

# **Pol ESS-Touch essibus Plus loop tool**

## **Operating manual**

## Index

	Pag.
<b>1. Introduction</b>	<b>3</b>
<b>1.1 General</b>	<b>3</b>
<b>1.2 General Characteristics</b>	<b>4</b>
<b>1.3 Compatibility</b>	<b>4</b>
<b>2. Keypad and connections</b>	<b>5</b>
<b>2.1 Terminals and connections</b>	<b>5</b>
<b>2.2 Keypad and Display</b>	<b>7</b>
<b>2.2.1 Access Icons</b>	<b>7</b>
<b>2.2.2 Functions and Navigation Keys</b>	<b>7</b>
<b>3. General Menu</b>	<b>8</b>
<b>3.1 Loop Menu</b>	<b>9</b>
<b>3.1.1 Loop reading menu</b>	<b>10</b>
<b>3.1.2 Device Menu</b>	<b>11</b>
<b>3.1.3 Map Display</b>	<b>14</b>
<b>3.2 Multimeter menu</b>	<b>16</b>
<b>3.2.1 Cable measurements</b>	<b>16</b>
<b>3.2.2 Individual wire measurements</b>	<b>17</b>
<b>3.2.3 Measurements between wires</b>	<b>18</b>
<b>3.3 Register menu</b>	<b>19</b>
<b>3.4 Configuration menu</b>	<b>20</b>
<b>3.4.1 Configuration settings</b>	<b>20</b>
<b>4 Import loop files</b>	<b>21</b>
<b>4.1 Tools 8000 Pol-ESS Touch file import procedure</b>	<b>21</b>
<b>5 Technical Characteristics</b>	<b>22</b>
<b>5.1 Firmware and documentation update</b>	<b>22</b>

## ESSER Loop portable test tool Pol-ESS Touch

### 1. Introduction

#### 1.1 General



Fig.1 Pol ESS Touch

The Pol-ESS Touch has been designed to **configure, check** and **detect faults** or **failures** in installations with ESSER by Honeywell esserbus® o esserbus Plus® devices.

Pol-ESS Touch, lets you to detect and recognize all loop **esserbus®** o **esserbus Plus®** devices by ESSER, connected to a loop wiring without a laptop and **from any loop connection point**. Pol-ESS Touch recognizes devices from already configured loops or from loops with new devices by configuring and addressing them from the tool itself.

The device lets you recognize installed loop devices with no dependence from loop topology, detect failures and certify installations. Pol-ESS Touch make and display an installation Map which lets to check and certify loop installations.

The back-lighted touch display gives all required information in a simple way. The installer can check at any time the correct status of cabling, loop communications, device installed quantity and as well easily identify and allocate points with failures.

The recognized and configured loops can be saved in the device internal memory for a future analysis or use. Saved loop files can be later use in the system configuration customer data in Tools8000 V1.20 and afterwards.

Via device menu option it is possible to readout the device EPROM data to see manufacturer date, version, alarms and pre-alarms registered quantity and even specific type of device faults like drift chamber, input or output short circuit and devices internal faults as well.

## 1.2 General Characteristics

- Installation start up and maintenance tool
- Compatible with **esserbus®** y **esserbus® PLus** devices
- Check loop continuity, wires earth driven, short and open circuits with multimeter options and approximate length in meters.
- Independent device isolator control to isolate parts or check loop sections
- Read existing devices or configure new loop with a Tools8000 V1.20 and onwards compatible file, saved loop RESTORE feature and graphic map of installed device and loop.
- Loop Menu with device address, production number and current state.
- Device Menu with production date, fault type (Short, open, input, output, drift compensation, high chamber level, ...), number of total device alarms and raw sensor reading.
- Option to activate device Flash and Sounder of IQ8 device series
- **USB port to connect a PC to update or download files.**
- **Powered by external charger, 12V or internal batteries.**

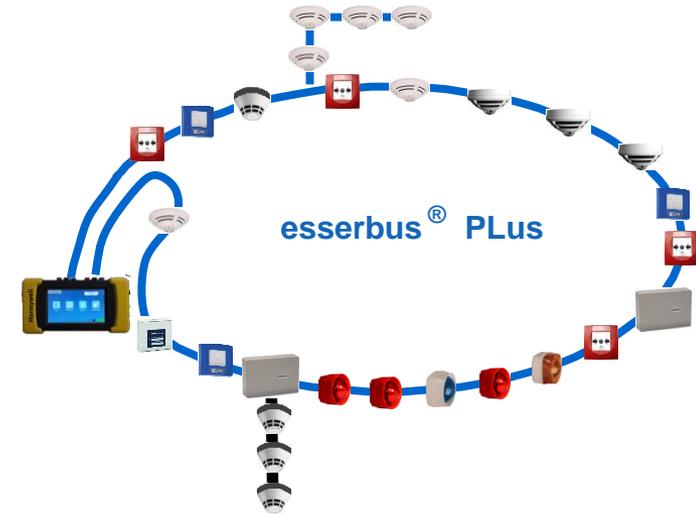


Fig.2 esserbus PLus loop

## 1.3 Compatibility

Pol-ESS Touch communicates and is compatible with **esserbus®** y **esserbus®** devices by ESSER.

Compatible protocols:

-**esserbus®**

-**esserbus® PLus**

Compatible devices:

-**9200** series (9200 loop devices series)

-**9200 PLus** series (9200 loop devices series with on board alarm device)

-**IQ8** series (IQ8 loop devices series)

-**IQ8 PLus** series (IQ8 loop devices series IQ8 Quad e IQ8 Alarm with on board alarm device)

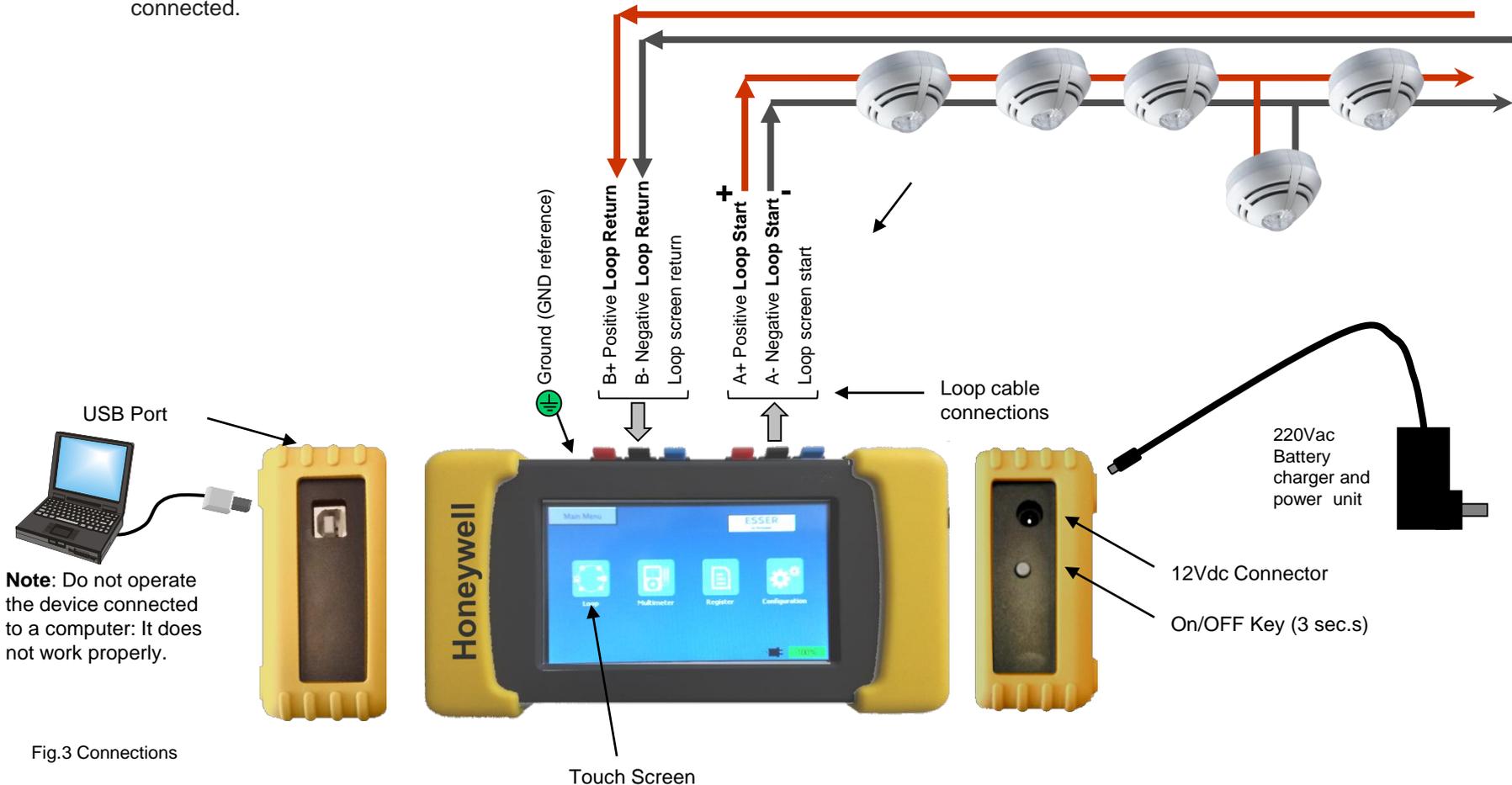
## 2. Keypad and Connections

### 2.1. Terminals and Connections

Pol-ESS Touch has different connector type and color for each connection..



**Several damage!** Please, before to connect any external cable, ensure that loop cable has been disconnected from panel loop terminals and the panel is complete powered down. Check for the right terminal connections and that there is no external voltage between cables to be connected.



**Note:** Do not operate the device connected to a computer: It does not work properly.

Fig.3 Connections

## External wiring connections

### - Earth reference (Earth) Optional to measure loop isolate and earth driven.

To perform the isolation test and to check for earth driven it is required to connect earth reference to building earth connector.

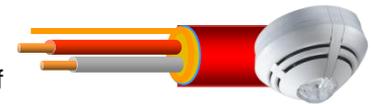
 Building earth point.

### - Normal communications loop start ( A+/A-/Screen - Right)

**S** (Loop Screen): Loop screen cable connector. It is used to measure driven connections to loop wires or screen length (if screen return is connected) or earth screen driven (If building earth is connected).

**A+** Loop start connector: Positive loop connection. It is used to communicate to loop devices, recognize new devices, search for existing devices, make loop map and measure positive cable.

**A-** Loop start connector: Negative loop connection. It is used to communicate to loop devices, recognize new devices, search for existing devices, make loop map and measure positive cable.



+A/-A: Loop Right  
communications with devices

### - Loop Return end ( B+/B-/Screen - Left) (to speedup loop device searches and to measure cable lengths only)

**S** (Loop Screen): Loop screen cable connector. It is used to measure loop screen length only.

**B+** Loop Return end: Positive loop return connection. It is used to search for existing devices and measure positive cable.

**B-** Loop Return end: Negative loop return connection. It is used to search for existing devices and measure negative cable.



+B/-B: Loop Left  
Return only

### - **USB Port** (Only Data transfer) *PC connection to download loop and register files and to update device.*

The PC link is made by an USB server connecting a normal USB cable type A to USB type B.

By USB port it is not possible to charge batteries.

## 2.2. Keypad and Display

PoI-ESS Touch has a touch screen with direct access to menus by icons and interactive keys, which appears depending on the menu and when they are available. Data are displayed in the color back lighted screen.

In the configuration menu it is possible to set 2 background display themes: White and black background.

### 2.2.1 ACCESS ICONS

The various menus are accessible by touch on the related icon or on the upper menu bar.

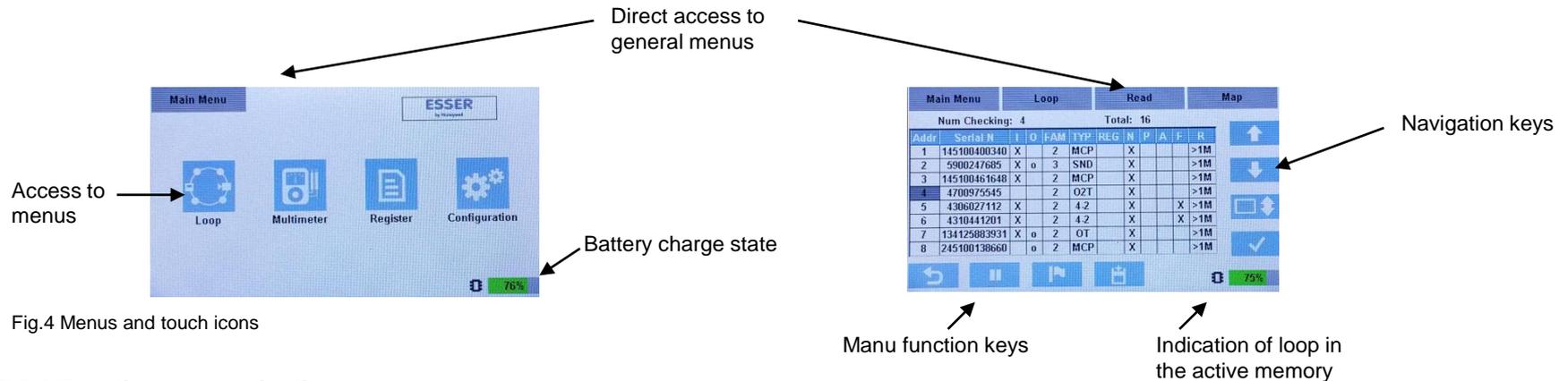


Fig.4 Menus and touch icons

### 2.2.3 Function and Navigation Keys

In the PoI-ESS Touch menus there are available the following function keys and keypad panels.



Fig.5 Keypad and functions

## 3. General Menu

General menu is displayed at Pol-ESS Touch turn on.

Touch the related icon to access to the different options.

The General Menu has the following options as described below:

### [Loop]

Option to recognize and address loop devices (Configure) or read already addressed loop devices (Scan) from an existing loop, along the 127 possible loop addresses.

In this menu it is possible to know device types, current state and device details from connected devices, activate LEDs, Flashes and Sounders.

This option is used to check communications and connected devices to the loop and from this menu it is as well possible to open and close device isolators to isolate loop sectors and perform the multimeter measurements back to the previous menu.

- Loop Map (Topology): When loop recognition is already finish, the Pol-ESS Touch, perform a loop topology from de loop start side (Right loop connectors).

- Loop File: It is possible to save a scanned or configured loop for its later analysis or to import it in Tools 8000 1.20 or above.

### [Multimeter]

Multimeter options to check loop cabling continuity, cable current driven and cable insulate, lets display resistance and relative distance in meters (depending on resistance per kilometer inserted setting)

Device short-circuit Isolators: The multimeter options depending on device isolators continuity (Negative isolator switch), requires first to scan or configure the loop, to close negative isolators before to perform measurements.

### [ Register]

Option for continuous record in an internal file of communications, current consumption and device status.

It is possible to set record frequency rate and registered values.

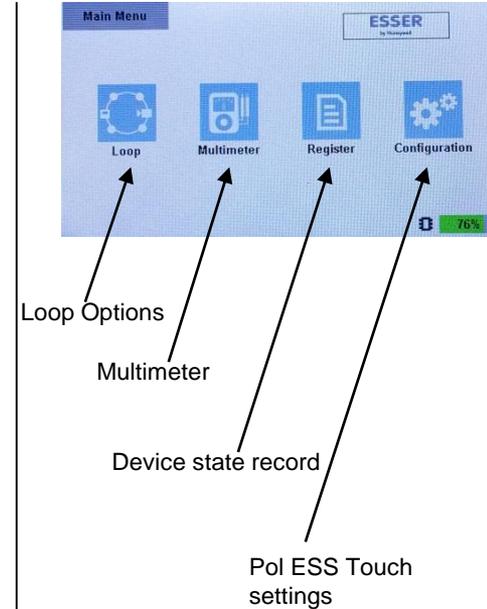


Fig.6 General Menu

## 3.1 Loop Menu

The [Loop] menu is used to recognize and check devices connected to the esserbus loop and to make a configuration loop file.

There are 3 ways to recognize devices. Select the desired option:

**[SCAN]** Recognize already addressed devices: This option performs an automatic search of all possible loop addresses from both loop sides (A and B) and display devices found, serial number, type, and state in each address.

This function **does not change loop configuration or device addresses**. When search is completed a loop map topology is performed automatically, and devices are ordered from the loop start side (A), before to display the loop **Read** screen.

**[CONFIGURE]** Only new not addressed loops or new loop configuration: This option performs a new device addressing, by setting consecutive address number as devices are replying from both loop sides.

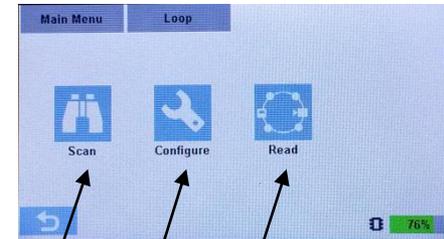
This function **assign a new address number to each device**. Pol-ESS Touch performs a partial loop addressing forward from address 1 from loop start (A) and back from address 127 from loop return side (B). Each recognized device isolator is closed for access to the next device.

When partial loop addressing is completed a loop map topology is performed automatically, and devices are ordered and readdresses corresponding to their position from the loop start side (A), before to display the loop **Read** screen.

**[READ]** Continuous loop device reading (Polling) of previously recognized devices.

This option **does not make a new scan; it is required first to perform a [Scan], [Configure] or to load a saved loop file to the active memory**, to communicate with the loop devices.

Pol-ESS Touch makes cyclical loop readings by device address order. In the loop screen device status is refresh at every device reading. New devices (not previously been recognized) are displayed in gray at the bottom lines. In the loop screen it displayed in each line device information and device current address.



Scan (Configured Loop)  
 Configure (New Loop)  
 Read (Back to Loop screen)  
 Recognized loop in active memory (Read)

Fig.7 Loop Options

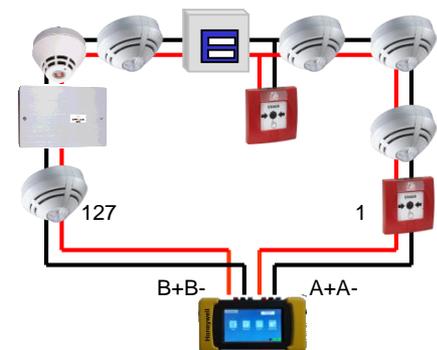


Fig.8 Recognize loop from sides A and B

### 3.1.1 LOOP READING MENU

The loop read menu displays all currently on communication devices with Pol-ESS Touch.

During the loop Scan or Configure there are shown previously addresses of found devices from both loop sides A and B (See Fig.9).

. When loop recognition is completed and devices are ordered (Map topology) from the loop start side A corresponding to their loop physical position. During recognition process (Scan or Configure) the loop save icon is not displayed.

#### 3.2.1.1 LOOP INFORMATION

In each Read menu screen line it is shown the following device information:

**Addr. :** Device assigned loop address

**Serial.N:** last 6 device serial number

**I Isolator:** **0** closed iso. (pass)  
**X** manually open iso.

**O:** Device with onboard output

**FAM:** esserbus protocol family(2/3)

**!** esserbus Plus incompatible device

**TYP:** Device Type (see device menu for more details)

**REG:** Device set to loop data record

**N:** Device in Normal state (Quiescent)

**P:** Device in Pre-Alarm state

**A:** Device in Alarm state

**F:** Device in Fault state

**R:** Insulate resistance in ohms.

**Num.Checking:** Device address currently requested

**TOTAL:** Currently total number of read devices

*Example: Address 4: (currently requested from a total of 16)*

-Does not have Isolator

-Does not have onboard output

-Protocol Family 2,

-Device type IQ8Quad O<sup>2</sup>T

-Normal state with no alarms or faults, Insulation OK >1 M ohm

Main Menu		Loop		Read		Map					
Addr	Serial N	I	O	FAM	TYP	REG	N	P	A	F	R
Num Checking: 4		Total: 16									
1	145100400340	X		2	MCP		X				>1M
2	5900247685	X	o	3	SND		X				>1M
3	145100461648	X		2	MCP		X				>1M
4	4700975545			2	O2T		X				>1M

Main Menu		Loop		Read		Map					
Addr	Serial N	I	O	FAM	TYP	REG	N	P	A	F	R
Num Checking: 3		Total: 5									
127	163146811517	X		3	OVT		X				>1M
1	145100400340	X		2	MCP		X				>1M
126	134100009301	X		2	OTb		X				>1M
2	5900247685	X	o	3	SND		X				>1M
125	139100130253	X		2	O		X				>1M

Fig.9 Partial loop recognizing (scanning)

Main Menu		Loop		Read		Map					
Addr	Serial N	I	O	FAM	TYP	REG	N	P	A	F	R
Num Checking: 4		Total: 16									
1	145100400340	X		2	MCP		X				>1M
2	5900247685	X	o	3	SND		X				>1M
3	145100461648	X		2	MCP		X				>1M
4	4700975545			2	O2T		X				>1M
5	4306027112	X		2	4.2		X			X	>1M
6	4310441201	X		2	4.2		X			X	>1M
7	134125883931	X		2	OT		X				>1M
8	245100138660	o		2	MCP		X				>1M

Stop comms.    Set to loop record    Save loop    Loop in active mem.

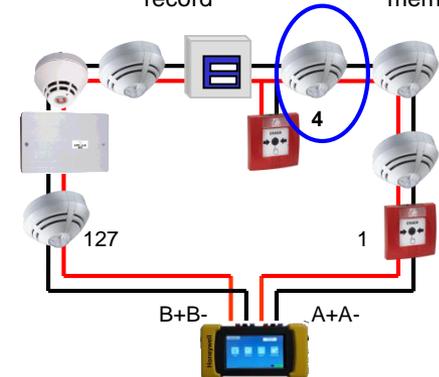


Fig.10 Loop Read (Polling)

## 3.1.2 DEVICE MENU

From the Read loop menu, by using the up/down keys its is possible to move over loop device list to select the desired device. Device menu is accessed by the confirm key.

In Device Menu the **communications red LED of selected device blinks**, letting to easily allocating of the device.

In the device Menu detailed device information is displayed::

**Type:** "DEVICE TYPE DESCRIPTION"

**Loop version:** Communications device loop driver version

**Serial Num:** Complete Production/Serial number read from device

**Address:** Current device loop address. Select Edit icon to manually change.

**S1 / S2 / S3:** Raw sensor values from each device sensor (S1=Normal Optic / S2=2<sup>nd</sup> Opt. or CO / S3=Thermal)

**Input:** Integrated device input state (**Possible values : OK / Short / Open**)

**Output:** Integrated device output state (**Possible values : OK / Short / Inact. / Latch. )**

**Chamber:** Device Sensor Chamber/input (**Possible values: OK / Dirty/Fail / low.level / high. level )**

**% Comp:** Drift compensation (>80% could means device substitution )

**Eprom:** internal memory and software state (**Possible Values: OK / Int.Fail )**

**Scenario:** Special device scenario algorithm to work in hazard or special environments.

**Pre-alarms / Alarms:** Total number of device Pre-alarms and Alarms record in the device memory.

**Date:** Manufacturing date in format **dd/mm/yyyy**

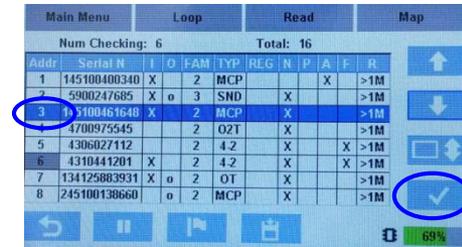
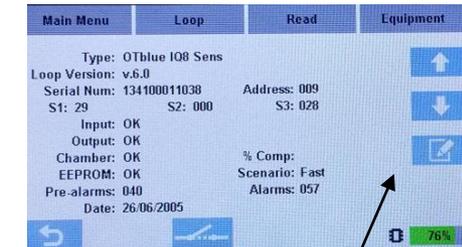


Fig.11 Device selection



Open isolator

Edit device address or scenario

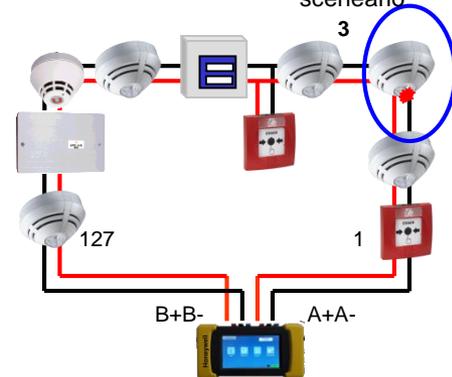


Fig.12 Selected device reading

**Scenario:** Depending on device type, it is possible to set in Tools 8000 a specific working scenario appropriate for a specific environment to avoid false alarms and for a maximum device efficiency and reliability. ESSER has a dedicated sensors App to set the appropriate detector for each environment. or risk : “IQ8Quad Selector” available at PlayStore or AppleStore.

Example of available devices with scenario :

Type	Series	FW-Version	From serial number	To serial number
O	9200	5.2	3925000000	3979999900
OT	9200	5.2	3410900000	3476999990
O²T	9200	5.2	4700600000	4779999900
OTI	9200	5.2	3310300000	3379999900
O²T	IQ8	6.0	147000000000	147165806070
O²T/F/Sp (all models)	IQ8	7.3	163020977400	163167772150
O-Sounder	IQ8	7.3	155041944350	155062914550
OTBlue	IQ8	6.0	134100000000	134115343350
OTG	IQ8	6.6	149100200000	149999999990

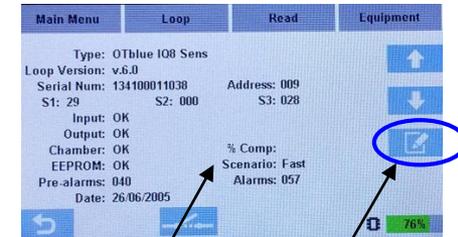
Available scenario for O2T, Ot<sup>blue</sup> and OTG sensors:

O2T	Otblue	OTG
0 O2T-Standard	OTBlue-Standard	OTG-Standard
2 Water vapour and oil smoke	OTBlue-Fast	OTG-Dust
3 Parking	OTBlue-Francia	OTG-Sintetic smoke
4 Room	High temperature	OTG-Caterpillar or battery charger room
5 Clean Room	NA	NA
6 High temperature	NA	NA
7 Hotel room	NA	NA
11 Manual parametrization (Normal/0,50)	Manual Parametrization(Normal/0,50)	Manual Parametrization(SL:Not limited/G:No alarm)
12 Manual parametrization (Normal/0,75)	Manual Parametrization(Normal/0,75)	Manual Parametrization(SL:Not limited/G:No pre-alarm)
13 Manual Parametrization(Normal/1,50)	Manual Parametrization(Normal/1,50)	Manual Parametrization(SL:No alarm/G:Not limited)
14 Manual Parametrization(Normal/2,00)	Manual Parametrization(Normal/2,00)	Manual Parametrization(SL:No alarm/G:No alarm)
15 Manual Parametrization(Slow/0,50)	Manual Parametrization(Slow/0,50)	Manual Parametrization(SL:No alarm/G:Sin prealarma)
16 Manual Parametrization(Slow/0,75)	Manual Parametrization(Slow/0,75)	Manual Parametrization(SL:No pre-alarm/G:Not limited)
17 Manual Parametrization(Slow/1,00)	Manual Parametrization(Slow/1,00)	Manual Parametrization(SL:No pre-alarm/G:No alarm)
18 Manual Parametrization(Slow/1,50)	Manual Parametrization(Slow/1,50)	NA
19 Manual Parametrization(Slow/2,00)	Manual Parametrization(Slow/2,00)	NA
20 Manual Parametrization(Normal/1,00/T:Sensible)	Manual Parametrization(Normal/1,00/T:Sensible)	NA
23 Manual Parametrization(Normal/1,50/T:Sensible)	Manual Parametrization(Normal/1,50/T:Sensible)	NA
24 Manual Parametrization(Normal/2,00/T:Sensible)	Manual Parametrization(Normal/2,00/T:Sensible)	NA
27 Manual Parametrization(Slow/1,00/T:Sensible)	Manual Parametrization(Slow/1,00/T:Sensible)	NA
28 Manual Parametrization(Slow/1,50/T:Sensible)	Manual Parametrization(Slow/1,50/T:Sensible)	NA
29 Manual Parametrization(Slow/2,00/T:Sensible)	Manual Parametrization(Slow/2,00/T:Sensible)	NA

### 3.1.2.1 EDIT DEVICE

From device menu, by select the edit menu, it is possible to change de selected device address.

**Address:** Device loop address can be manually set. This field must not be edit in already configured systems. If you modify this address you must perform a new loop recognition from panel to update the device address and serial number in the system, because if you don't do it the system couldn't work properly.



Edit Device

View Device current Scenario



Edit Address

Fig.13 Edit Device

### 3.1.2.2 DEVICE CONTROL COMANDS

In the device menu, depending on device type, it is possible to operate the device isolator and activate / deactivate device flash and sounder.

**Isolator:** In the device menu, for those devices having an isolator, it is possible to manually open or close its loop isolator.

Device esserbus loop isolators open the negative loop cable (Positive cable is common and continuous along the loop), in this way it is possible to open isolators and access to the multimeter menu, to perform measurements on the loop cable only for connected cable sector from Pol-ESS Touch to the first open isolator, in example to measure cable current driven or insulation.

If a loop isolator is open, all devices connected from it lost communications. When an isolator is closed, devices connected from it will respond in each loop reading cycle, as each device isolators which communicate again are being closed along the loop.

**Sounder:** In the device menu, for those devices having a sounder output, it is possible to activate or deactivate device sounder or speech.

This option is normally used to allocate IQ8 Alarm sounders in the building or to measure sound level.

When the sounder is activate, Pol-ESS Touch set the device **Sound 1** activate command on the loop (Tone DIN by default)

**Flash:** In the device menu, for those devices having a Flash output, it is possible to activate or deactivate device flash.

This option is normally used to allocate IQ8 Alarm devices in the building or to measure flash range.

Take in account that loop device output activation makes an consumption increase and related battery load reducing its charge.

In presence of essebus Plus incompatible devices, al device output activations are inhibited. When exit from device menu, Pol-ESS Touch automatically sends the deactivate command to the activated sounder and flash.



Device Type



Activate/  
Deactivate  
Sounder

Open /  
Close  
isolator

Activate/  
Deactivate  
Flash

Fig.14 Device commands

### 3.1.3 MAP DISPLAY

Pol-ESS Touch makes a physical topology map of installation, after finish the device Scan or loop Configure allocating each device in its physical loop position.

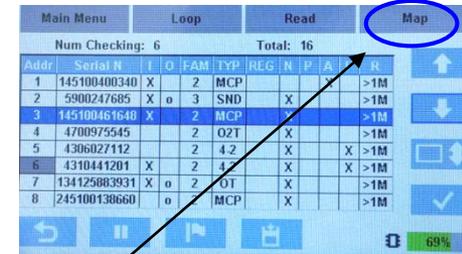
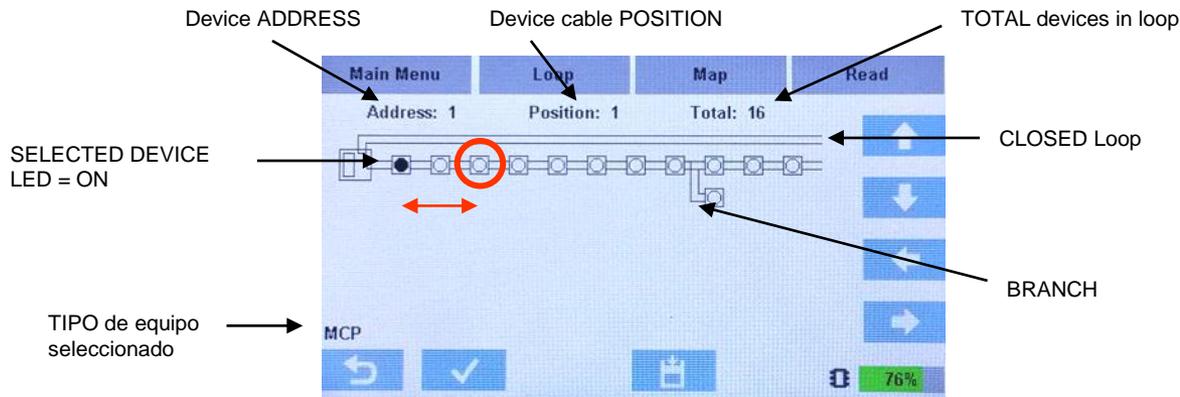
This options permits to check the loop cable and loop position of every device type to certify the installation or to allocate installation errors or failures.

In the loop display it is possible to mover over all loop devices using navigation keys.

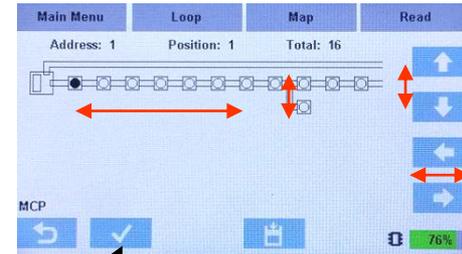
The selected device red LED pulse, the device address and physical position is display in the upper area, the device type is displayed in the bottom left.

#### IMPORTANT NOTE: Tools 8000 Compatibility file

The loop map permits to check that loop installation has made in the right way. **Check the loop map before to save a loop file to be imported in Tools 8000. Tools 8000 won't import loop files with connection errors,** in example: open loops, loops with multiple branches between to consecutive devices of the closed ring.



Access to Loop Display



Access to selected Device menu

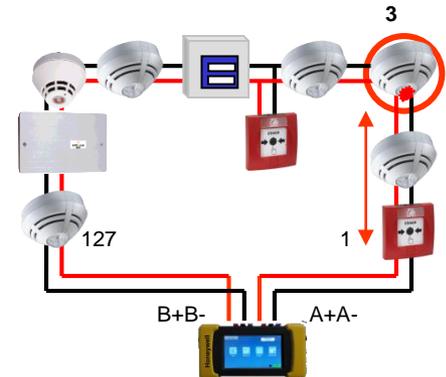


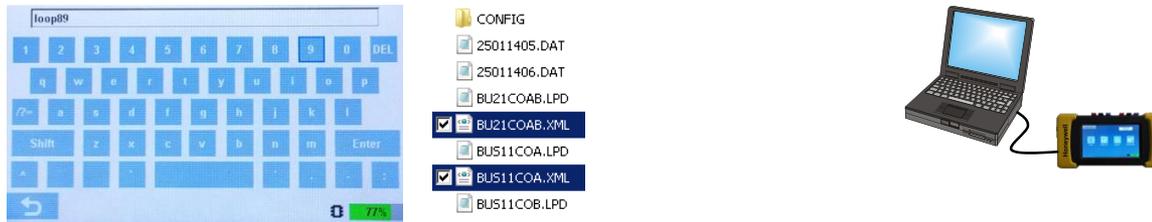
Fig.15 Select device on map

### 3.1.3.1 SAVE AND LOAD LOOPS

In the loop menu by selecting the disc icon, it is possible to save current loop (in the active memory), load an already save loop to the active memory or restore connected loop with the device addressing from a previously saved loop configuration.

#### [Save Loop] Save current loop in display

The Pol-ESS Touch will save in its internal memory, a loop file XXXX.hml with device serial number, loop position and loop addressing.



To load these files, turn on the tool and use an USB cable to connect it to your PC and copy loop files **.XML** in it. For Tools 8000 compatibility of these files it is mandatory that loops fulfill ESSER design criteria:

- Loop must be closed with a single ring between A and B ends.
- Multiple branches (Tabs) between two consecutive device loops are not permitted.
- Branch of a branch (star) is not permitted.

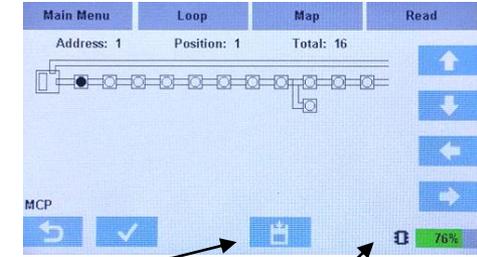
#### [Load Loop] Open or Load a saved loop in the display.

It is possible to open a saved loop in the display for checking or restart loop communications with its loop devices, without perform a new Scan (Scan is often faster but does only show connected devices). Select the desired loop from these available in the display. You can rename by opening and save again.

**[Delete Loop]** Remove current loop from display (Active memory). Does not remove saved loops.

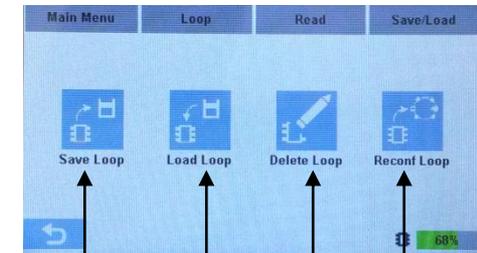
**[Reconf. Loop]** Re-address loop devices from its previously saved configuration.

When select a saved loop to reconfigure devices, Pol-ESS Touch sends the device configured address in the file to each loop device by its serial number. If connected device serial numbers are different, loop devices won't be reconfigured.



Save or load a loop

Info: Loop in active memory



Save in internal memory

Load saved loop

Clean loop from active memory

Configure with saved loop

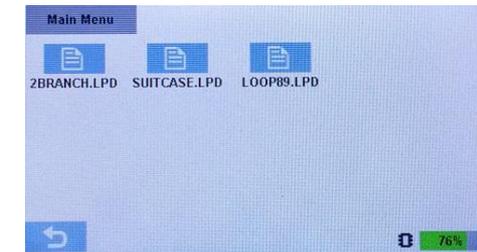


Fig.16 Opciones de Guardar y recuperar lazo

## 3.2 Multimeter Menu

The [Multimeter] menu is used to check the esserbus loop cable.

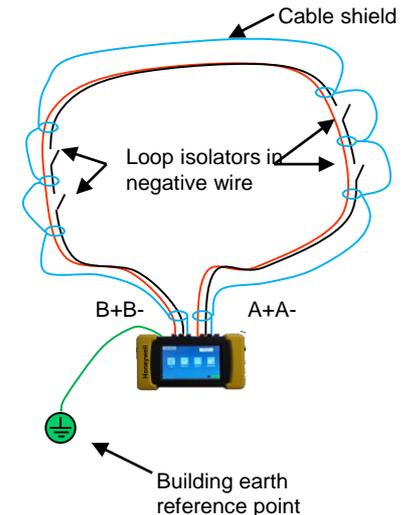
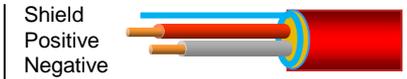
**Negative loop device isolators:** The devices with short circuit isolator, opens the negative loop up to a scan or a loop configure is performed. For that reason it is required to recognize in Pol-ESS Touch all loop devices, before to perform any measurement on the loop negative cable.

### 3.2.1 Cable measurements. Measure options of individual loop wires.

It is possible to measure continuity, driven and insulation of individual loop wires.

It is possible to measure continuity, inductance and insulation of individual loop wires. It display continuity measurement in **Ohm** (Resistance in Ohms) and **mts** \* (length in meters)

**Note\*:** Length **mts** precision: Length measure is calculated by conversion of the resistance per kilometer factor used as its has been set in the multimeter settings and it is an estimated value only. For negative wire resistance calculation is by voltage drop and vary significantly depending on the loop isolator quantity.



Total wire resistance in Ohms and estimative length in mts.

Total wire inductance in Henries

Earth insulation between wire and earth reference connected to the tool in kilo Ohms

Measure values

	Resistance	Inductance	Earth Fault
Positive	16 Ohm	>10000 uH	--- KOhm
Negative	22 Ohm	>10000 uH	--- KOhm
Shield	>150 Ohm	>10000 uH	--- KOhm

Measurement of individual loop wires

	Mutual Fault	Capacitance
Positive-Negative	--- KOhm	>10000 nF
Positive-Shield	--- KOhm	>10000 nF
Negative-Shield	>1000 KOhm	1 nF

Cable measurements

Insulation between wires

Capacitance reading between wires

Loop in active memory 45%

- $\Omega$  Measure resistance in Ohms
- $\mu\text{H}$  Measure Inductance in  $10^{-6}$  H
- $\text{nF}$  Measure capacitance in  $10^{-9}$  F
- $\perp$  Measure insulation  $10^6$  Ohms

Fig.17 Cableado del lazo esserbus

## 3.2.2 Individual wire Measurements

In the Multimeter menu there are displayed the following measurements:

### Individual wire measures

**Positive:** Measure of loop positive wire between terminal **A+** and **B +**

**Negative:** Measure of loop negative wire between terminal **A-** y **B -** (isolators closed recognizing loop devices)

**Shield:** Measure of loop shield wire between terminal **A** y **B** (shield cable Ohms/Km factor is sometimes different)

### Values

**Resistance:** The wire resistance permits to check if cable is able to warranty loop communications to devices.

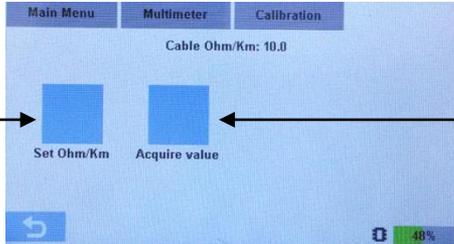
**Inductance:** Inductance measurement is only used by Honeywell technicians at an informative level only to check if could be exist any interference with loop communications and it is not needed to take in account in normal conditions.

**Earth insulation:** It is injected a current between the relative wire and the earth terminal to measure the insulation resistance (Pol-ESS Touch earth reference must be connected to building earth point). Device connection errors could damage them.

**Note:** It is possible to compensate length reading imprecision, inserting the corrected conversion factor. The default wire length conversion factor is 10 Ohms/Km, corresponding to standard 1,5mm2 twisted pair Honeywell loop cable.

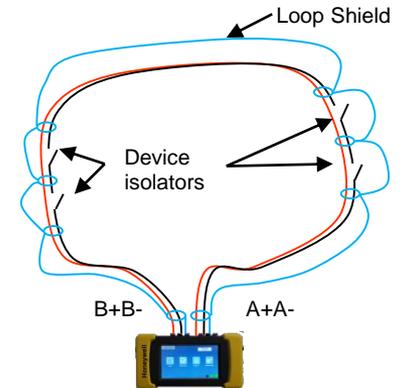
For other cable types, request to the manufactured the required value or measure a known length cable coil to insert the right value selecting the setting icon and the Acquire Value option to direct measure of Ohm/Km;

- It is only measured positive between A+ y B+ ends.



Insert cable resistance per Km →

← Insert connected real cable coil length in meters to measure real resistance (only positive is measured) between A+ and B+



Measure values

	Resistance	Inductance	Earth Fault
Positive	16 Ohm 1600 m	>10000 uH	... KOhm
Negative	22 Ohm 2200 m	>10000 uH	... KOhm
Shield	>150 Ohm 15000 m	>10000 uH	... KOhm

	Mutual Fault	Capacitance
Positive-Negative	... KOhm	>10000 nF
Positive-Shield	... KOhm	>10000 nF
Negative-Shield	>1000 KOhm	1 nF

Resistance per Km setting

Measured values

Fig.17 Wire options

### 3.2.3 Measurements between wires

In the Multimeter menu there are displayed the following measurements:

#### Cable measurements

**Positive-Negative:** Insulation and capacitance measure between loop positive and negative wires

**Positive-Shield:** Insulation and capacitance measure between loop positive and shield wires

**Negative-Shield:** Insulation and capacitance measure between loop negative and shield wires. (Require isolators closed recognizing loop devices or measure will runs up to first open isolator from A side)

#### Values

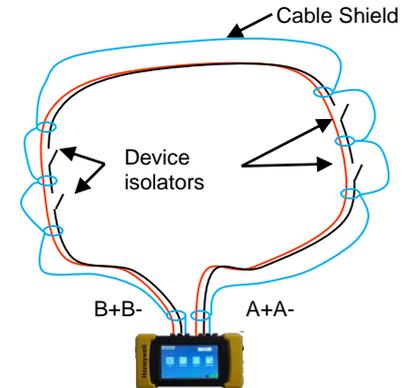
**Mutual Fault:** This measure permits to know possible insulation or cable current driven faults between loop cables. The resistance measure between positive and negative cable indicated device presence and can be normal.

**Capacitance:** Capacitance measurement permits to know cable state to warranty correct communications between panel and loop devices.

**Nota:** Take in account that Pol-ESS Touch is not a precision tool. In consequence it only gives approximate values to check for installation errors or failures and it shouldn't be used as a measure tool or needs to be calibrated.

#### Esserbus cable standard values:

- Positive wire continuity <65 Ohms.
- Negative wire continuity <65 Ohms. Whole loop is only measured if device isolators has been closed. Resistance and Lenght measurement depends on device isolator quantity and vary from positive measure (0.3-0.5 Ohm – 30-50m aprox. added for each isolator).
- Shield wire continuity (Shield wire length is not reliable as has different resistance value)
- Insulation: Isolated Positive, Negative or Shield cable to building earth >0.5 Mega Ohms
- Mutual Fault Positive to Negative: >1000 K Ohm without devices (over K Ohms if there are devices installed in loop)
- Mutual Fault Positive or Negative to Shield: No continuity or connection >1000 K Ohm
- Capacitance between Positive and Negative < 120 nF / 2 Km



Main Menu		Multimeter		
		Resistance	Inductance	Earth Fault
Positive	16 Ohm	1600 m	>10000 uH	.... KOhm
Negative	22 Ohm	2200 m	>10000 uH	.... KOhm
Shield	>150 Ohm	15000 m	>10000 uH	.... KOhm
		Mutual Fault	Capacitance	
Positive-Negative	.... KOhm	>10000 nF		
Positive Shield	.... KOhm	>10000 nF		
Negative-Shield	>1000 KOhm	1 nF		

Measured values

Measure values

Fig.18 Cable multimeter options

## 3.3 Register Menu

PoI-ESS Touch permits to record communications with loop connected and recognized devices in a file

It is possible to set the data to be record; Recording only selected devices in the loop display or the whole loop and setting the optional data to be record for each device, possible options are:

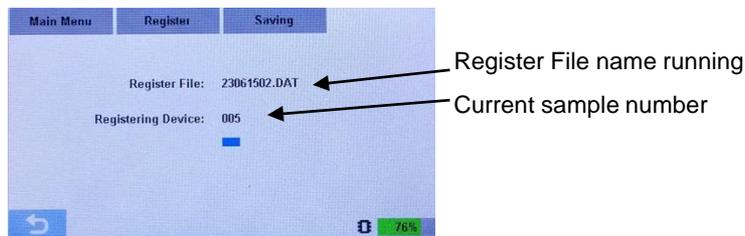
[Sample every]: Set the record frequency. It is possible to increase sample period to reduce registered data.

[I response]: Record loop current during device request.

[Equipment state]: Record device state. Device states are latched up to remove loop power.

[Sensor Signal]: Record raw values of detector sensors.

While register recording is running the device displays the register file and the current sample number.



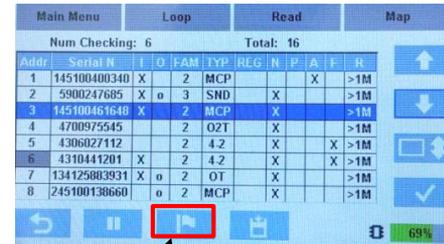
PoI-ESS Touch performs continuous and cyclical records of selected devices, making a record line by each device and recording each communications data in a text file labeled as DDMMYYnn.dat (DD:day, MM:month, YY:year and nn:consecutive file number)

CONFIG	Date	Time	Address	mA	Normal	Prealarm	Alarm	Fault	S1	S2	S3
24011400.DAT	25/01/14	00:20:04	006	007	1	0	0	0	0.25	0.00	0.00
25011402.DAT	25/01/14	00:20:09	006	007	1	0	0	0	0.25	0.00	0.00
25011404.DAT	25/01/14	00:20:14	006	007	1	0	0	0	0.25	0.00	0.00
25011405.DAT	25/01/14	00:20:19	006	007	1	0	0	0	0.25	0.00	0.00
25011406.DAT	25/01/14	00:20:24	006	007	1	0	0	0	0.25	0.00	0.00
25011407.DAT	25/01/14	00:20:29	006	007	1	0	0	0	0.25	0.00	0.00
25011408.DAT	25/01/14	00:20:34	006	007	1	0	0	0	0.25	0.00	0.00
25011409.DAT	25/01/14	00:20:39	006	007	1	0	0	0	0.25	0.00	0.00
25011410.DAT	25/01/14	00:20:44	006	007	1	0	0	0	0.25	0.00	0.00
25011411.DAT	25/01/14	00:20:49	006	007	1	0	0	0	0.25	0.00	0.00
25011412.DAT	25/01/14	00:20:54	006	007	1	0	0	0	0.25	0.00	0.00

This record file can be opened as a text file (.txt type) in Microsoft Excel<sup>®</sup>, to analyze or save in csv, xls, etc, format analyze and filter large files.

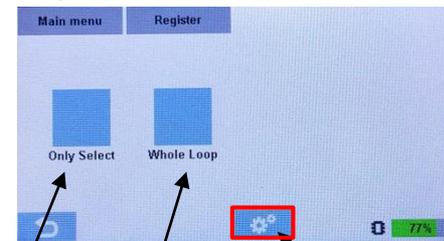
By checking this file records it is possible to know when a device has an alarm, fault, pre-alarm, raw sensor values registered at every time and if device current in mA has been odd at some times, detecting times and devices in which could be issues.

Select devices : Individual records



Select device for data record

Register options:



Only selected devices

Whole loop

Record settings

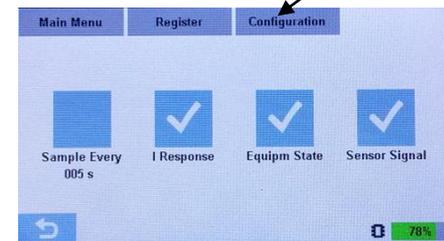


Fig.19 Register options

## 3.3 Configuration Menu

The [Configuration] menu permits to set the device time and data, device menu language from available, check current Pol-ESS Touch firmware version and change display mode background theme.

### 3.3.1 CONFIGURATION SETTINGS

In the configuration menu are the following setting options:

**[Change Theme]:** Setting this option, display appearance changes to inverted colors:



**[Set.Date]:** Current device date used in the record file labeling, in format dd/mm/yyyy. To set select the option and insert the right date.

**[Sel.Time]:** Current device time used in the record file labeling, in format hh/mm/ss. To set select the option and insert the right date.



**[Language]:** Pol-ESS Touch language menu. To change, select the option and the corresponding language. Restart the device.



**[About]:** Select to see the current Pol-ESS Touch firmware information.

**[Format FLASH]:** In the about menu is placed an erase option (Format Flash) to remove all recorded loop and register files in the Pol-ESS Touch internal memory. Assure you have downloaded all required files before to erase them.

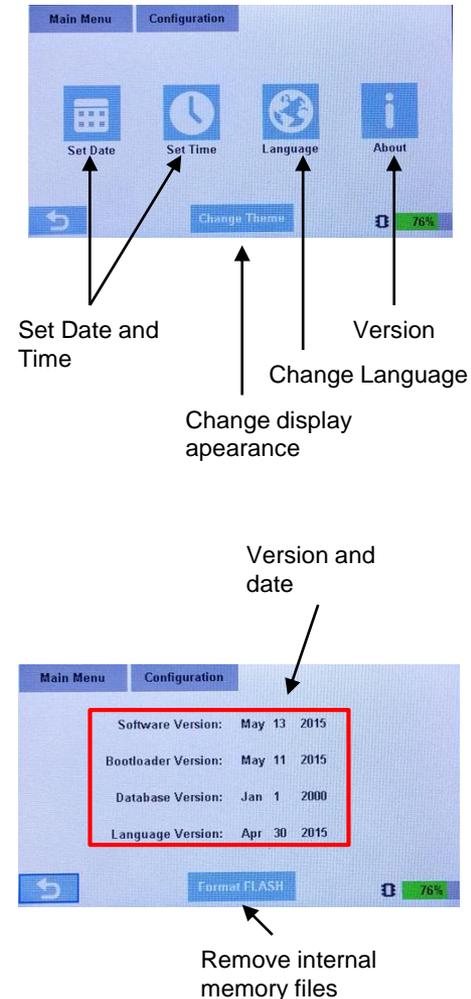


Fig.20 Configuration options

## 4 Loop file import in Tools 8000

The loops configured by the Pol-ESS Touch can be imported in Tools 8000 V1.20 or onwards. Some Tools 8000 features could require extra license. Contact your local supplier to ensure Tools 8000 compatibility.

### 4.1 Tools 8000 Pol-ESS Touch loop file import procedure

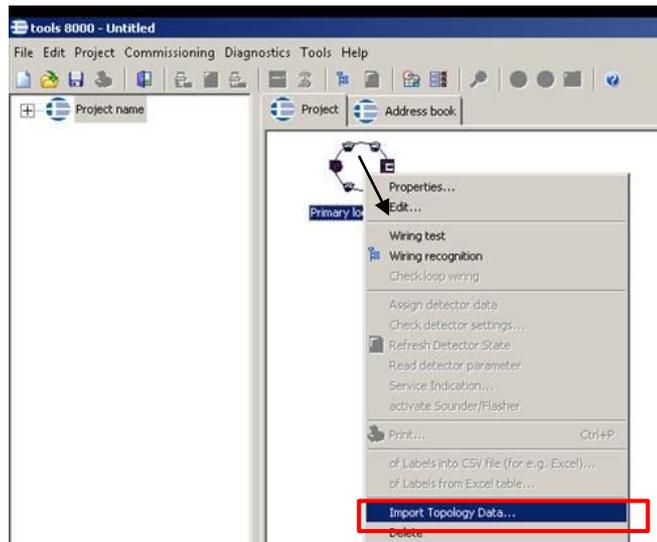
To import a Pol-ESS Touch configured loop file proceed as follows:

- Insert a new loop in the Tools 8000

- Right click on the created Tools 8000 loop icon and select **Import Topology Data...**

- Select the desired Pol-ESS Touch loop file in the prompt browser and accept. If the loop fulfils the compatibility Tools8000 loop criteria, all device data and topology will be imported as were read by the Pol-ESS Touch.

- Perform the off-line customer data configuration normally in the Tools 8000.



L16CONF1.XML		Documento XML	2 KB
L16ORIG.XML	01/01/1994 15:51	Documento XML	2 KB
L16READ1.XML		Documento XML	2 KB

When import Topology data, if the loop file is damaged or the loop is not compatible with Tools 8000, it prompts a message warning with the error.

For Toold8000 compatibility Pol-ESS Touch loop saved files, saved loop must fulfill compatibility criteria. See map menu for loop compatibility criteria information.

## 5 Technical characteristics

Power	230 Vac by external charger to 12Vdc, 12V charger or autonomous by internal battery
Autonomy	>6h with batteries at full charge (100%)
Battery	6 bat.xNi-MH 1.2V (2000mA) rechargeable Energizer or Duracell
External Power/Charger	12V 24W (2000mA) – Fast Charge turned off: 1h
Screen	480x262 pixel (98x56mm) TFT Display with 66.000 colors
Keypad	Dynamic capacitive tactile keypad
Dimensions	Height 97mm x Width 177mm x Depth 44mm (Rubber cover included)
Color	Black box and yellow rubber protection cover
Weight	550g (batteries included)

### 5.1 Firmware and documentation update

Firmware update is easily made in the device;

- Connect an USB cable from your PC to the device and turn on the Pol ESSER Touch.
- Copy and paste the last firmware file (.bin) in the device memory as it will be explained (Some updates require to copy language files).
- Turn off and turn on the el Pol-ESS Touch with memory access (Turn on button 5seg.) disconnected from PC.
- Set the desired language and turn on normally the device.

For updated information access to the local ESSER site [www.esser.es](http://www.esser.es) and check device reference related documentation r or ask your local provider technical service.



**Honeywell Life Safety Iberia**  
C/Pau Vila 15-19, 08911  
Tel.: 902 03 05 45  
[www.honeywelllifesafety.es](http://www.honeywelllifesafety.es)