



## Relay Outputs (x8/x16) optically isolated

Ref: 5053-0608-1-BT  
Ref: 5053-0608-1-HT

Arion-IO  
Technical  
specification

### Features



§ Two version of the board :

	Low voltage	High voltage
Reference	5053-0608-1-BT	5053-0608-1-HT
Max. switching voltage	48VDC or 40VAC	60VDC or 125VAC
Max. switching current	1A	500mA

§ Optically isolated: provides a direct connection to industrial equipments

§ Common mode transient immunity of 100V/ $\mu$ s

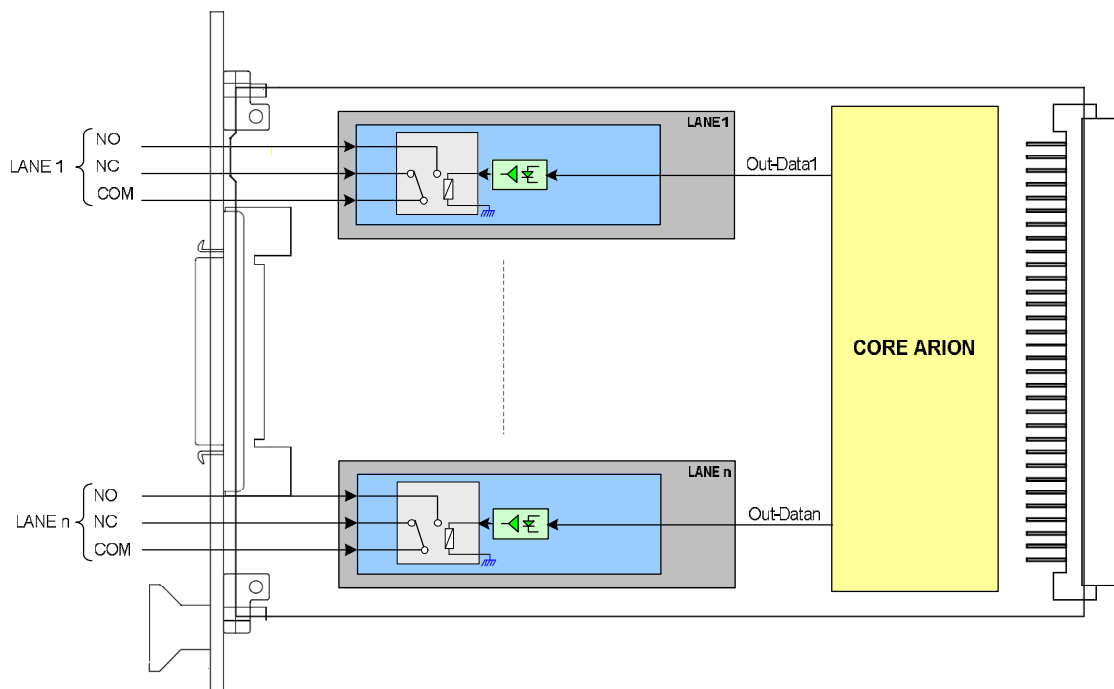
§ All outputs are protected from transient voltage spikes, short-circuits and overvoltage



### Physical and environmental condition

Dimensions: 3U format (length 160mm) x 3T  
Temperature: Industrial range temperature -40°C / +85°C  
Weight: 300g  
Consumption: 450mA for analogical 5V line and 300mA for numerical 3.3V line

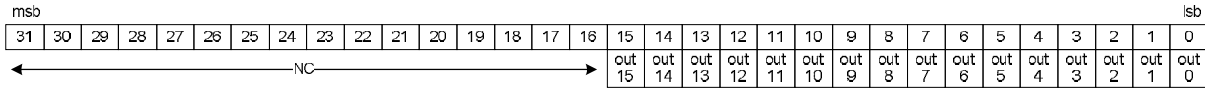
### Block diagram



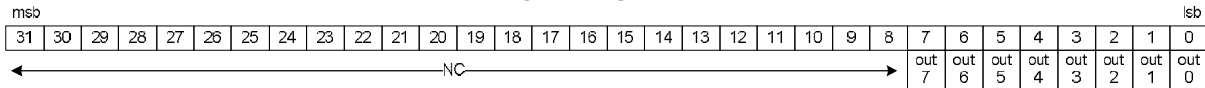


Data coding:

Low voltage Board



High Voltage Board



Arion operating modes

Regarding the data of Arion-IO boards, three operating modes are available. These 3 modes can ONLY be used in 'Global Channel'; See Configuration documentation for more information.

- 1. Cyclic mode: default mode**  
On cyclic trigger, the data are set to the outputs of the board.  
*Remark: The cyclic trigger is created by a configurable timer. This timer is set during the configuration step.*
- 2. Up-Sampled mode: this mode works like cyclic mode but with N samples.**  
On cyclic trigger, a sub-cycle is defined to set N data samples to the outputs of the board.  
*Remark: The N number of samples has to be defined during the configuration step.*
- 3. On demand: this mode is only available on Output Boards.**  
The data are set to the outputs of the board when the user writes data.



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Arion-IO  
Board  
installation

Ref: 5053-0608-1-BT

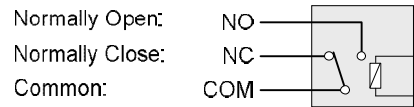
Ref: 5053-0608-1-HT

### Board installation

This board can be installed in any of the 11 slots of the Arion-IO rack. Each position gives a specific address to the board: address 3 to 13 are valid (See *Arion-IO Module installation documentation*)

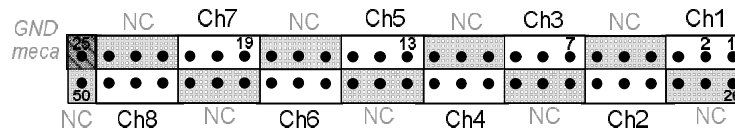
This address is used to define the configuration commands send to the boards. (See *configuration documentation*)

### Abbreviation meaning



### 8 Relay Outputs: Board Connector - Pin assignment

Front view board's connector:

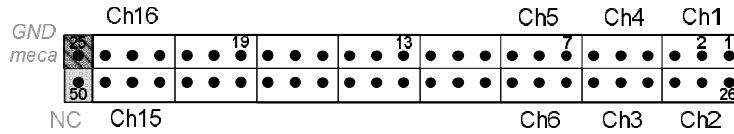


	Pin No	Signal Name
Ch1	1	COM Relay1
	2	NO Relay1
	3	NC Relay1
Ch2	29	COM Relay2
	30	NO Relay2
	31	NC Relay2
Ch3	7	COM Relay3
	8	NO Relay3
	9	NC Relay3
Ch4	35	COM Relay4
	36	NO Relay4
	37	NC Relay4
Ch5	13	COM Relay5
	13	NO Relay5
	15	NC Relay5
Ch6	41	COM Relay6
	42	NO Relay6
	43	NC Relay6
Ch7	19	COM Relay7
	20	NO Relay7
	21	NC Relay7
Ch8	47	COM Relay8
	48	NO Relay8
	49	NC Relay8
	25	GND MECA
Others		NC



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### 16 Relay Outputs: Board Connector - Pin assignment



	Pin No	Signal Name
Ch1	1	COM Relay1
	2	NO Relay1
	3	NC Relay1
Ch2	29	COM Relay2
	30	NO Relay2
	31	NC Relay2
Ch3	7	COM Relay3
	8	NO Relay3
	9	NC Relay3
Ch4	35	COM Relay4
	36	NO Relay4
	37	NC Relay4
Ch5	13	COM Relay5
	13	NO Relay5
	15	NC Relay5
Ch6	41	COM Relay6
	42	NO Relay6
	43	NC Relay6
Ch7	19	COM Relay7
	20	NO Relay7
	21	NC Relay7
Ch8	47	COM Relay8
	48	NO Relay8
	49	NC Relay8
	50	NC

	Pin No	Signal Name
Ch9	13	COM Relay9
	14	NO Relay9
	15	NC Relay9
Ch10	38	COM Relay10
	39	NO Relay10
	40	NC Relay10
Ch11	41	COM Relay11
	42	NO Relay11
	43	NC Relay11
Ch12	16	COM Relay12
	17	NO Relay12
	18	NC Relay12
Ch13	19	COM Relay13
	20	NO Relay13
	21	NC Relay13
Ch14	44	COM Relay14
	45	NO Relay14
	46	NC Relay14
Ch15	47	COM Relay15
	48	NO Relay15
	49	NC Relay15
Ch16	22	COM Relay16
	23	NO Relay16
	24	NC Relay16
	25	GND MECA

### Accessories

The female connector to use is: N10150-3000PE from 3M.

There are several versions of caps lock



§	Plastic	: ref 10350-3210-00
§	Metal	: ref 10350-A200-00
§	Plastic 2 shells	: ref 10350-52F0-008



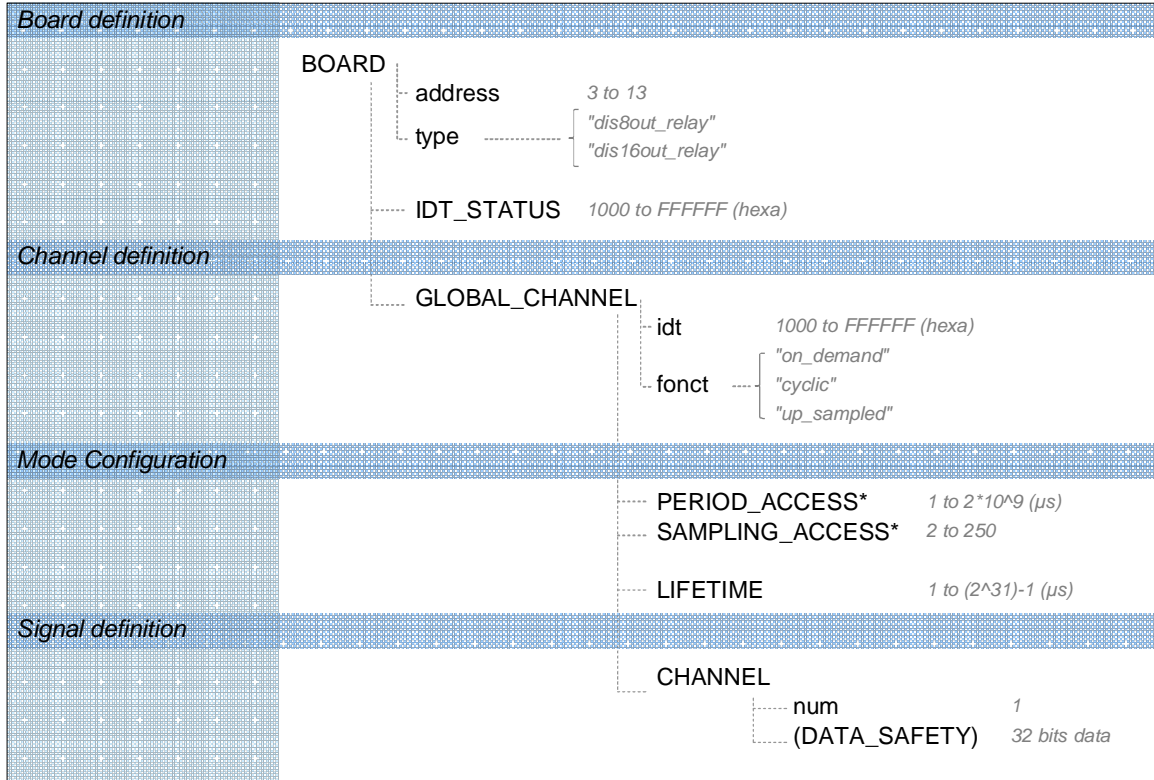
## Relay Outputs (x8/x16) optically isolated

Ref: 5053-0608-1-BT  
Ref: 5053-0608-1-HT

Arion-IO  
Board  
configuration

### Configuration pattern

You must follow the tags and attributes order explained in this pattern to write you ArionIO.xml.



Uppercase = XML tag  
 Lowercase = XML attribute  
 Lowercase italic = value  
 ( ) = Optional tag configuration  
 \* = Conditional configuration (see table below)



Parameters description

Name	Value	Fonction	Special condition
<i>Board definition (Tag: BOARD)</i>			
address	integer (3 to 13)	Address of the board	none
type	dis8out_relay dis16out_relay	Type of the board	none
IDT_STATUS	1000 to FFFFFFFF	Unique ID of the data status of the board	none
<i>Channel definition (Tag: GLOBAL_CHANNEL)</i>			
idt	1000 to FFFFFFFF	Unique ID of the data object	none
fonct	on_demand cyclic up_sampled	Set the functional mode of the data object	none
PERIOD_ACCESS	integer (1 to 2*10^9)	LSB=1us (multiple of arion timer_x)	ONLY IF: cyclique or up-sampled mode
SAMPLING_ACCESS	integer (2 to 250)	Number of sample per period. LSB=1us (multiple of arion timer_x)	ONLY IF: up-sampled mode
LIFETIME	integer (1 to (2^31)-1)	Time validity of data object (LSB=1us)	none
<i>Signal definition (Tag: CHANNEL)</i>			
num	1	Number of channel. Always '1' for global_channel.	none
DATA_SAFETY	32 bits value	Default data value in case of dysfunction	Optional

**Remarks:**

Relay output boards can only be configured in GLOBAL\_CHANNEL configuration. One unique ID is set for the all channels of the board. All the data are in the same ID.  
With this configuration, the tag CHANNEL needs to be configured to set the channels' parameters.

In up-sampled mode PERIOD\_ACCESS / SAMPLING\_ACCESS must be:

- an integer value
- multiple of 2µs and greater than 10µs
- less than 2,097,151µs (2<sup>21</sup>µs)

The tag "IDT\_STATUS" and the attribute "idt" can be set as "auto" in the XML. In this case the IDs are created automatically.

idt format: "rack number"+"board number"+"channel number"

IDT\_STATUS format: "rack number"+"board number"+100

WARNING: The slots 3 to 13 are numbered from 1 to 11. For example, rack 2 / board in slot 7 / channel 3:

- idt: 25003
- IDT\_STATUS: 25100