









































- Total duration of movement : Up
- Total amount of movement : Translatory
- Total duration of movement : Translatory
- Total amount inchings movement : Down
- Total inching time movement : own
- Total amount inchings movement : Direction
- Total inching time movement : Direction
- Total amount inchings movement : Up
- Total inching time movement : Up
- Total amount inchings movement : Translatory
- Total inching time movement : Translatory
- TTL1 amount (optional)
- TTL1 total time (optional)
- TTL2 amount (optional)
- TTL2 total time (optional)
- TTL3 amount (optional)
- TTL3 total time (optional)
- TTL4 amount (optional)
- TTL4 total time (en op optional tions)
- B4 alarm amount
- Total alarms amount : except B3, B4, B5 alarms
- SWP

### 9.1.3. Alarms file description

#### Example 1 :

```
19.08.09 16:15:38 1      5      Alarms B3  nA    1
19.08.09 16:15:38 1      6      Alarms B4  nA    1
19.08.09 16:15:38 1     12     Alarms D4  nA    1
```

Apparition B3, B4 and B5 alarms at 16:15:38 on 19/08/2009.

#### Example 2 :

```
19.08.09 16:15:51 1      7      Alarms B5  nA    1
19.08.09 16:15:52 1      7      Alarms B5  nA    0
```

Apparition (1) of B5 alarm at 16:15:51 on 19/08/2009.

Reset or end of alarm B5 at 16:15:52 on 19/08/2009.

### 9.2. Configuration file description

File generated by CoachView assistant (config\_pont.txt)

```
SENSY1           // Crane name
200000          // Nominal capacity of the crane
15000           // Not used
1500            // Dead weight (Kg)
+320497123412   // SMS sending list
+3204971234     //
0.0             // « 0 » load signal calibration (volts or mA) or 0%
10.0           // Full capacity calibration or 100%
```



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```
0 // Display at « 0 » load
100000 // Full load display
1 // Cut cable set point
5 // Amount of time to cross B3 before tripping B3 alarm
2000 // Minimum SWP value before tripping SWP alarm (hours)
10000 // B3 set point (brut signal)
20000 // B4 set point (brut signal)
30000 // B5 set point (brut signal)
2000 // Hysteresis
10 // Minimum temperature set point (°C)
50 // Maximum temperature set point (°C)
1 // Coefficient
10000.0 // Theoretic period of use of the crane at full load(hours)
Not used
Not used
Not used
Not used
00 // TTL1 Alarm
00 // TTL2 Alarm
00 // TTL3 Alarm
00 // TTL4 Alarm
01 // SWP Alarm
00 // B3 Alarm
00 // B4 Alarm
01 // B5 Alarm
01 // Cut wire alarm (load signal lost)
00 // File error alarm
00 // Writing error alarm
00 // Min. Temperature Alarm
00 // Max. Temperature Alarm
00 // Reset movement counter alarm
00 // « Not used » Alarm
```

#### Remark :

00 : If alarm appears → no sms sending/ nor relay tripping.

10 : If alarm appears → sms sending/ no relay tripping.

01 : If alarm appears → no sms sending / relay tripping.

11 : If alarm appears → sms sending + relay tripping.

#### 9.2.1. Alarms / error codes

A1 : Load cell signal not correct (lower than minimum set point)

B3 : B3 set point crossing(minimum overload)

B4 : B4 set point crossing (intermediate overload)

B5 : B5 set point crossing (maximum overload)

C3 : Files writing Error

D3 : Temperature lower than minimum set point

D4 : Temperature higher than maximum set point

DI 1, 2, 3, 4 : Free entries Alarm TTL 1, TTL 2, TTL 3 et TTL 4

E2 : SMS sending error

F5 : RS232 Communication error

FILE : File error

SWP : SWP Alarm

### 9.2.2. Error codes glossary.

- A : Load cell problem
- B : Alarm
- C : Software problem
- D : General hardware problem
- E : SMS module problem
- F : Communication problem

### 9.3. Load spectrum

COACH-II splits analog signal entry in steps.

- Signal between 0 (ou negative) and 5 % = 1° step
- Signal between 6 and 32 % = 2° step
- Signal between 33 and 66 % = 3° step
- Signal between 67 and 100 % = 4° step
- Signal between 101 and 110 % = 5° step
- Signal between 111 and 120 % = 6° step
- Signal above 120 % = 7° step

Recorded values are times obtained by steps and given in seconds.  
These values can modified in the analysis software COACH VIEW.

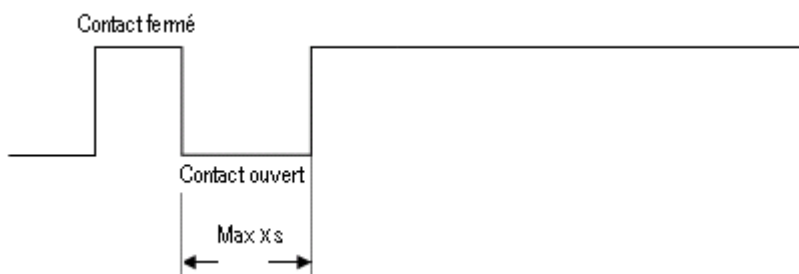
### 9.4. Temperature sensors

COACH-II has 2 temperature sensors :

- One for the inner temperature of the unis (screen).
- One for the CPU temperature.

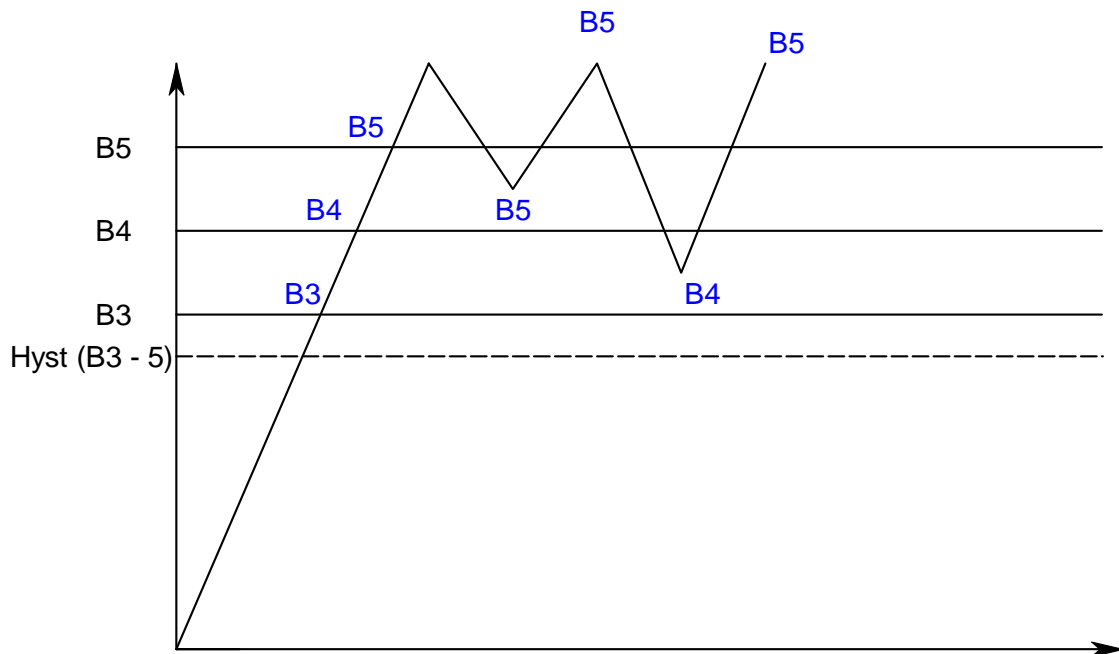
## **10. INCHING DEFINITION**

Movement inching counters will be incremented when the period between 2 contacts is lower than 2 seconds.



## 11. ADVANCED FUNCTIONS

### 11.1. Alarm tripping mechanism



When the load cell signal crosses a set point (B3, B4, B5), related alarm trips. For resetting it, it is necessary that the signal goes below the set point. In present example, resetting B5 alarm implies that it needs to go lower than B4 set point.

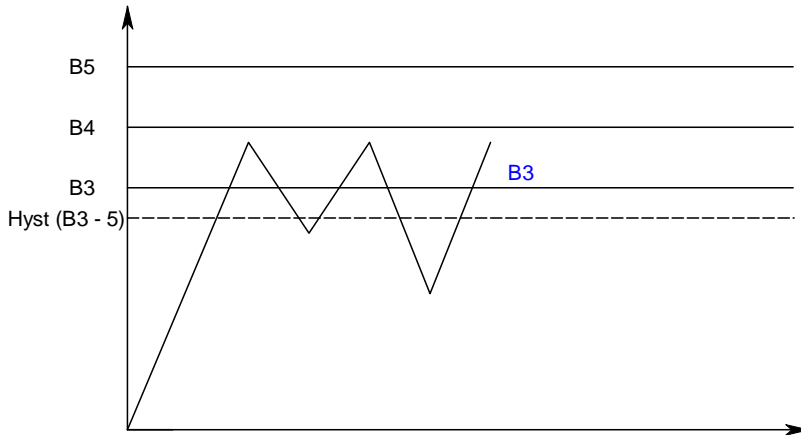
#### Remark :

For resetting B3 alarm, it requires to go below B3 - hysteresis.

### 11.2. Creation of memory file from details file

- When one hour is finished, COACH-II analyses the recording of the file. Then, it sums all recorded lines for which the movement time is before the time of analysis. When date changes, COACH-II goes back in details file of the day before.
- If COACH-II is cut off between 2 hours, when restarting, it will create the file of previous hour.

### 11.3. Overload counter (B3)



It is necessary, in this example, to cross B3 at least 3 times (see MaxCptSurcharge variable = 3 – config\_pont file) in less than one hour to get alarm B3 tripping.

*Remark :*

- This counter is reset if B4 set point is crossed.

### 11.4. Wires connection – only 5 wires are required.

4 wires for the different movement and one common wire for grounding.

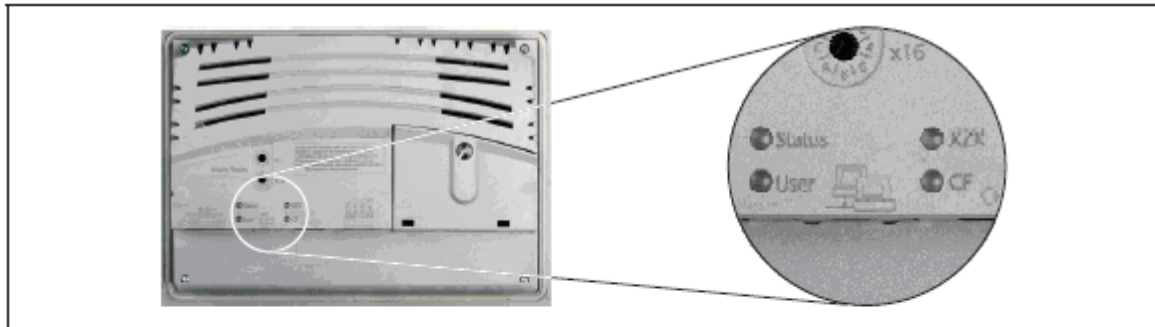
### 11.5. Archiving

In order avoiding Compact Flash available space saturation, COACH-II has an archiving system.

The system erases the files exceeding a precise date.

- Detail files: archiving of files above 200 days.
- Alarms file, no archiving.
- Traces file, no archiving.
- Memory file, no archiving.

## 12. TERMINAL BLOCKS LEDES SIGNIFICATION



LED	Color	Status	Description
Status	Red	On	Error / Reset
	Green	On	RUN
	Orange	On	Boot, Service or Diagnostics mode
	Green on / Orange blinking		RUN, battery not OK
User	Green	-	This LED can be operated by the user (with the AsHW library). This function is supported by Automation Runtime starting with Version N2.90 / A2.92.
X2X	Orange	On	The module sends data via the X2X Link interface.
CF	Orange	On	Access to the CompactFlash card


Figure	LED	Color	Status	Description
	r	Green	Off	Module supply not connected
			Single flash	Reset mode
			Blinking	Preoperational mode
			On	RUN mode
	e	Red	Off	Module supply not connected or everything is OK
			Double flash	Indicates one of the following conditions: <ul style="list-style-type: none"> <li>X2X Link power supply is overloaded</li> <li>I/O supply too low</li> <li>Input voltage for X2X Link supply too low</li> </ul>
	e + r		Steady red / single green flash	Invalid firmware
	X	Orange	Off	No communication at the X2X Link
			On	X2X Link communication in progress
	l	Red	Off	X2X Link supply in the acceptable range
On			X2X Link power supply is overloaded Solution: Use an additional feed module PS3300	





Figure	LED	Color	Status	Description
	r	Green	Off	Module supply not connected
			Single flash	Reset mode
			Blinking	Preoperational mode
			On	RUN mode
	e	Red	Off	Module supply not connected or everything is OK
			Single flash	Warning / error for an I/O channel. Level monitoring for digital outputs has been triggered.
	e + r	Steady red / single green flash		Invalid firmware
	1 - 4	Green		Input status of the corresponding digital input
	1 - 2	Orange		Output status of the corresponding digital output
	1	Green	Off	Open connection or sensor is disconnected
			Blinking	Overflow or underflow of the input signal
			On	The analog/digital converter is running, value is OK
1	Orange	Off	Value = 0	
		On	Value ≠ 0	

Figure	LED	Color	Status	Description
	r	Green	Off	Module supply not connected
			Single flash	Reset mode
			Blinking	Preoperational mode
			On	RUN mode
	e	Red	Off	Module supply not connected or everything is OK
			On	Error or reset state
	e + r	Steady red / single green flash		Invalid firmware
1 - 2	Orange		Output status of the corresponding digital output	