

## Table des matières

1 = Neg, end switch, zero pulse.....	2
2 = Pos, end switch, zero pulse.....	2
3 = Pos, reference cams, zero pulse at RefNock=Low.....	3
4 = Pos, reference cams, zero pulse at RefNock=High.....	3
5 = Neg, reference cams, zero pulse at RefNock=Low.....	4
6 = Neg, reference cams, zero pulse at RefNock=High.....	4
7 = -> left reference cam polarity, zero pulse at RefNock=Low.....	5
8 = -> left reference cam polarity, zero pulse at RefNock=High.....	5
9 = -> right reference cam polarity, zero pulse at RefNock=High.....	6
10 = -> right reference cam polarity, zero pulse at RefNock=Low.....	6
11 = <- right reference cam polarity, zero pulse at RefNock=Low.....	7
12 = <- right reference cam polarity, zero pulse at RefNock=High.....	7
13 = <- left reference cam polarity, zero pulse at RefNock=High.....	8
14 = <- left reference cam polarity, zero pulse at RefNock=Low.....	8
17 = Neg, end switch.....	9
18 = Pos, end switch.....	9
19 = Pos, reference cams, Stop at RefNock=Low.....	10
20 = Pos, reference cams, Stop at RefNock=High.....	10
21 = Neg, reference cams, Stop at RefNock=Low.....	11
22 = Neg, reference cams, Stop at RefNock=High.....	11
23 = -> left reference cam polarity, Stop at RefNock=Low.....	12
24 = -> left reference cam polarity, Stop at RefNock=High.....	12
25 = -> right reference cam polarity, Stop at RefNock=High.....	13
26 = -> right reference cam polarity, Stop at RefNock=Low.....	13
27 = <- right reference cam polarity, Stop at RefNock=Low.....	14
28 = <- right reference cam polarity, Stop at RefNock=High.....	14
29 = <- left reference cam polarity, Stop at RefNock=High.....	15
30 = <- left reference cam polarity, Stop at RefNock=Low.....	15
33 = Next left zero pulse.....	16
34 = Next right zero pulse.....	16
35 = Actual position = Reference position.....	17

## 1 = Neg, end switch, zero pulse

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine    1 = Neg. end switch, zero pulse

vitesse lièvre V1    1000 Grad/s  
vitesse tortue V2    500 Grad/s  
accélération    1000 Grad/s<sup>2</sup>  
offset sur point zéro    0 Grad

conditions de démarrage    OFF (0) = On request (Dig. Input, Bus, PLC)

The diagram shows a horizontal rod with a grey block at the right end. An arrow labeled 'v1' points to the right. A circular switch labeled '1' is attached to the rod. Below the rod, two horizontal lines represent a switch. The top line is labeled 'Zero pulse' and the bottom line is labeled 'Negative limit switch'. The 'Zero pulse' line is high (1) until the rod reaches the switch, then drops to 0. The 'Negative limit switch' line is low (0) until the rod reaches the switch, then rises to 1.

## 2 = Pos, end switch, zero pulse

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine    2 = Pos. end switch, zero pulse

vitesse lièvre V1    1000 Grad/s  
vitesse tortue V2    500 Grad/s  
accélération    1000 Grad/s<sup>2</sup>  
offset sur point zéro    0 Grad

conditions de démarrage    OFF (0) = On request (Dig. Input, Bus, PLC)

The diagram shows a horizontal rod with a grey block at the left end. An arrow labeled 'v1' points to the left. A circular switch labeled '2' is attached to the rod. Below the rod, two horizontal lines represent a switch. The top line is labeled 'Zero pulse' and the bottom line is labeled 'Negative limit switch'. The 'Zero pulse' line is high (1) until the rod reaches the switch, then drops to 0. The 'Negative limit switch' line is low (0) until the rod reaches the switch, then rises to 1.

### 3 = Pos, reference cams, zero pulse at RefNock=Low

Déplacement   Prise d'origine   Fin de course   manuel

Type de prise d'origine   **3 = Pos, reference cams, zero pulse at RefNock=Low**

vitesse lièvre V1    Grad/s  
vitesse tortue V2    Grad/s  
accélération    Grad/s<sup>2</sup>  
offset sur point zéro    Grad

conditions de démarrage   OFF (0) = On request (Dig. Input, Bus, PLC)

Diagram illustrating the cam profiles and their corresponding signals for configuration 3. The top profile shows a cam segment '3' followed by a cam segment '2'. The bottom profile shows a cam segment '3'. The 'Zero pulse' signal indicates the start of each cam segment. The 'Reference cam' signal shows a step change at the start of each cam segment.

### 4 = Pos, reference cams, zero pulse at RefNock=High

Déplacement   Prise d'origine   Fin de course   manuel

Type de prise d'origine   **4 = Pos, reference cams, zero pulse at RefNock=High**

vitesse lièvre V1    Grad/s  
vitesse tortue V2    Grad/s  
accélération    Grad/s<sup>2</sup>  
offset sur point zéro    Grad

conditions de démarrage   OFF (0) = On request (Dig. Input, Bus, PLC)

Diagram illustrating the cam profiles and their corresponding signals for configuration 4. The top profile shows a cam segment '4' followed by a cam segment '1'. The bottom profile shows a cam segment '4'. The 'Zero pulse' signal indicates the start of each cam segment. The 'Reference cam' signal shows a step change at the start of each cam segment.

## 5 = Neg, reference cams, zero pulse at RefNock=Low

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **5 = Neg. reference cams, zero pulse at RefNock=Low**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a cam profile with two lobes, v1 and v2, connected to a switch labeled 5. The switch is closed during the travel of lobe v1 and open during the travel of lobe v2. Below the diagram, two waveforms are plotted against time. The 'Zero pulse' waveform shows a single sharp edge occurring at the start of lobe v1. The 'Reference cam' waveform shows a step change from low to high level, which occurs at the end of lobe v2, indicating the position where the switch 5 opens.

## 6 = Neg, reference cams, zero pulse at RefNock=High

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **6 = Neg. reference cams, zero pulse at RefNock=High**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a cam profile with two lobes, v1 and v2, connected to a switch labeled 6. The switch is open during the travel of lobe v1 and closed during the travel of lobe v2. Below the diagram, two waveforms are plotted against time. The 'Zero pulse' waveform shows a single sharp edge occurring at the start of lobe v1. The 'Reference cam' waveform shows a step change from high to low level, which occurs at the end of lobe v2, indicating the position where the switch 6 closes.

## 7 = -> left reference cam polarity, zero pulse at RefNock=Low

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine: 7 = -> left reference cam polarity, zero pulse at RefNock=Low

vitesse lièvre V1	<input type="text" value="1000"/>	Grad/s
vitesse tortue V2	<input type="text" value="500"/>	Grad/s
accélération	<input type="text" value="1000"/>	Grad/s <sup>2</sup>
offset sur point zéro	<input type="text" value="0"/>	Grad

conditions de démarrage: OFF (0) = On request (Dig. Input, Bus, PLC)

## 8 = -> left reference cam polarity, zero pulse at RefNock=High

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine: 8 = -> left reference cam polarity, zero pulse at RefNock=High

vitesse lièvre V1	<input type="text" value="1000"/>	Grad/s
vitesse tortue V2	<input type="text" value="500"/>	Grad/s
accélération	<input type="text" value="1000"/>	Grad/s <sup>2</sup>
offset sur point zéro	<input type="text" value="0"/>	Grad

conditions de démarrage: OFF (0) = On request (Dig. Input, Bus, PLC)

## **9 = -> right reference cam polarity, zero pulse at RefNock=High**

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **9 => right reference cam polarity, zero pulse at RefNock=High**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

Diagram illustrating the reference cam setup for configuration 9:

- The cam has two notches labeled 9.
- Switch v2 is triggered by the first notch, connecting its coil to ground.
- Switch v1 is triggered by the second notch, connecting its coil to power.
- The 'Zero pulse' signal is high during the gap between the notches.
- The 'Reference cam' signal is a square wave indicating the cam's position.

## **10 = -> right reference cam polarity, zero pulse at RefNock=Low**

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **10 => right reference cam polarity, zero pulse at RefNock=Low**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

Diagram illustrating the reference cam setup for configuration 10:

- The cam has three notches labeled 10.
- Switch v1 is triggered by the first notch, connecting its coil to power.
- Switch v2 is triggered by the second notch, connecting its coil to ground.
- Switch v1 is triggered by the third notch, connecting its coil to power again.
- The 'Zero point' signal is high during the gap between the first and second notches.
- The 'Reference cam' signal is a square wave indicating the cam's position.

## 11 = <- right reference cam polarity, zero pulse at RefNock=Low

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine  ▾

vitesse lièvre V1	<input type="text" value="1000"/>	Grad/s
vitesse tortue V2	<input type="text" value="500"/>	Grad/s
accélération	<input type="text" value="1000"/>	Grad/s <sup>2</sup>
offset sur point zéro	<input type="text" value="0"/>	Grad

conditions de démarrage  ▾

The diagram illustrates a motor shaft with two limit switches, v1 and v2, and a reference cam with three contacts. The waveforms below show the 'Zero pulse', 'Reference cam', and 'Negative limit switch' signals over time. The 'Zero pulse' signal has a pulse at the start of each revolution. The 'Reference cam' signal provides three distinct pulses per revolution. The 'Negative limit switch' signal shows the position of the negative limit switch.

## 12 = <- right reference cam polarity, zero pulse at RefNock=High

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine  ▾

vitesse lièvre V1	<input type="text" value="1000"/>	Grad/s
vitesse tortue V2	<input type="text" value="500"/>	Grad/s
accélération	<input type="text" value="1000"/>	Grad/s <sup>2</sup>
offset sur point zéro	<input type="text" value="0"/>	Grad

conditions de démarrage  ▾

The diagram illustrates a motor shaft with two limit switches, v1 and v2, and a reference cam with three contacts. The waveforms below show the 'Zero point' and 'Reference cam' signals over time. The 'Zero point' signal has a pulse at the start of each revolution. The 'Reference cam' signal provides three distinct pulses per revolution, but its polarity is inverted compared to configuration 11. The 'Negative limit switch' signal is shown as a step function.

### **13 = <- left reference cam polarity, zero pulse at RefNock=High**

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **13 = <- left reference cam polarity, zero pulse at RefNock=High**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a cam profile with two lobes, v1 and v2. Three microswitches (labeled 13) are positioned along the profile: one at the start of v1, one at the end of v1, and one at the start of v2. The Reference cam signal is a square wave that triggers these switches. The Zero pulse signal is a constant low level.

### **14 = <- left reference cam polarity, zero pulse at RefNock=Low**

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **14 = <- left reference cam polarity, zero pulse at RefNock=Low**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a cam profile with two lobes, v1 and v2. Three microswitches (labeled 14) are positioned along the profile: one at the end of v1, one at the start of v2, and one at the end of v2. The Reference cam signal is a square wave that triggers these switches. The Zero pulse signal is a constant low level.

## 17 = Neg, end switch

Déplacement   Prise d'origine   Fin de course   manuel

Type de prise d'origine **17 = Neg. end switch**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

Negative limit switch

## 18 = Pos, end switch

Déplacement   Prise d'origine   Fin de course   manuel

Type de prise d'origine **18 = Pos. end switch**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

Positive limit switch

## 19 = Pos, reference cams, Stop at RefNock=Low

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **19 = Pos, reference cams, Stop at RefNock=Low**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a mechanical system with a horizontal beam. Two cam followers are attached to the beam. The top follower moves with velocity  $v_1$  and the bottom follower moves with velocity  $v_2$ . Both followers are triggered by a reference cam. The beam has a stop at the right end.

## 20 = Pos, reference cams, Stop at RefNock=High

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **20 = Pos, reference cams, Stop at RefNock=High**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a mechanical system with a horizontal beam. Two cam followers are attached to the beam. The top follower moves with velocity  $v_2$  and the bottom follower moves with velocity  $v_1$ . Both followers are triggered by a reference cam. The beam has a stop at the right end.

## 21 = Neg, reference cams, Stop at RefNock=Low

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **21 = Neg. reference cams, Stop at RefNock=Low**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a mechanical system with a horizontal beam. Two cams are mounted on the beam. The upper cam rotates clockwise with velocity  $v_1$ , and the lower cam rotates clockwise with velocity  $v_2$ . A reference cam signal is depicted as a series of vertical steps, indicating discrete pulses.

## 22 = Neg, reference cams, Stop at RefNock=High

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **22 = Neg. reference cams, Stop at RefNock=High**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a mechanical system with a horizontal beam. Two cams are mounted on the beam. The upper cam rotates counter-clockwise with velocity  $v_1$ , and the lower cam rotates counter-clockwise with velocity  $v_2$ . A reference cam signal is depicted as a series of vertical steps, indicating discrete pulses.

## 23 = -> left reference cam polarity, Stop at RefNock=Low

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine 23 = -> left reference cam polarity, Stop at RefNock=Low

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage OFF (0) = On request (Dig. Input, Bus, PLC)

## 24 = -> left reference cam polarity, Stop at RefNock=High

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine 24 = -> left reference cam polarity, Stop at RefNock=High

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage OFF (0) = On request (Dig. Input, Bus, PLC)

The diagram illustrates a cam mechanism with two cams (v1 and v2) and a switch. The switch has two contacts labeled v1 and v2. The switch is normally closed (NC). To the right, a current loop is shown with a resistor and an inductor. At the bottom, timing diagrams show the Reference cam signal (a square wave) and the Positive limit switch signal (a pulse that triggers the switch).

## 25 = -> right reference cam polarity, Stop at RefNock=High

Déplacement | Prise d'origine | Fin de course | manuel |

Type de prise d'origine: 25 = -> right reference cam polarity, Stop at RefNock=High

vitesse lièvre V1	1000	Grad/s
vitesse tortue V2	500	Grad/s
accélération	1000	Grad/s <sup>2</sup>
offset sur point zéro	0	Grad

conditions de démarrage: OFF (0) = On request (Dig. Input, Bus, PLC)

Reference cam

Positive limit switch

## 26 = -> right reference cam polarity, Stop at RefNock=Low

Déplacement | Prise d'origine | Fin de course | manuel |

Type de prise d'origine: 26 = -> right reference cam polarity, Stop at RefNock=Low

vitesse lièvre V1	1000	Grad/s
vitesse tortue V2	500	Grad/s
accélération	1000	Grad/s <sup>2</sup>
offset sur point zéro	0	Grad

conditions de démarrage: OFF (0) = On request (Dig. Input, Bus, PLC)

Reference cam

Positive limit switch

## **27 = <- right reference cam polarity, Stop at RefNock=Low**

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **27 = <- right reference cam polarity, Stop at RefNock=Low**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a mechanical system with a cam mechanism. Two velocity profiles,  $v_1$  and  $v_2$ , are applied to the system. A reference cam is used to trigger two contacts. The negative limit switch is represented by a normally open contact. The timing diagram shows the activation of the contacts and the limit switch relative to the movement of the cam.

## **28 = <- right reference cam polarity, Stop at RefNock=High**

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **28 = <- right reference cam polarity, Stop at RefNock=High**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram illustrates a mechanical system with a cam mechanism. Two velocity profiles,  $v_1$  and  $v_2$ , are applied to the system. A reference cam is used to trigger two contacts. The negative limit switch is represented by a normally closed contact. The timing diagram shows the activation of the contacts and the limit switch relative to the movement of the cam.

## 29 = <- left reference cam polarity, Stop at RefNock=High

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **29 = <- left reference cam polarity, Stop at RefNock=High**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

## 30 = <- left reference cam polarity, Stop at RefNock=Low

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **30 = <- left reference cam polarity, Stop at RefNock=Low**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

### 33 = Next left zero pulse

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **33 = Next left zero pulse**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram shows a horizontal rod with a grey rectangular block in the middle. A circular sensor is positioned on the left side of the block, labeled '33'. An arrow points to the left from the sensor, labeled 'v2'. Vertical dashed lines indicate the travel path of the actuator.

### 34 = Next right zero pulse

Déplacement    Prise d'origine    Fin de course    manuel

Type de prise d'origine **34 = Next right zero pulse**

vitesse lièvre V1  Grad/s  
vitesse tortue V2  Grad/s  
accélération  Grad/s<sup>2</sup>  
offset sur point zéro  Grad

conditions de démarrage **OFF (0) = On request (Dig. Input, Bus, PLC)**

The diagram shows a horizontal rod with a grey rectangular block in the middle. A circular sensor is positioned on the right side of the block, labeled '34'. An arrow points to the right from the sensor, labeled 'v2'. Vertical dashed lines indicate the travel path of the actuator.

## **35 = Actual position = Reference position**

Déplacement | Prise d'origine | Fin de course | manuel |

Type de prise d'origine  ▾

vitesse lièvre V1  Grad/s

vitesse tortue V2  Grad/s

accélération  Grad/s<sup>2</sup>

offset sur point zéro  Grad

conditions de démarrage  ▾