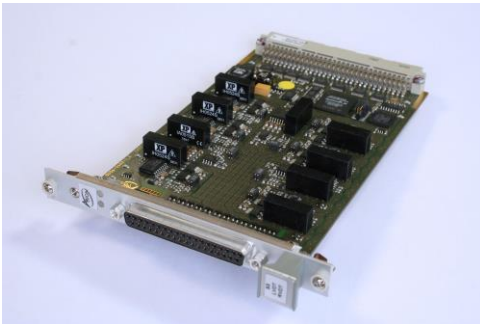


Features



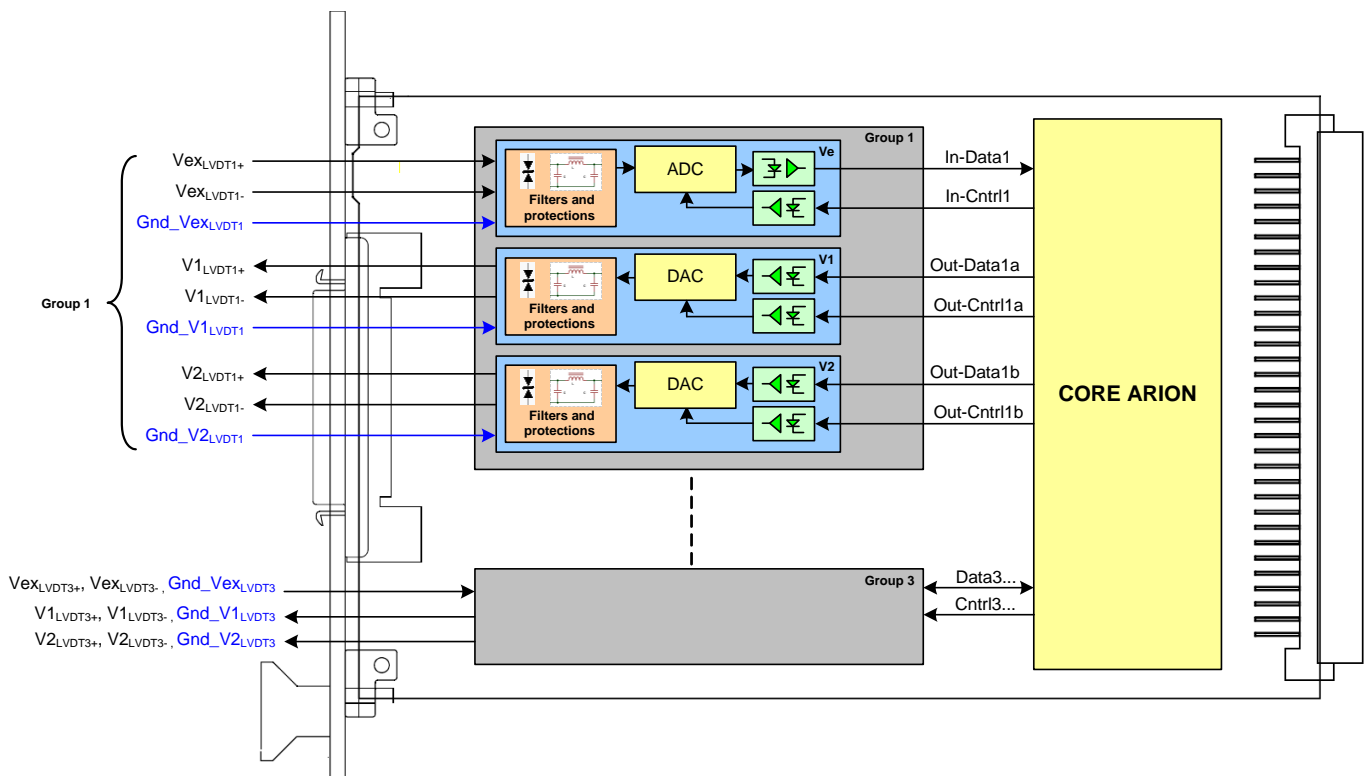
- 4 operational modes:
 - Lvdt
 - Rvdt
 - Direct command
 - Wheatstone Bridge
- Input/Output Frequencies: 400 Hz to 4 kHz.
- Input
 - Voltage (Vex): ± 36,77 V (26 Veff)
 - Resolution: 12 bits
 - Typical Slew rate: 4 V/μs
 - Typical impedance: 400 kΩ
- Output
 - Voltage (V1, V2): ± 16,69 V (11.8 Veff)
 - Resolution: 14 bits
 - Typical Slew rate: 9 V/μs
- 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

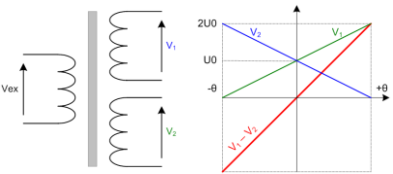
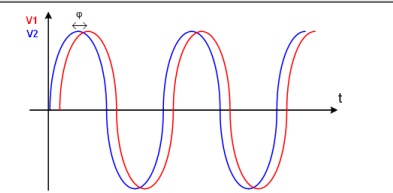
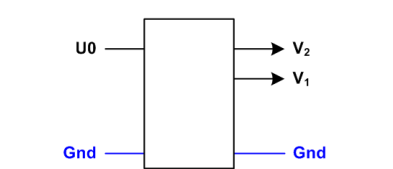
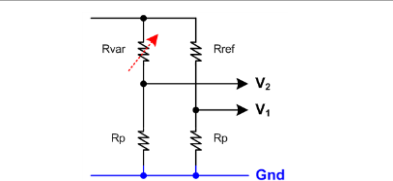


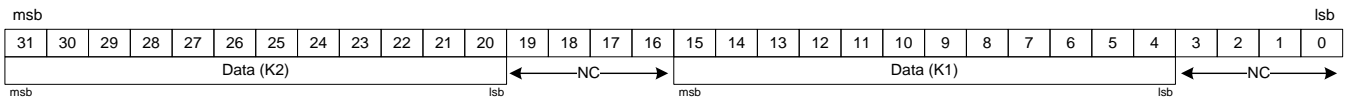
Physical and environmental condition

Dimensions: 3U format (length 160mm) x 3T
 Temperature: Industrial range temperature -40°C / +85°C
 Weight: 300g
 Consumption: 800mA for analogical 5V line and 300mA for numerical 3.3V line

Block diagram



Lvdt		
	$U0 = \text{Coef} * V_{ex}$ $V1 = U0 * (1 + k1)$ $V2 = U0 * (1 - k1)$ $k1 : [-\theta ; +\theta]$	With : $0 \leq \text{Coef} \leq 1$ $-1 \leq k1 \leq +1$
Rvdt		
	$U0 = \text{Coef} * V_{ex}$ $V1 = V2 = U0$ $\varphi = k1 * \pi/2 \text{ (rad)}$	With : $-1 \leq \text{Coef} \leq 1$ $-1 \leq k1 \leq 1$
Direct Command		
	$U0 = \text{Coef} * V_{ex}$ $V1 = k1 * U0$ $V2 = k2 * U0$	With : $0 \leq \text{Coef} \leq 1$ $-1 \leq k1 \leq +1$ $-1 \leq k2 \leq +1$
Wheatstone Bridge		
	$V1 = \frac{U0 * R_p}{R_p + R_{ref}}$ $V2 = \frac{U0 * R_p}{R_p + R_{var}}$ $U0 = \text{Coef} * V_{ex}$ $V1 = k1 * U0$ $V2 = k2 * U0$	With : $0 \leq \text{Coef} \leq 1$ $0 \leq k1 \leq +1$ $0 \leq k2 \leq +1$

Data coding:


If $K_n \geq 0$: $[k_n]_{hex} = [[k_n]_{dec} * 2047]_{hex}$

If $K_n < 0$: $[k_n]_{hex} = [((1 + [k_n]_{dec}) * 2047) + 2048]_{hex}$

with $LSB = 0,5^{10}$. The *Coef* value is set during the configuration step.

Example: $[k_n]_{dec} = 0.5 \Rightarrow [[k_n]_{dec} * 2047]_{dec} = 1023.5 \Rightarrow [k_n]_{hex} = [[k_n]_{dec} * 2047]_{hex} = 3FF$

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.