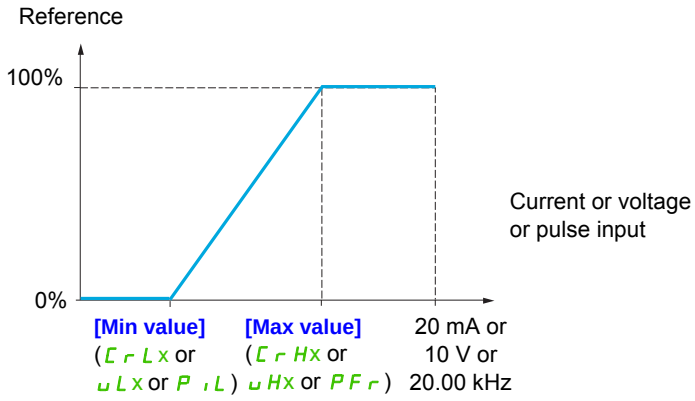
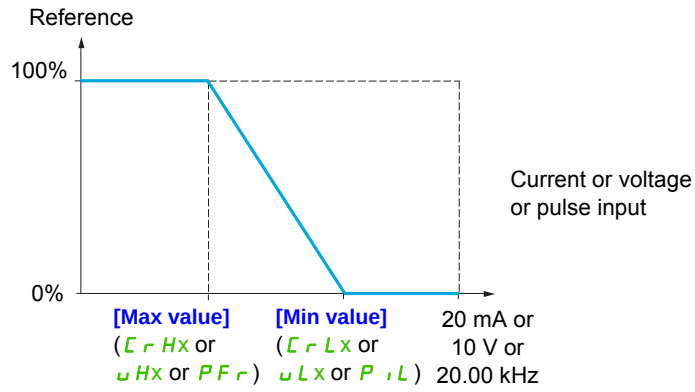
Configuration of analog inputs and Pulse input

The minimum and maximum input values (in volts, mA, etc.) are converted to % in order to adapt the references to the application.

Minimum and maximum input values:

The minimum value corresponds to a reference of 0% and the maximum value to a reference of 100%. The minimum value may be greater than the maximum value:

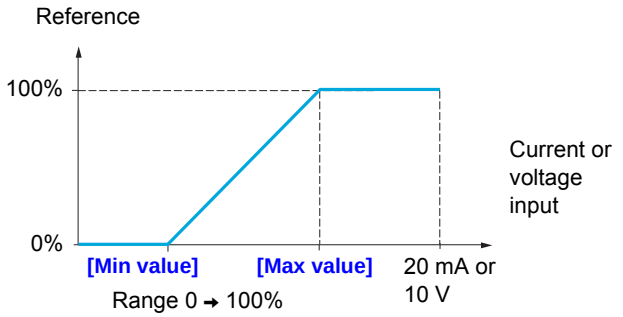


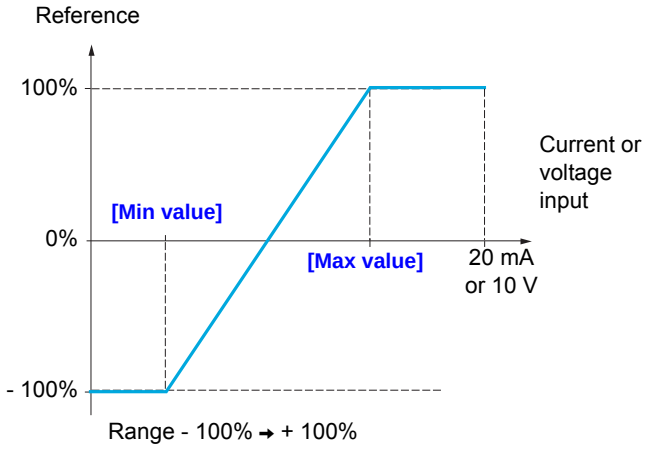


For +/- bidirectional inputs, the min. and max. are relative to the absolute value, for example +/- 2 to 8 V.

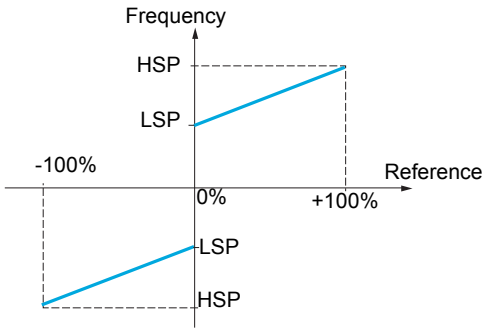
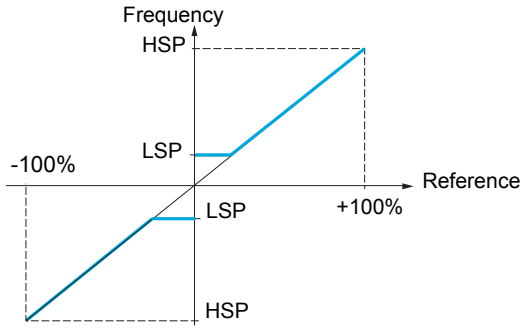
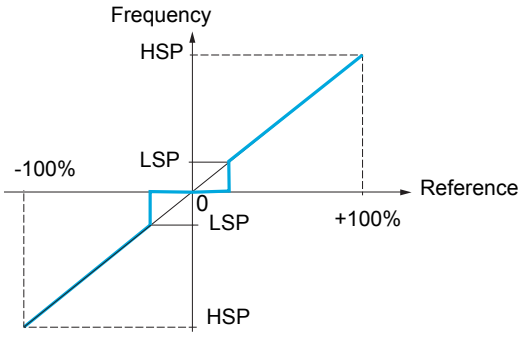
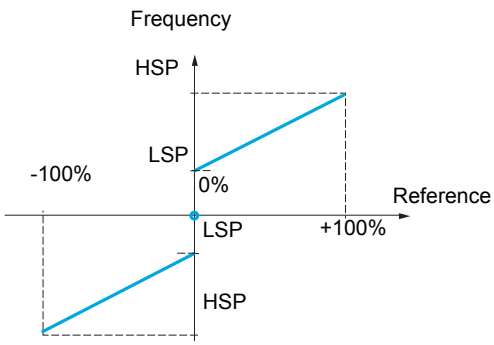
Range (output values): For analog inputs only:

This parameter is used to configure the reference range to [0% ➞100%] or [-100% ➞ +100%] in order to obtain a bidirectional output from a unidirectional input.





Parameters described in this page can be accessed by: DRI- > CONF > FULL > I_O-

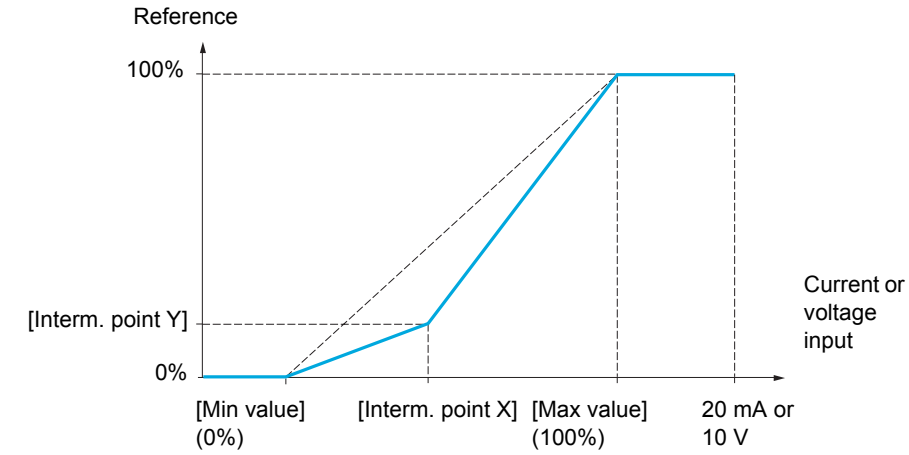
Code	Name / Description	Adjustment range	Factory setting
I_O-	**[INPUTS / OUTPUTS CFG] (continued)**		
bSP	**[Reference template]**		**[Standard]** (bSd)
bSd	**[Standard]** (bSd)  At zero reference the frequency = LSP		
bLS	**[Pedestal]** (bLS)  At reference = 0 to LSP the frequency = LSP		
bnS	**[Deadband]** (bnS)  At reference = 0 to LSP the frequency = 0		
bnS0	**[Deadband 0]** (bnS0)  This operation is the same as **[Standard]** (bSd), except that in the following cases at zero reference, the frequency = 0: The signal is less than **[Min value]**, which is greater than 0 (example 1 V on a 2 - 10 V input) The signal is greater than **[Min value]**, which is greater than **[Max value]** (example: 11 V on a 10 - 0 V input). If the input range is configured as "bidirectional", operation remains identical to **[Standard]** (bSd). This parameter defines how the speed reference is taken into account, for analog inputs and Pulse input only. In the case of the PID regulator, this is the PID output reference. The limits are set by the **[Low speed]** (LSP) and **[High speed]** (HSP) parameters, page 87.		

Parameter that can be modified during operation or when stopped.

Delinearization: For analog inputs only:

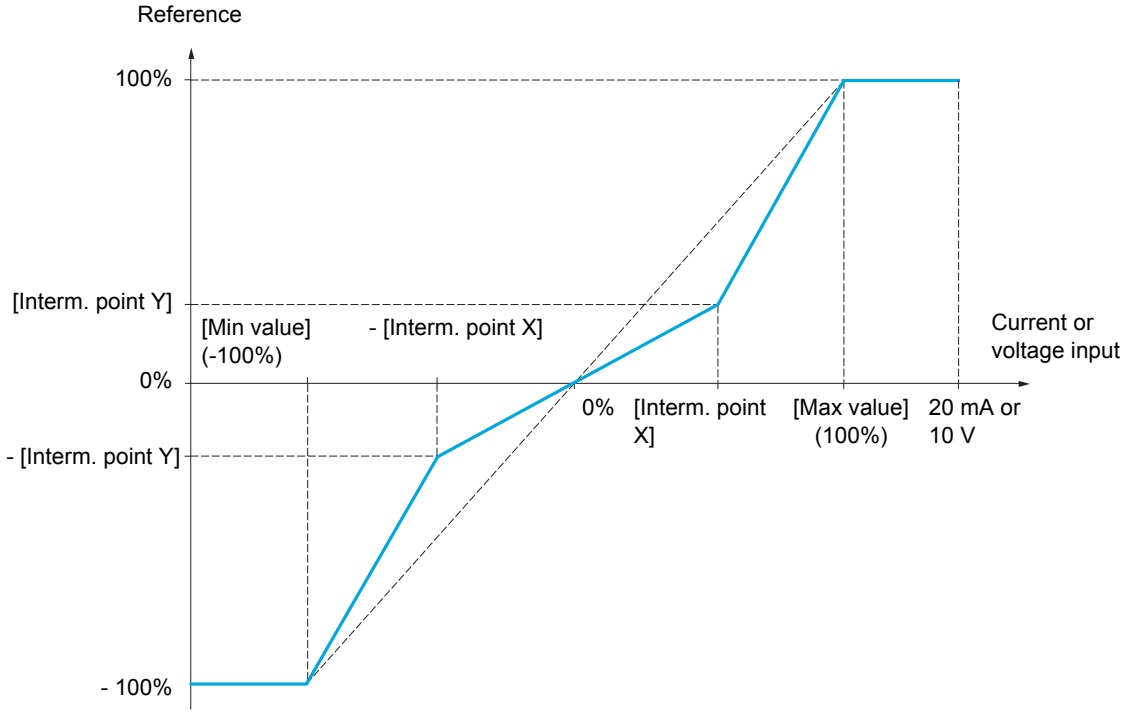
The input can be delinearized by configuring an intermediate point on the input/output curve of this input:

For range 0 ➞ 100%



Note: For [Interm. point X], 0% corresponds to [Min value] and 100% to [Max value].

For range -100% ➞ 100%



Parameters described in this page can be accessed by: DRI- > CONF > FULL > I_O- > AI1-

Code	Name / Description	Adjustment range	Factory setting
AI1-	**[AI1 CONFIGURATION]**		
AI1A	**[AI1 assignment]** Read-only parameter, cannot be configured. It displays all the functions associated with input AI1 in order to check, for example, for compatibility problems. nO **[No]** (nO): Not assigned AO1 **[AO1 assignment]** (AO1): Analog output AO1 Fr1 **[Ref.1 channel]** (Fr1): Reference source 1 Fr2 **[Ref.2 channel]** (Fr2): Reference source 2 SA2 **[Summing ref. 2]** (SA2): Summing reference 2 PIF **[PID feedback]** (PIF): PI feedback (PI control) tAA **[Torque limitation]** (tAA): Torque limitation: Activation by an analog value dA2 **[Subtract. ref. 2]** (dA2): Subtracting reference 2 PIM **[Manual PID ref.]** (PIM): Manual speed reference of the PI(D) regulator (auto-man) FPI **[PID speed ref.]** (FPI): Speed reference of the PI(D) regulator (predictive reference) SA3 **[Summing ref. 3]** (SA3): Summing reference 3 Fr1b **[Ref.1B channel]** (Fr1b): Reference source 1B dA3 **[Subtract. ref. 3]** (dA3): Subtracting reference 3 FLOC **[Forced local]** (FLOC): Forced local reference source MA2 **[Ref.2 multiplier]** (MA2): Multiplying reference 2 MA3 **[Ref. 3 multiplier]** (MA3): Multiplying reference 3 PES **[Weight input]** (PES): Hoisting: External weight measurement function IAO1 **[IA01]** (IAO1): Function blocks: Analog Input 01 ... **...** IA10 **[IA10]** (IA10): Function blocks: Analog Input 10		
AI1t	**[AI1 Type]**		**[Voltage]** (10U)
10U	**[Voltage]** (10U): Positive voltage input 0 - 10 V (negative values are interpreted as zero: the input is unidirectional)		
UIL1	**[AI1 min value]** AI1 voltage scaling parameter of 0%.	0 to 10.0 V	0 V
UIH1	**[AI1 max value]** AI1 voltage scaling parameter of 100%.	0 to 10.0 V	10.0 V
AI1F	**[AI1 filter]** Interference filtering.	0 to 10.00 s	0 s
AI1L	**[AI1 range]**		**[0 - 100%]** (PoS)
PoS	**[0 - 100%]** (PoS): Positive logical		
nEG	**[+/- 100%]** (nEG): Positive and negative logical		
AI1E	**[AI1 Interm. point X]** Input delinearization point coordinate. Percentage of the physical input signal. 0% corresponds to **[AI1 min value]** (UIL1). 100% corresponds to **[AI1 max value]** (UIH1).	0 to 100%	0%
AI1S	**[AI1 Interm. point Y]** Output delinearization point coordinate (frequency reference). Percentage of the internal frequency reference corresponding to the **[AI1 Interm. point X]** (AI1E) percentage of physical input signal.	0 to 100%	0%
I_O-	**[INPUTS / OUTPUTS CFG]** **(continued)**		
AI2-	**[AI2 CONFIGURATION]**		
AI2A	**[AI2 assignment]** Identical to **[AI1 assignment]** (AI1A) page 133.		
AI2t	**[AI2 Type]**		**[Voltage +/-]** (n10U)
10U	**[Voltage]** (10U): Positive voltage input 0 - 10 V (negative values are interpreted as zero: the input is unidirectional)		
n10U	**[Voltage +/-]** (n10U): Positive and negative voltage input +/- 10 V (the input is bidirectional)		
UIL2	**[AI2 min value]** AI2 voltage scaling parameter of 0%.	0 to 10.0 V	0 V