Panasonic



1105
LOOP TESTER

Fire alarm solutions
technical description

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1. INTRODUCTION

This document describes the Loop tester, type number 1105.
The document contains information about the product and instructions on how to connect and use it.

2. ABBREVIATIONS

c.i.e	Control and indicating equipment	= control unit
SSD	Site Specific Data	= configuration
S/W	Software	= system program

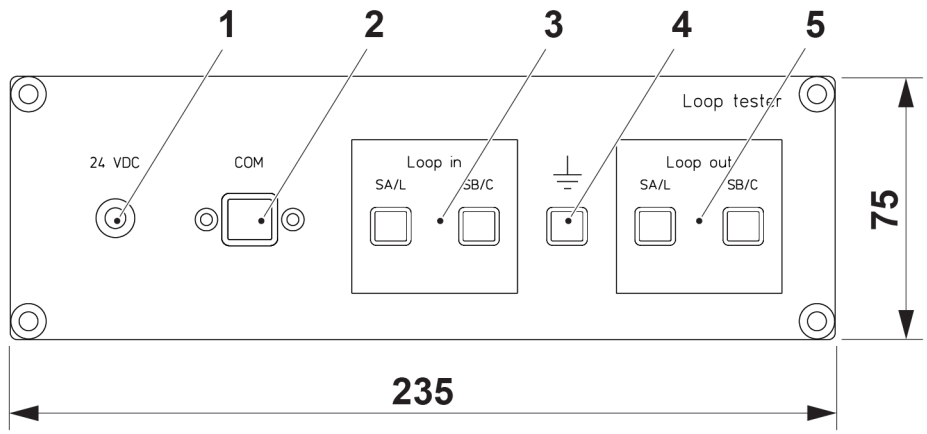
3. GENERAL DESCRIPTION

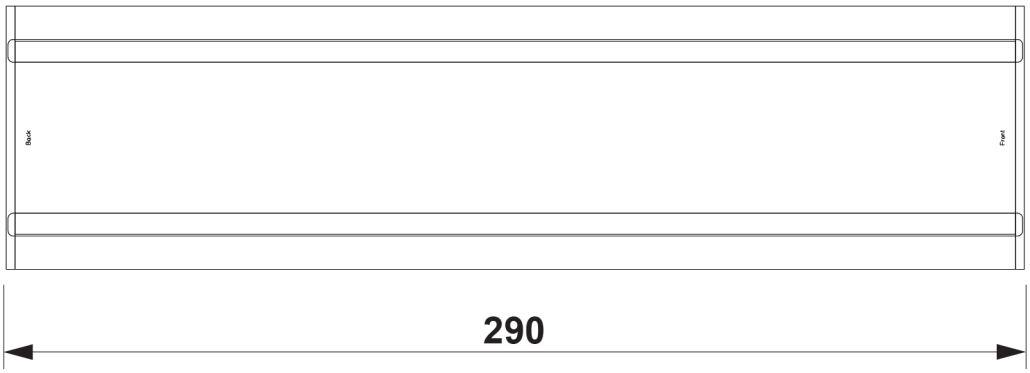
The loop tester can be used for testing, fault-search, and commissioning of a COM loop, before the c.i.e is installed.
The loop tester is connected between the COM loop and a PC, and allows the user to quickly verify the cabling and loop units during the installation. A report for documentation of the COM loop installation can be created and signed.

The scan loop function in EBLWin will find all units, except expansion boards, that are connected on the selected COM loop. A SSD file can be created with the units that are scanned on the COM loop.

The loop tester can also be used for auto addressing of COM loop units.

The unit is intended for indoor use and in dry premises.





(Measure in mm)

1) 24 V DC
2) USB port for communication with a PC
3) COM Loop in
4) Earth
5) COM Loop out

3.1. POWER

The loop tester is powered with 24 V DC (nominal).
A 24 V DC adapter is included.

Voltage	Allowed Normal	23.5 – 24.5 V DC 24 V DC
Current	Max Min (internal)	700 mA 80 mA

3.2. COM LOOP

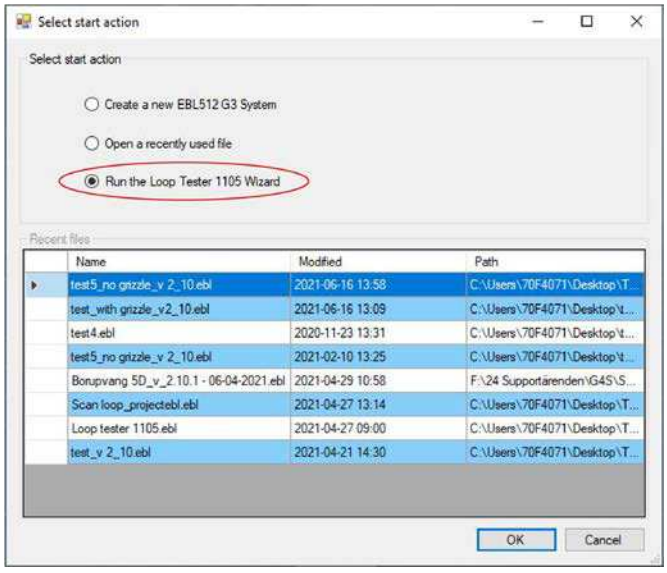
The loop tester has terminals to connect the wires of the COM-loop (SA (L), SB (C), SA (L) and SB (C)).

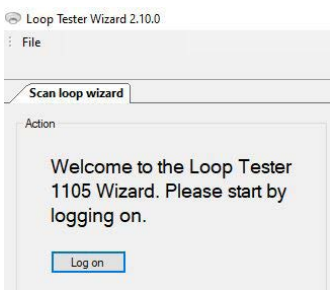
The loop tester can detect an open circuit, L/C mix or short circuit on the COM-loop. The COM-loop will be powerless if the current outtake is too high.

Voltage		24.0 V DC
Current	Max outtake	350 mA

3.3. LOOP TESTER 1105 WIZARD

From version EBLWin 2.10.0, the Loop tester 1105 Wizard can be selected on the EBLWin startpage. The wizard will guide the user through the scan loop and auto address procedure.





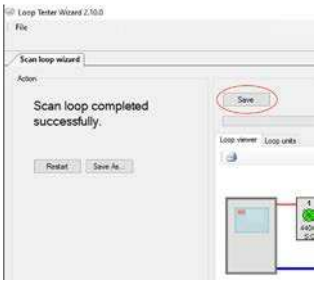
Log on to the Loop tester.

It is possible to auto address units with and/or without short circuit isolators.
The auto addressing will be finalized by a “scan loop” procedure.
Click “Save as” to save the loop as a XML-file. Choose a name so that it´s easy to identify the control unit/loop number.

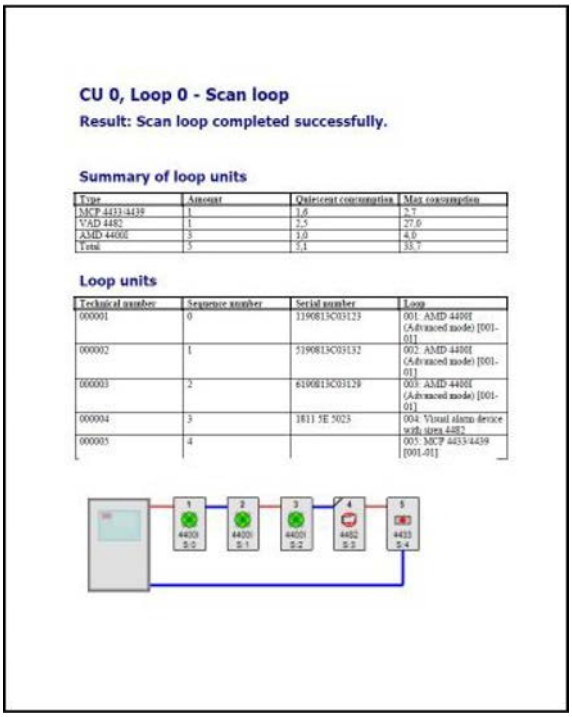




Click “save” to generate a report and save it as a PDF.



The report will include information about the loop units; current consumption, technical number, sequence number, serial number.
Also a graphical illustration of the loop.



CU 0, Loop 0 - Scan loop

Result: Scan loop completed successfully.

Summary of loop units

Type	Amount	Quiescent consumption	Max consumption
MCP 4433/4439	1	1.6	2.7
VAD 4482	1	2.5	27.0
AMD 4400I	3	1.0	4.0
Total	5	5.1	33.7

Loop units

Technical number	Sequence number	Serial number	Loop
000001	0	1190813C03123	001: AMD 4400I (Advanced mode) [001-01]
000002	1	5190813C03132	002: AMD 4400I (Advanced mode) [001-01]
000003	2	6190813C03129	003: AMD 4400I (Advanced mode) [001-01]
000004	3	1811 5E 5023	004: Visual alarm device with siren 4482
000005	4		005: MCP 4433/4439 [001-01]

4. SET THE COM LOOP ADDRESS

Each COM loop unit has to have a unique COM loop address (001-253). The address is manually set with the Address Setting Tool (4414), or by the auto addressing function in EBLWin.

The COM loop units can be set in different modes, for example Advance mode or NORMAL mode. Set the mode with the address setting tool (4414). The auto addressing function will keep the default mode for each addressable unit.

The units function different depending on the mode setting. Make sure to set the units in the correct mode.

4.1. AUTO ADDRESSING

Automatic addressing via EBLWin.



1) Wizard text
2) Print
3) Progress bar

4.1.1.GENERAL

Routine for automatically setting addresses on a loop with units that have isolators.
Units without isolators may be connected if they already have an address in the upper address span, 129-248, set by the address setting tool. Alternatively (for units in bases) they could be connected later and be addressed automatically by a separate routine: 'Adding units without isolators'.

All units with isolators must have default address before starting the routine of auto address setting. All units have default address from factory. Units with isolators gets address 1 to 128 with auto address routine.
Units without isolators must have address 129 to 248.

The wizard text will guide the user through the auto address procedure. Click 'Start Wizard' to begin.
The 'Auto address' wizard will go through the following steps;

- Start
- Auto address loop units with short circuit isolators
- Auto address loop units without short circuit isolators

For more information, see the Planning Instructions for the system.

4.1.2.LIMITATIONS

There are some limitations for the COM loop units:

- Units with isolators must have default address
- Units without isolators must have address 129 to 248, if they already have an address.
- Wireless base stations 4620 must have address 144, 161, 178 or 195
- Max 128 units with isolators
- Sounder base 4479 and Indicator 4418 consumes one address in the span of isolators

4.1.3.WORKFLOW FOR NEW INSTALLATIONS

a) Mount:
   - units with isolators (default address)
   - units without isolators (address set with address setting tool to 129-248), except 4400, 4401, 4402 which can be added by the 'Add loop units' procedure

b) Run 'Auto address' procedure. Follow the wizard in EBLWin.



After the auto address procedure, the wizard will also suggest 'check loop' procedure and 'create SSD'.
If something in the procedure fails, correct the error and then try again.

4.1.4.ADD UNITS WITHOUT ISOLATORS

Procedure for automatically setting addresses on units without isolator:

a) Connect the sockets/bases onto the COM loop.
b) Connect the units one by one. The unit must have default address (factory setting).
c) The units will be given an address from 129 to 248.

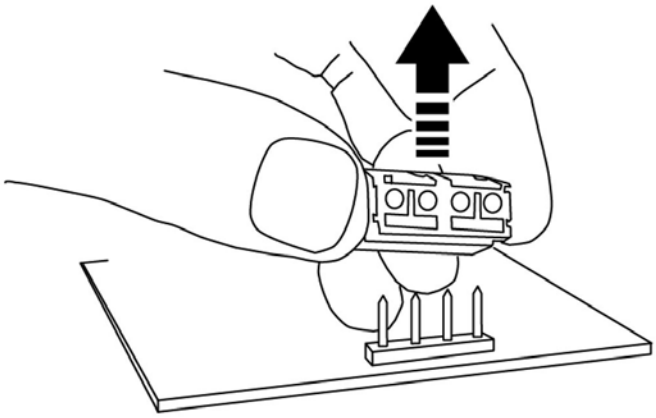
Only units connected to a socket/base are allowed. For other units the address must be set manually with the address setting tool.

4.2.MANUAL ADDRESSING

If auto addressing is not used, there is a possibility to manually set the address.

The COM loop address and mode settings have to be done before the unit is connected to the COM loop.

Each COM loop unit has to have a unique COM loop address (001-253). Use the Address setting tool (4414).
To manually address a unit, see each technical description respectively. This is an example:
a) Make sure the unit is connected to the 24 V DC power supply or the batteries.
b) Unplug the terminal block on the addressable unit.



c) Connect the Address Setting Tool's SA and SB terminals with the SA and SB terminals of the addressable unit. Use the connection cable with crocodile clips.
d) Set the address.

4.2.1.SET THE MODE

Set the mode to all units according to the Technical description for each unit.

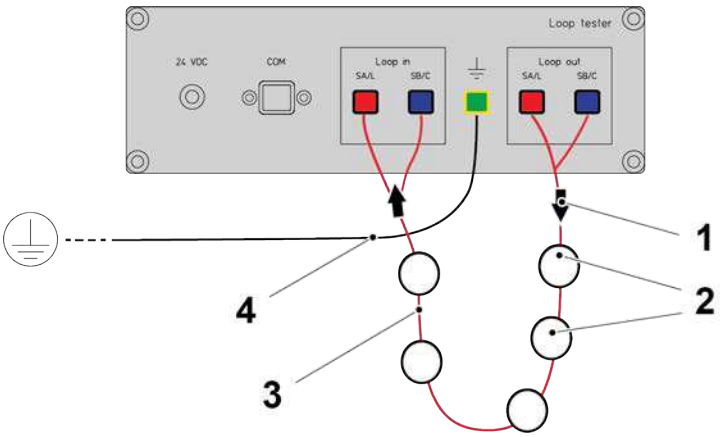
4.3.INSTALLATION AND WIRING

Connect the units to the loop according to the Technical description for each unit.

5. CONNECTING

This overview is an example of how the loop tester is connected. The COM loop is scanned in the A-direction, from Loop out to Loop in.

According to electrical safety standard EN 62368-1 must all signal cabling (i.e detector loops) remain in the same building.



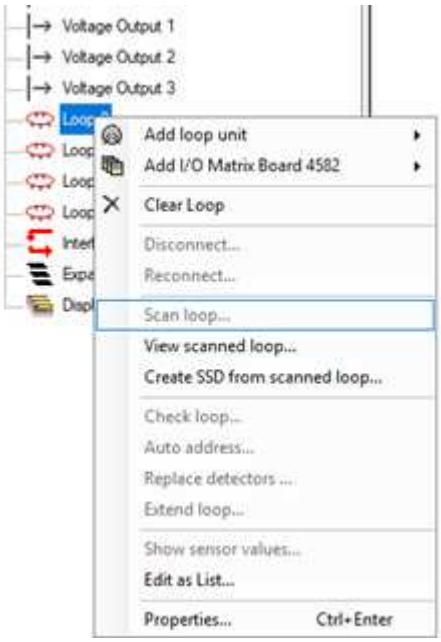
1) COM loop A-direction (Loop out)
2) Addressable COM-loop units
3) COM loop
4) Earth cable

Before use, ensure a proper connectivity to a protective earth point.

a) Connect the Loop tester to earth. The cable should be connected to the closest earth point (protective earth), a maximum of 2 meter cable is recommended.
b) Connect the Loop tester to the COM loop.
c) Connect the main cable to 24 V.
d) Connect the USB cable between the Loop tester and the PC.

6. IN EBLWIN

Some commands are disabled and greyed out if you have not logged on to the control unit.



6.1. SCAN LOOP

This overview is an example of how the loop tester is connected. The COM loop is scanned in the A-direction, Loop out to Loop in. The loop tester will find all units that are connected on the selected COM loop. The search is always performed in the A-direction.

a) Open EBLWin in your PC.

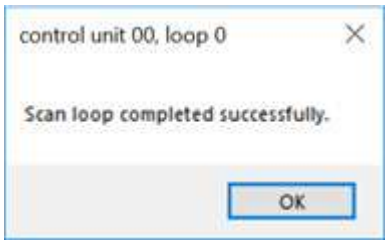
An EBLWin key 5094 is required to log on to EBLWin. This key is plugged in a USB-port in your PC / Laptop. Make sure you have the EBLWin key driver installed on your computer. The latest driver can be downloaded from https://sentinelcustomer.gemalto.com/sentineldownloads/.

b) Connect the PC to the USB connector in the Loop tester.
c) In EBLWin, go to Tools menu / Log on control unit…

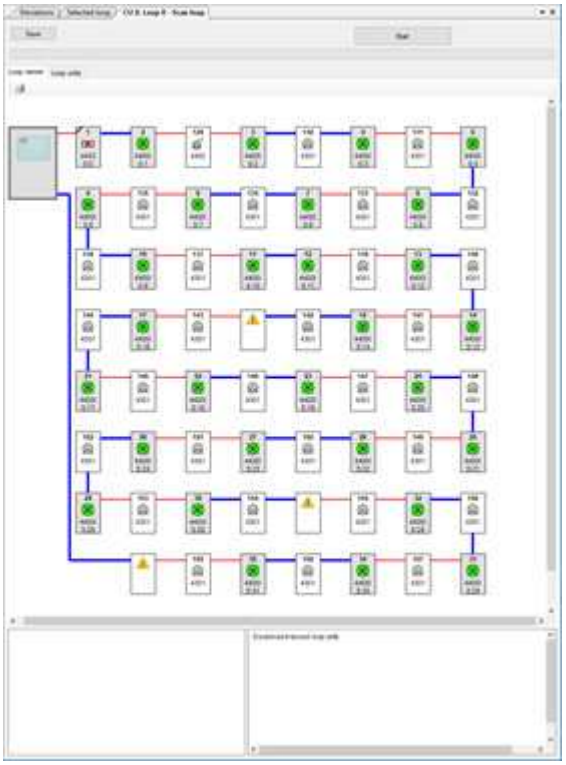
d) In the Tree view to the left, right click on the loop.

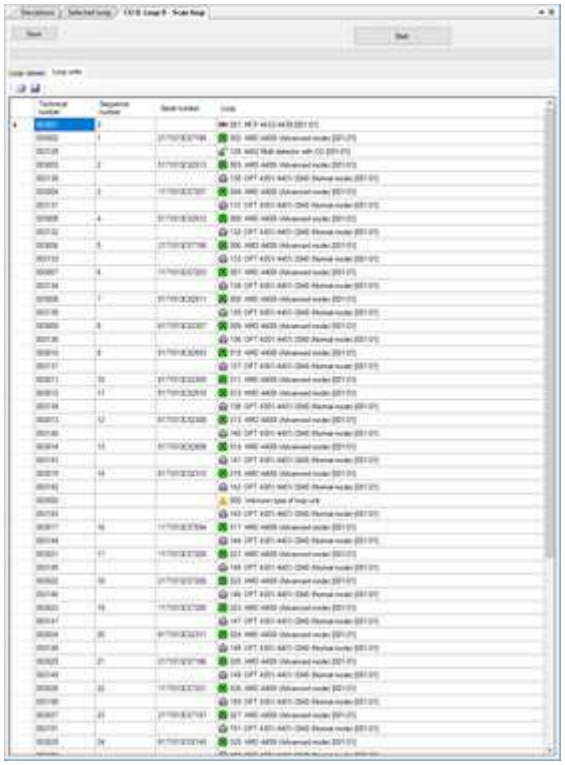
From version EBLWin 2.10.0, the Loop tester 1105 Wizard can be selected on the EBLWin startpage. The wizard will guide the user through the scan loop and auto address procedure.

e) Select Scan loop to start the scan loop function in EBLWin.
f) When the scan loop function is finalized without errors, the pop up dialog window 'Scan loop completed successfully' is shown.



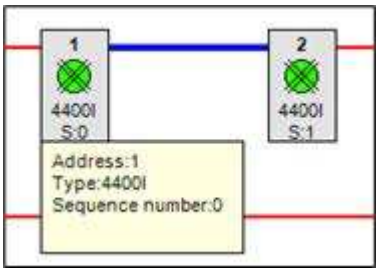
The result of the scan loop is shown graphically and in a list view.





When scan loop is performed on COM loop 0, and there are expansion boards connected, the expansion boards, except for I/O matrix, will not be shown.

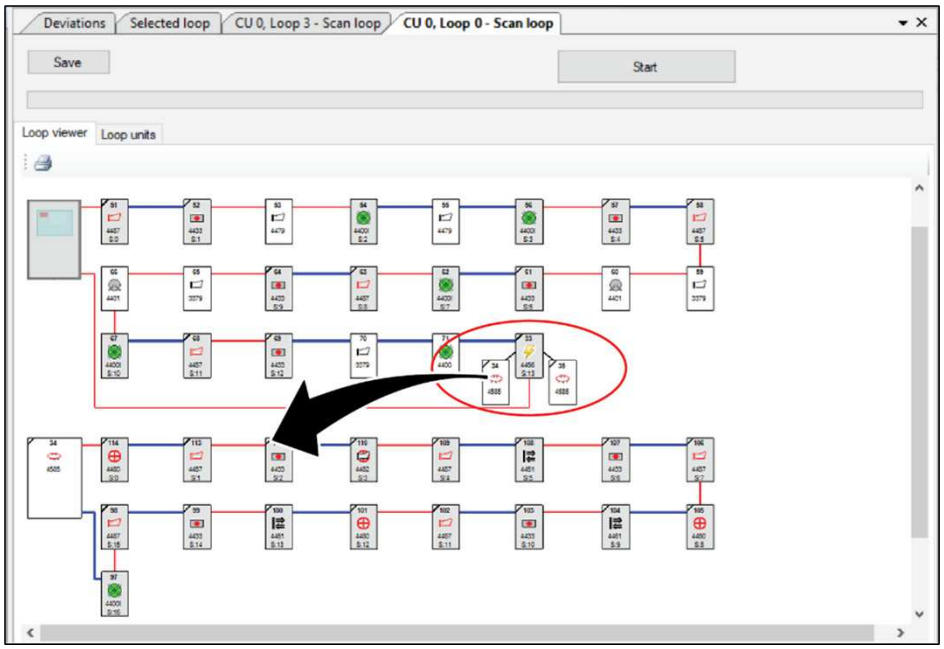
You can hover over the unit in EBLWin to see an explanation of the different numbers.



Units containing isolators are numbered (sequence number). These units will always come in correct order.

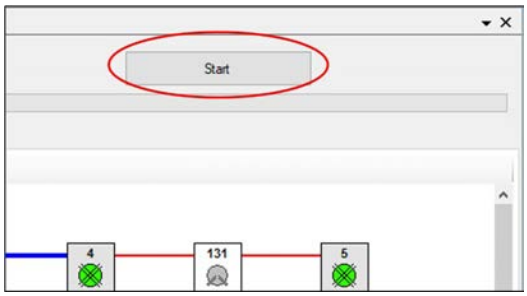
6.1.1. SUB LOOP

The SUB-loop is shown below the COM loop.



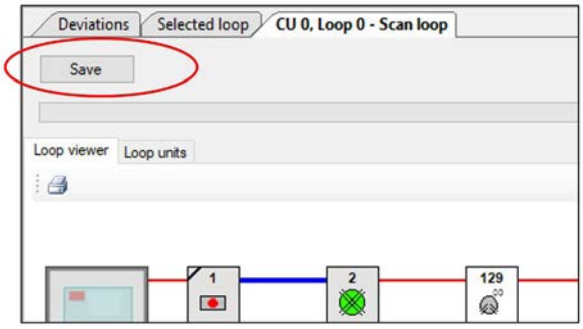
6.1.2. START

Restart the scan loop function, for example when a fault or break where found on the loop.



6.1.3. SAVE

It is possible to create an installation report that can be saved, either as an PDF for a graphic report or as XML to generate a data file for later import, see 6.3. CREATE SSD FROM SCANNED LOOP on page 18



The documentation shall be saved and printed for the inspection and handover of the system.

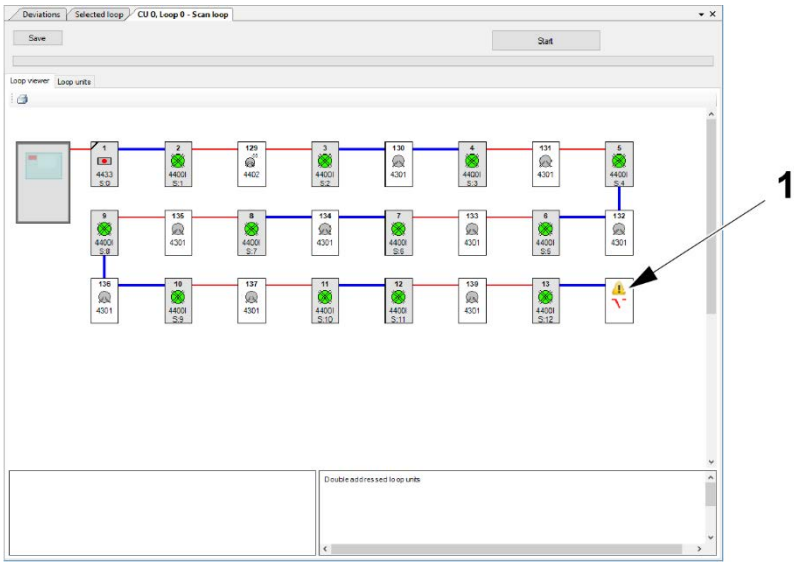
6.1.4. FAULTS - SCAN LOOP

A fault; a break (cut-off) or short circuit on the loop, will be shown graphically. Repair the fault and press start to restart the scan loop function.

The following faults can be found with the scan loop function:

OPEN CIRCUIT

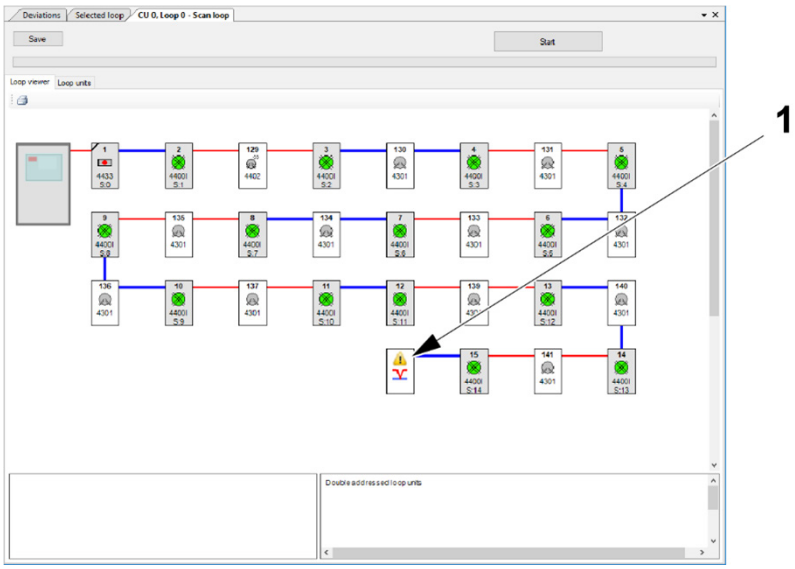
If the system detects an open circuit, the check loop function cannot be completed. The open circuit will be indicated graphically by a sign at the end of the loop.



1) Sign indicating open circuit

SHORT CIRCUIT

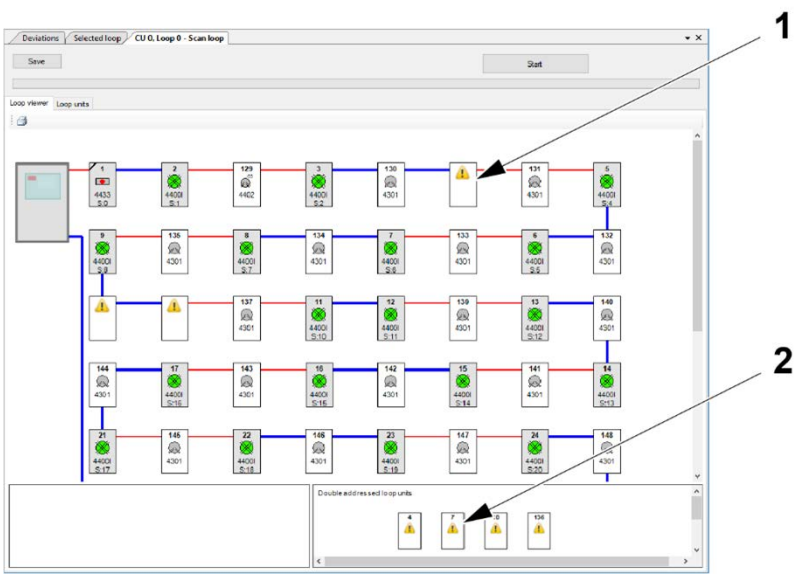
If the system detects short circuit, the scan loop function cannot be completed. The short circuit will be indicated graphically by a sign at the end of the loop.



1) Sign indicating short circuit

DOUBLE ADDRESS

A unit has got the same address as another unit on the COM loop.



1) Yellow warning sign indicating address not found
2) 'Double addressed loop units' area

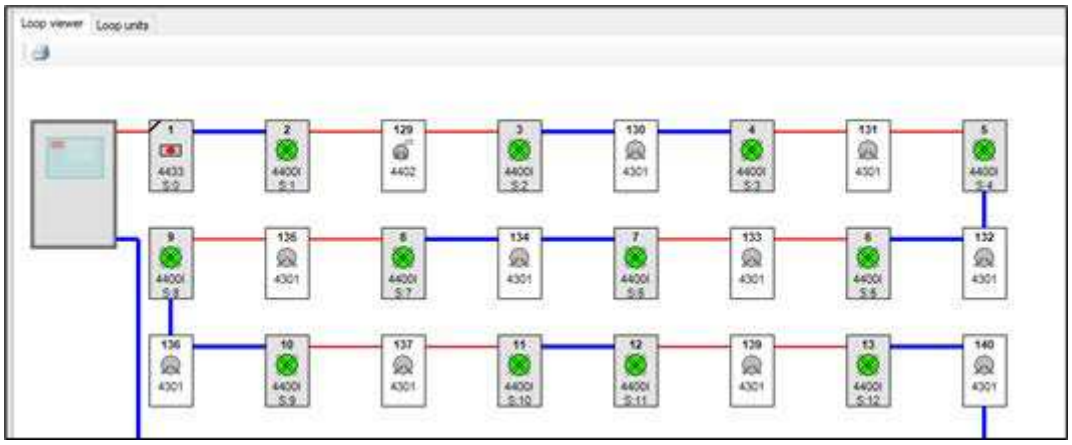
The double address detection requires support from the loop units. Not all units support this feature today; therefore a double address fault may occur as 'Unknown unit' or 'Unknown unit unknown address' (see above).

6.2. VIEW SCANNED LOOP

Select View scanned loop, and in the pop up window, select an XML-file to import.

6.2.1. LOOP VIEWER

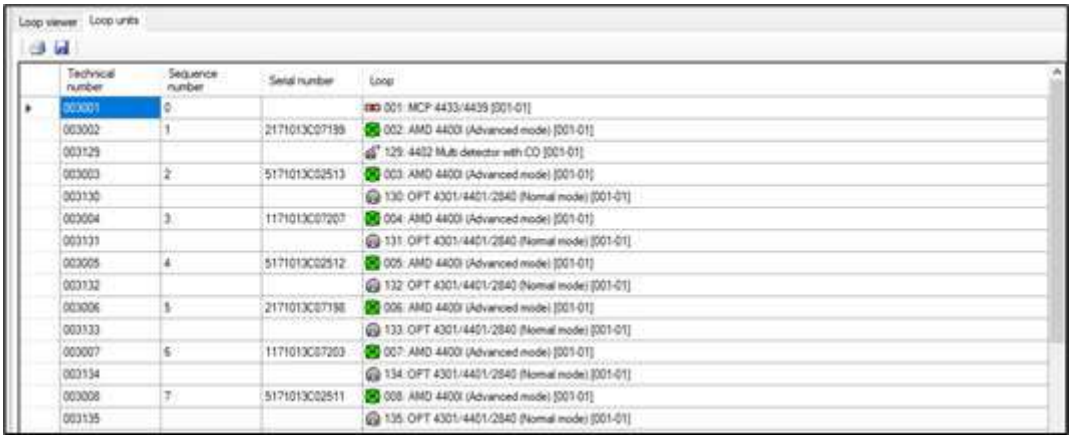
Graphic view of the COM loop.



It is possible to print the result of 'scanned loop' in this tab.

6.2.2. LOOP UNITS

List view of the COM loop.

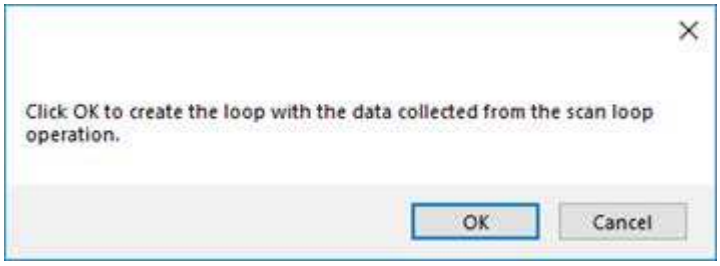


It is possible to save the result of 'scanned loop' as a signable HTML file in the “loop units”-tab (list view)

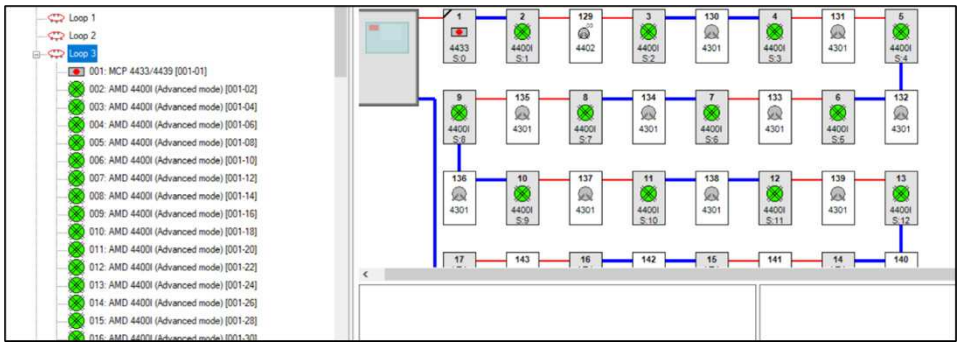
6.3. CREATE SSD FROM SCANNED LOOP

Select Create SSD from scanned loop, to add the scanned units to the SSD.

a) Right click on the loop and select Create SSD from Scanned loop.
b) In the dialog window, press OK.



c) Select the XML-file, and press Open.
d) When the SSD is created, all the loop units are shown in the tree view to the left. Click + to expand and - collapse the tree view.



7. TECHNICAL DATA

All current consumptions are valid by nominal voltage and by 25 °C.

Voltage: Allowed Normal Current: Min: (internal) Max:	 23.5 – 24.5 V DC 24V DC 80 mA 700 mA
COM loop Voltage: Allowed Normal COM loop Current:	 12 - 30V DC 24V DC < 6 mA
Short circuit isolator	Yes
Internal battery	No
Material	Aluminum housing
Ambient temperature: Operating Storage	 0 to +40 °C 0 to +40 °C
Ambient humidity	Maximum 95 % RH (Non condensing)
Size: H x W x D	290 x 235 x 75 mm
Weight:	2240 g

8. APPROVALS

Applicable directive/ Approval	Applicable standards	Notified body
EMC	EN61000-6-3 (Emission) EN61000-6-1 (Immunity)	Self declaration Self declaration
RoHS	EN50581	Self declaration

CE

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