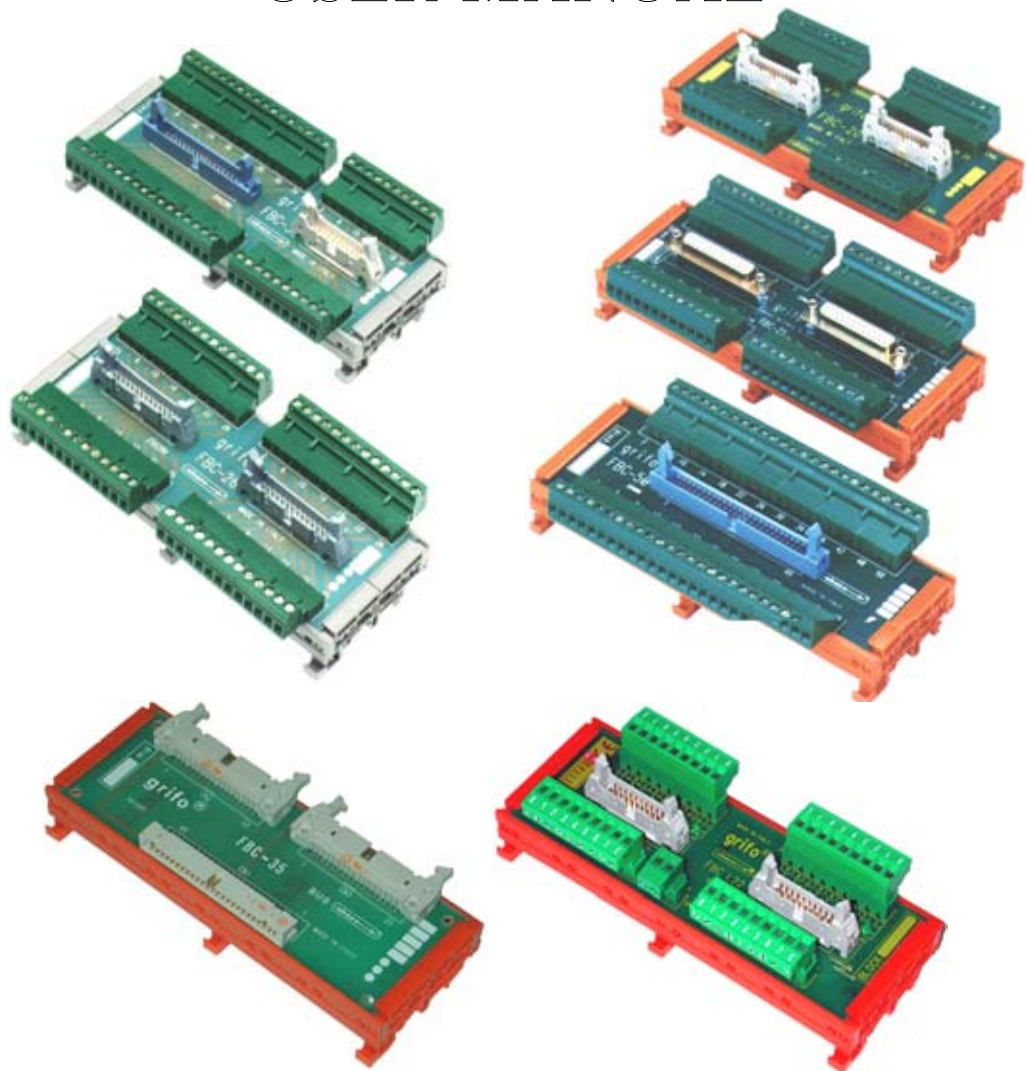


FBC 20	FBC L22
FBC 25	FBC 26
FBC 34/L34	FBC 234
FBC 35	FBC 50

Flat BLOCK Contact - Double step

USER MANUAL



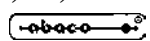
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FBC 20, L22, 25, 26, 34/L34, 234, 35, 50 Rel. 5.00 Edizione 28 July 2003

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FBC 20	FBC L22
FBC 25	FBC 26
FBC 34/L34	FBC 234
FBC 35	FBC 50
Flat BLOCK Contact - Double step	

USER MANUAL

FBC 20/L22 Flat BLOCK Contact 20 pins

Interface between two low profile connectors (20 pins male) and field wiring (quick release screw terminal connectors). Version L22 is provided with LEDs that visualize line states on 20 pin connectors. Suitable for DIN 46277-1 and 3 rails.

FBC 25 Flat BLOCK Contact 25 pins

Interface between two DB type connectors (25 pins female) and field wiring (quick release screw terminal connectors). Suitable for DIN 46277-1 and 3 rails.

FBC 26 Flat BLOCK Contact 26 pins

Interface between two low profile connectors (26 pins male) and field wiring (quick release screw terminal connectors). Suitable for DIN 46277-1 and 3 rails.

FBC 34/L34 Flat BLOCK Contact 34 pins

Interface between two low profile connectors (one 20 pins male and one 34 pins male) and field wiring (quick release screw terminal connectors). Version L34 is provided with LEDs that visualize line states on 20 pin connector. Suitable for DIN 46277-1 and 3 rails.

FBC 234 Flat BLOCK Contact 2 x 34 pins

Interface between two low profile connectors (34 pins male) and field wiring (quick release screw terminal connectors). Suitable for DIN 46277-1 and 3 rails.

FBC 35 Flat BLOCK Contact 34 pins

Interface between two low profile connectors (34 pins male) and field wiring (quick release screw terminal connectors). Suitable for DIN 46277-1 and 3 rails..

FBC 50 Flat BLOCK Contact 50 pins

Interface between two low profile connectors (50 pins male) and field wiring (quick release screw terminal connectors). Suitable for DIN 46277-1 and 3 rails.

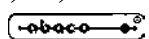
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FBC 20, L22, 25, 26, 34/L34, 234, 35, 50 Rel. 5.00 Edizione 28 July 2003

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Although all the information contained herein have been carefully verified, **grifo®** assumes no responsibility for errors that might appear in this document, or for damage to things or persons resulting from technical errors, omission and improper use of this manual and of the related software and hardware.

grifo® reserves the right to change the contents and form of this document, as well as the features and specification of its products at any time, without prior notice, to obtain always the best product.

For specific informations on the components mounted on the card, please refer to the Data Book of the builder or second sources.

SYMBOLS DESCRIPTION

In the manual could appear the following symbols:

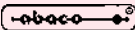


Attention: Generic danger



Attention: High voltage

Trade Marks

, **GPC®**, **grifo®** : are trade marks of **grifo®**.

Other Product and Company names listed, are trade marks of their respective companies.

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INTRODUCTION

The use of these devices has turned - IN EXCLUSIVE WAY - to specialized personnel.

The purpose of this handbook is to give the necessary information to the cognizant and sure use of the products. They are the result of a continual and systematic elaboration of data and technical tests saved and validated from the manufacturer, related to the inside modes of certainty and quality of the information.

The reported data are destined- IN EXCLUSIVE WAY- to specialized users, that can interact with the devices in safety conditions for the persons, for the machine and for the environment, impersonating an elementary diagnostic of breakdowns and of malfunction conditions by performing simple functional verify operations , in the height respect of the actual safety and health norms.

The informations for the installation, the assemblage, the dismantlement, the handling, the adjustment, the reparation and the contingent accessories, devices etc. installation are destined - and then executable - always and in exclusive way from specialized warned and educated personnel, or directly from the TECHNICAL AUTHORIZED ASSISTANCE, in the height respect of the manufacturer recommendations and the actual safety and health norms.

The devices can't be used outside a box. The user must always insert the cards in a container that respect the actual safety normative. The protection of this container is not threshold to the only atmospheric agents, but specially to mechanic, electric, magnetic, etc. ones.

To be on good terms with the products, is necessary guarantee legibility and conservation of the manual, also for future references. In case of deterioration or more easily for technical updates, consult the AUTHORIZED TECHNICAL ASSISTANCE directly.

To prevent problems during card utilization, it is a good practice to read carefully all the informations of this manual. After this reading, the user can use the general index and the alphabetical index, respectly at the begining and at the end of the manual, to find information in a faster and more easy way.

CARD VERSION

The present handbook is reported to **FBC** card release:

FBC 20: 130297	FBC 25: 220888	FBC 26: 250289	FBC 34: 130495
FBC 234: 130297	FBC L34: 220888	FBC 35: 031089	FBC 50: 220888

The validity of the bring informations is subordinate to the number of the card release.

The user must always verify the correct correspondence among the two denotations.

On the card the release number is present in more points both board printed diagram (serigraph) and printed circuit.

GENERAL INFORMATION

FBC (Flat **B**LOCK Contact) are **BLOCK** type modules, they allow to interface and arrange the signals from flat-cable connectors and the field wiring in the most efficient way.

Arranges signals are available from quick release screw terminal connectors.

To ease the use of these modules, an univocal correspondance between pins of quick release screw terminal connectors and other connectors has been decided.

FBC modules have been designed to make easier the electric panels wiring but also to be used in laboratories.

In fact, during test phases it is often required to interface signals available on flat-cables directly with circuits to test.

In general, **FBC** allow to reach all signals available from **ABACO**® industrial listing boards' flat cables.

To ease the recognition of the several modules installed in the electric panel, and to locate them faster in the electric diagram, it is possible to put an identification number directly on the **BLOCK** module. In fact the serigraph features a label, preceded by **BLOCK** denomination, where the user can write any kind of identification string.

This feature of **ABACO**® **BLOCK** serie denotes the care used by **grifo**® in examining electric panels installation practical problems of one's users.

Another serigraph contains the five figures **BLOCK** serial number and the three circles indicating the operational tests that the module has overcome successfully.

Modules are provided with isolating support for omega rails type **DIN 46277-1** and **46277-3** installation.

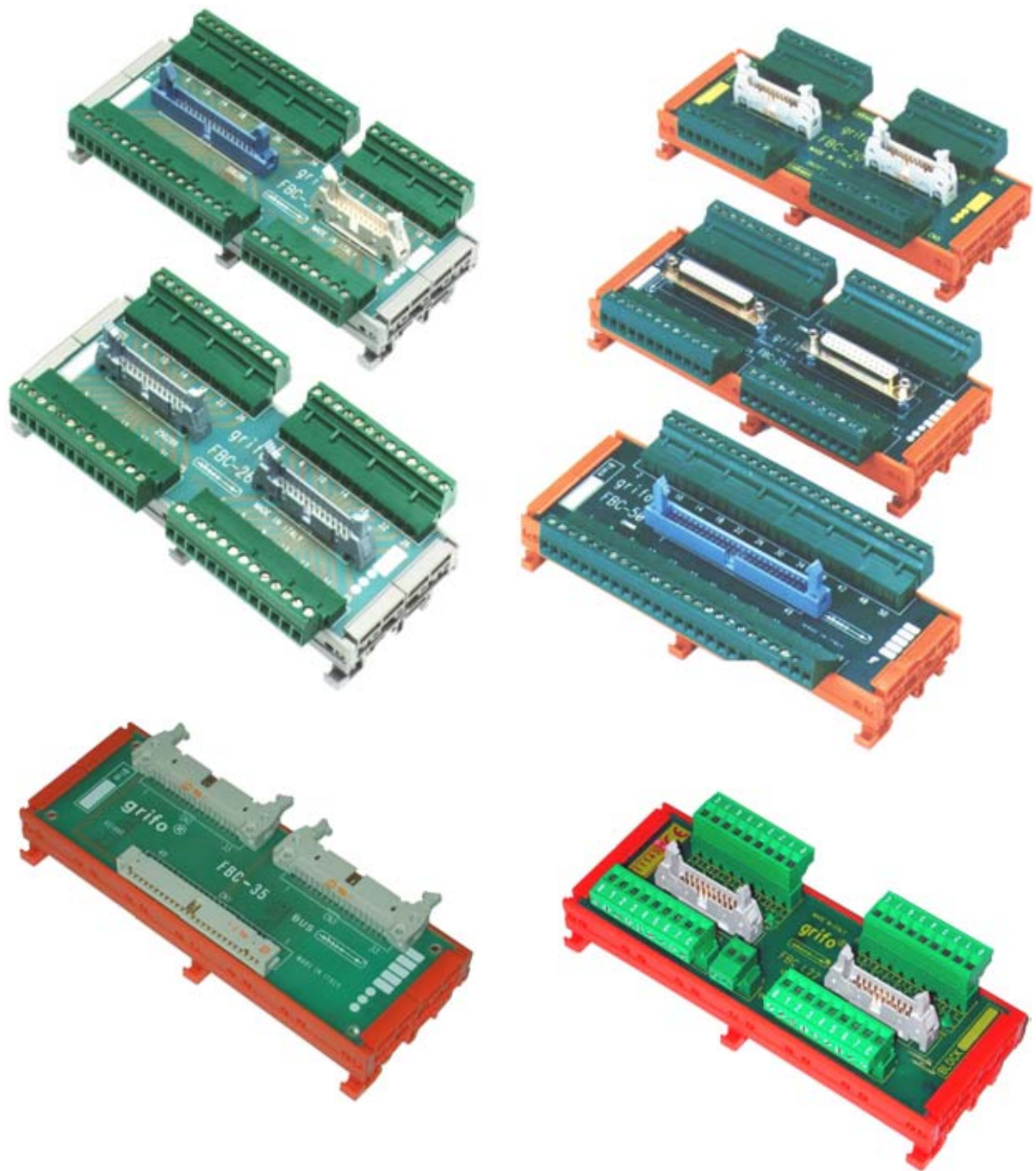


FIGURE 1: PHOTO OF SEVERAL FBC (NOT TYPE L)

TECHNICAL FEATURES OF FBC 20

GENERAL FEATURES

Best use: Arrange the signals of a standard **ABACO®** connector, like, for example **I/O ABACO®** or **A/D ABACO®**, to a quick release screw terminal connector.

PHISICAL FEATURES

Size: 168 x 83 x 41 mm

Weight: 160 g

Connectors:

- CN1: low profile 20 pins, straight, male
- CN2: low profile 20 pins, straight, male
- CN3: quick release screw terminal, 10 pins, 90 degreeses, male
- CN4: quick release screw terminal, 10 pins, 90 degreeses, male
- CN5: quick release screw terminal, 10 pins, 90 degreeses, male
- CN6: quick release screw terminal, 10 pins, 90 degreeses, male

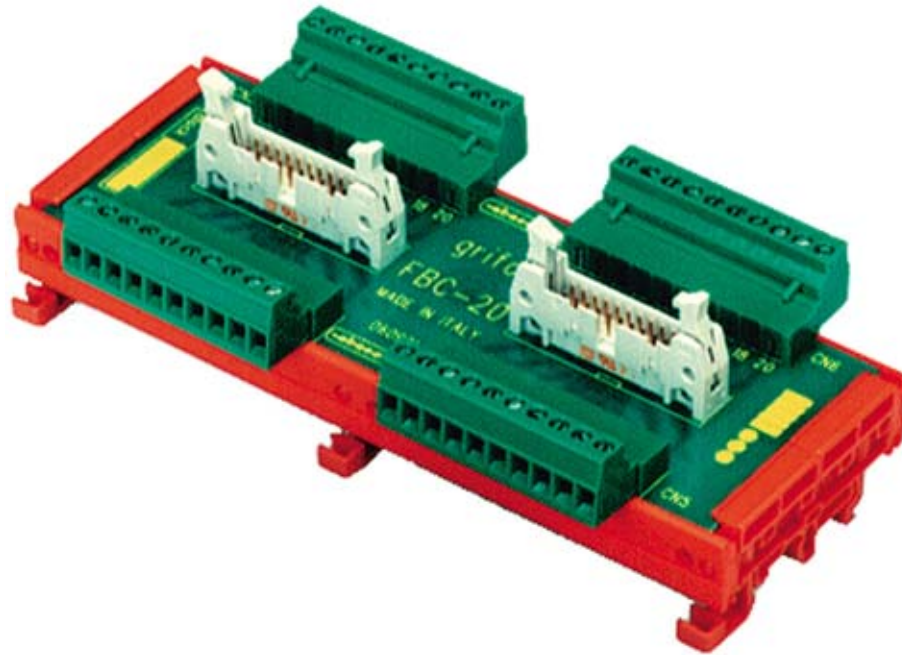


FIGURE 2: PHOTO OF AN FBC 20 PROVIDED WITH BLOCK CONTAINER

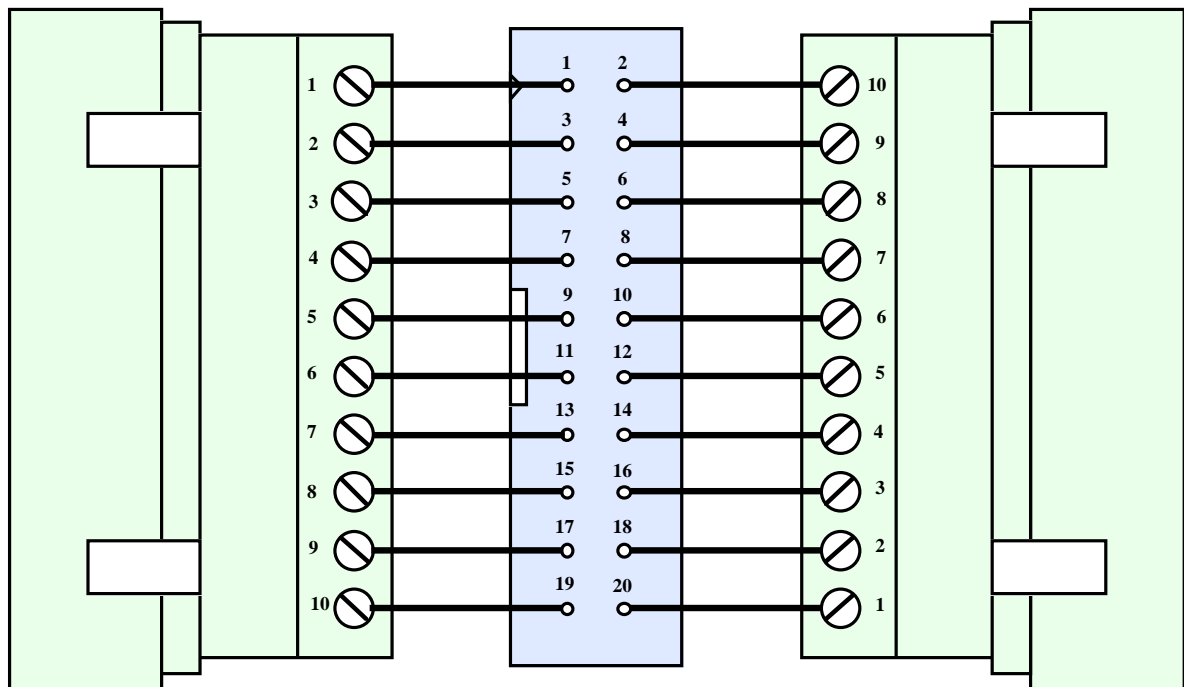


FIGURE 3: FBC 20 CONNECTION DIAGRAM

TECHNICAL FEATURES OF FBC L22

GENERAL FEATURES

Best use: Arrange the signals of a standard **ABACO**[®] connector, like, for example 16 optocoupled inputs of **CI/O-01**, **CI/O-02**, **CI/O-T16**, **CI/O-R16**, or section 1 of **PCI 01** and visualize them. Signals naming is compliant to standard **grifo**[®].

PHISICAL FEATURES

Size: 168 x 83 x 41 mm

Weight: 163 g

Connectors:

- CN1: low profile 20 pins, straight, male
- CN2: low profile 20 pins, straight, male
- CN3: quick release screw terminal, 9 pins, 90 degrees, male
- CN4: quick release screw terminal, 9 pins, 90 degrees, male
- CN5: quick release screw terminal, 9 pins, 90 degrees, male
- CN6: quick release screw terminal, 9 pins, 90 degrees, male

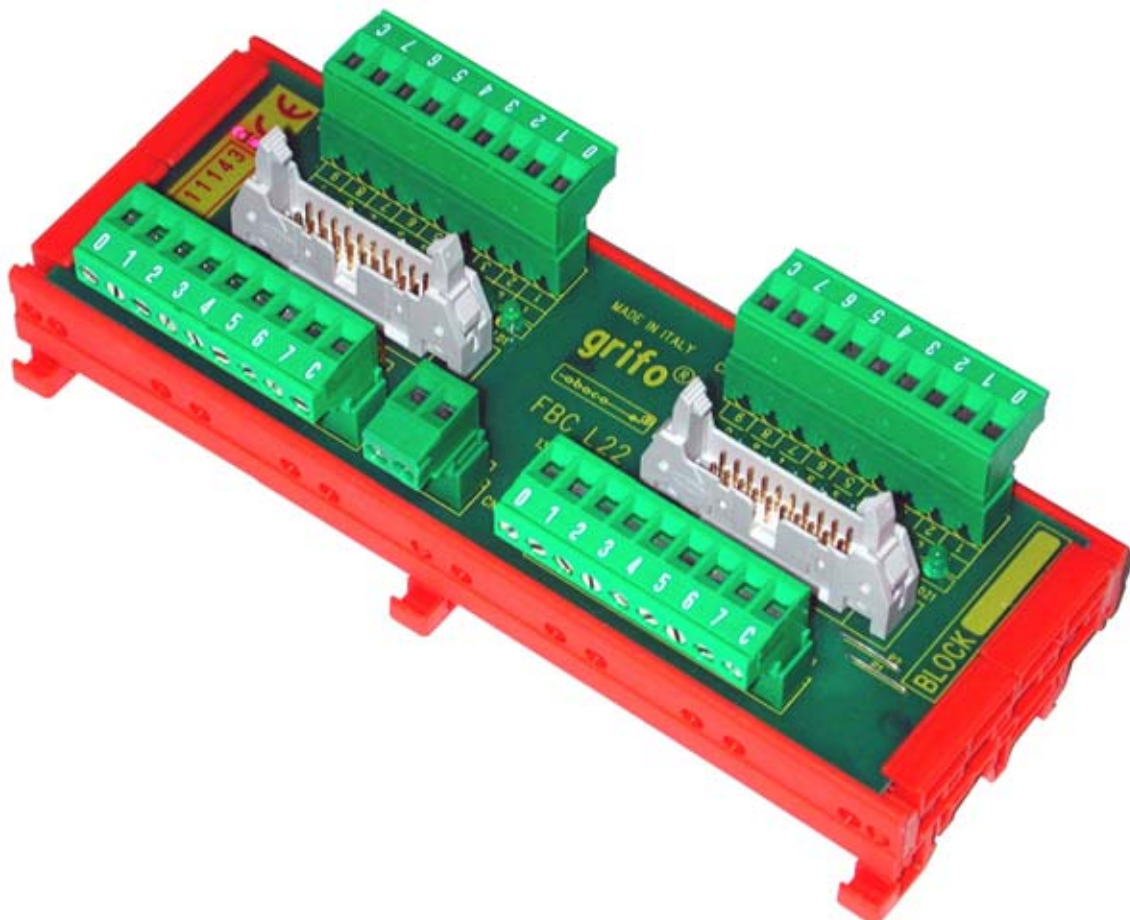


FIGURE 4: PHOTO OF FBC L22 PROVIDED WITH BLOCK CONTAINER

CN1 - INTERFACE FOR OPTOCOUPLED INPUTS, SECTION 1

CN1 allows to interface directly to optocoupled inputs of **CI/O-01, CI/O-02, CI/O-T16, CI/O-R16**, or to section 1 of **PCI 01**.

Above mentioned signals are available on quick release screw terminal connectors CN3, CN4 and CN7, to interface the field signals comfortably.

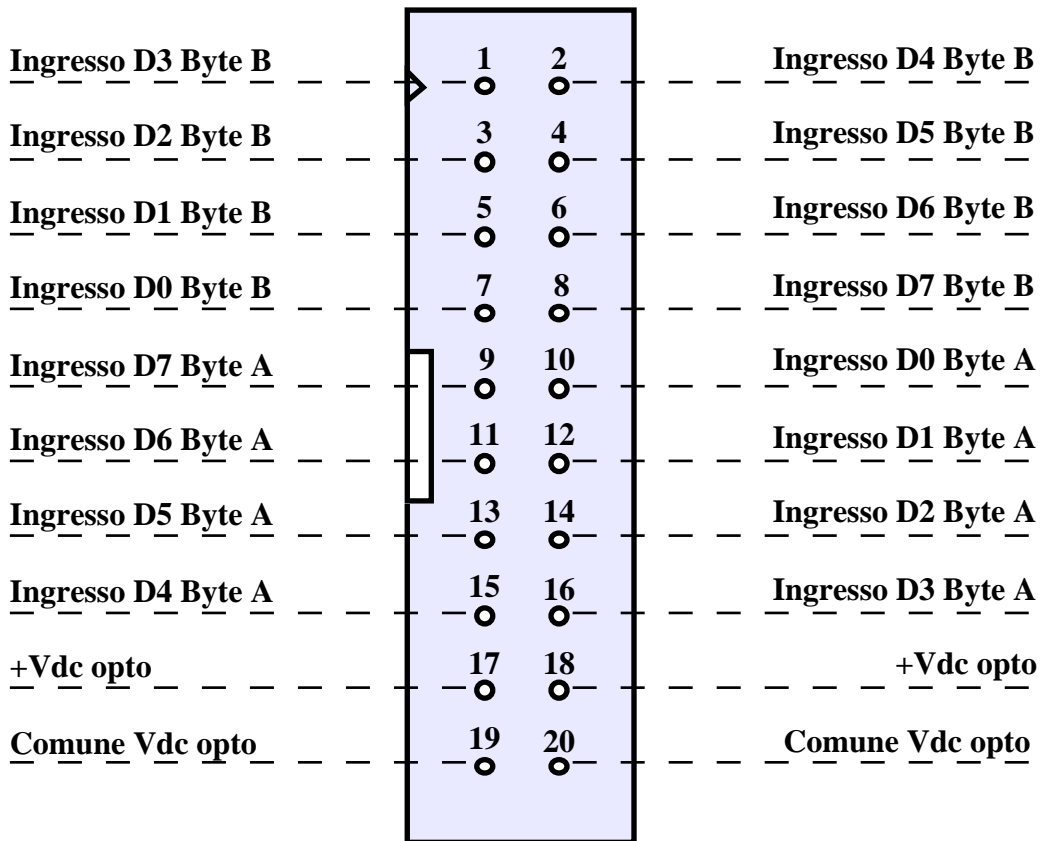


FIGURE 5: CN1 - INTERFACE TO OPTOCOUPLED INPUTS, SECTION 1

Signals description:

- Input Dn Byte A = I - Open collector NPN input connected to n-th signal of Byte A.
- Input Dn Byte B = I - Open collector NPN input connected to n-th signal of Byte B.
- +Vdc opto = - Positive terminal of inputs power supply.
- Common Vdc opto = - Common terminal of inputs power supply.

CN3 - CONNECTOR FOR OPTOCOUPLED INPUTS OF BYTE B, SECTION 1

CN3 is a 9 pins quick release screw terminal connector. It allows to connect 8 out of 16 NPN optocoupled inputs of section 1, in details the ones connected to Byte B.

Connector features open collector optocoupled inputs; power supply for inputs must be provided through CN7.

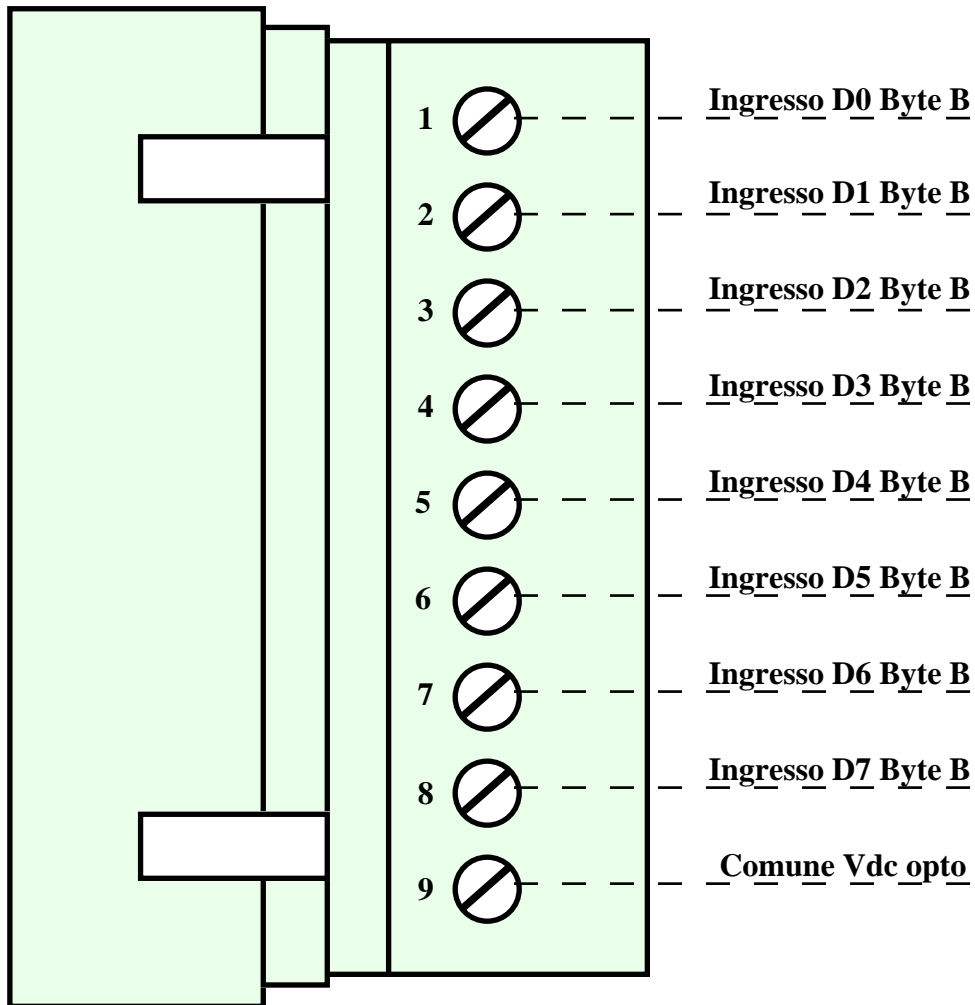


FIGURE 6: CN3 - CONNECTOR FOR OPTOCOUPLED INPUTS BYTE B, SECTION 1

Signals description:

Ingresso Dn Byte B = I - Open collector NPN input connected to n-th signal of Byte B.
 Comune Vdc opto = - Common terminal of inputs power supply.

CN4 - CONNECTOR FOR OPTOCOUPLED INPUTS OF BYTE A, SECTION 1

CN4 is a 9 pins quick release screw terminal connector.

It allows to connect 8 out of 16 NPN optocoupled inputs of section 1, in details the ones connected to Byte A.

Connector features open collector optocoupled inputs; power supply for inputs must be provided through CN7.

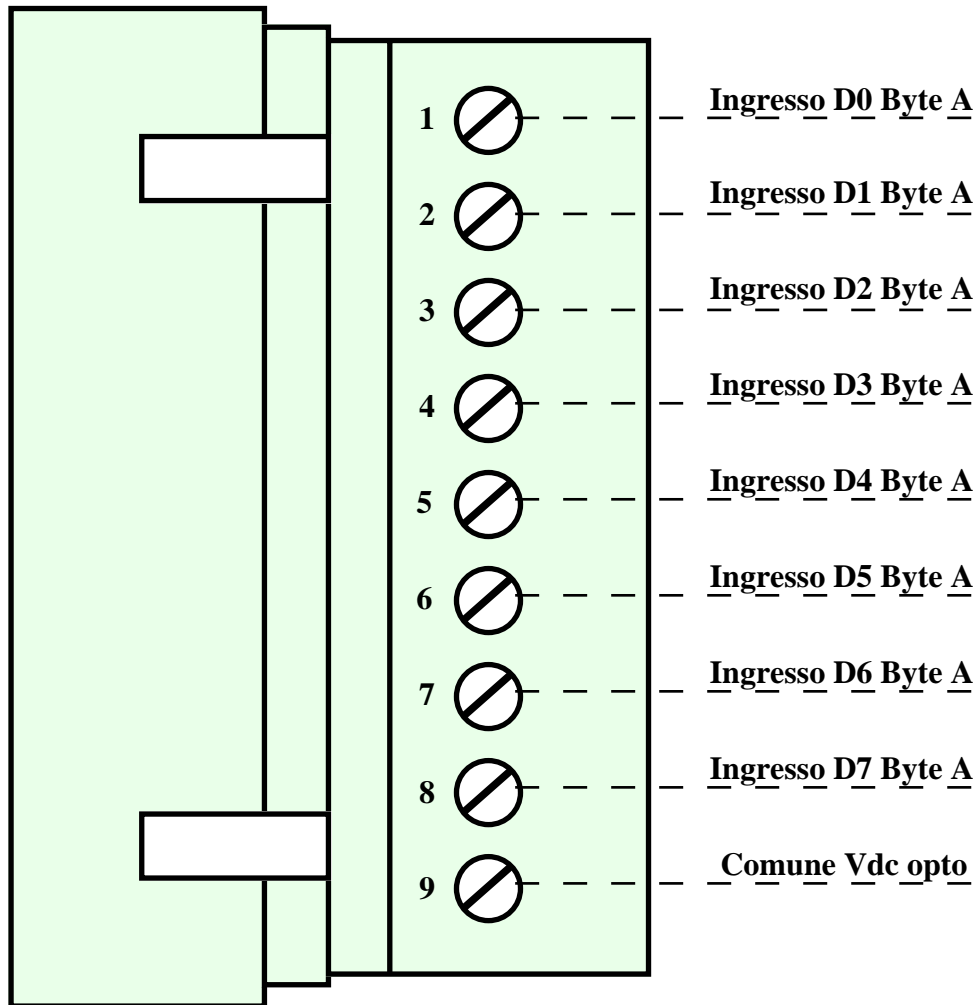


FIGURE 7: CN4 - CONNECTOR FOR OPTOCOUPLED INPUTS BYTE A, SEZIONE 1

Signals description:

Ingresso Dn Byte A = I - Open collector NPN input connected to n-th signal of Byte A.
 Comune Vdc opto = - Common terminal of inputs power supply.

CN2 - INTERFACE FOR OPTOCOUPLED INPUTS, SECTION 2

CN2 allows to interface directly to optocoupled inputs of **CI/O-01, CI/O-02, CI/O-T16, CI/O-R16**, or to section 1 of **PCI 01**.

Above mentioned signals are available on quick release screw terminal connectors CN3, CN4 and CN7, to interface the field signals comfortably.

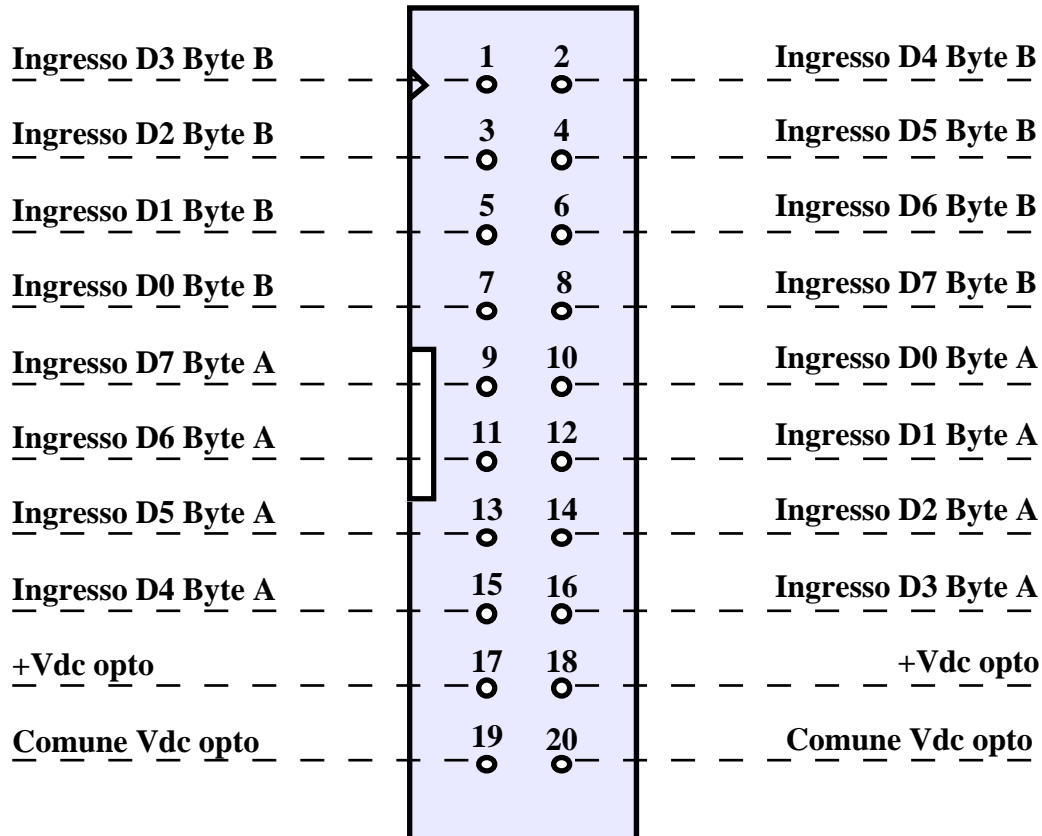


FIGURE 8: CN2-INTERFACE TO OPTOCOUPLED INPUTS, SECTION 2

Signals description:

- Input Dn Byte A = I - Open collector NPN input connected to n-th signal of Byte A.
- Input Dn Byte B = I - Open collector NPN input connected to n-th signal of Byte B.
- +Vdc opto = - Positive terminal of inputs power supply.
- Common Vdc opto = - Common terminal of inputs power supply.

CN5 - CONNECTOR FOR OPTOCOUPLED INPUTS OF BYTE B, SECTION 2

CN5 is a 9 pins quick release screw terminal connector. It allows to connect 8 out of 16 NPN optocoupled inputs of section 2, in details the ones connected to Byte B.

Connector features open collector optocoupled inputs; power supply for inputs must be provided through CN7.

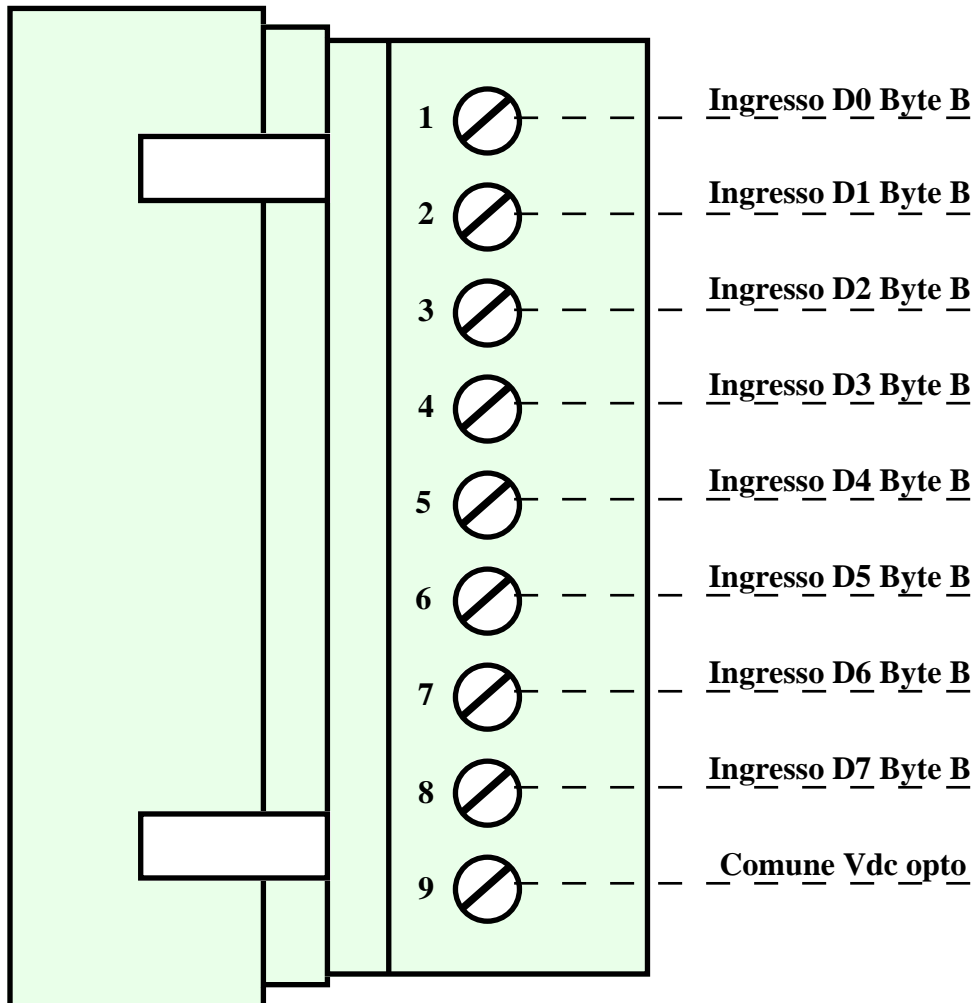


FIGURE 9: CN5 - CONNECTOR FOR OPTOCOUPLED INPUTS BYTE B, SECTION 2

Signals description:

Ingresso Dn Byte B = I - Open collector NPN input connected to n-th signal of Byte B.
 Comune Vdc opto = - Common terminal of inputs power supply.

CN6 - CONNECTOR FOR OPTOCOUPLED INPUTS OF BYTE A, SECTION 2

CN6 is a 9 pins quick release screw terminal connector.

It allows to connect 8 out of 16 NPN optocoupled inputs of section 2, in details the ones connected to Byte A.

Connector features open collector optocoupled inputs; power supply for inputs must be provided through CN7.

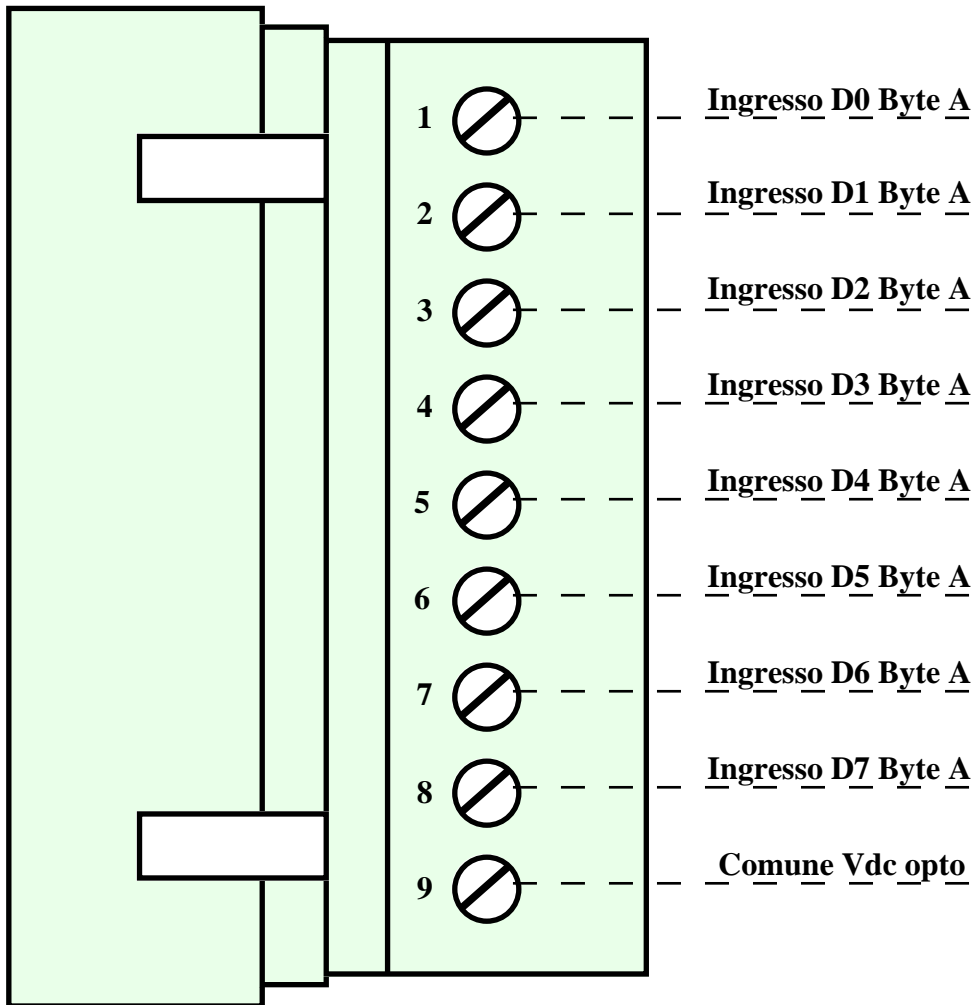


FIGURE 10: CN6 - CONNECTOR FOR OPTOCOUPLED INPUTS BYTE A, SEZIONE 1

Signals description:

- Ingresso Dn Byte A = I - Open collector NPN input connected to n-th signal of Byte A.
- Comune Vdc opto = - Common terminal of inputs power supply.

CN7 - POWER SUPPLY OF OPTOCOUPLED SECTIONS 1 AND 2

CN7 is a 2 pins quick release screw terminal connector.

It allows to supply sections **1** and **2** with galvanically isolated power source.

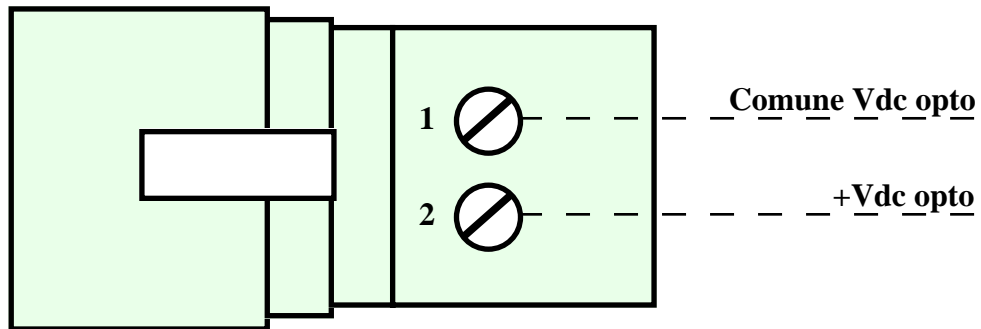


FIGURE 11: CN7 - POWER SUPPLY OF OPTOCOUPLED SECTIONS 1 AND 2

Signals description:

+Vdc opto = - Positive terminal of optocoupled inputs power supply.
Comune Vdc opto = - Common terminal of optocoupled inputs power supply.

VISUAL SIGNALATIONS

FBC-L22 is provided with 32 LEDs that indicated the status of input signal they are connected to (LED ON = Input contact closed); correspondance between optocoupled inputs and LEDs is:

LEDs OF SECTION 1 INPUTS

LD1 - Input D0 Byte A, Section 1
LD2 - Input D1 Byte A, Section 1
LD3 - Input D2 Byte A, Section 1
LD4 - Input D3 Byte A, Section 1
LD5 - Input D4 Byte A, Section 1
LD6 - Input D5 Byte A, Section 1
LD7 - Input D6 Byte A, Section 1
LD8 - Input D7 Byte A, Section 1

LD11 - Input D0 Byte B, Section 1
LD12 - Input D1 Byte B, Section 1
LD13 - Input D2 Byte B, Section 1
LD14 - Input D3 Byte B, Section 1
LD15 - Input D4 Byte B, Section 1
LD16 - Input D5 Byte B, Section 1
LD17 - Input D6 Byte B, Section 1
LD18 - Input D7 Byte B, Section 1

LEDs OF SECTION 2 INPUTS

LD21 - Input D0 Byte A, Section 2
LD22 - Input D1 Byte A, Section 2
LD23 - Input D2 Byte A, Section 2
LD24 - Input D3 Byte A, Section 2
LD25 - Input D4 Byte A, Section 2
LD26 - Input D5 Byte A, Section 2
LD27 - Input D6 Byte A, Section 2
LD28 - Input D7 Byte A, Section 2

LD31 - Input D0 Byte B, Section 2
LD32 - Input D1 Byte B, Section 2
LD33 - Input D2 Byte B, Section 2
LD34 - Input D3 Byte B, Section 2
LD35 - Input D4 Byte B, Section 2
LD36 - Input D5 Byte B, Section 2
LD37 - Input D6 Byte B, Section 2
LD38 - Input D7 Byte B, Section 2

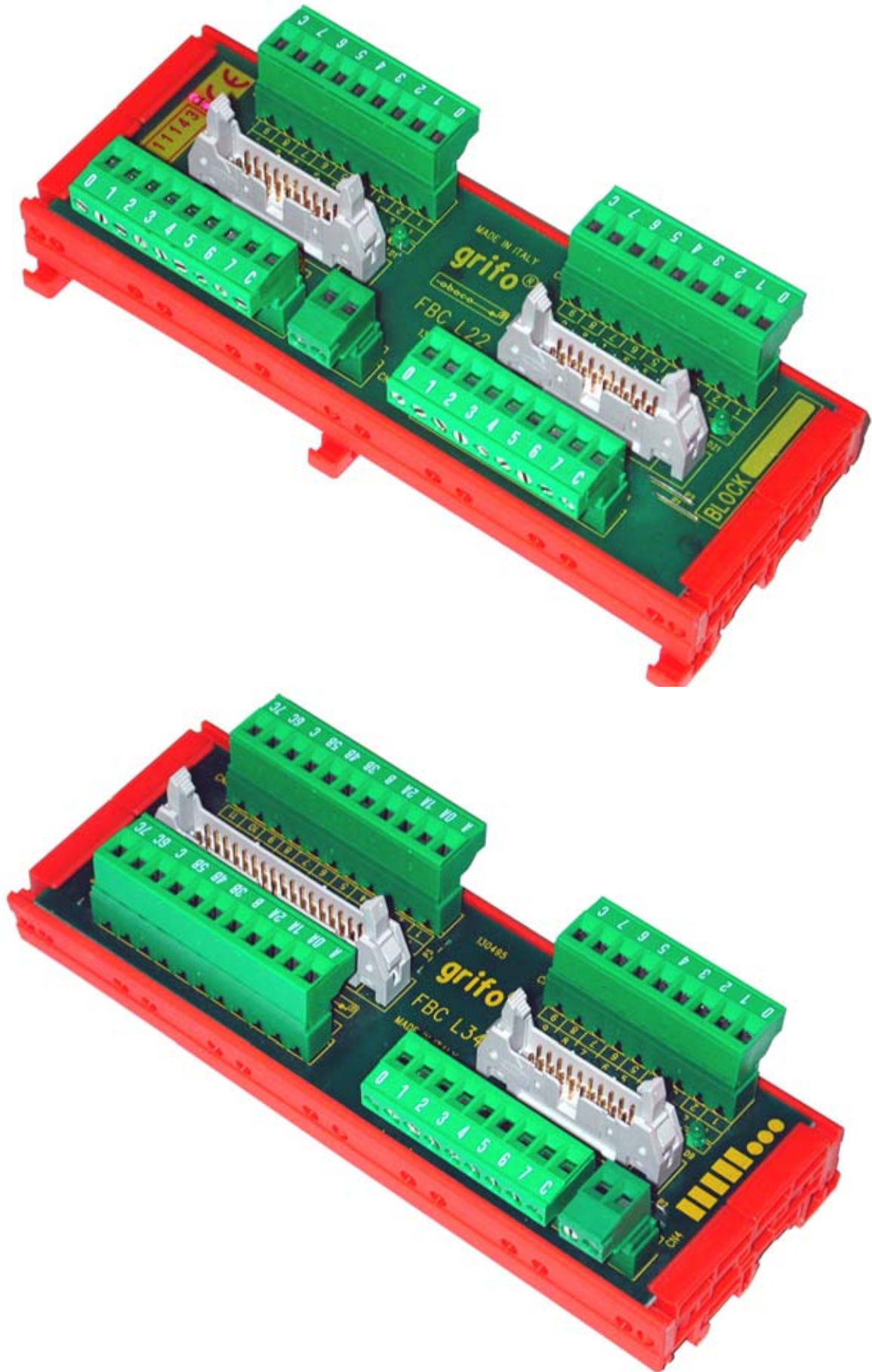


FIGURE 12: PHOTO OF SEVERAL FBC (TYPE L)

TECHNICAL FEATURES OF FBC 25

GENERAL FEATURES

Best use: Arrange the signals of any serial electric protocol like **RS 232, RS 422, RS 485 or current loop from** a D-type 25 pins or 9 pins connector. Arrange thermocouples and thermoresistances of **IPC 52** through cables CCR.PT 100 or CCR.TC

D type connector: Contacts can bear a maximum current of 5 A.

PHISICAL FEATURES

Size: 168 x 83 x 41 mm

Weight: 200 g

Connectors: CN1: D type 25 pins, straight, female
CN2: D type 25 pins, straight, female
CN3: quick release screw terminal, 12 pins, 90 degreeses, male
CN4: quick release screw terminal, 13 pins, 90 degreeses, male
CN5: quick release screw terminal, 13 pins, 90 degreeses, male
CN6: quick release screw terminal, 12 pins, 90 degreeses, male

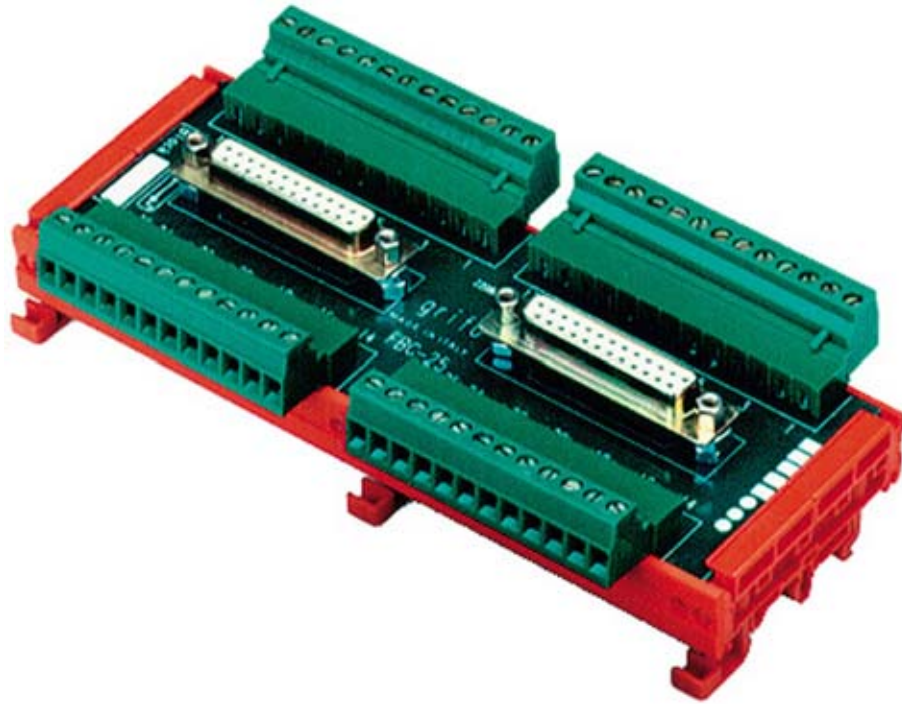


FIGURE 13: PHOTO OF FBC 25 PROVIDED WITH BLOCK CONTAINER

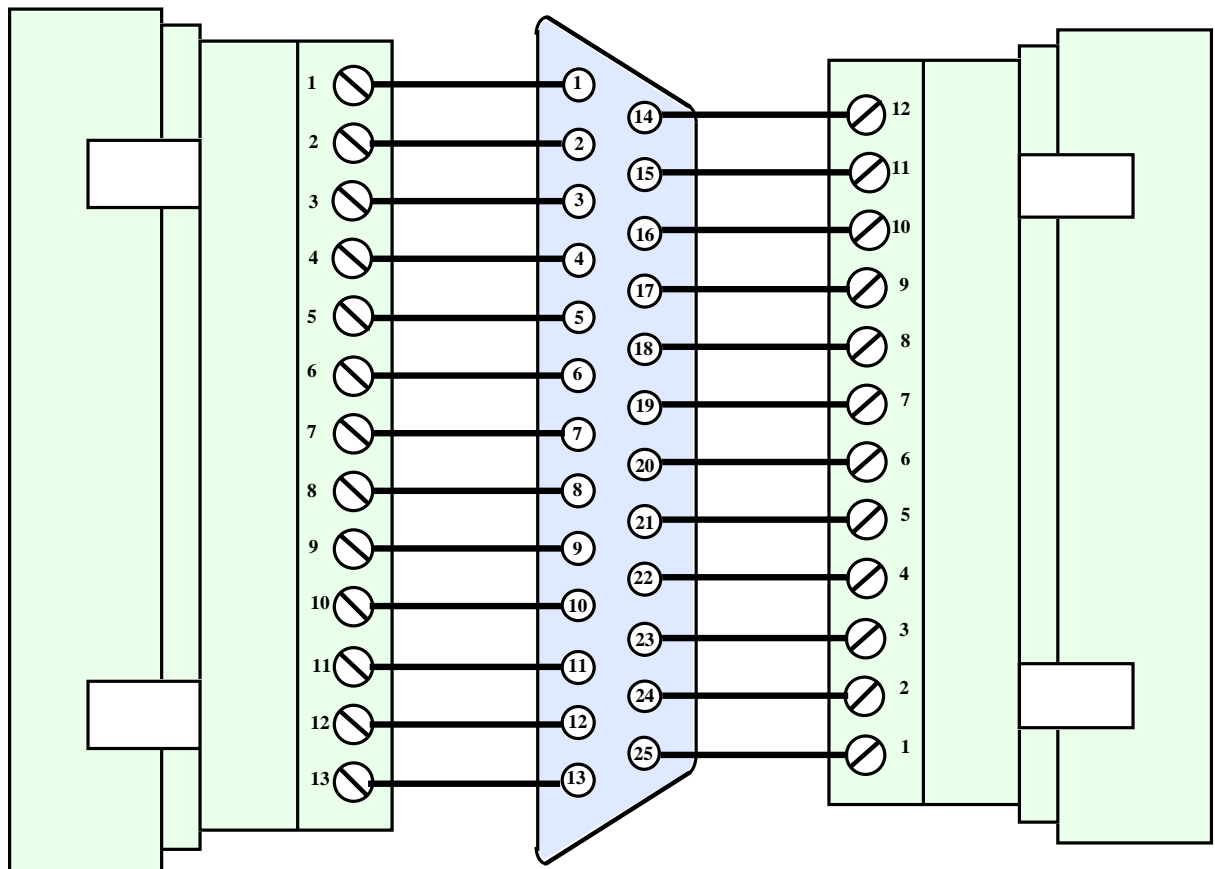


FIGURE 14: FBC 25 CONNECTION DIAGRAM

TECHNICAL FEATURES OF FBC 26

GENERAL FEATURES

Best use: Arrange the signals of cards like, for example, **JMS 34** (axis control), **GPC® 15A** (general purpose) and I/O of other cards.

PHISICAL FEATURES

Size: 168 x 83 x 41 mm

Weight: 190 g

Connectors:

- CN1: low profile 26 pins, straight, male
- CN2: low profile 26 pins, straight, male
- CN3: quick release screw terminal, 13 pins, 90 degreeses, male
- CN4: quick release screw terminal, 13 pins, 90 degreeses, male
- CN5: quick release screw terminal, 13 pins, 90 degreeses, male
- CN6: quick release screw terminal, 13 pins, 90 degreeses, male

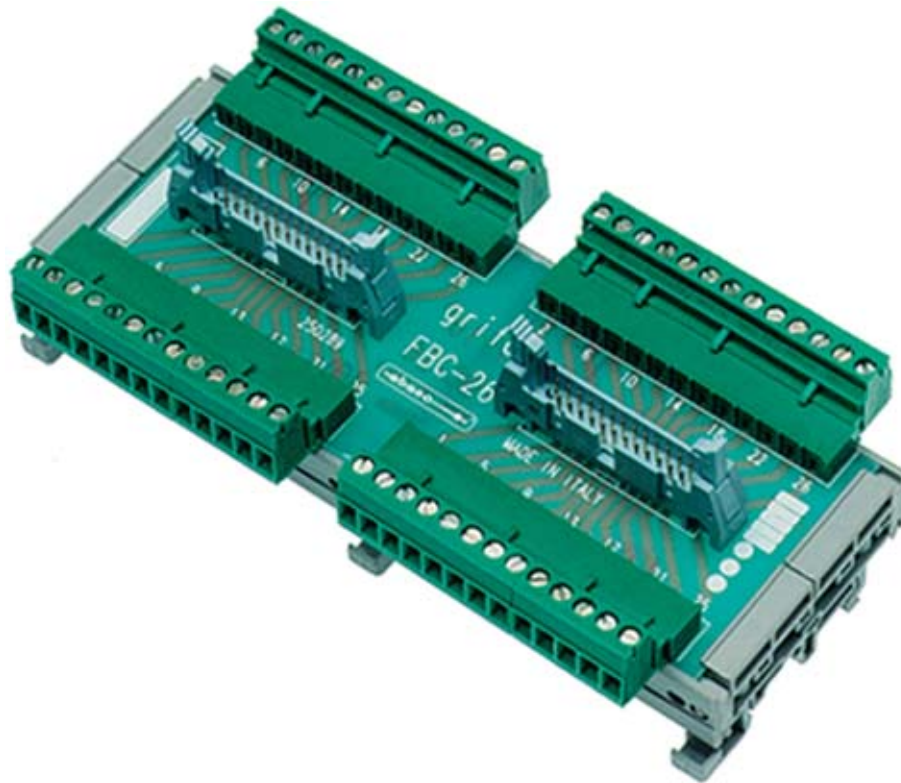


FIGURE 15: PHOTO OF FBC 26 PROVIDED WITH BLOCK CONTAINER

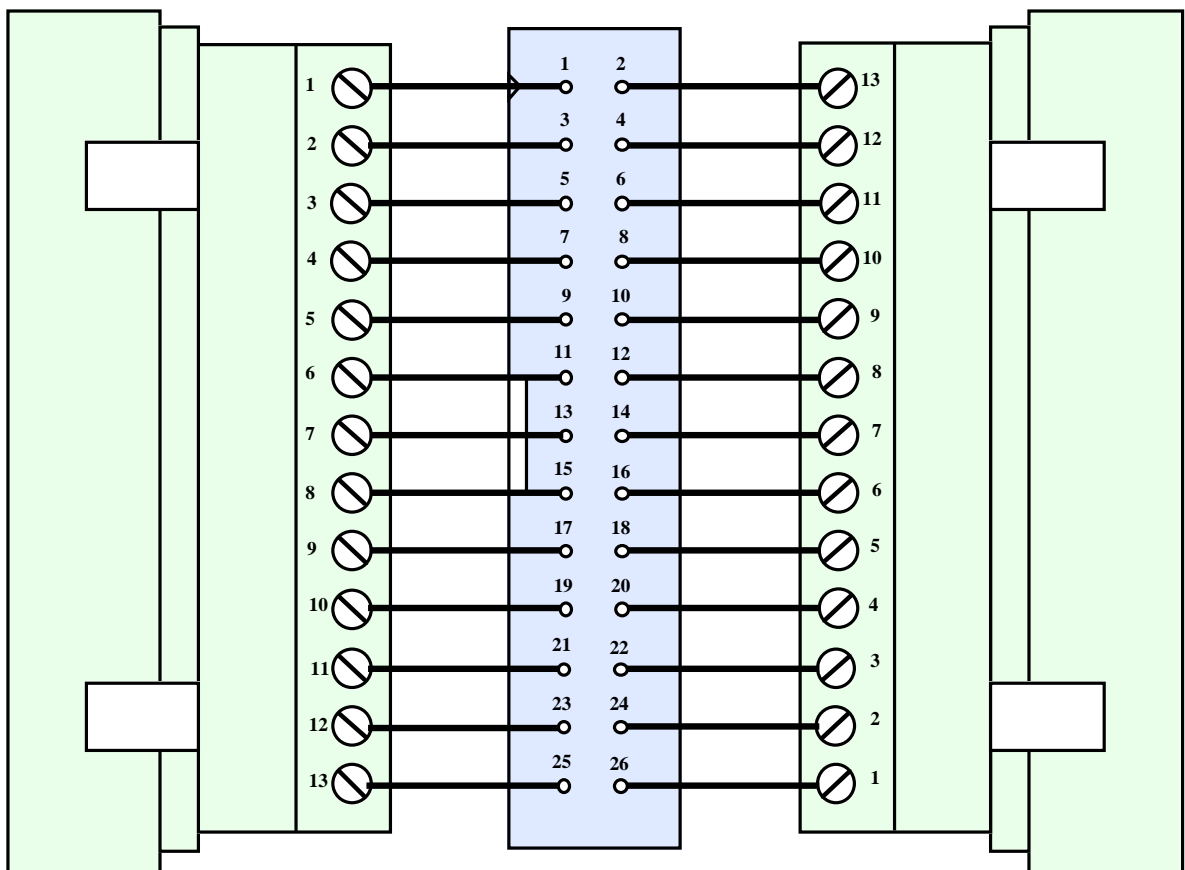


FIGURE 16: FBC 26 CONNECTION DIAGRAM

TECHNICAL FEATURES OF FBC 34

GENERAL FEATURES

Best use: Arrange the signals of cards like, for example, **CI/O 01** and **CI/O 02** with field wiring.

PHISICAL FEATURES

Size: 168 x 83 x 55 mm

Weight: 180 g

Connectors:

- CN1: low profile 34 pins, straight, male
- CN2: low profile 20 pins, straight, male
- CN3: quick release screw terminal, 17 pins, 90 degrees, male
- CN4: quick release screw terminal, 17 pins, 90 degrees, male
- CN5: quick release screw terminal, 10 pins, 90 degrees, male
- CN6: quick release screw terminal, 10 pins, 90 degrees, male

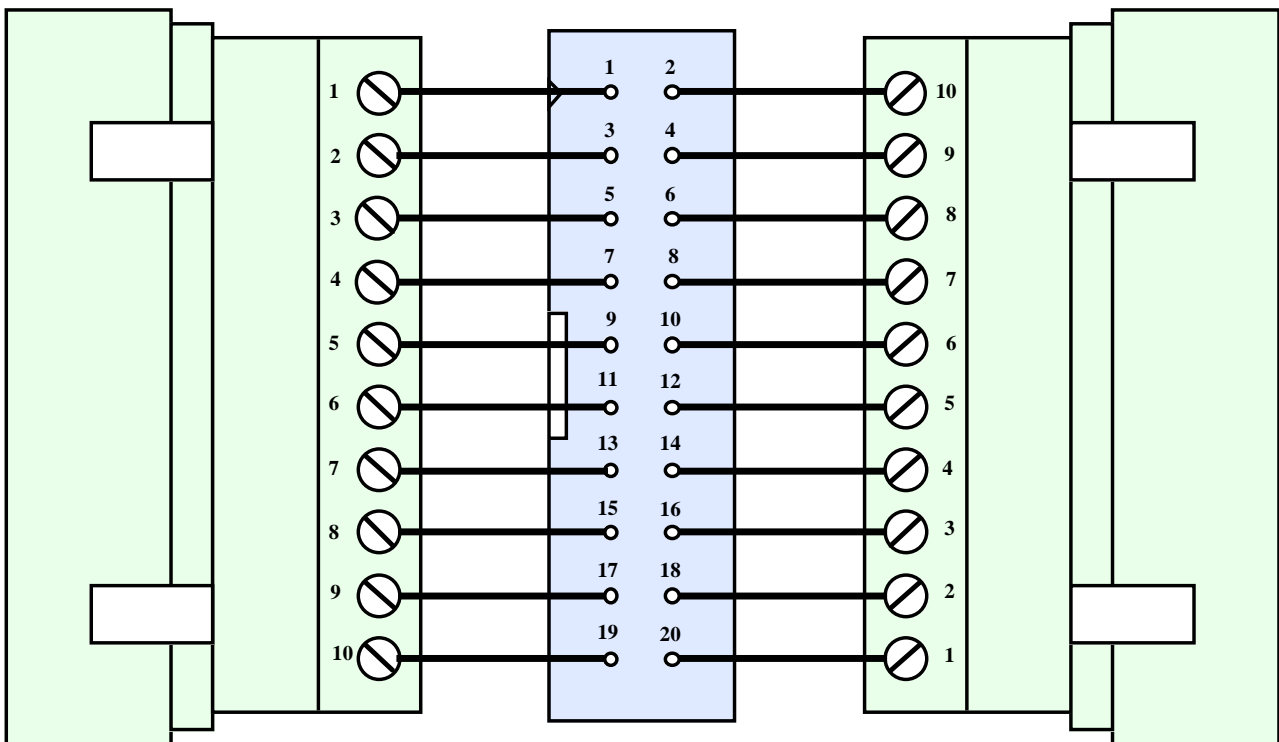


FIGURE 17: CN2, CN5 AND CN6 OF FBC 34 CONNECTION DIAGRAM

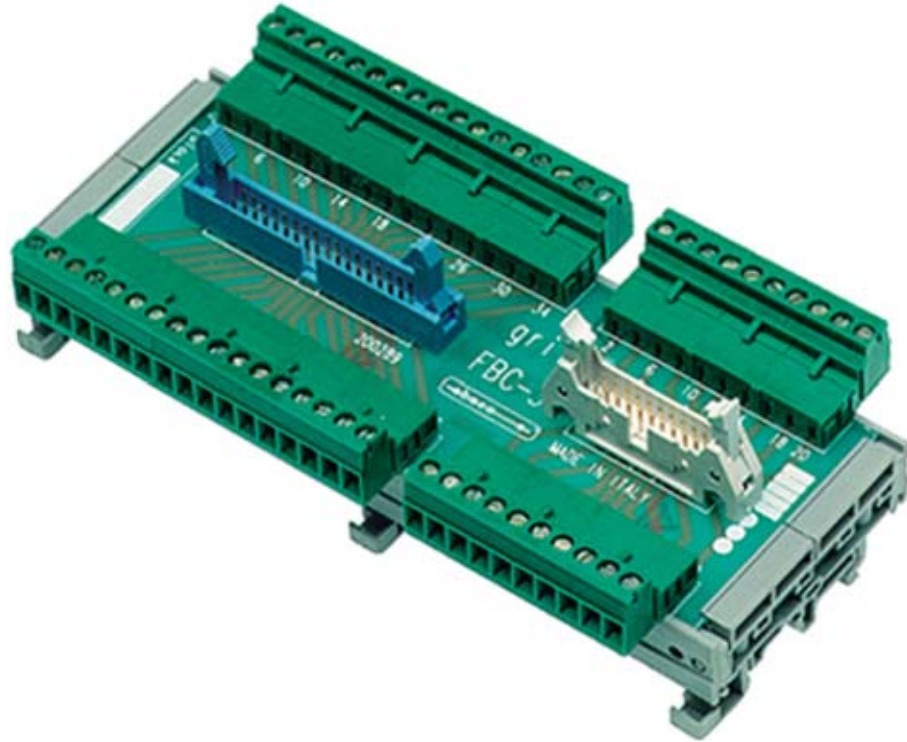


FIGURE 18: PHOTO OF FBC 34 PROVIDED WITH BLOCK CONTAINER

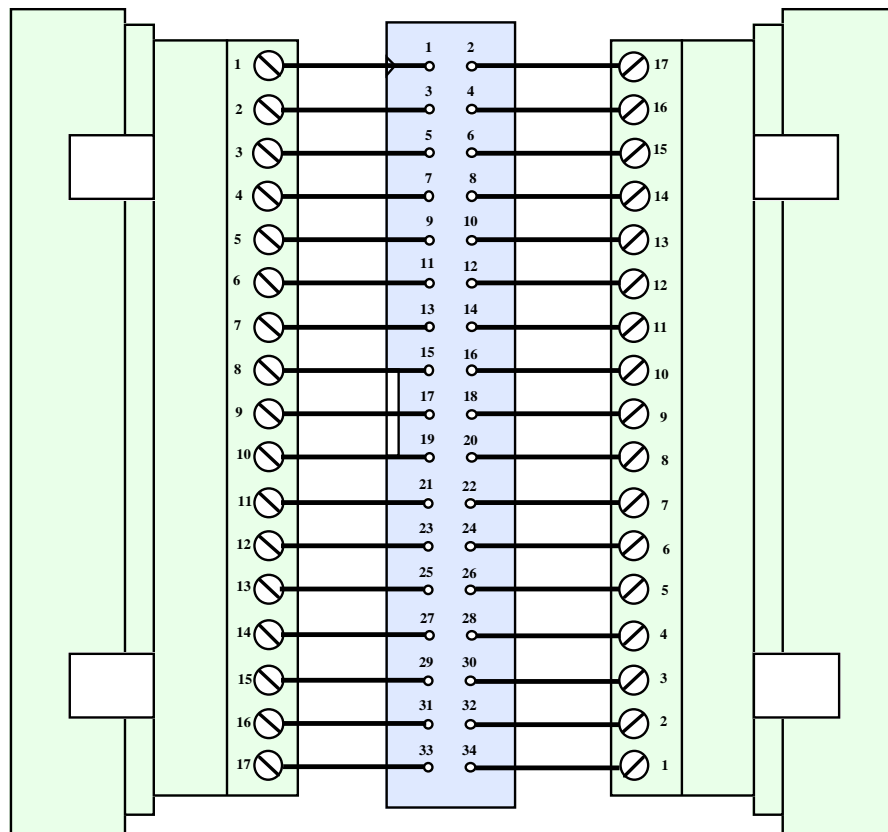


FIGURE 19: CN1, CN3 AND CN4 OF FBC 34 CONNECTION DIAGRAM

TECHNICAL FEATURES OF FBC 234

GENERAL FEATURES

Best use: Arrange the signals of cards like, for example, **CI/O 01** and **CI/O 02** with field wiring.
 Signals naming is compliant with **grifo**® standard.

PHISICAL FEATURES

Size: 168 x 83 x 41 mm

Weight: 180 g

Connectors: CN1: low profile 34 pins, straight, male
 CN2: low profile 34 pins, straight, male
 CN3: quick release screw terminal, 11 pins, straight, male
 CN4: quick release screw terminal, 11 pins, straight, male
 CN5: quick release screw terminal, 11 pins, straight, male
 CN6: quick release screw terminal, 11 pins, straight, male

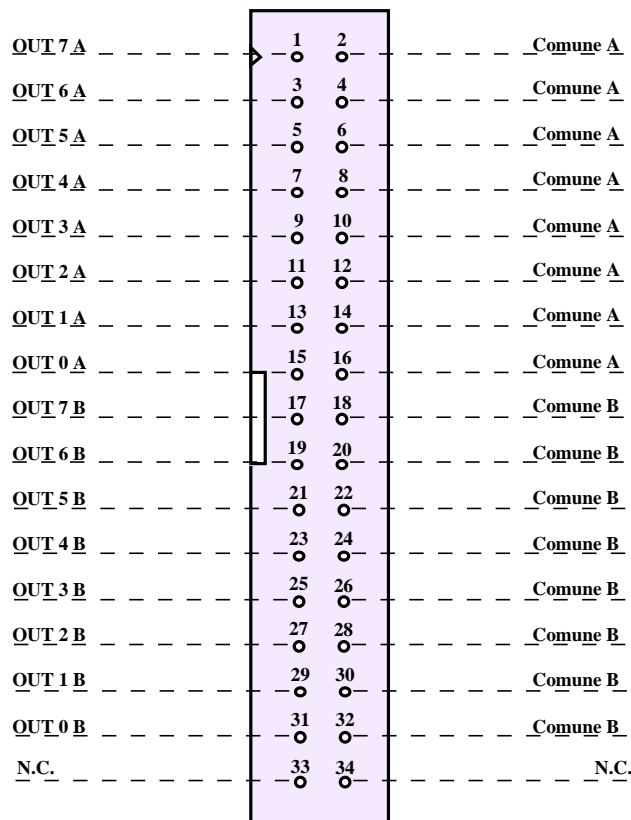


FIGURE 20: CN1 AND CN2 OF FBC 234 CONNECTION DIAGRAM

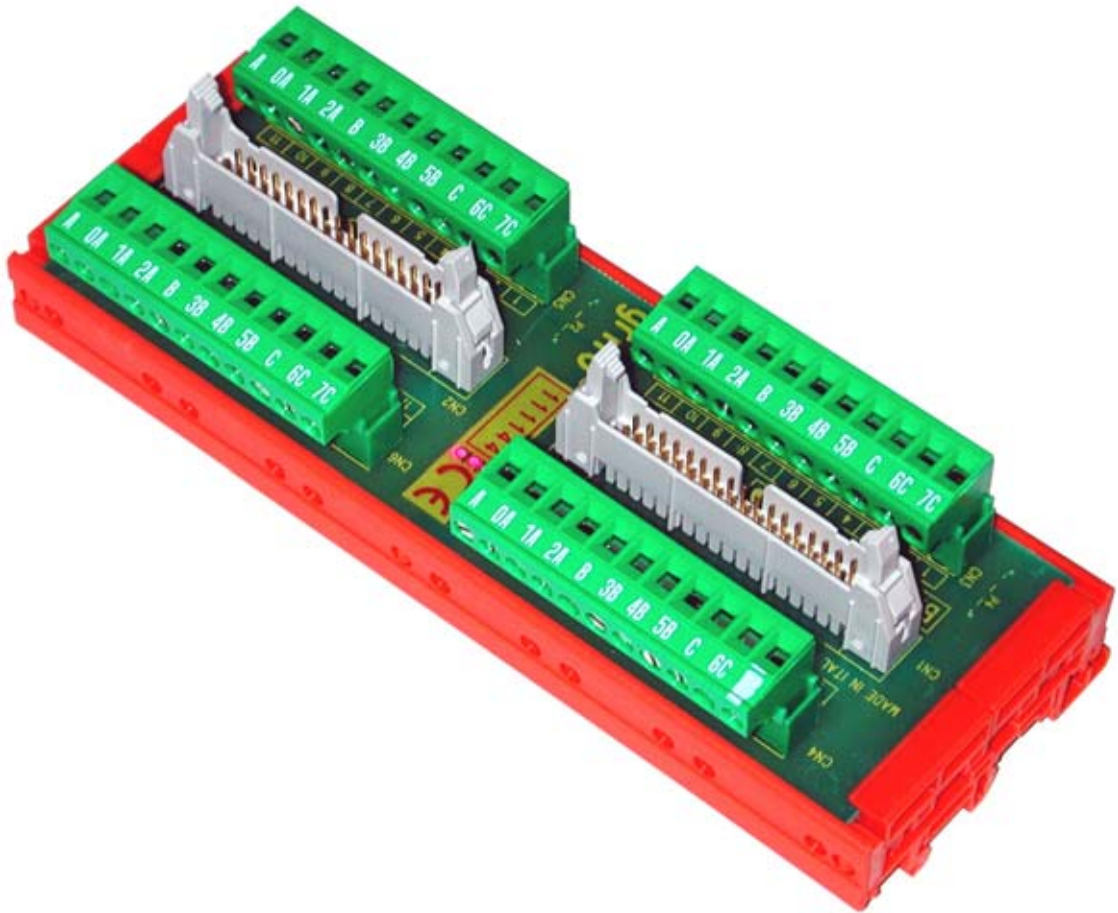


FIGURE 21: PHOTO OF FBC 234 PROVIDED WITH BLOCK CONTAINER

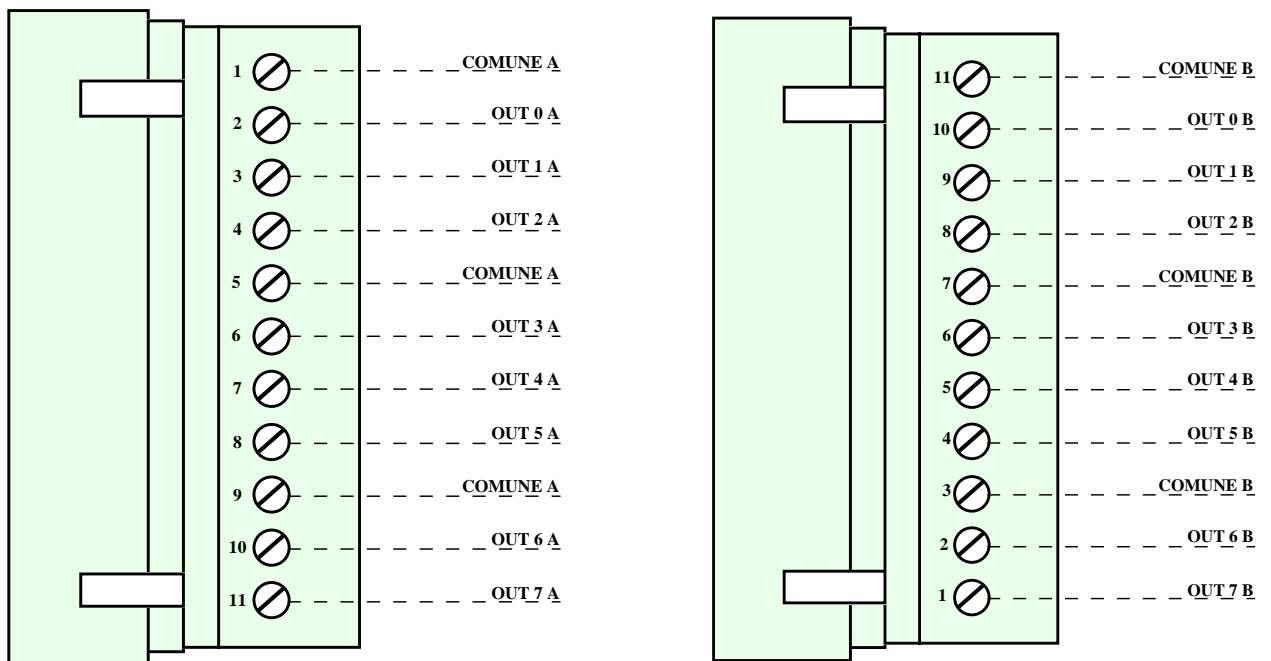


FIGURE 22: CN3, CN4, CN5 AND CN6 OF FBC 234 CONNECTION DIAGRAM

TECHNICAL FEATURES OF FBC L34

GENERAL FEATURES

Best use: Arrange the signals of cards like, for example, **CI/O 01**, **CI/O 02**, **CI/O T16** and **CI/O-R16** with field wiring and visualize status of signals on the 20 pins connector.. Signals naming is compliant with **grifo®** standard.

PHISICAL FEATURES

Size: 168 x 83 x 41 mm

Weight: 183 g

Connectors:

- CN1: low profile 20 pins, straight, male
- CN2: quick release screw terminal, 9 pins, straight, male
- CN3: quick release screw terminal, 9 pins, straight, male
- CN4: quick release screw terminal, 2 pins, straight, male
- CN5: low profile 34 pins, straight, male
- CN6: quick release screw terminal, 11 pins, straight, male
- CN7: quick release screw terminal, 11 pins, straight, male

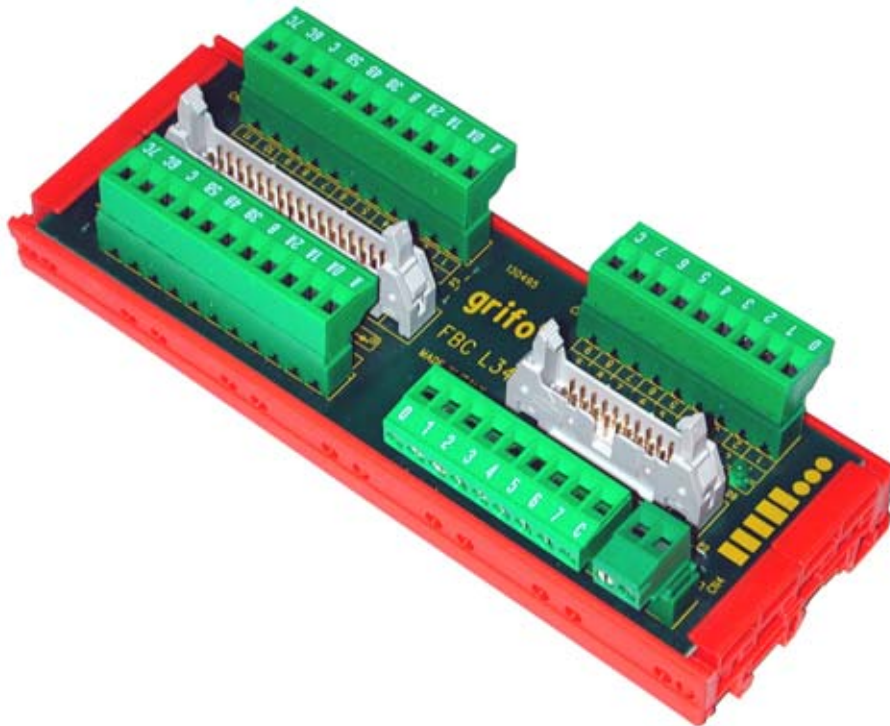


FIGURA 23: PHOTO OF FBC L34 PROVIDED WITH BLOCK

CN1 - INTERFACE FOR INPUTS OF CI/O-01, CI/O-02, CI/O-T16, CI/O-R16

Allows to interface directly to 16 inputs provided by the above mentioned cards, making available connection to the field for their signals on quick release screw terminal connectors CN2, CN3 e CN4.

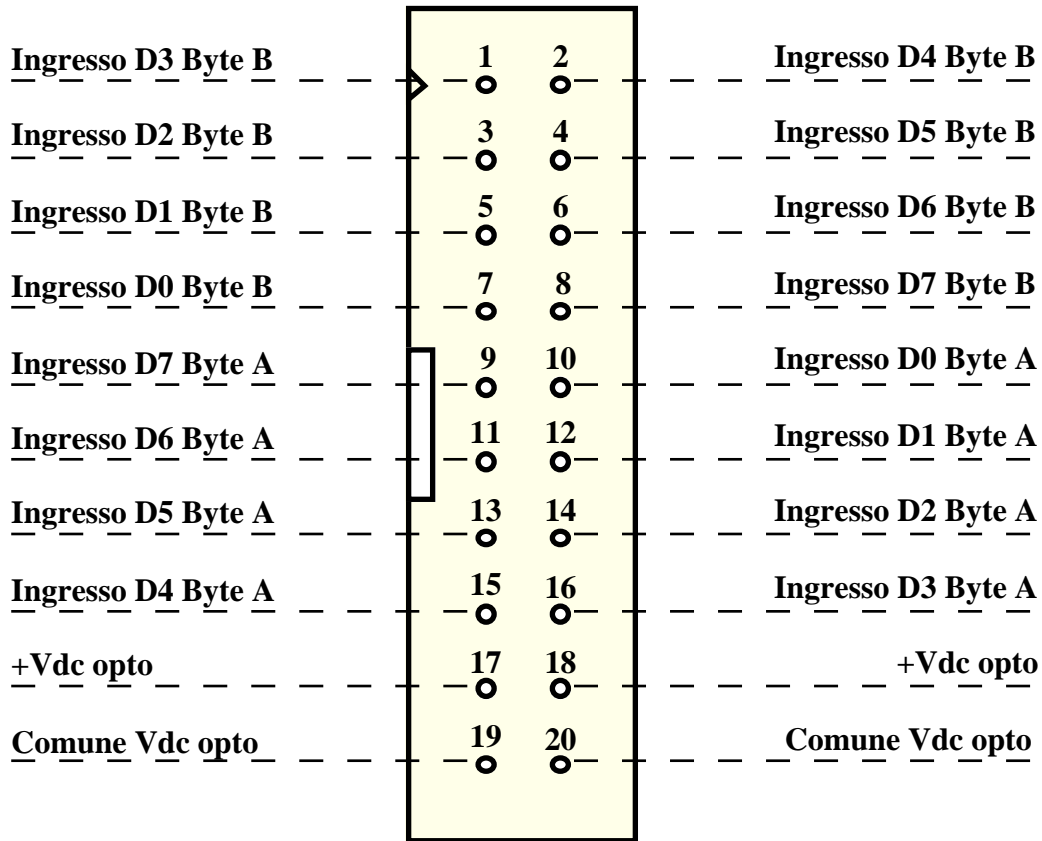


FIGURE 24: CN1 - DIRECT INTERFACE TO INPUTS

Signals description:

- Input Dn Byte A = I - Open collector NPN input connected to n-th signal of Byte A.
- Input Dn Byte B = I - Open collector NPN input connected to n-th signal of Byte B.
- +Vdc opto = - Positive terminal of inputs power supply.
- Common Vdc opto = - Common terminal of inputs power supply.

CN2 - CONNECTOR FOR OPTOCOUPLED INPUTS OF SECTION B

CN2 is a 9 pins quick release screw terminal connector.

It allows to connect 8 out of 16 NPN optocoupled inputs of section B.

Connector features open collector optocoupled inputs and their power supply common terminal.

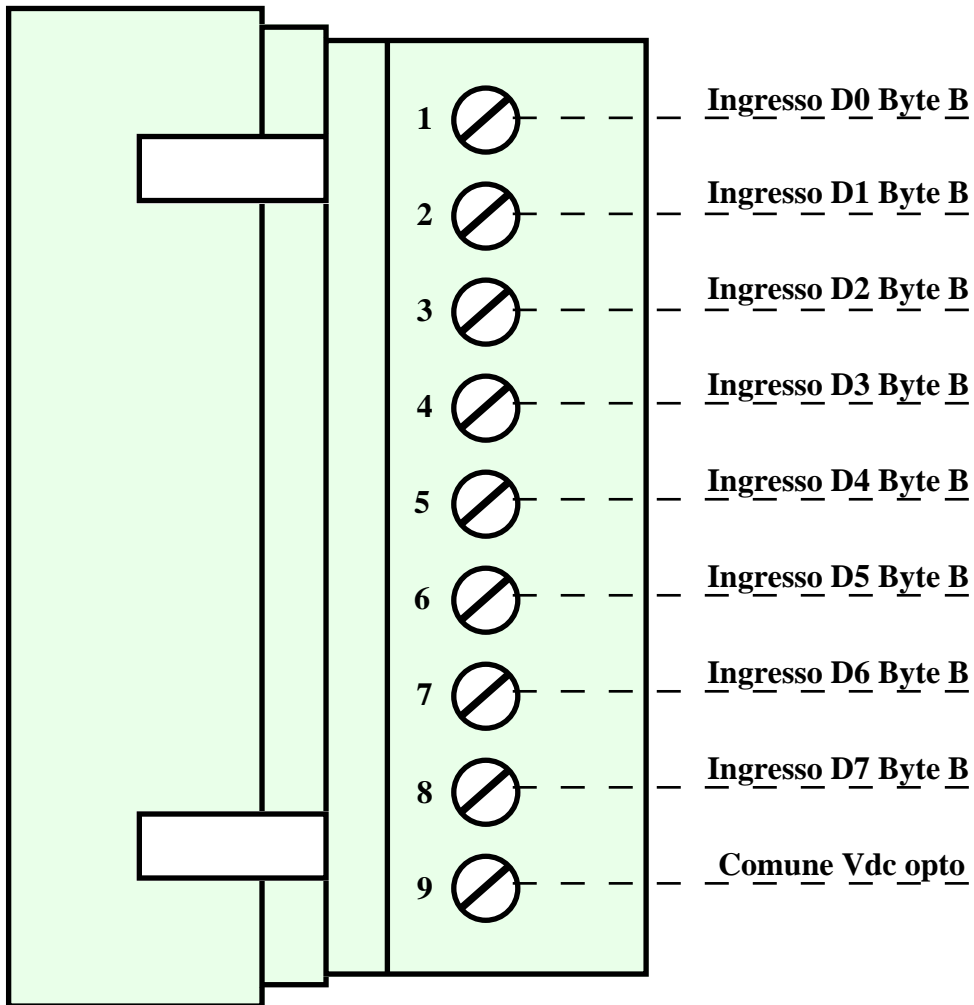


FIGURE 25: CN2 - CONNECTOR FOR OPTOCOUPLED INPUTS OF SECTION B

Signals description:

- Ingresso Dn Byte B = I - Open collector NPN input connected to n-th signal of Byte B.
- Comune Vdc opto = - Common terminal of inputs power supply.

CN3 - CONNECTOR FOR OPTOCOUPLED INPUTS OF SECTION A

CN3 is a 9 pins quick release screw terminal connector.

It allows to connect 8 out of 16 NPN optocoupled inputs of section A.

Connector features open collector optocoupled inputs and their power supply common terminal.

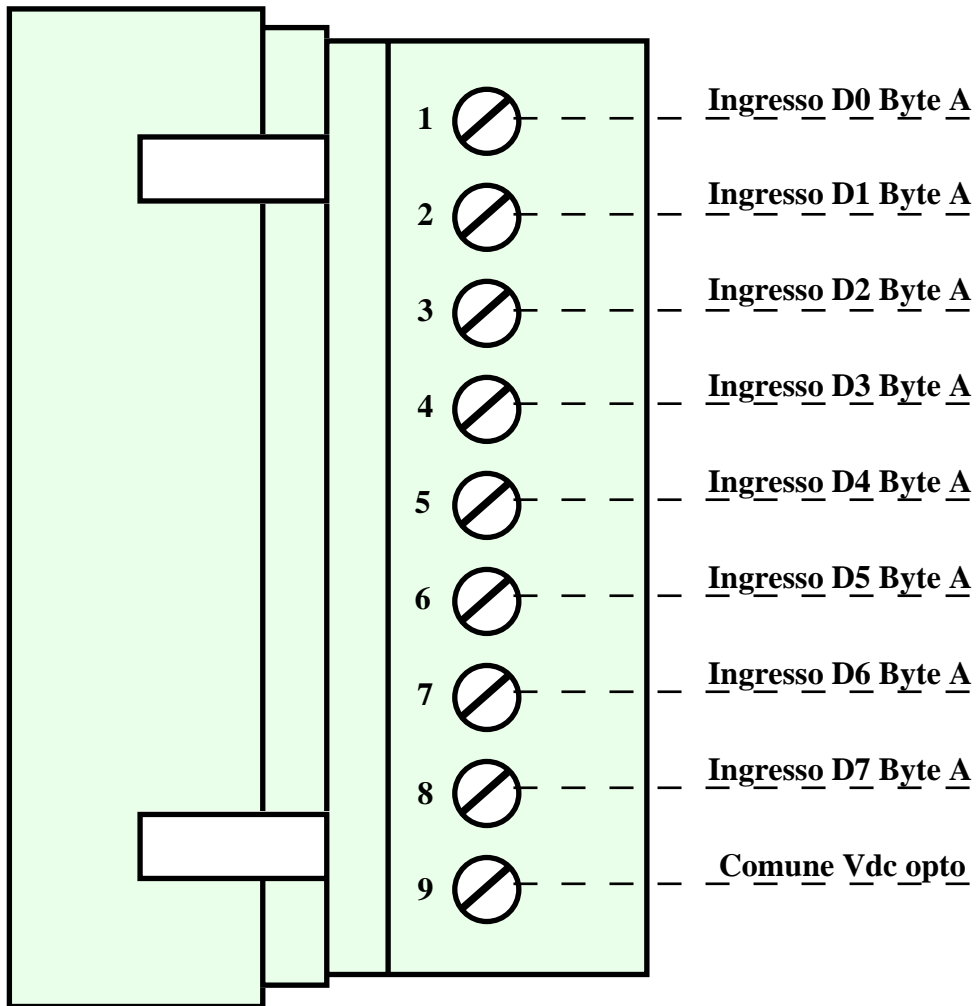


FIGURE 26: CN3 - CONNECTOR FOR OPTOCOUPLED INPUTS OF SECTION A

Signals description:

Ingresso Dn Byte A = I - Open collector NPN input connected to n-th signal of Byte A.

Comune Vdc opto = - Common terminal of inputs power supply.

CN4 - CONNECTOR FOR OPTOCOUPLEDERS POWER SUPPLY

CN4 is a 2 pins quick release screw terminal connector.
 It allows to supply optocouplers circuitery with galvanically isolated power source.

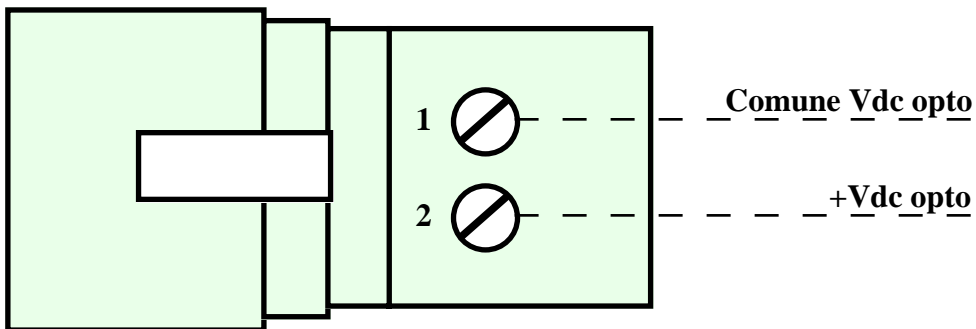


FIGURE 27: CN4 - CONNECTOR FOR OPTOCOUPLEDERS POWER SUPPLY

Signals description:

- +Vdc opto = - Positive terminal of optocoupled inputs power supply.
- Comune Vdc opto = - Common terminal of optocoupled inputs power supply.

CN5 - INTERFACE FOR OUTPUTS OF CI/O-01, CI/O-02, CI/O-T16, CI/O-R16

Allows to interface directly to 16 outputs provided by the above mentioned cards, making available connection to the field for their signals on quick release screw terminal connectors CN6 e CN7.

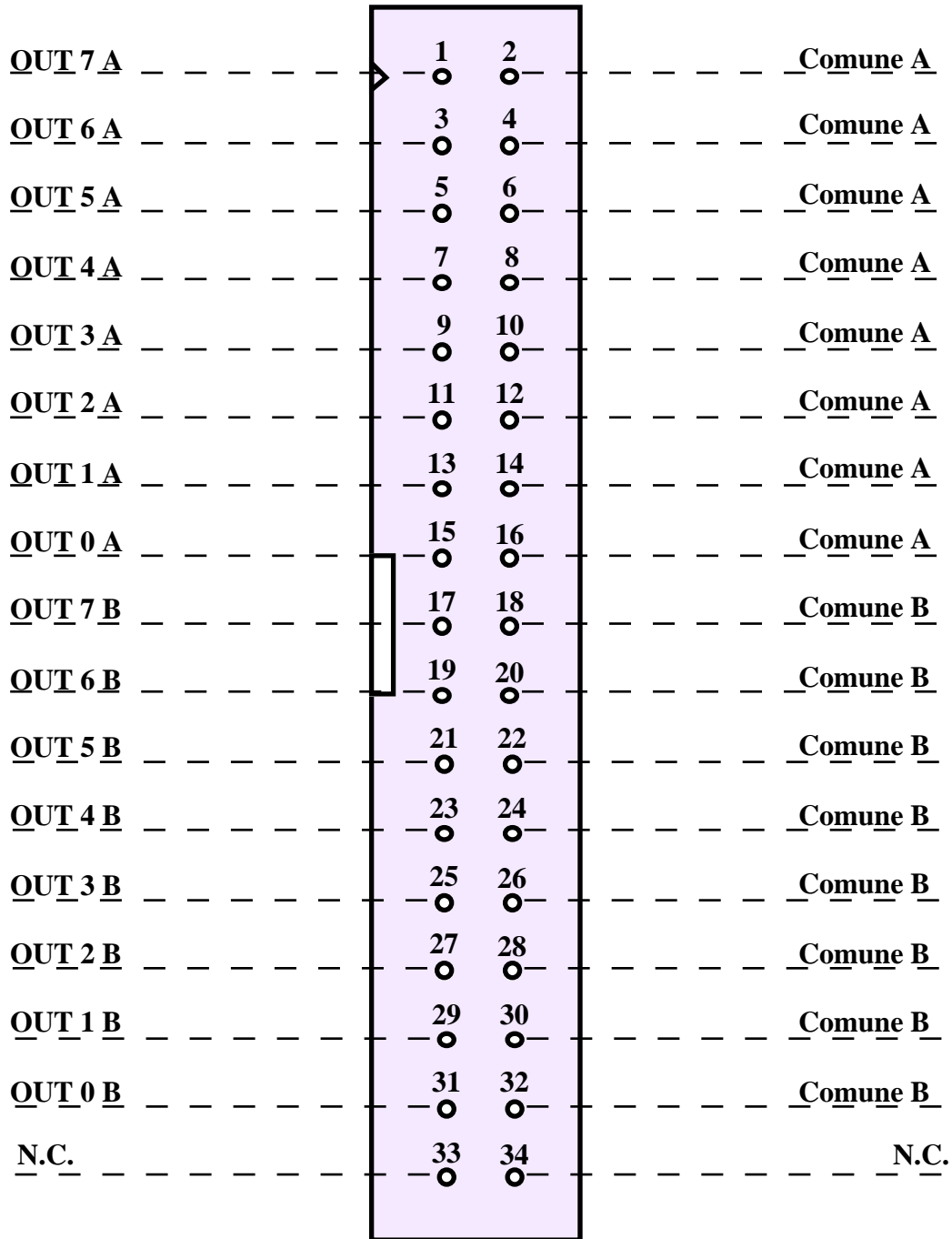


FIGURE 28: CN5 - DIRECT INTERFACE TO OUTPUTS

Signals description:

- Output Dn Byte A = O - N-th output signal of Byte A.
- Output Dn Byte B = O - N-th output signal of Byte B.
- Comune A or B = - Common terminal of outputs for sections A or B.
- N. C. = - Not connected.

N.B. : Boards CI/O-01 and CI/O-02 are provided with only one common point for outputs.

CN6 - CONNECTOR FOR OPTOCOUPLED OUTPUTS OF SECTION A

CN6 is a 11 pins quick release screw terminal connector.
 It allows to connect 8 out of 16 outputs of section A to the field.
 Connector features outputs and their common terminal, which is unique for all outputs.

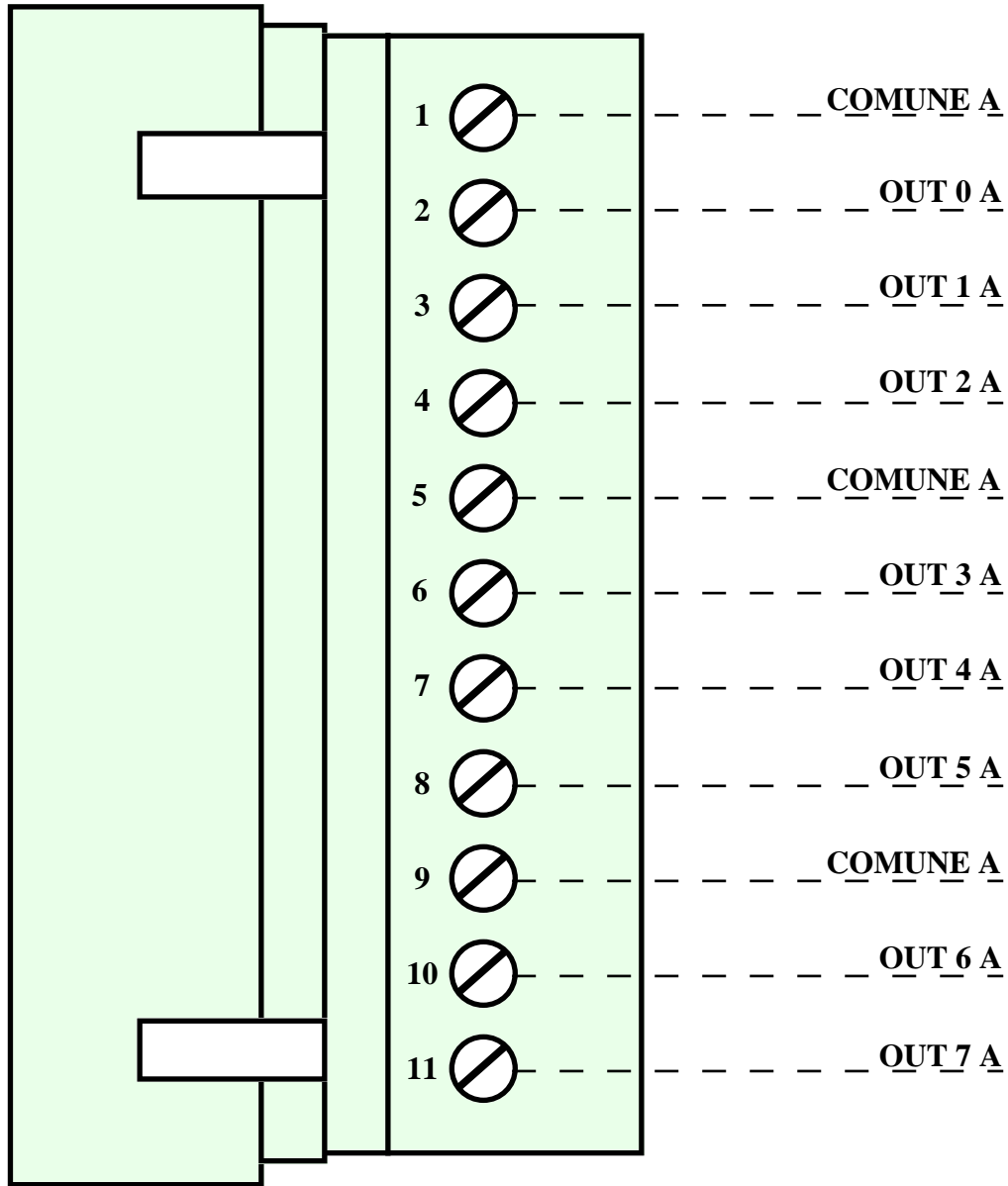


FIGURE 29: CN6 - CONNECTOR FOR OUTPUTS OF SECTION A

Signals description:

- COMUNE A = O - Output connected to n-th signal of Byte A.
- OUT n A = - Common terminal of outputs.

CN7 - CONNECTOR FOR OPTOCOUPLED INPUTS OF SECTION B

CN7 is a 11 pins quick release screw terminal connector.
 It allows to connect 8 out of 16 outputs of section **B** to the field.
 Connector features outputs and their common terminal, which is unique for all outputs.

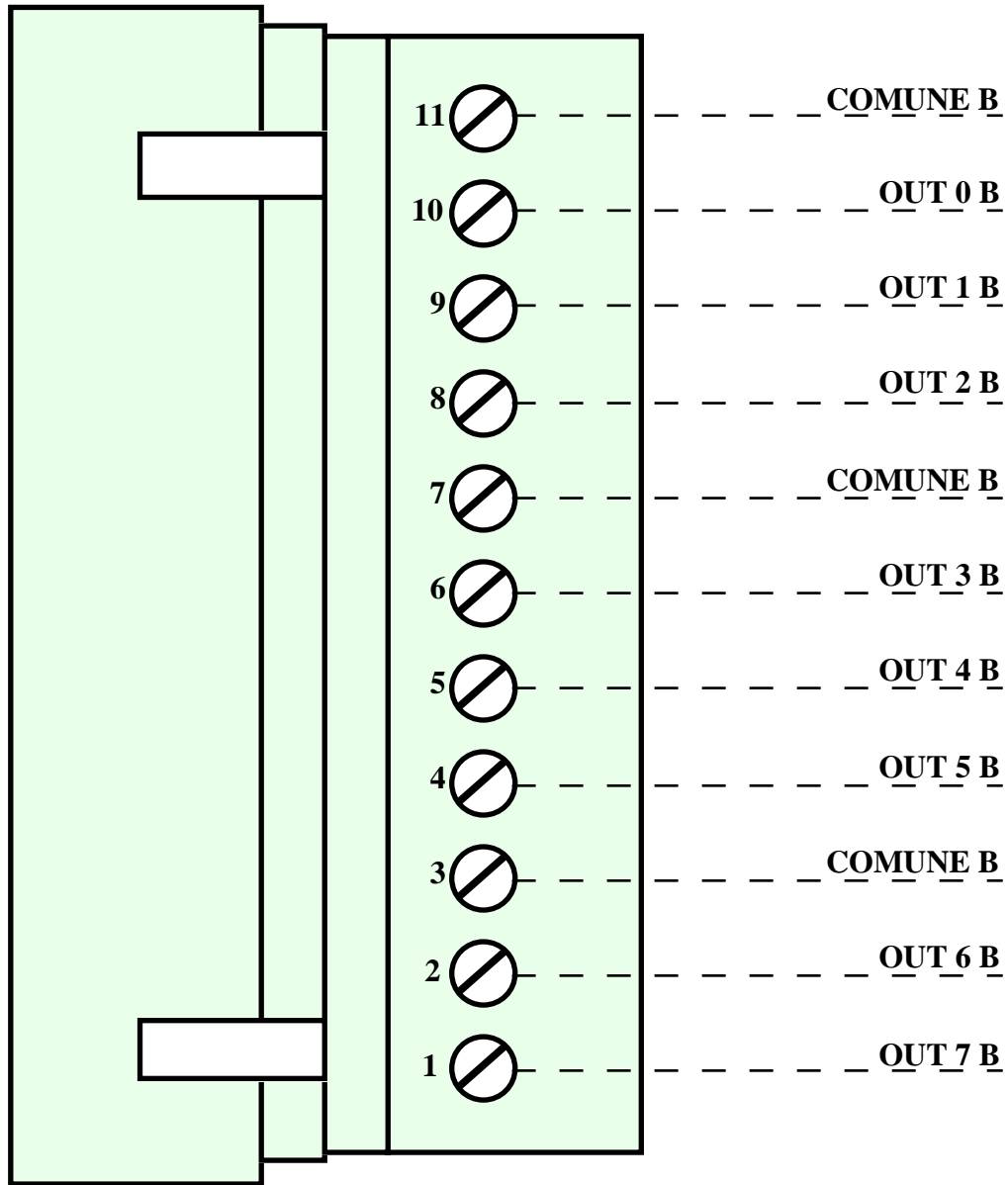


FIGURE 30: CN7 - CONNECTOR FOR OPTOCOUPLED OUTPUTS OF SECTION B

Signals description:

- COMUNE B = O - Output connected to n-th signal of Byte B.
- OUT n B = - Common terminal of outputs.

VISUAL SIGNALATIONS

FBC-L34 is provided with 16 LEDs that indicated the status of input signal they are connected to; correspondance between optocoupled inputs and LEDs is:

LD1	-	Input D0 Byte B
LD2	-	Input D1 Byte B
LD3	-	Input D2 Byte B
LD4	-	Input D3 Byte B
LD5	-	Input D4 Byte B
LD6	-	Input D5 Byte B
LD7	-	Input D6 Byte B
LD8	-	Input D7 Byte B
LD9	-	Input D0 Byte A
LD10	-	Input D1 Byte A
LD11	-	Input D2 Byte A
LD12	-	Input D3 Byte A
LD13	-	Input D4 Byte A
LD14	-	Input D5 Byte A
LD15	-	Input D6 Byte A
LD16	-	Input D7 Byte A

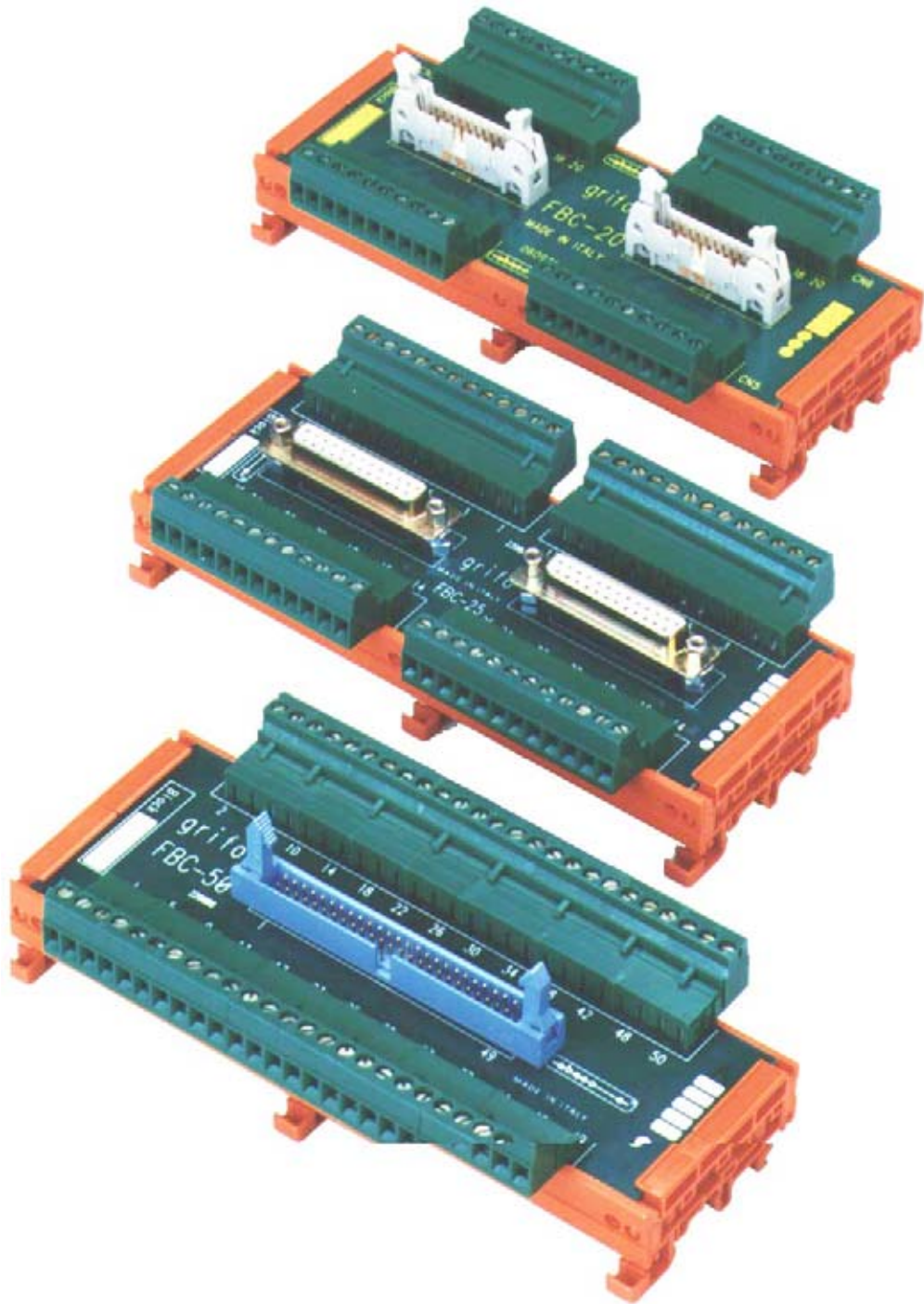


FIGURE 31: PHOTO OF FBC 20, FBC 25 AND FBC 50

TECHNICAL FEATURES OF FBC 35

GENERAL FEATURES

Best use: Arrange the signals of **PCO 01** matched with **FBC 50**.

PHISICAL FEATURES

Size: 168 x 75 x 55 mm

Weight: 80 g

Connectors: CN1: low profile 50 pins, 90 degrees, male
 CN2: low profile 34 pins, 90 degrees, male
 CN3: low profile 34 pins, 90 degrees, male



FIGURE 32: CN1 OF FBC 35 CONNECTION DIAGRAM

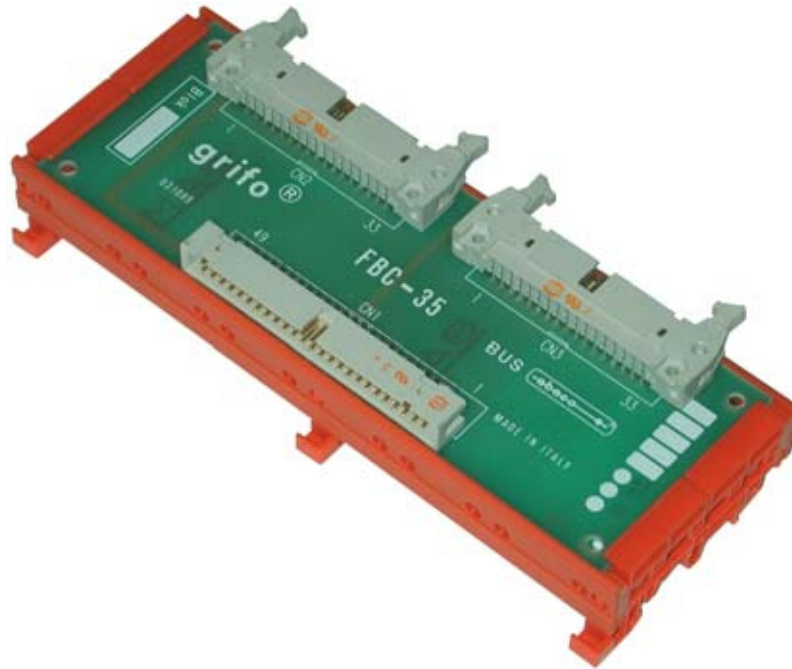


FIGURE 33: PHOTO OF FBC 35 PROVIDED WITH BLOCK CONTAINER

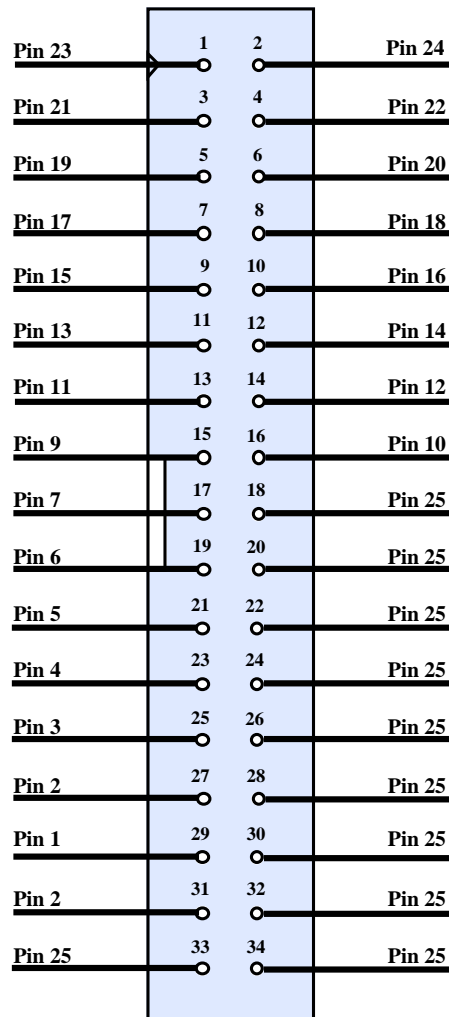


FIGURE 34: CN2 AND CN3 OF FBC 35 CONNECTION DIAGRAM

TECHNICAL FEATURES OF FBC 50

GENERAL FEATURES

Best use: Arrange the signals of **PCO 01** matched with **FBC 35**.

PHISICAL FEATURES

Size: 168 x 83 x 55 mm

Weight: 80 g

Connectors:
 CN1: low profile 50 pins, 90 straight, male
 CN2: quick release screw terminal, 25 pins, 90 degrees, male
 CN3: quick release screw terminal, 25 pins, 90 degrees, male

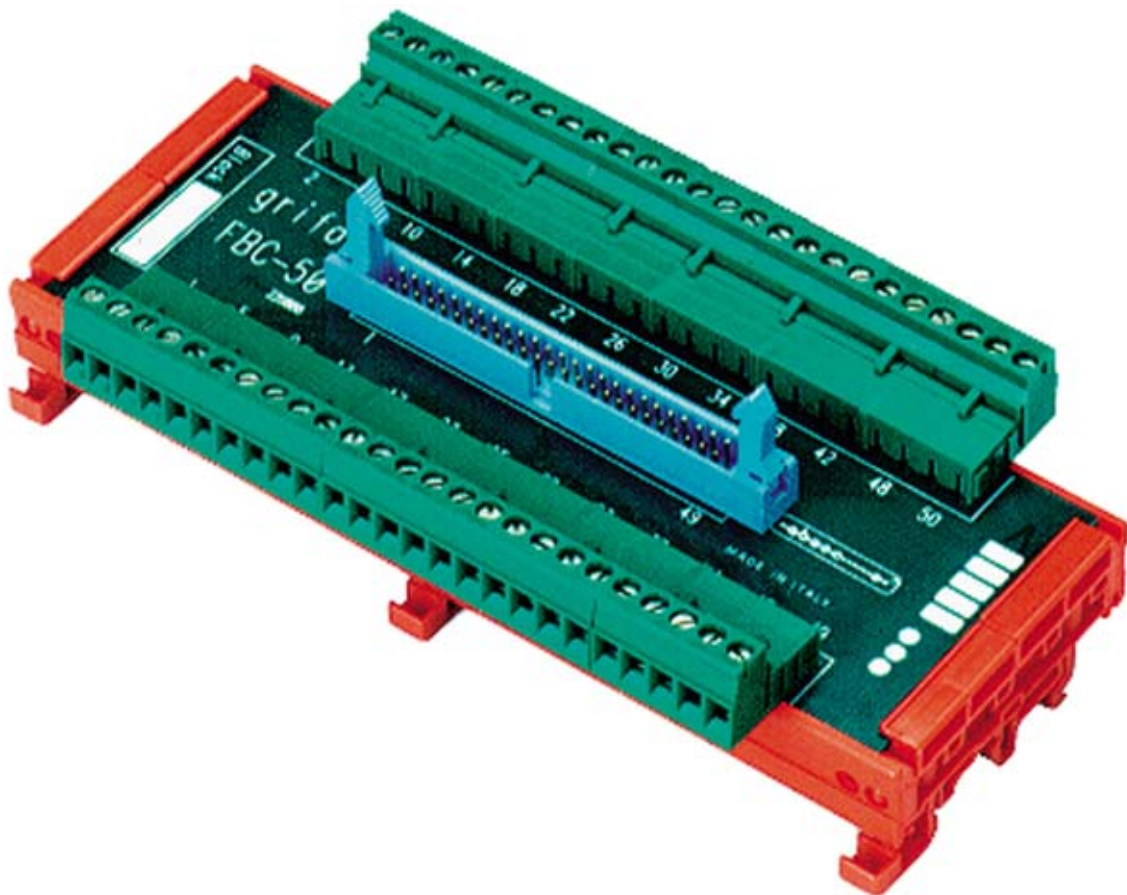


FIGURE 35: PHOTO OF FBC 50 PROVIDED WITH BLOCK CONTAINER

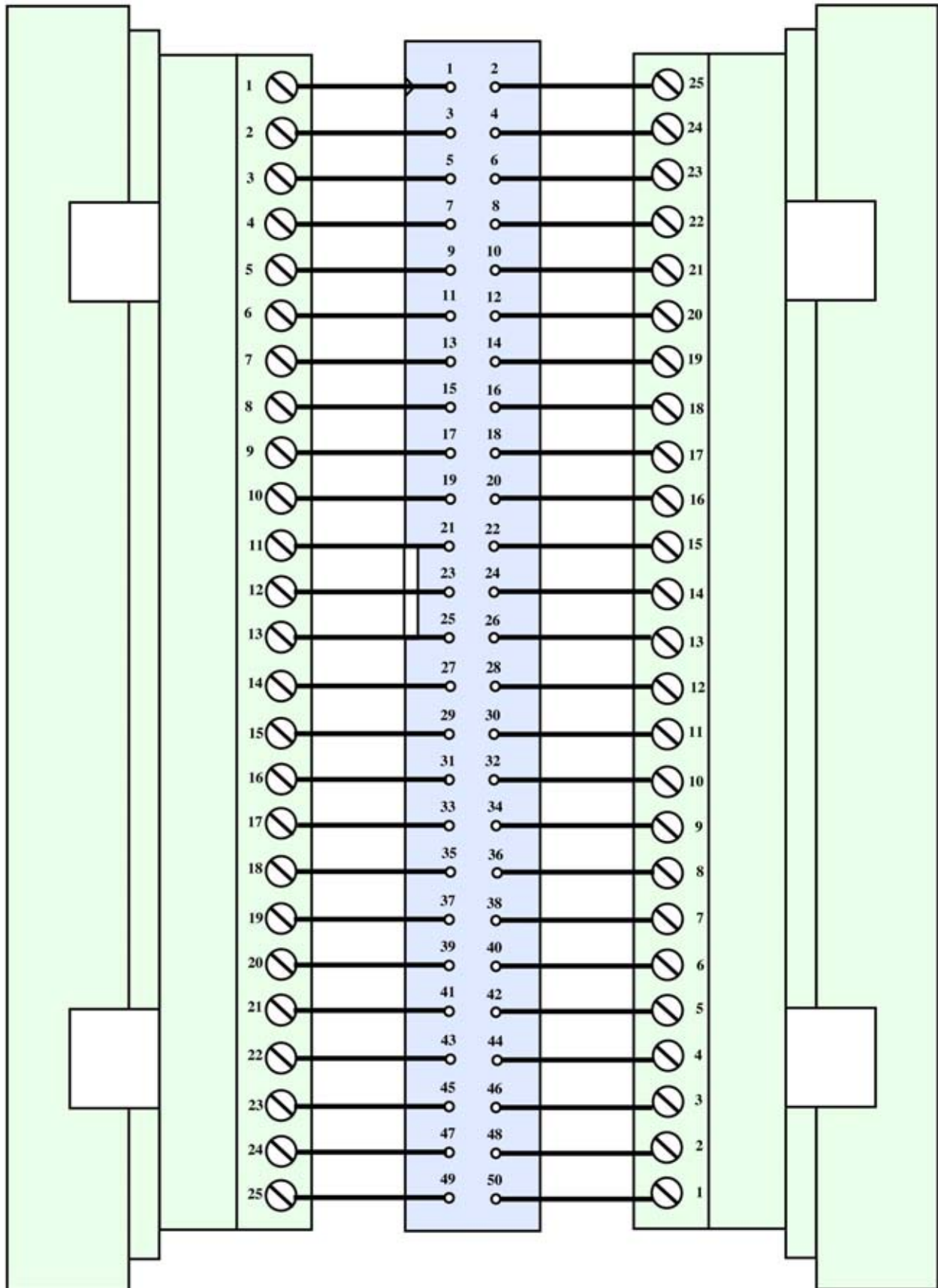


FIGURE 36: FBC 50 CONNECTION DIAGRAM

EXTERNAL CARDS

BLOCK modules described in this manual interface directly most of **ABACO**[®] cards, increasing the possibilities of the system.

Here is a short list of them:

GPC[®] 553

General Purpose Controller 80C552

80C552 μ P, 22÷33 MHz; 1 RS 232 line (software); 1 RS 232 or RS 422-485 or Current Loop line; 16 TTL I/O lines; 8 A/D 10 bits lines; 3 Timers Counters; 64K EPROM; 64K RAM; 32K RAM and RTC backed; 32K DIL EEPROM; 8K serial EEPROM; 2 PWM lines; 1 Activity LED; Watch dog; 5 readable DIPs; LCD Interface; **ABACO**[®] I/O BUS.

GPC[®] 323

General Purpose Controller 51 family

80C32 μ P, 14 MHz; Full CMOS; 1 RS 232 line (software); 1 RS 232 or RS 422-485 or Current Loop line; 24 TTL I/O lines; 11 A/D 12 bits lines; 3 Timers Counters; 64K EPROM; 64K RAM; 32K RAM and RTC backed; 32K DIL EEPROM; 8K serial EEPROM; Buzzer; 2 Activity LED; Watch dog; 5 readable DIPs; LCD Interface; **ABACO**[®] I/O BUS.

GPC[®] 153

General Purpose Controller Z80

84C15 μ P, 10÷16 MHz; Full CMOS; 1 RS 232 line; 1 RS 232 or RS 422-485 or Current Loop line; 16 TTL I/O lines; 8 A/D 12 bits lines; 2÷4 Timers Counters; 512K EPROM or FLASH; 512K RAM and RTC backed; 8K serial EEPROM; Buzzer; 1 Activity LED; Watch dog; 8 readable DIPs; LCD Interface; **ABACO**[®] I/O BUS.

GPC[®] 184

General Purpose Controller Z80195

Microprocessor Z80195 at 22 MHz; implementation completely CMOS; 512K EPROM or FLASH; 512K RAM; Back-Up with Lithium battery internal or external; 1 serial line RS 232 + 1 RS 232 or RS 422-485 or current loop + 1 TTL; 18 I/O TTL; 4 timer/counter 8 bits; 2 timer 16 bits; Watch Dog; Real Time Clock; activity LED; EEPROM; interface for **ABACO**[®] I/O BUS.

GPC[®] 154

“4” Type General Purpose Controller Z80

84C15 μ P, 10 MHz; full CMOS; 1 RS 232 line; 1 RS 232 or RS 422-485 line; 16 TTL I/O lines; 512K EPROM or FLASH; 512K RAM and RTC backed; 8K serial EEPROM; 2÷4 timers/counters; Watch dog; 2 readable DIPs; LCD Interface; **ABACO**[®] I/O BUS; 5Vdc power supply. Size 100x50 mm.

GPC[®] 324/D

“4” Type General Purpose Controller 80C32/320

80C32 or 80C320 μ P, 14÷22 MHz; Full CMOS; 1 RS 232 line; 1 RS 232 or RS 422-485 or Current Loop line; 4÷16 TTL I/O lines; 3 Timers Counters; 64K EPROM; 64K RAM; 32K RAM backed; 32K DIL E2; 8K serial EEPROM; Watch dog; 1 readable DIP; LCD Interface; **ABACO**[®] I/O BUS; 5Vdc Power supply; Size: 100x50 mm.

GPC® 884

General Purpose Controller Am188ES

Microprocessor AMD Am188ES up to 40 MHz; 16 bits; implementation completely CMOS; serie 4 format; 512K EPROM or FLASH; 512K SRAM backed with Lithium battery; RTC; 1 RS 232 serial line + 1 RS 232 or RS 422-485 or current loop; 16 I/O TTL; 3 timer/counter; watch dog; EEPROM; 11 signals A/D converter with 12 bit resolution; interface for **ABACO®** I/O BUS.

GPC® 114

General Purpose Controller 68HC11

Microprocessor 68HC11A1 at 8 MHz; type 4 format; 32K EPROM; 32K SRAM backed with Lithium battery; 32K EPROM, SRAM, EEPROM; RTC; 1 serial line RS 232, RS 422 or RS 485; 10 TTL I/O lines; 3 timers/counters; watch dog; 8 A/D converter signals with 8 bits resolution; 1 synchronous serial line; extremely low power consumption; interface for **ABACO®** I/O BUS.

GPC® AM4

General Purpose Controller ATmega103

Microprocessor ATmega103 at 5.5 MHz; CMOS implementation; 128K internal FLASH; 32K SRAM; Back-Up with Lithium battery internal or external; 4K internal EEPROM; 1 serial line RS 232, RS 422, RS 485 or current loop; 16 I/O TTL; 8 line A/D resolution 10 bits; 3 timers/counters; Watch Dog; Real Time Clock; **ABACO®** I/O BUS expansion. Interface for ISP programming.

MSI 01

Multi Serial Interface 1 line

Interface card for TTL serial line that is buffered in RS 232, RS 422, RS 485, or current loop line. The TTL line is on a mini screw connector and the buffered one is on standard plug connector.

IBC 01

Interface Block Communication

Conversion card for serial communication, 2 RS 232 lines; 1 RS 422 or RS 485 line; 1 optical fibre line; selectable DTE/DCE interface; quick connection for DIN 46277-1 and 3 rails.

GPC® 188F

General Purpose Controller 80C188

80C188 μ P 20MHz; 1 RS 232 line; 1 RS 232, RS 422-485 or Current Loop line; 24 TTL I/O lines; 1M EPROM or 512K FLASH; 1M SRAM Lithium battery backed; 8K serial EEPROM; RTC; watch dog; 8 dip switch; 3 timer counter; 8 13 bit A/D lines; Power failure; activity LEDs.

GPC® 15A

General Purpose Controller 84C15

Full CMOS card, 10÷20 MHz 84C15 CPU; 512K EPROM or FLASH EPROM; 128K RAM; 2K or 8K backed RAM+RTC; 8K serial EEPROM; 1 RS 232 serial line; 1 RS 232, RS 422, RS 485 or current loop line; 40 TTL I/O lines; 2 counters timers; 2 watch dogs; 2 dip switches, buzzer.

GPC® R/T94

General Purpose Relays/transistors 9 inputs 4 outputs

CMOS card, 14 MHz 89C4051 CPU; 4K FLASH; 128 byte RAM; 256 byte SRAM+RTC backed through battery; 1K serial EEPROM; 1 RS 232, RS 422, RS 485 or current loop line; 9 optocoupled NPN inputs; 4 relays outputs (5 A) or transistor (4A 45 Vdc) optocoupled; I/O lines displayed by LEDs; 1 counter timer.+5 Vdc power supply or 8÷24 Vac wide range; plastic container for Ω rails.

GPC® 150

General Purpose Controller 84C15

Microprocessor Z80 at 16 MHz; implementation completely CMOS; 512K EPROM or FLASH; 512K SRAM; RTC; Back-Up through external Lithium battery; 4M serial FLASH; 1 serial line RS 232 plus 1 RS 232 or RS 422-485 or current loop; 40 I/O TTL; 2 timer/counter; 2 watch dog; dip switch; EEPROM; A/D converter with resolution 12 bit; activity LED.

GPC® 550

General Purpose Controller 80C552

Microprocessor 80C552 at 22 MHz. 32K EPROM; 32 K RAM; 32 K EEPROM or SRAM; RTC; serial EEPROM; serial lines 1 RS 232 + 1 RS 232 or RS 422-485 or current loop; 40 I/O TTL; 2 lines of PWM; 16 bits timer/counter; watch dog; dip switch; 8 lines 10 bit A/D converter; interface for BUS ABACO®; CAN line galvanically isolated. Unique power supply +5 Vdc; EUROCARD format.

SBP 02-xx

Switch BLOCK Power xx version

Low cost switching power supply able to generate voltage from +5 to +40 Vdc and current up to 2.5 A; Input from 12 to 24 Vac; Connection for DIN C Type and Ω rails.

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T

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