RBXM MODULE

AS5025.001 - "DIG.OUT." - 32-channel TRANSISTOR OUTPUT BOARD

Jumpers

A two-position jumper is installed: RESET and HOLD.
If the jumper is on RESET position, in case of system misbehaviour (WATCH DOG NOT-OK) all the outputs are set to their start condition (outputs in Low State).
If the jumper is on HOLD position, or it is not installed, in case of system mishehaviour (WATCH DOG NOT-OK) all the outputs are left in their current state.

Input / Output Words.

The Input/Output word address for each board (CPU excluded) depends on its position inside the rack. Addresses are here referred to as “BASE” + a number representing the board internal offset. To find the value of “BASE” refer to the RHW.CFG configuration file generated by the operating system during the autoconfiguration session and stored in the flash card. This file contains the address of the I/O words for each board installed in your rack. The value of “BASE” is the value of the first Input or Output word in the board.

Number of Input Words: 1
Numerb of Output Words: 2

"Bit 0" is the least significant bit in the word, "Bit 15" is the most significant bit in the word.

Input Word ("BASE" + 0): State of supplies and output transistors

Bit 0:	1 = transistor alarm for outputs 1..8
Bit 1:	1 = transistor alarm for outputs 9..16
Bit 2:	1 = transistor alarm for outputs 17..24
Bit 3:	1 = transistor alarm for outputs 25..32
Bit 4:	1 = supply alarm for outputs 1..8
Bit 5:	1 = supply alarm for outputs 9..16
Bit 6:	1 = supply alarm for outputs 17..24
Bit 7:	1 = supply alarm for outputs 25..32
Bit 8 --> 15	non significant

Output Word ("BASE" + 0): Output transistors 1 --> 16

0 = Output in Low State (Off); 1 = Output in High State (On)

Bit 0 -->	Output 1
Bit 1 -->	Output 2
.	
.	
Bit 15 -->	Output 16

Output Word ("BASE" + 1): Output transistors 17 --> 32

0 = Output in Low State (Off); 1 = Output in High State (On)

Bit 0 -->	Output 17
Bit 1 -->	Output 18
.	
.	
Bit 15 -->	Output 32

At the system reset all the outputs are set to Low State (Off).

Software Requirements.

To work correctly, the board needs the following minimum software requirements:
Operating System Flash (OSFM): Version 1.07 or higher
“RHLL” language: Version 21.04 or higher

upgradings from rel. 3: included the up-dated version of IU5025

RIOR RACK

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If the jumper is on HOLD position, or it is not installed, in case of system mishehaviour (WATCH DOG NOT-OK) all the outputs are left in their current state.

Input / Output Words.

The Input/Output word address for each board (RIOB excluded) depends on its position inside the rack. Addresses are here referred to as “BASE” + a number representing the board internal offset. To find the value of “BASE” refer to the RHW.CFG configuration file generated by the operating system during the autoconfiguration session and stored in the flash card. This file contains the address of the I/O words for each board installed in your rack. The value of “BASE” is the value of the first Input or Output word in the board.

Number of Input Words: 1
Numerb of Output Words: 2
Number of State words: 1(it is treated as an output word)
"Bit 0" is the least significant bit in the word, "Bit 15" is the most significant bit in the word.

State Word: State of output supplies and transistors

It is coded as an Output Word; its address is: 200 + ("W,S, Number " * 50) + "Number of Slot"

Bit 0:	1 = transistor alarm for outputs 1..8
Bit 1:	1 = transistor alarm for outputs 9..16
Bit 2:	1 = transistor alarm for outputs 17..24
Bit 3:	1 = transistor alarm for outputs 25..32
Bit 4:	1 = supply alarm for outputs 1..8
Bit 5:	1 = supply alarm for outputs 9..16
Bit 6:	1 = supply alarm for outputs 17..24
Bit 7:	1 = supply alarm for outputs 25..32
Bit 8 --> 15	non significant

Output Word ("BASE" + 0): Output Transistors 1 --> 16
0 = Output in Low State (Off); 1 = Output in High State (On)

Bit 0 -->	Output 1
Bit 1 -->	Output 2
.	
.	
Bit 15 -->	Output 16

Output Word ("BASE" + 1): Output Transistors 17 --> 32
0 = Output in Low State (Off); 1 = Output in High State (On)

Bit 0 -->	Output 17
Bit 1 -->	Output 18
.	
.	
Bit 15 -->	Output 32

At the system reset all the outputs are set to Low State (Off).

Software Requirements.

To work correctly, the board needs the following minimum software requirements:
Operating System Flash (OSFF): Version 1.01 or higher
Microcontroller Pic: Version 2.00 or higher
“RHLL” language: Version 21.04 or higher

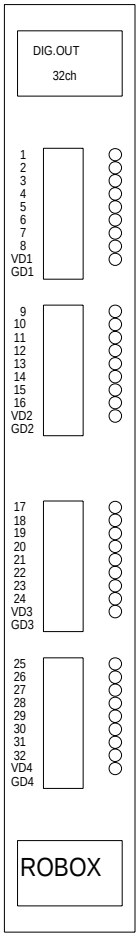
Enclosure: IU5025.001 rev. 1 05.05.98

upgradings from rel. 3: included the up-dated version of IU5025

FRONT PANEL

BOARD:
"DIG.OUT"
32 ch

FRONT VIEW



OUTPUT LED

SUPPLY LED

LED MEANING

THE GREEN LED SITUATED NEAR EACH OUTPUT SHOWS, IF ON, THAT THE RELEVANT OUTPUT IS ACTIVE, THAT IS THE TRANSISTOR IS ON.

THE YELLOW LED SITUATED NEAR EACH EXTERNAL SUPPLY SHOWS, IF ON, THAT THE RELEVANT SUPPLY IS PRESENT (+24V NOMINAL).

REMARK:

Each group of 8 Outputs is protected by a fuse (250V, 4A, Delayed).

If the Supply Led does not get on even if the power supply is on, check the operation of the relevant fuse on the PCB (remove the board from the rack).

If the fuse has blown out, replace it.

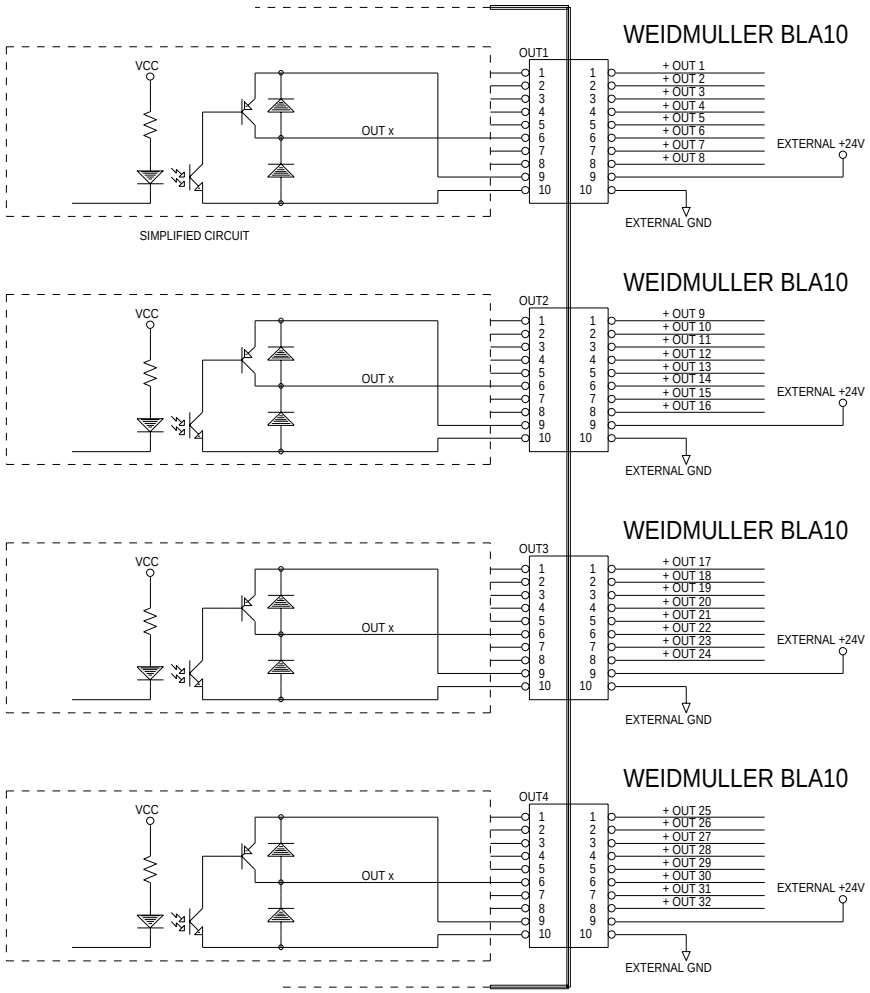
SPECIFICATION

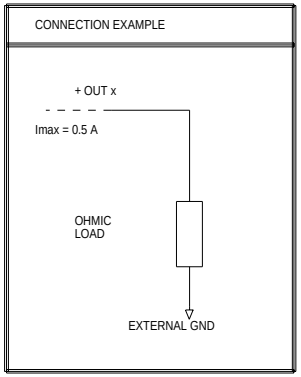
Digital Outputs:	
Number of Outputs	32 (4 groups of 8)
External Supply Voltage Range	from +18 V to +30 V
Total External Supply Current (Outputs Off)	350 mA Maximum
Current for Each Output	0.5 A Maximum
Output Current for an 8-Output group	4 A Maximum
On-State Voltage Drop	1.8 V Maximum
Leakage Off-State Current	1 mA Maximum
Propagation Delay	300 us Typical
Isolation	1500 V ac rms
BOARD SPECIFICATION	
Backplane CUrrent (5V)	500 mA Maximum
Power Dissipation	18 W Maximum
Environmental Conditions:	
Temperature	from 0 to 50 degrees C
Humidity	85% Maximum (without condensation)

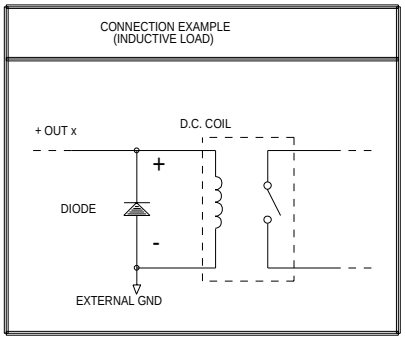
OUTPUTS ARE THERMICALLY AND SHORT CIRCUIT PROTECTED

ROBOX SpA ITALY
Via Sempione 82
Castelletto T.
28053 (NO)

Rev.N. 2	Descr. See Sheet 2	Dis.	R.COLOMBO	Disegno	AS5025.001 USER'S INSTRUCTION	Dis.	R.COLOMBO	D.N.	IU5025.001
Data 21/09/98		Ver.	TERUGGI	Foglio	FRONT PANEL LED MEANING SPECIFICATION	Ver.		Data	03/04/97
		App.	TERUGGI			App.		FN 1	Di 2







CABLES:

OUTPUT: USE SECTION 0.22 mm2 MINIMUM CABLE

EXTERNAL +24V: USE SECTION 0.5 mm2 MINIMUM CABLE

EXTERNAL GND: USE SECTION 0.5 mm2 MINIMUM CABLE

REMARK:

EACH GROUP OF OUTPUTS
IS SEPARATELY SUPPLIED.

ROBOX SpA ITALY Via Sempione 82 Castelletto T. 28053 (NO)	Rev.N. 2 Data 21/09/98	Descr. Value of Imax in Connection Example corrected from 0.5 mA to 0.5 A	Dis.	R.COLOMBO TERUGGI TERUGGI	Disegno Foglio	AS5025.001 USER'S INSTRUCTION EXTERNAL CONNECTION CONNECTION EXAMPLES	Dis. Ver. App.	R.COLOMBO	D.N. Data FN 2 Di 2	IU5025.001 03/04/97