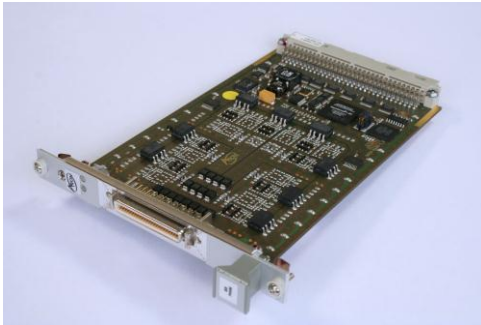


PWM Inputs (x8) optically isolated

Ref: 5057-0608-3

**Arion-IO
Technical
specification**

Features

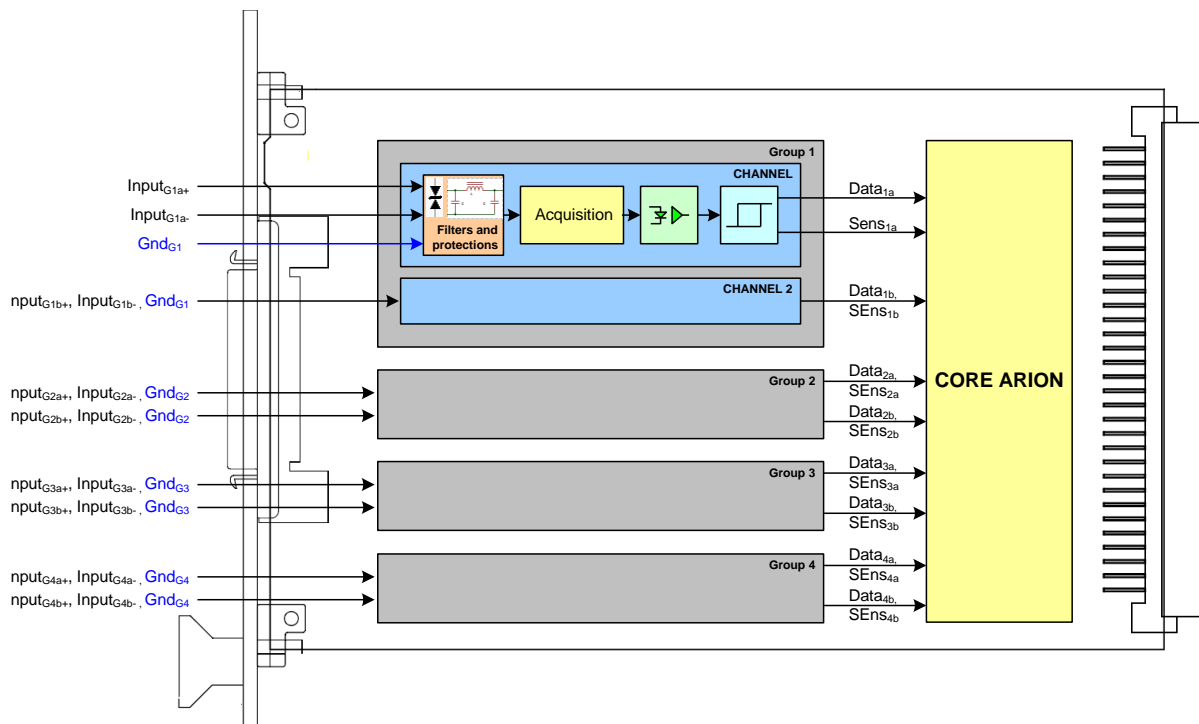


- 8 differential inputs (separated in 4 groups on the board)
- Frequency measurement < 100Hz
- Accuracy measurement of duty cycle : $\pm 0,1\%$
- Input voltage: $\pm 60V$ Max, $I_{nom} : 5mA$
- Threshold voltage :
 - Level_{LOW}: 0V to 1V
 - Level_{HIGH}: 10V to 60V
- Optically isolated: provides a direct connection to industrial sensors and actuators
- Common mode transient immunity of 100V/ μs
- All inputs are protected from transient voltage spikes, short-circuits and overvoltage
- Input filters eliminate glitches and remove noise

Physical and environmental condition

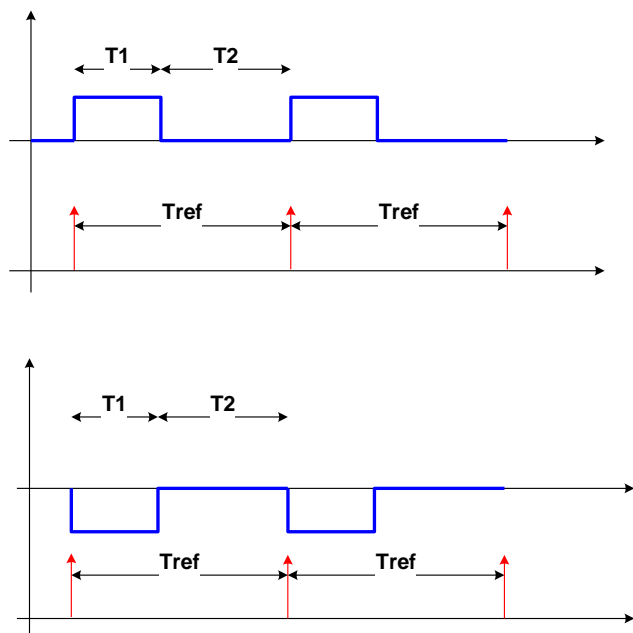
Dimensions: 3U format (length 160mm) x 3T
 Temperature: Industrial range temperature -40°C / +85°C
 Weight: 300g
 Consumption: 200mA for analogical 5V line and y 300mA for numerical 3.3V line

Block diagram



Remark: Each channel of a group shares the same ground but is isolated from the other groups.

This board realizes the duty cycle measurement of the PWM inputs; the signal polarization indicates the direction of the rotation:



The duty cycle K is given by:

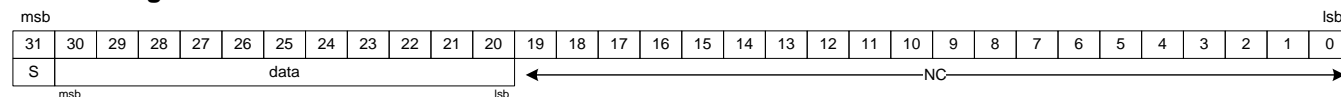
$$T_{Ref} = T_1 + T_2$$

$$K = [T_1 / T_{Ref}] * 1000$$

$$0 \leq K \leq 1000$$

The duty cycle K is encoded on 11 bits (remark: 10 bits would be sufficient to code the max value) + 1 bit of sign (indicating whether the input signal is positive or negative).

Data coding:



Arion operating modes

Regarding the data acquisition of Arion-IO boards, 2 operating modes are available. These 2 modes can be used in 'Global Channel' or 'Channel List'; See Configuration documentation for more information.

1. Cyclic mode: default mode

On cyclic trigger, the data are acquired from the inputs 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 acquire N data samples from the inputs of the board.

Remark: The N number of samples has to be defined during the configuration step.

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