PWM Outputs (x4) optically isolated

Ref: 5057-0608-1

Arion-IO Technical specification

Features

- 4 differential outputs
- 5VDC or up to 60VDC sourcing
- Frequency Range: 10Hz to 100KHz ±1%
- Threshold voltage :

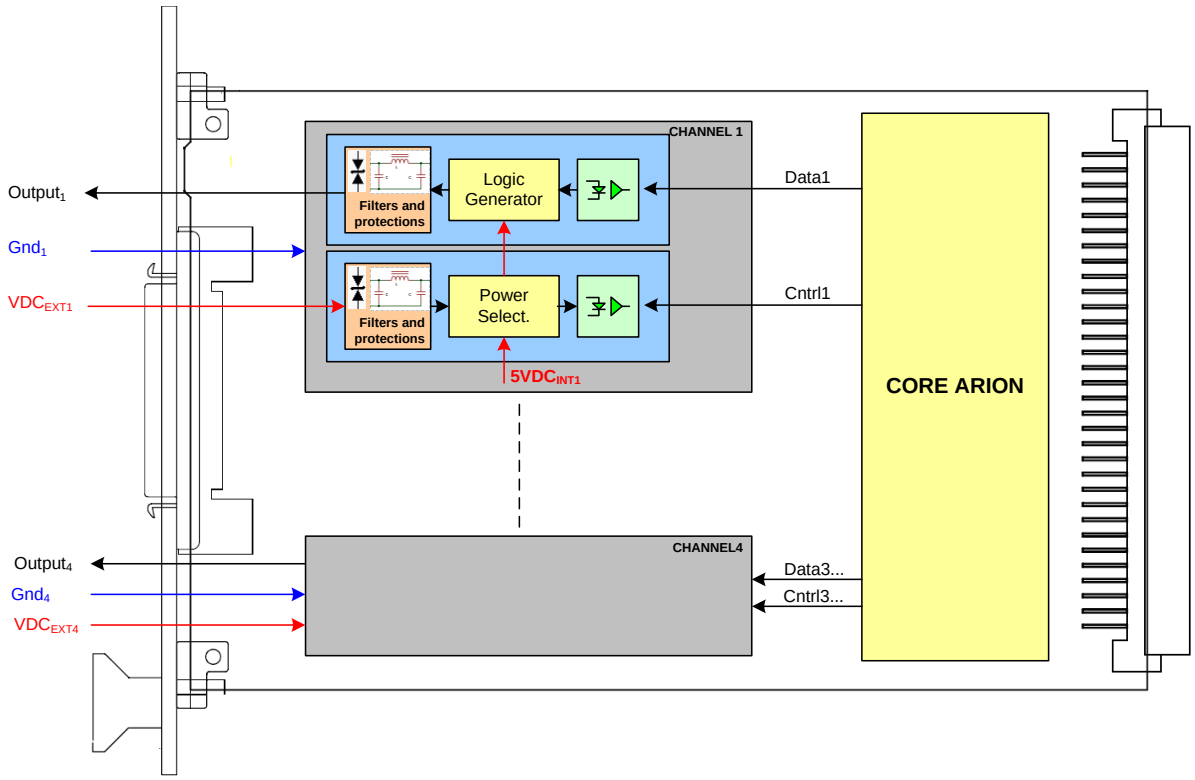
Mode	Z	Low level	High level
Current	≥ 100Ω	0V to 0.1V	2.5V to 5V
Voltage	≥ 100KΩ	0V to 0.1V	2.5V to 5V
External Voltage	≥ 100KΩ	0V to 0.1V	2.5V up to 60V

- Optically isolated: provides a direct connection to industrial equipments
- Common mode transient immunity of 100V/µs
- All outputs are protected from transient voltage spikes, short-circuits and overvoltage

Physical and environmental condition

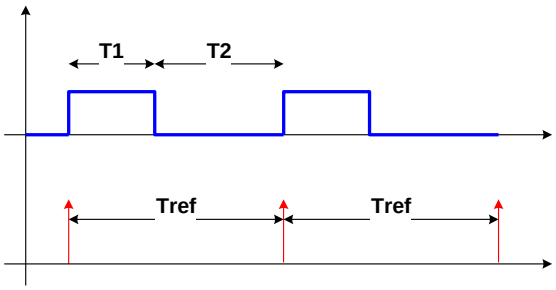
Dimensions:	3U format (length 160mm) x 3T
Temperature:	Industrial range temperature -40°C / +85°C
Weight:	300g
Consumption:	450mA for analogical 5V line and 300mA for numerical 3.3V line

Block diagram



Principle

This board generates the duty cycle of the PWM signal outputs at F_{ref} frequency. This frequency is set during the configuration mode *(see Configuration documentation for more information)*:

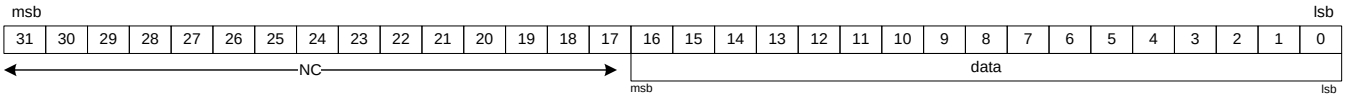


The duty cycle K is set as:

$$K = T_1 / (T_1 + T_2)$$
$$T_1 = K * T_{Ref}$$
$$0 \leq K \leq 1$$

The duty cycle K is encoded on 17 bits in binary with LSB = 1/100,000.

Data coding:



Arion operating modes

Regarding the data of Arion-IO boards, three operating modes are available.
These 3 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 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.