User Manual

SWTouch

Touch screen for PME SWT weighing module

NU-SWTouch-E-0315_227718-A.docx
SCAIME SAS – Technosite Altéa –BP501- 74105 ANNEMASSE Cedex
Tél. : +33 (0)4 50 87 78 64 – www.scaime.com

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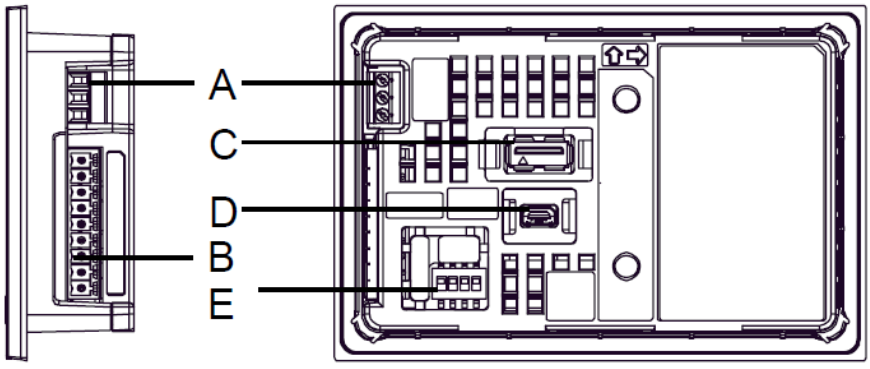
1. Hardware

1.1. Presentation

SWTouch, is a compact graphic operator interface with the following specifications:

Display type	Back lighted 3.4" STN Monochrome LCD
Resolution	W200 x H80 pixels
Display area	W80 x H40 mm
Display colours	Monochrome White/Red/Pink (16 Levels)
Backlight	White/Red LED
Brightness / Contrast	16 levels / 8 Levels
Touch Panel type	Resistive film, resolution 1024x1024
Touch panel service life	1,000,000 times or more
Input voltage	24VDC, 6.2W or less
Rated voltage	DC 19.2 to 28.8V
Insulation resistance	DC 500V, 10MΩ
Grounding	Grounding resistance of 100Ω, 2mm² or thicker wire
Dimension	W116.5 x H77.5 x D28mm
Weight	0,2 kg approx.
Panel cut dimension	W105 x H66 mm Panel thickness area: 1 to 5 mm
Surrounding air temperature	0 to +50°C
Ambient humidity	10 to 90 % RH (Wet bulb temperature: 39 °C or less - no condensation.)
Dust	0.1 mg/m³ or less (non-conductive levels)
Storage temperature	-20 to +60°C
Structure	IP65, on the front panel when properly installed in an enclosure
Cooling method	Natural air circulation
Serial Interface COM1	RS-422/485, Asynchronous Transmission, Data Length: 7 or 8 bit, Parity: none, Odd or Even, Stop Bit: 1 or 2 bit, Data Transmission Speed: 2,400 bps to 115.2 kbps, Communication Distance: 30 m or less
USB1 interface	Conforms to USB2.0 (Type A), Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
USB2 interface	Conforms to USB2.0 (mini-B), Communication Distance: 5 m or less

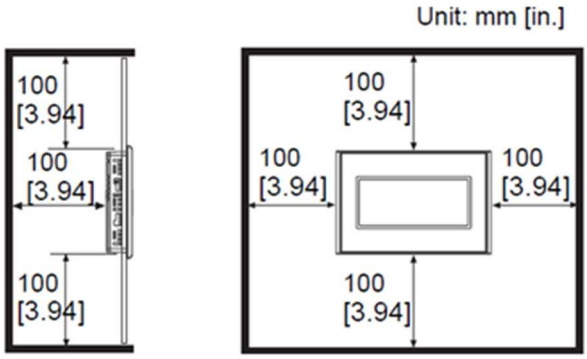


(A) Power Connector
(B) Serial Interface (COM1)
(C) USB (Type A) Interface (USB1)
(D) USB (mini B) Interface (USB2)
(E) DIP Switch (SW1)

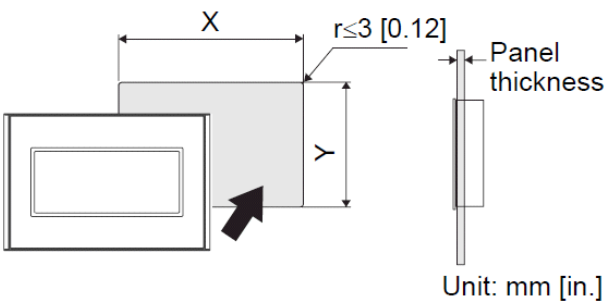
1.2. Installation

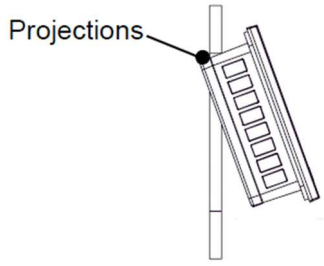
1.2.1. Installation requirements

- For easier maintenance, operation, and improved ventilation, be sure to install SWTouch at least 100mm [3.94in.] away from adjacent structures and other equipment.
- Be sure that the surrounding air temperature and the ambient humidity are within their designated ranges. (Surrounding air temperature: 0 to 50°C, Ambient humidity: 10 to 90%RH, Wet bulb temperature: 39°C max.) When installing SWTouch on the panel of a cabinet or enclosure, “Surrounding air temperature” indicates both the panel face and cabinet or enclosure’s internal temperature.



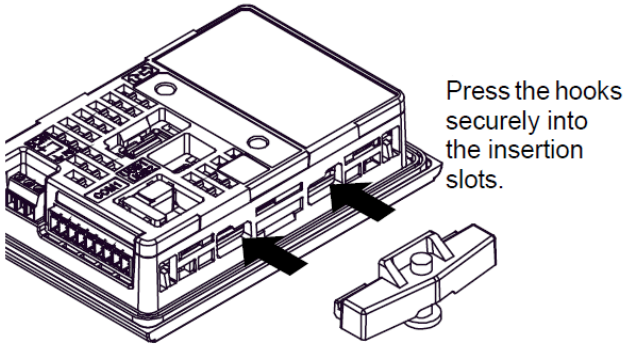
1.2.2. SWTouch installation

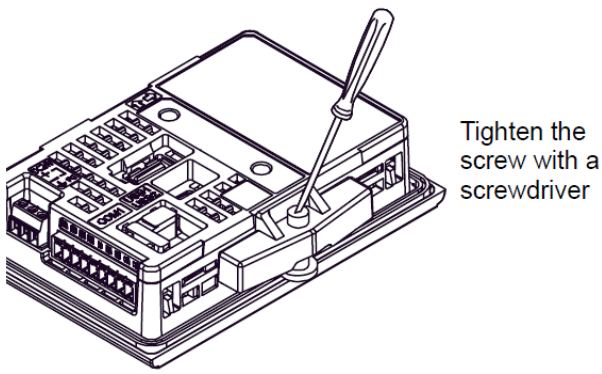




X	Y	Panel thickness	SWTouch has two projections on the top to prevent falling during installation. Please insert the unit into the panel at an angle to avoid hitting the projections.
105.0 [4.13]	66.0 [2.60]	1.0 [0.04] To 5.0 [0.20]	

- Cut a hole in the panel according to the SWTouch cutout dimensions.
- Confirm that the installation gasket is attached to SWTouch unit and then place the unit into the Panel from the front.
- It is strongly recommended that you use the installation gasket, since it absorbs vibration in addition to repelling water.

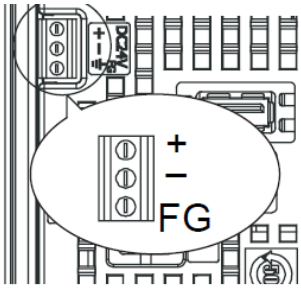




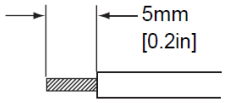
- Press the installation fastener hooks securely into the insertion slots on SWTouch.
- Tighten the installation fasteners with a screwdriver. There are two insertion slots on both the top and bottom.

1.3. Electrical powering

- Supplying a power voltage other than that specified will damage the power source and the unit.
- When the FG terminal is connected, be sure the wire is grounded.



+	24V
-	0V
FG	Grounding Terminal connected to SWTouch chassis
Conductor type	Simple Wire: 0.75 to 1.5mm2 Stranded Wire: 0.75 to 1mm2



1.4. RS485 interface for connection to PME SWT 0100

- The serial interface is not isolated. Always connect the SG (Signal Ground) of the unit to the connected device.
- SG (Signal Ground) and FG (Frame Ground) are connected internally

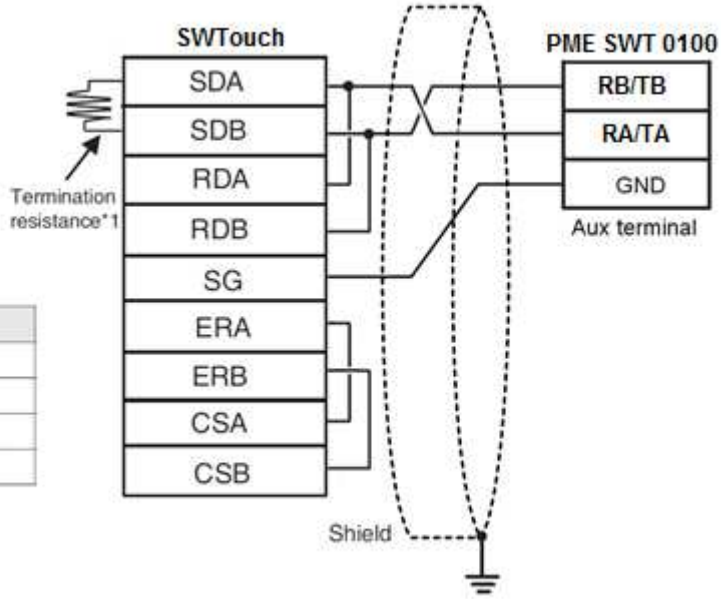
RS422/RS485 terminal Block	
Label	**Meaning**
CSB	Send Possible B (-)
CSA	Send Possible A (+)
ERB	Data Terminal Ready B (-)
ERA	Data Terminal Ready A (+)
SG	Signal Ground
RDB	Receive Data B (-)
RDA	Receive Data A (+)
SDB	Send Data B (-)
SDA	Send Data A (+)

- A terminating resistor can be inserted using the DIP Switch (4-bit) on the rear of the RS-422/485 type. Factory default settings are all set to “OFF” (no terminating resistor).

Important: If the distance between SWTouch and PME SWT is short (<1m), don’t use terminating resistor on the SWTouch side as well as the PME SWT side.

*1

DIP Switch No.	Set Value
1	OFF
2	OFF
3	ON
4	ON



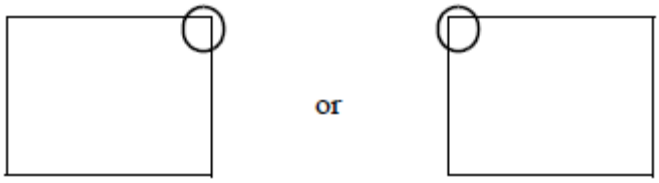
2. Off-Line setting

Offline mode provides access to system settings, self-diagnostics, and so on. Use offline mode to set up the display unit before use.

2.1. Entering Offline mode

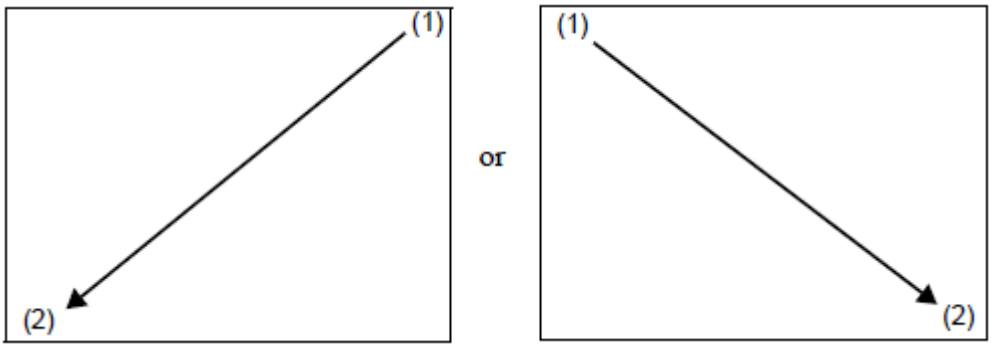
At Power ON

Touch the upper right corner or upper left corner (within 40 pixels of the edges) of the panel for at least 3 seconds soon after the startup screen is displayed.



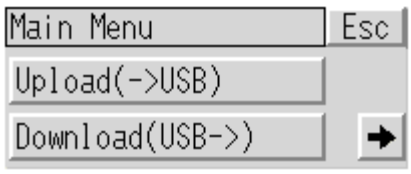
When Operating

Touch the upper right then bottom left corners, or the upper left and bottom right corners of the panel (within a 40 pixel area) in 0.5 seconds.



When the system menu is displayed, touch the [Offline] button

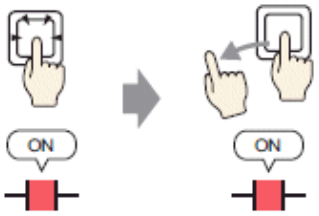
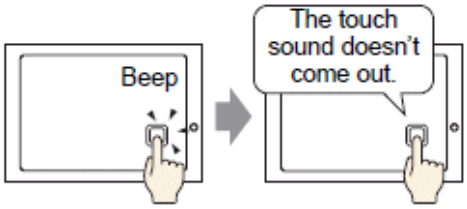
- Touch [Offline] to go to Offline mode
- Touch [USB] to start the USB memory loader tool, allowing you to upload or download SWTouch software from USB port.



2.2. Offline mode operations

After entering in Offline mode, SWTouch displays a menu allowing consulting and modifying the SWTouch settings

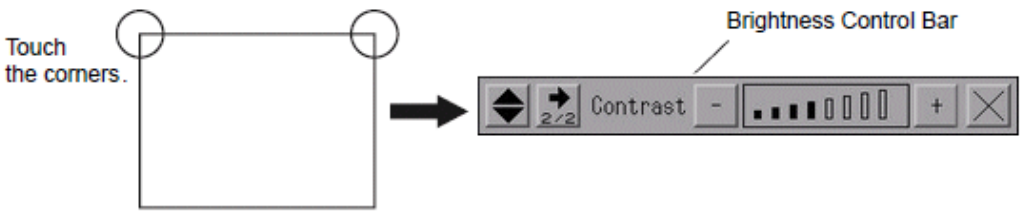
2.2.1. Main unit Menu

Menu Input	Parameter	Description	Default
Screen setting	Initial screen Number	Number of the screen that displays at startup	**1**
	Standby mode setting	Select the standby mode from [None], [Screen OFF], or [Screen Change].	**[None]**
	Standby Mode time	set the time from 1 to 255 minutes after which the screen is cleared	**1**
	Change to Screen N° in Standby Mode	Related to [Screen Change] Standby mode	**1**
Operation Settings	Touch Panel Detection	To detect touch on touching (ON) or Releasing (OFF) the panel 	**ON**
	Touch Buzzer Sound	Enable/Disable the in-built Buzzer sound upon a touch 	**Disable**
Display setting	Show Brightness / contrast control bar	Specify whether to display on touch the Control Bar to adjust brightness and contrast.	**Enable**
	D-Script_debug Function		**Enable**
Menu and Error	System Language		**English**
	Show System Menu		**Lower Part**
	Show Error Online		**[None]**
	Error Display Position		**Lower Part**

Note: **Never change the parameters in grey**

2.2.2. Brightness/contrast control

- To display the Brightness / Contrast Control Bar on the display unit, enable the setting [Show Brightness/Contrast Control Bar] in [Display Settings] (§2.2.1)
- Touch the upper right then left corners, or the Bottom left and right corners of the display in 0.5 seconds.



- To end Brightness/Contrast Control mode, touch the [x] on the Brightness/Contrast Control Bar.

2.2.3. Device/PLC Menu

Menu Input	Parameter	Description	Default
Communication	SIO Type	Set the Communication type	**RS422/485 (2wire)**
	Speed	Communication Speed : Should be set according to PME SWT 0100 communication settings	**9600**
	Data Length		**8**
	Parity		**[None]**
	Stop Bit		**2**
	Flow Control		**[None]**
	Time out (s)		**2**
	Retry		**1**
	Wait to send (ms)		**10**
Device	Device Name		**PME SWT 0100**
	Slave Address (Decimal)	PME SWT 0100 slave address : Should be set according to PME SWT 0100 communication settings	**1**
	Max. Query Read Input Reg.		**30**
	Max. Query Read Holding Reg.		**30**
	Max. Query Write Holding Reg.		**30**
Driver Info	Manufacturer		**Schneider Electric SA**
	Series		**MODBUS SIO Master**
	N° of Device		**1**

Note: **Never change the parameters in grey**

2.2.4. Password menu

Menu Input	Parameter	Description	Default
System Password	System Password	The password setting is used when changing to the Initialize Memory or offline mode screens.	-
Security Password	Security Password	Not used	-

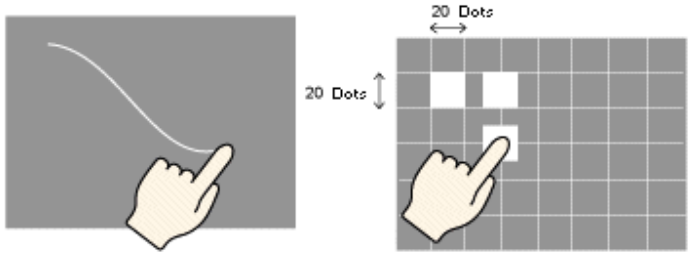
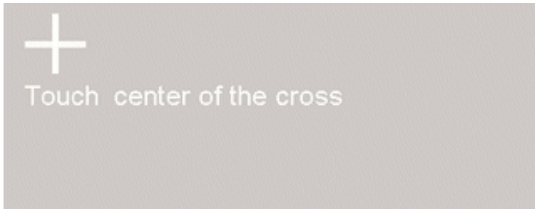
Note: **Never change the parameters in grey**

2.2.5. Initialize menu

Menu Input	Action
User memory	Deletes all data in the display unit's internal memory. Enter System password to operate, or 1101 (default password)
Backup Data	Clears all the data stored in the display unit's backup memory. Enter System password to operate, or 1101 (default password)

Note: **Never use the commands in grey: You'll lost the SCAIME SWTouch application**

2.2.6. Maintenance menu

Menu Input	Action
Check Pattern	Check the drawing function. Confirms whether the liquid crystal display (LCD) displays correctly 
Check Touch Panel	Touch panel check. Checks that the touched area lights up correctly. 
Calibration	Correct an analog touch panel. Continue touching until the crosshatch moves or disappears. 
Check com	Check the send and receive lines of network communication

3. On-Line Functioning

3.1. Startup screens

- At Power-On, the connection screen is displayed while SWTouch try to communicate with connected PME SWT device.
- If the connection screen is displayed more than 5 seconds or if the communication error screen is displayed, consider the connection cannot be established: check the RS485 wiring (§1.4) and check the PME SWT and SWTouch communication settings (§2.2.3).

Connection screen

Communication error screen

- When connection is well established with compatible PME SWT 0100 model, the following screen is displayed during 3 seconds.

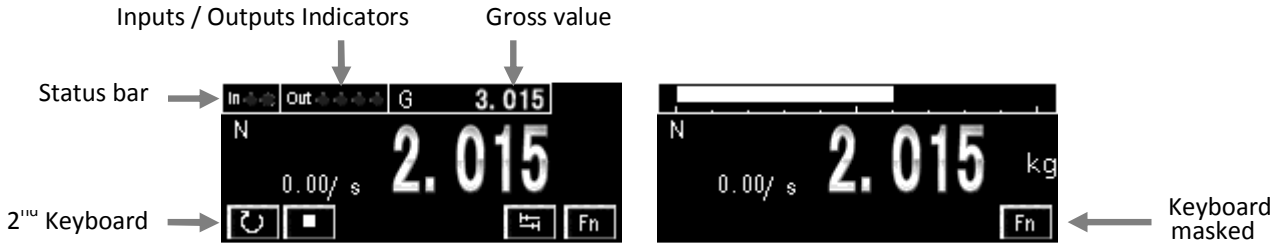
PME SWT model and firmware version

3.2. Display panel initialization

When the legal for trade mode is active, the display is checked at each power-up or connection

3.3. Main screen

3.3.1. Screens presentation



- To switch from the Bar graph to the Status bar, touch the Weight value area
- To switch from the main keyboard to the 2nd keyboard, touch 

3.3.2. Keyboard functions

	Keyboard touch	Action
Main Keyboard		
	>0<	ZERO function : possible only under stability condition, according to stability criterion
	>T<	TARE function : possible only under stability condition, according to stability criterion
	>PT	PRESET TARE function
	C	CANCEL TARE function
	⇆	Shift to 2nd keyboard
	Fn	Enter to Setup menu
2nd Keyboard		
	↻	START CYCLE: Start the dosing cycle if starting conditions are satisfied (Logical outputs S0 and S1).
	■	STOP CYCLE: Stop the dosing cycle

3.4. Main setup menu

- SWTouch setup menu allows displaying information's related to the device and modifying all the PME SWT 0100 calibrations parameters. For more information about these parameters, consult PME SWT 0100 software manuals.
- Setup menu access can be secured by password (through DTM). In that case, the following screen is displayed:

- After entering a valid password (or 5555 if you've forgot your password), the following menu is displayed:

PME SWT 0100: Main setup screen

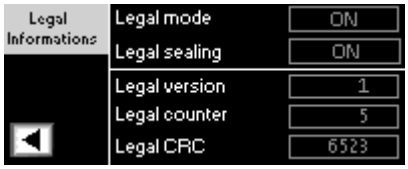
3.4.1. Information's screen

Parameter	Possible Value	Description

Model	PMESWT0100	Connected device name
Firmware N°	10023	Weighing application firmware version (in form 1.00.23)
Address	1-127	Serial HMI address setting
Rate	9600-38400	Serial HMI baud rate setting

3.4.2. Legal for trade screen

Parameter	Possible Value	Description

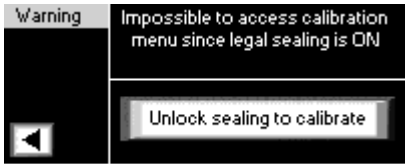


Legal mode	ON-OFF	Weighing module in legal for trade mode
Legal sealing	ON-OFF	Sealing mode activation flag, check consistency of legal for trade parameters
Legal version	1	Legal for trade firmware version
Legal counter	5	Legal for trade counter (used to check sealing consistency)
Legal CRC	6523	Legal for trade CRC (used to check sealing consistency)

3.4.3. Calibration setup

Calibration access with legal sealing ON

When legal sealing is ON, access to calibration is protected. SWTouch displays the following screen



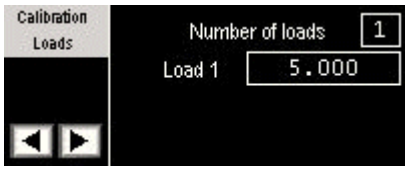
You must confirm to unlock legal sealing if you want to access to calibration. If so, a new legal CRC will be calculated and legal counter incremented

Calibration access with legal sealing OFF

Parameter	Possible Value	Description
Calibration Parameters		

Range	0 – 10 000 000	Maximum capacity
Division	1, 2, 5, 10, 20, 50	Difference between two consecutive indicated values
Decimals	0-7	Position of decimal point

Unit	4 visible char	Weight measurement unit (g, kg, t, lb…) displayed on main screen
Ignore DTM calibration	Yes/No	This flag is used to ignore previous calibration from PLC FDR local at device power-up. **Note:** You can use the PME SWT 0100 DTM tool to save the calibration performed from SWTouch HMI into PLC FDR local (please refer to DTM user manual for more details)
Physical calibration		

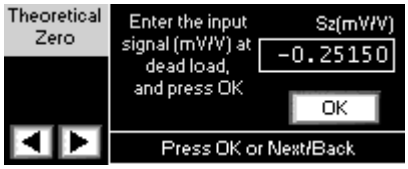


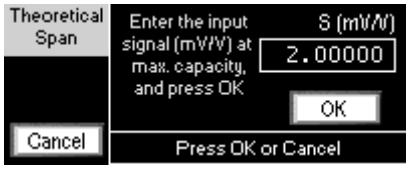
Number of loads	1, 2, 3	Number of calibration loads used during the physical calibration.
load 1/2/3	1 – 1 000 000	Weight values corresponding to each calibration segment.
Zero Calibration		

Allows acquiring stable measurement with no load on the scale to set the calibration Zero

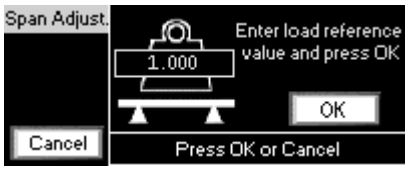
Theoretical calibration		

An automatic scaling to migrate from the factory calibration to the user calibration. The theoretical calibration could be set on zero and/or span.

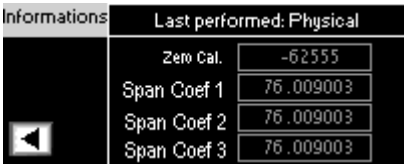




Sz (mV/V)	-6.00000 – 6.00000	Load cell sensitivity in mV/V at dead load
S (mV/V)	0 – 6.00000	Load cell sensitivity in mV/V at maximum capacity
Span adjustment		

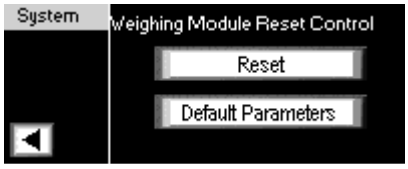


load	0 – 1 000 000	Allows to adjust calibration span coefficient with 1 reference load (**Number of loads** parameter will be automatically set to 1)
Information's calibration		



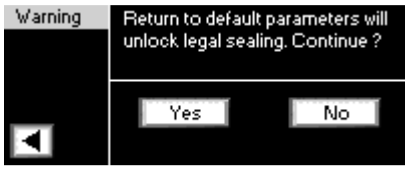
Last performed	None-Theoretical-Physical	Display last calibration performed on the device
Zero Cal.	-	User calibration reference zero value
Span Coef 1/2/3	-	User calibration span coefficients values

3.4.4. Reset and factory settings screen



- **Reset button:** to restart weighing application (Note: Device will lose all volatile parameters if not saving in flash memory)
- **Default Parameters button:** Configure the device to factory settings.

If legal sealing is ON, clicking on “Default Parameters” button will display the following screen:



If you confirm, a new legal CRC will be calculated and legal counter incremented.