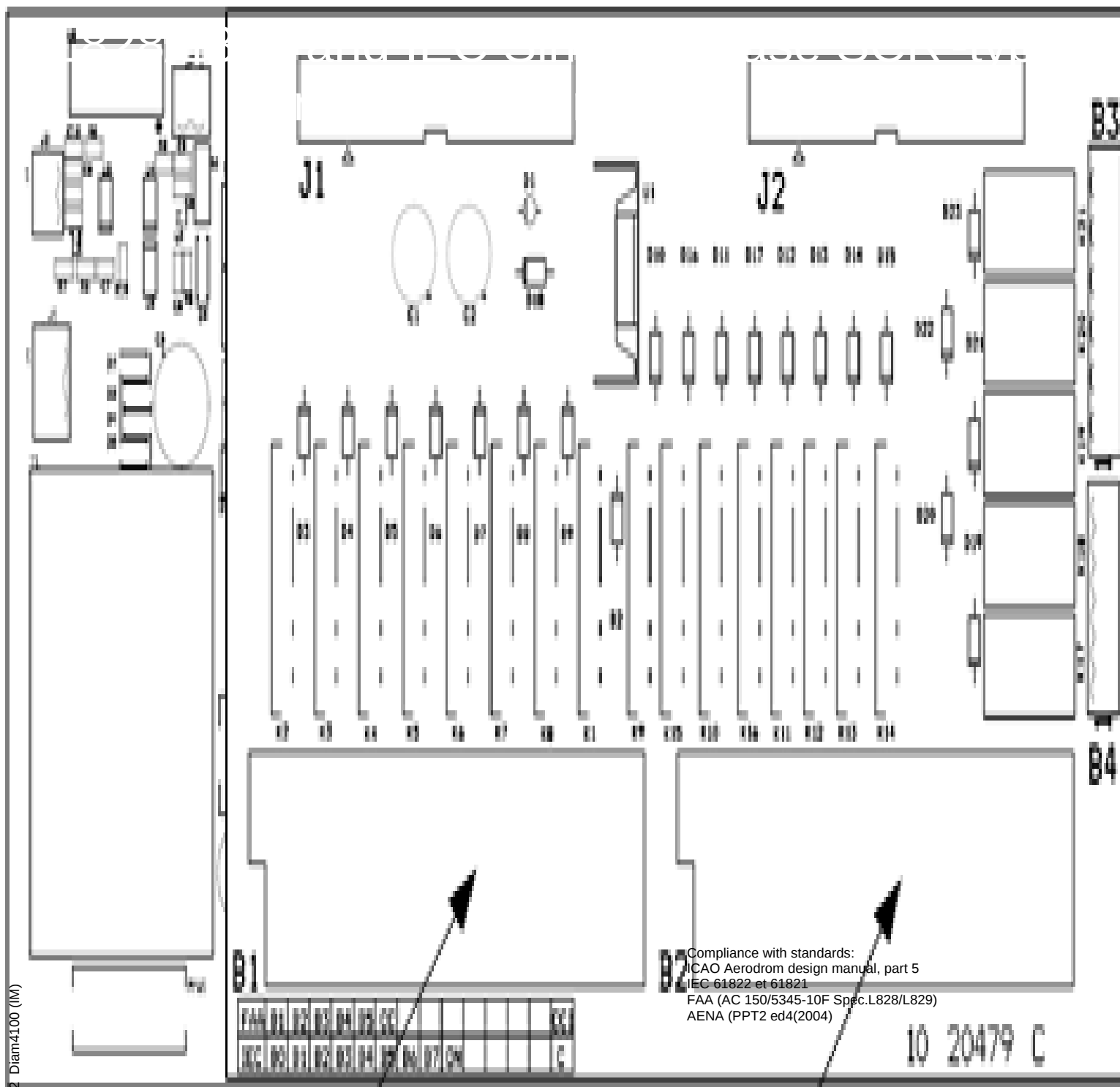
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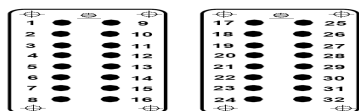


$U_{maxi} = 60V$
 $I_{maxi} = 150mA$

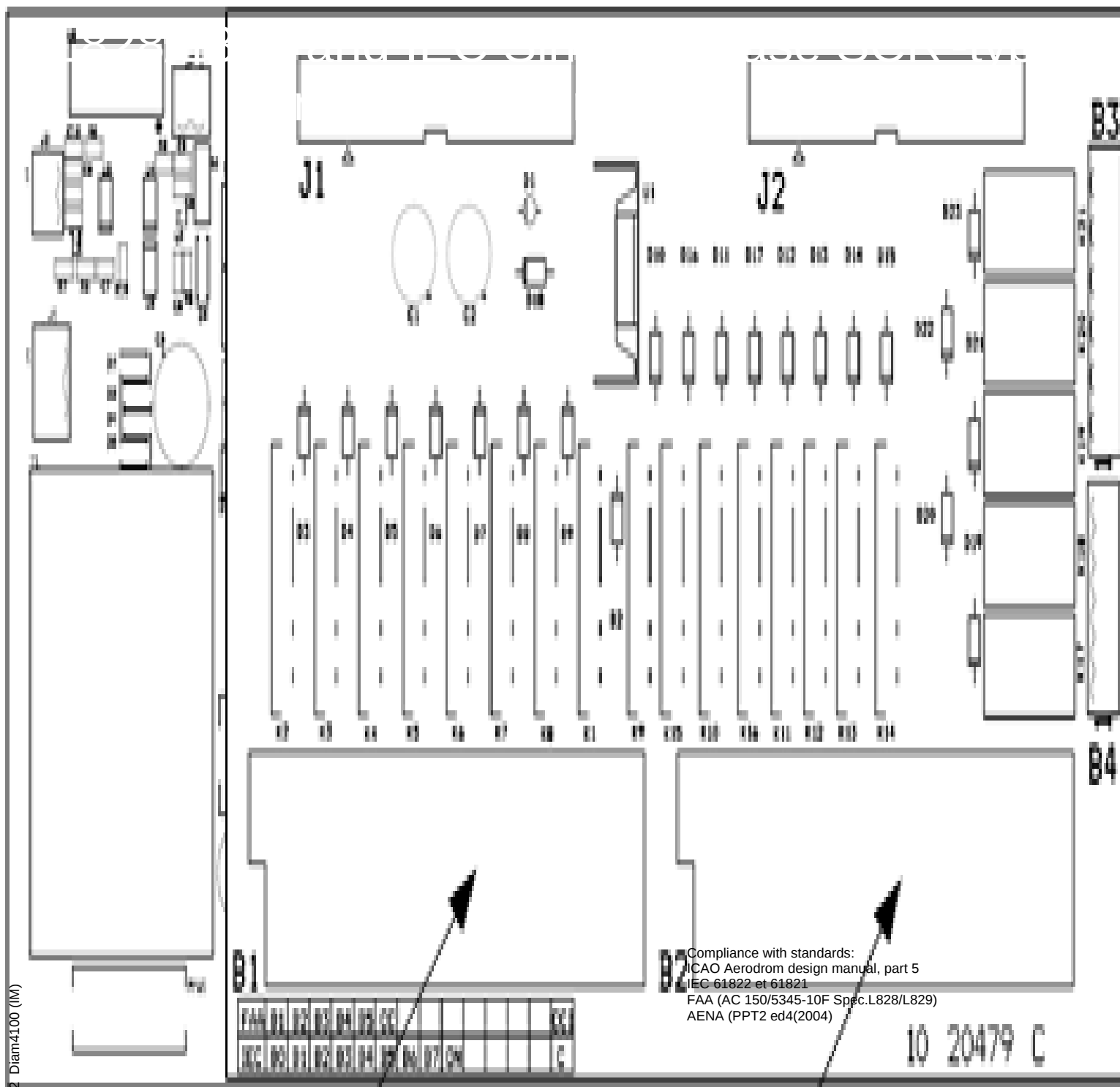
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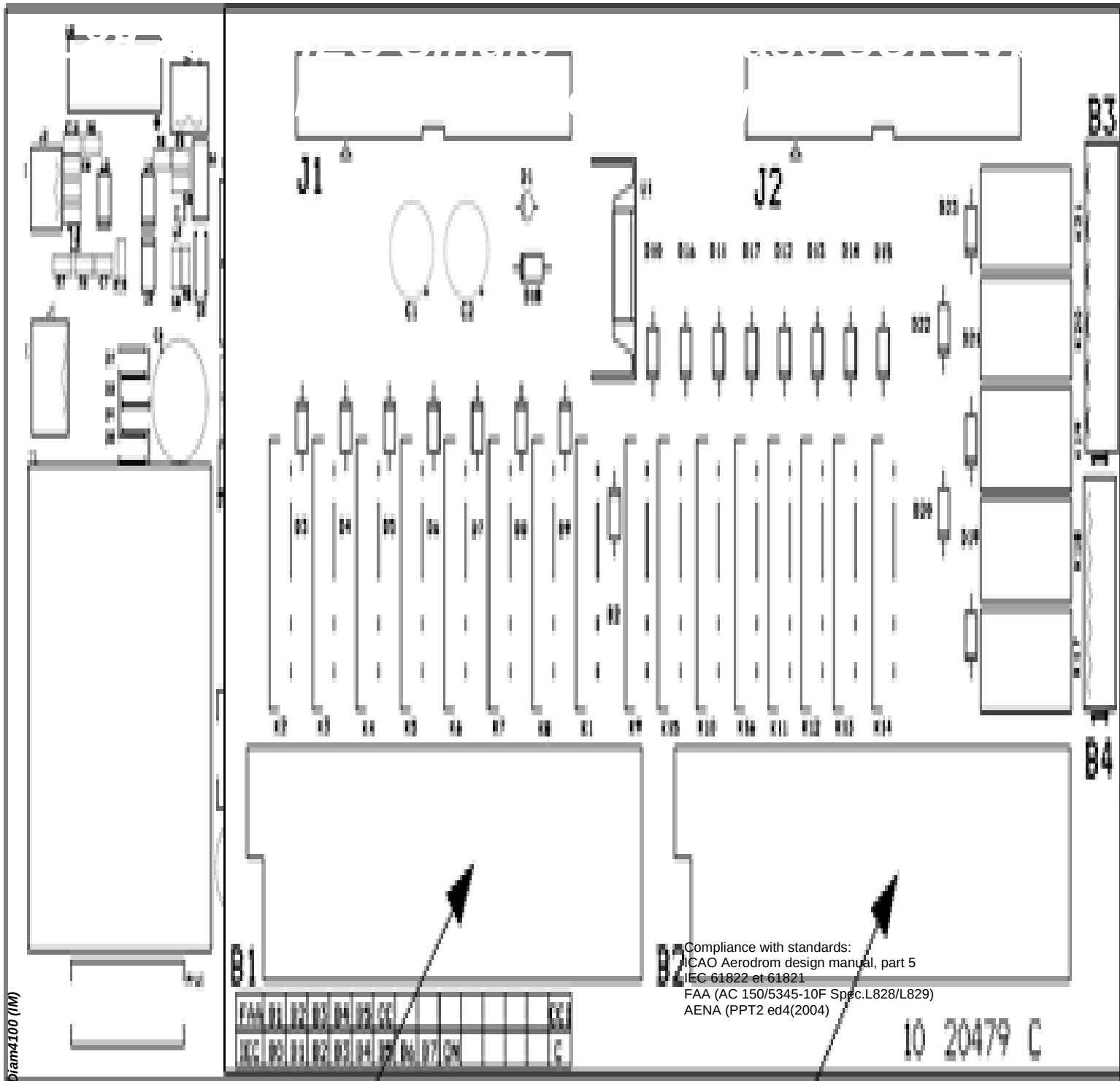


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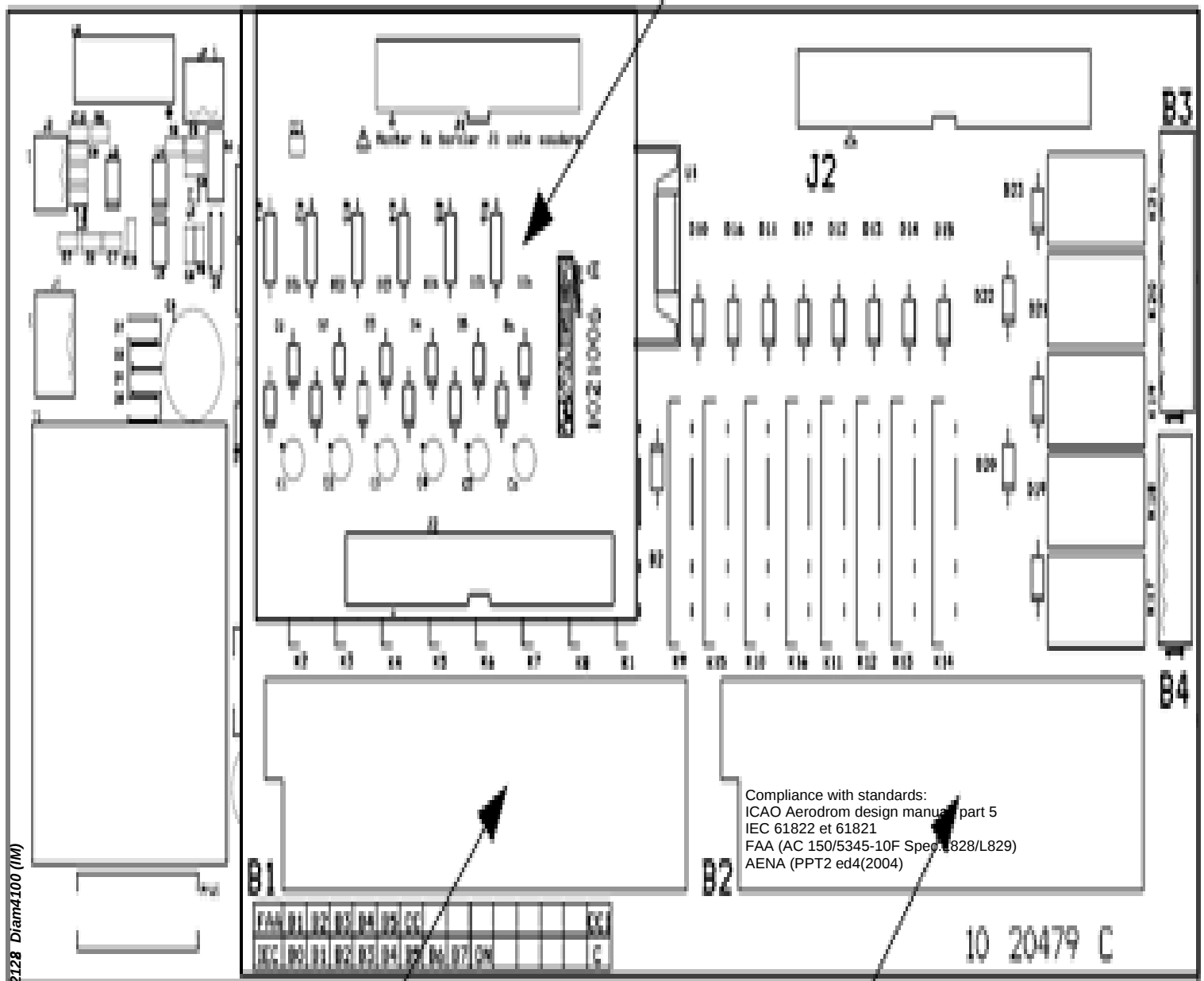


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120VAC interface board





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Fig 1

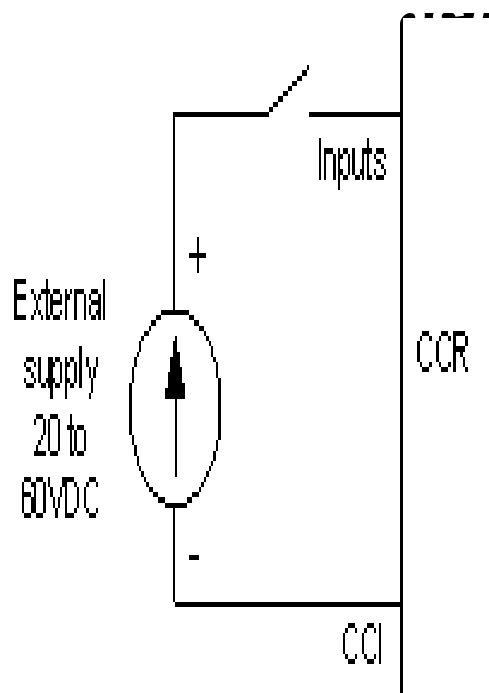


Fig 2

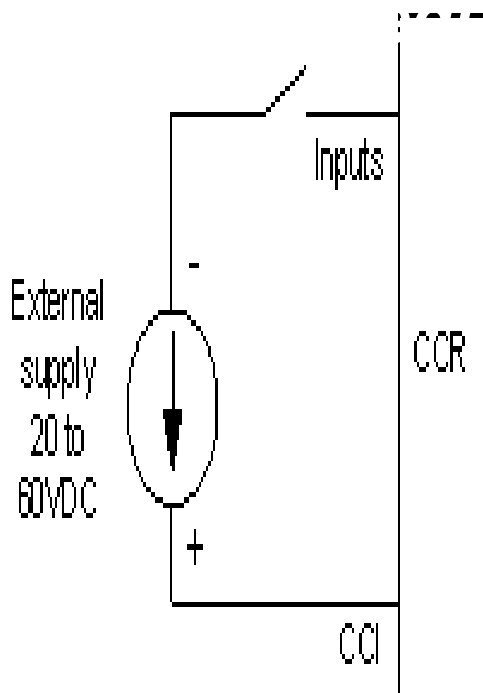


Fig 3

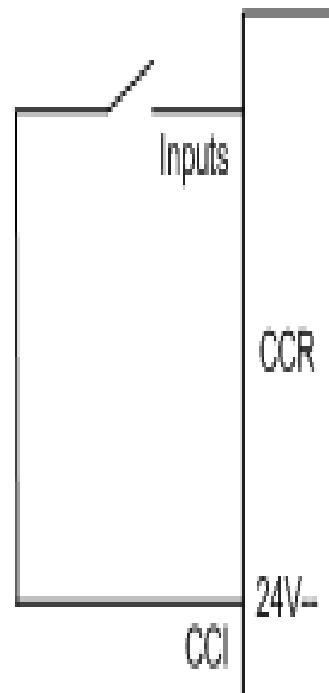


Fig 4

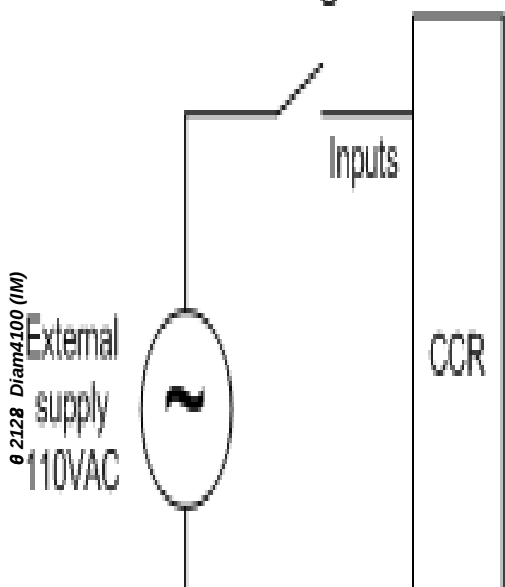
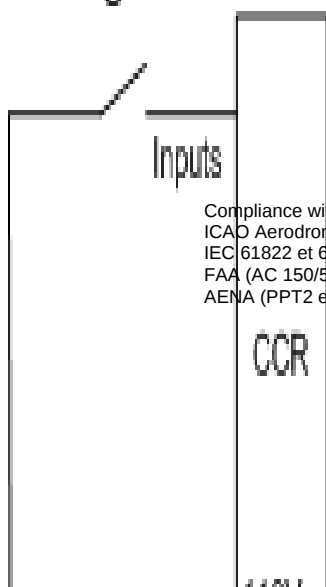
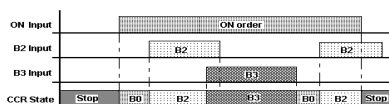


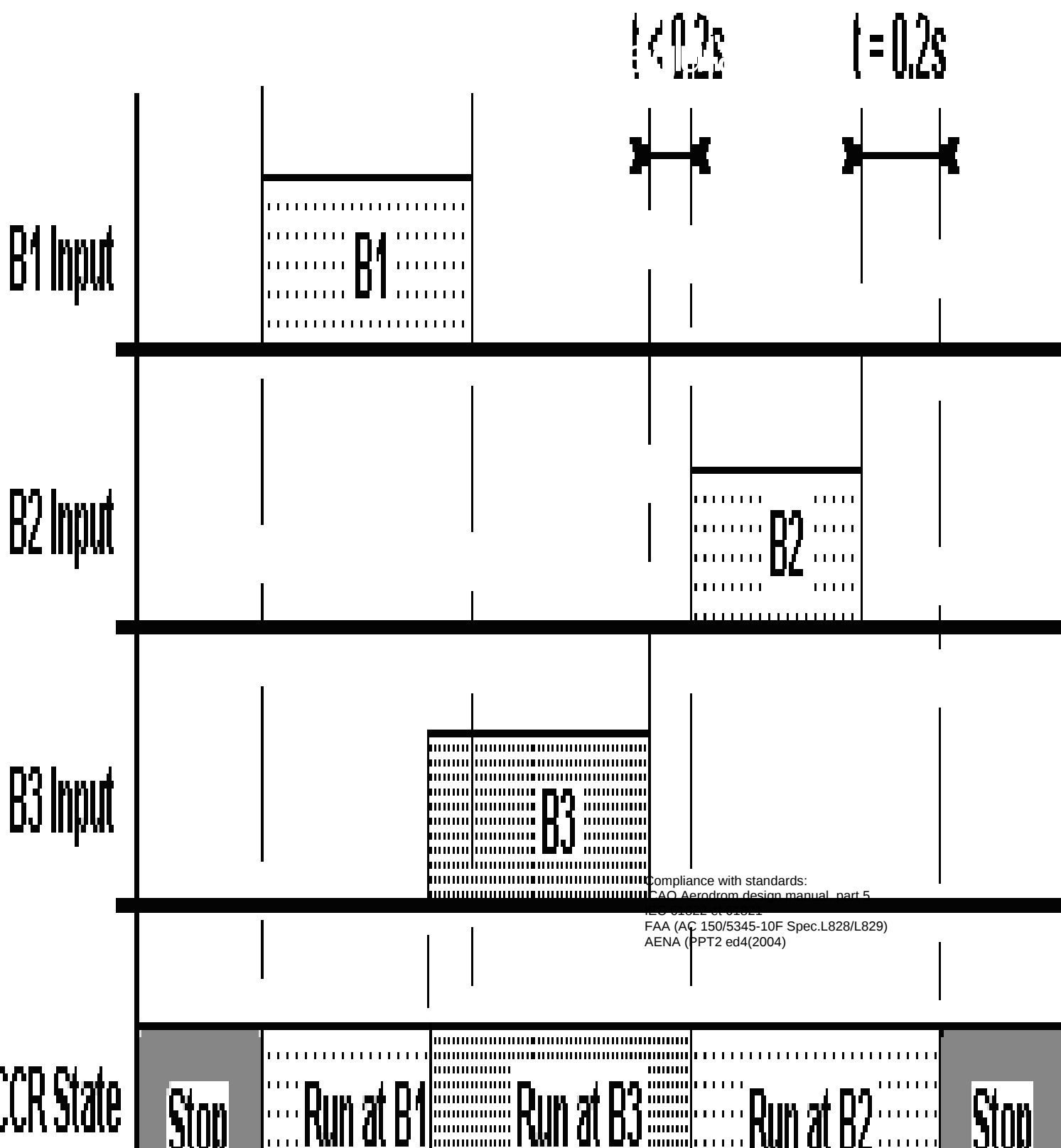
Fig 5



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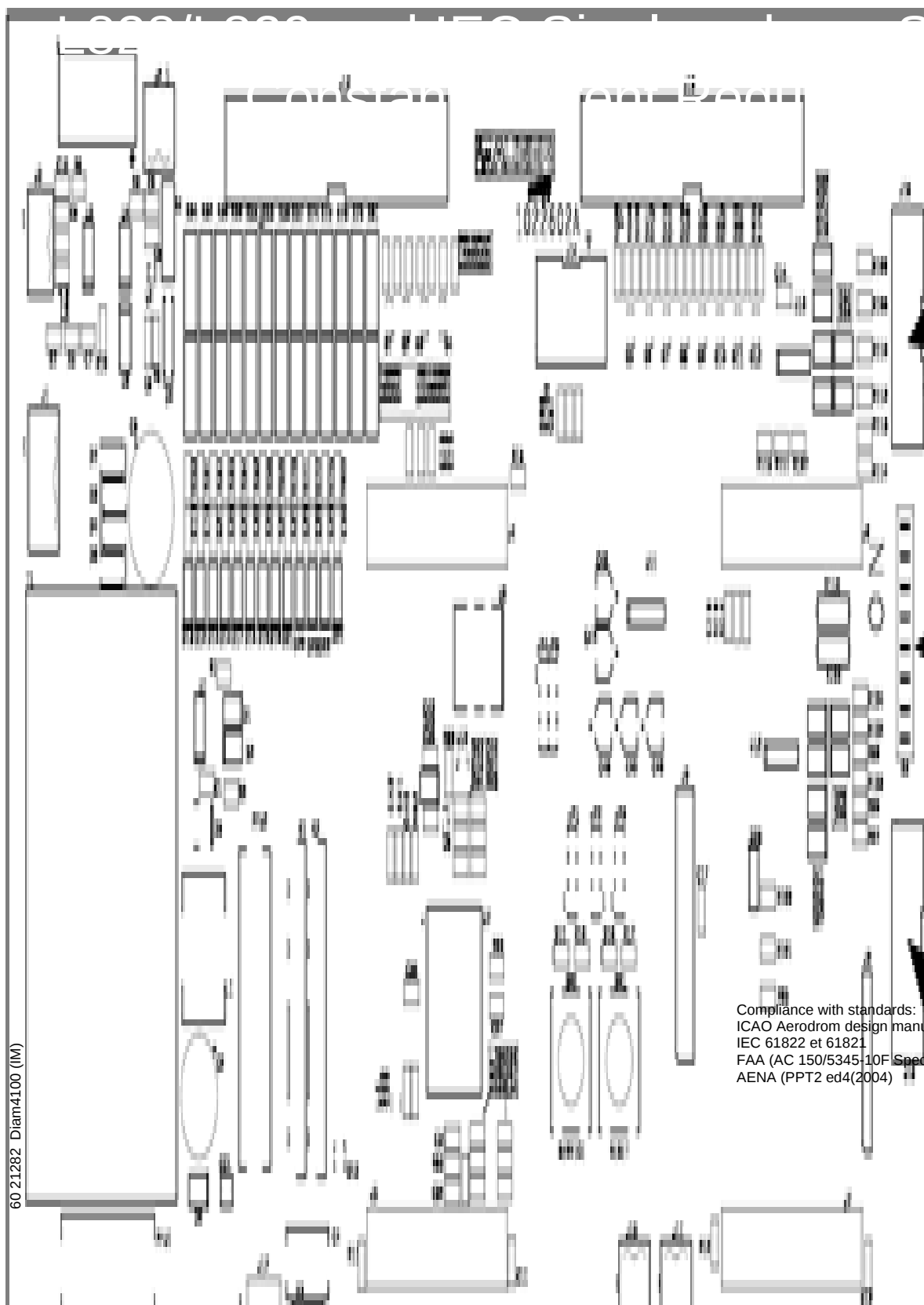


MULTI
ELECTRIC

OCEM® group

Installation & maintenance

DIAM 4100



RS485/RS422
serial link 2

Link 1 & Link 2
configuration

Compliance with standards:
ICAO Aerodrom design manual, part 5
IEC 61822 et 61821
FAA (AC 150/5345-10F Spec L828/L829)
AENA (PPT2 ed4(2004))

RS485/RS422



Installation & maintenance

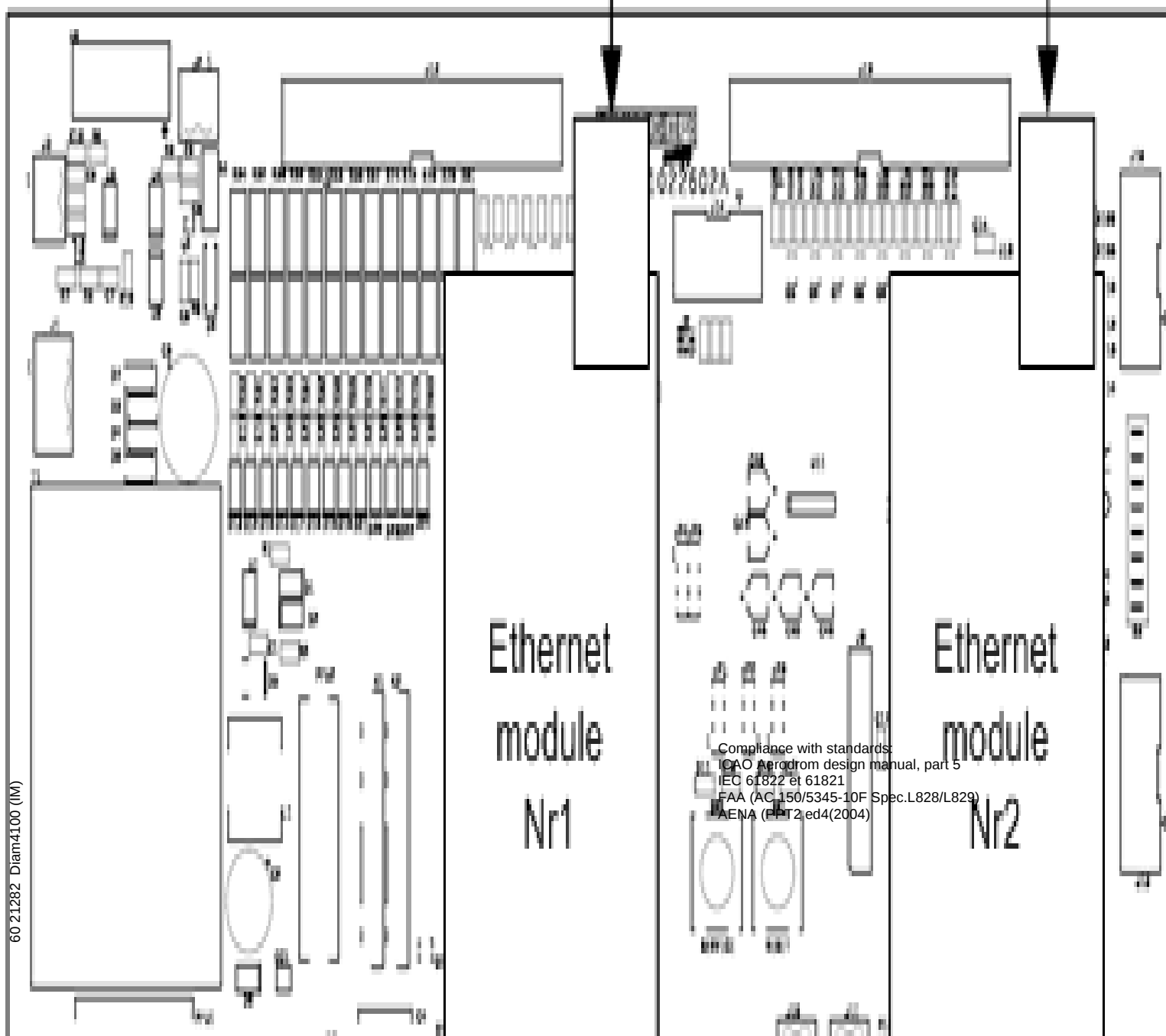
DIAM 4100

Compliance with standards:
ICAO Aerodrom design manual, part 5
IEC 61822 et 61821
FAA (AC 150/5345-10F Spec.L828/L829)
AENA (PPT2 ed4(2004))

DIAM 4100

Ethernet link Nr1

Ethernet link Nr2



Ethernet
module
Nr1

Ethernet
module
Nr2

Compliance with standards:
ICAO Aerodrom design manual, part 5
IEC 61822 et 61821
FAA (AC 150/5345-10F Spec.L828/L829)
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II.2.2 REMOTE CONTROL CONNECTIONS

Connections to the control system is made at the back of the CCR, on terminal bloc provided on the interface board (FAA or IEC type). If the cable is screened, connect the terminal.

The control cables run from beneath the frame in the right duct, and have to be connected to interface board laid on the LV unit.



