Panasonic

PANASONIC FIRE ALARM SOLUTIONS

TECHNICAL DESCRIPTION
5054

DISPLAY UNIT V. 1.0.0

DOCUMENT INFORMATION

DOCUMENT NAME:	TECHNICAL DESCRIPTION 5054
DOCUMENT NUMBER:	MEW02376
DATE OF ISSUE:	2019-05-27
REV:	1
DATE OF REVISION:	2019-09-12

Panasonic Fire & Security Europe AB
Jungmansgatan 12
SE-211 11 Malmö
Sweden
Tel: +46 (0)40 697 70 00
Internet: www.panasonic-fire-security.com

TABLE OF CONTENTS

1. INTRODUCTION

This document describes the display unit, type number 5054.

The document contains information about the product and instructions on how to mount and connect it.

2. ABBREVIATIONS

c.i.e	Control and indicating equipment
CU	Control unit number (c.i.e no 00-29)
CU1	The first control unit number in the sequence
CU2	The last control unit number in the sequence
dB	Decibel
DU	Display unit
FW	Firmware
FS	File system
LED	Light Emitting Diode
SSD	Site Specific Data
zone	Zone number (001-999) In EBL128 (01-99)
zone1	The first zone number in the sequence
zone2	The last zone number in the sequence
zone, addr	Zone number and address within the zone (001, 01-999, 99)
zone1, addr1	The first zone number and address in the sequence
zone2, addr2	The last zone number and address in the sequence

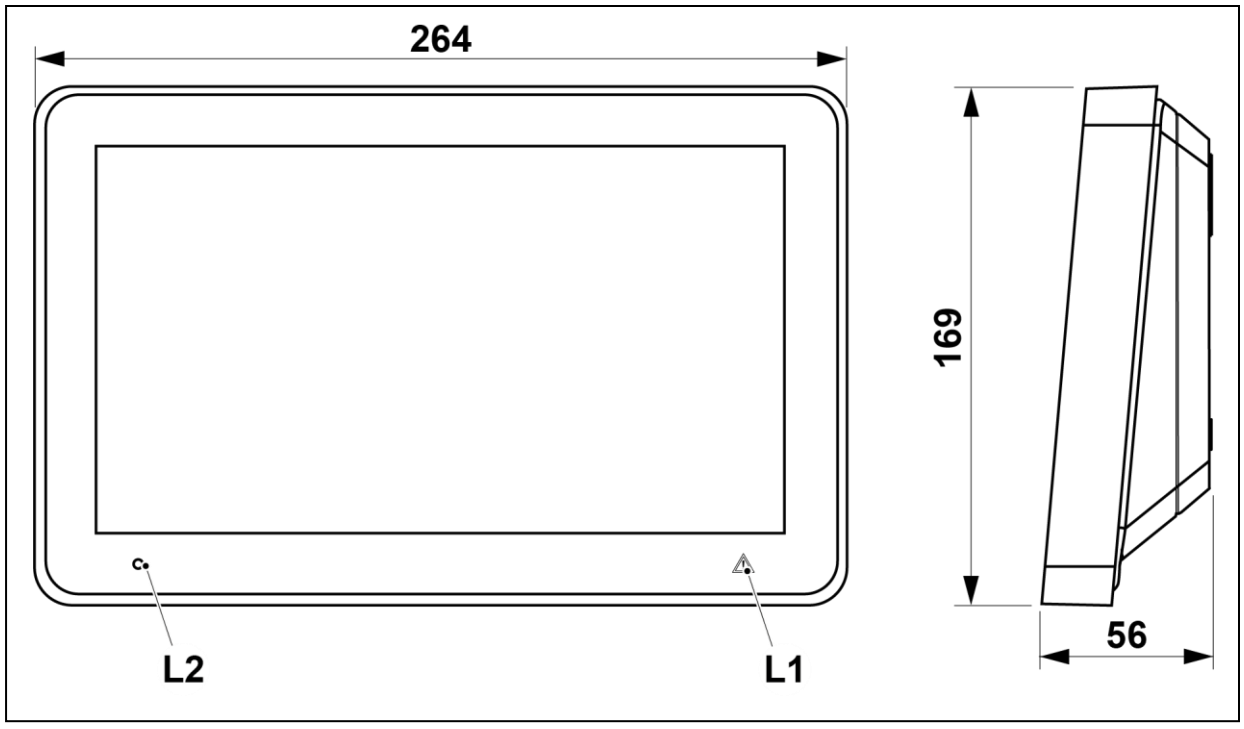
3. GENERAL DESCRIPTION

The display unit consists of a colour touch display and supports more than 13 languages.
It is intended to be used for fire alarms and information in the fire alarm system.

When a fire alarm is activated in the c.i.e, the fire alarm information will be sent to the display unit. An alarm text can be presented together with each alarm, if programmed in the c.i.e or in EBLWin.

It is possible to choose the unit type of the display unit:
External presentation unit: The external presentation unit is intended to be used as a display unit for fire alarms and information in the fire alarm system.
External fire brigade panel: The external fire brigade panel is used to present and reset the fire alarms.
Alert annunciation unit: Alert annunciation unit is required when the alert annunciation function is used in EBLWin to present, acknowledge, and reset the alert annunciation alarms.

The display unit complies with IP30, in respect of dust and moisture.
It is intended for indoor use and in dry premises.



(Measures in mm)

LED		Colour	Indicating
L1	Watchdog fault / communication fault	Yellow	Steady
L2	Power	Green	Steady

3.1. RS485

The display unit communicate with the c.i.e. via RS485.
In system EBL512 G3 the required components are mounted on the main board by delivery.
In system EBL128 the unit communicates via the "Communication module 4552" plugged on the mother board in the c.i.e.
In the last unit on the line, a termination resistor (120R) has to be connected. In the display unit this is done via jumper "J7" or “J3”. ("J7" shunted = the termination resistor is connected.)

3.2. POWER SUPPLY

The tables below are example of cables for installation of one display unit.

Joint communication and power supply in twisted pairs, shielded, RS485-cable:

Cable	Type	Distance to unit
Belden 1419A, 24#- 2pr	1 pair of Communication & 1 pair of power supply	150 m
Belden 1420A, 24#- 3pr	1 pair of Communication & 2 pair of power supply	300 m
Belden 1421A, 24# -4pr	1 pair of Communication & 3 pair of power supply	450 m
Belden 1212F, 24#- 4pr	1 pair of Communication & 3 pair of power supply	400 m

Separate communication and power supply:

Communication cable	Type	Distance to unit
Belden 1419A, 24#- 2pr	1 pair of Communication (RS485)	1200 m
Belden 1212F, 24#- 4pr	1 pair of Communication (Cat5e F/UTP)	1200 m
Belden 7703NH, 24# -1pr	1 pair of Communication (LonWorks)	1200 m

Power supply cable	Type	Distance to unit
Belden 5120UL, 14#	1 pair of power supply (Fire Alarm 14#)	1600 m [1)]
Belden 5220UL, 16#	1 pair power supply (Fire Alarm 16#)	1000 m
Draka ELQYB, 2x1	1 pair of power supply (COM-loop)	500 m

1) Up to 1200 m communication cable can be used.

The display unit has two screw terminal blocks for cable connections.
Since the c.i.e power supply output current is limited to 1.6A, up to four display units can be power supplied via the c.i.e. The External power supply 4466, can supply up to five display units per output.

3.3. USB

The display unit is equipped with an USB interface (X2).

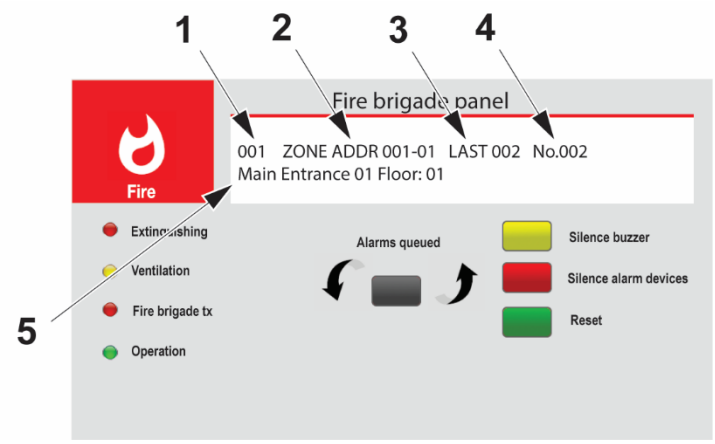
3.4. TOUCH SCREEN

The display is a colour touch screen. The screen brightness can be adjusted, see 7.5 DISPLAY BRIGHTNESS.
The touch screen will go into sleep mode after 2 minutes.

Data:

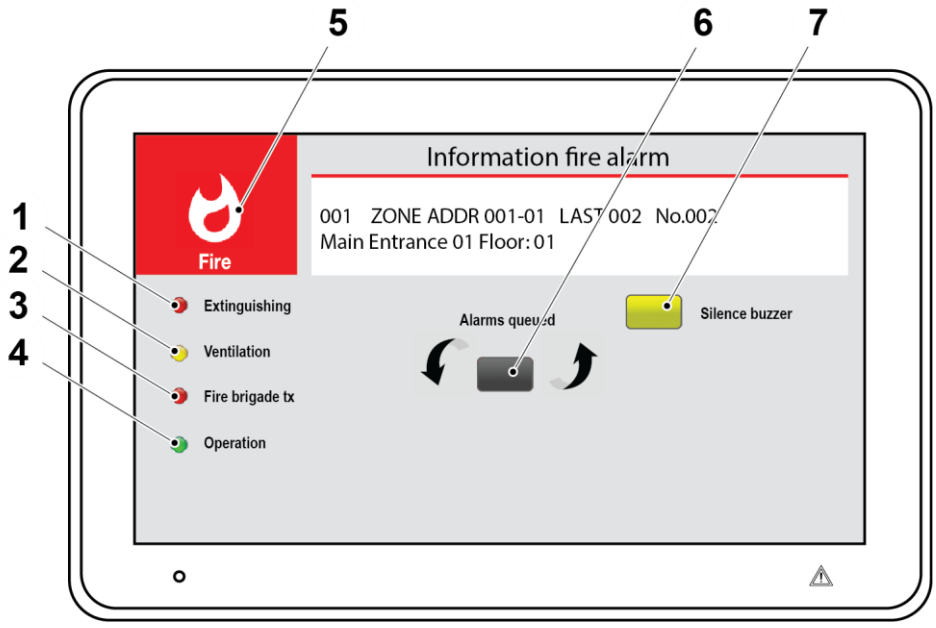
- Display size: 10.1”
- TFT Screen LCD type
- Capacitive display
- Resolution: 1024x600 RGB

3.5. ALARM PRESENTATION



1. Displayed alarm in the list
2. Zone in alarm - address
3. Last zone in alarm
4. Number of zones in alarm
5. Free text

4. EXTERNAL PRESENTATION UNIT



1. Extinguishing indicator
2. Ventilation indicator
3. Fire brigade tx indicator
4. Operation indicator
5. Fire alarm indicator
6. Alarms queued
7. Silence buzzer

4.1. FIRE ALARM

When a fire alarm is activated Pre-warnings, co-incidence, fire alarms, and heavy smoke / heat alarms will be presented on the display.
The fire alarm indicator will start to flash (0.4/0.4 s) if it is a real fire alarm (it will not flash for pre-warning or co-incidence) and depending on the type of alarm the following indicators can be turned on:
Extinguishing – Outputs for extinguishing equipment are activated
Ventilation – Outputs for (fire / smoke) ventilation are activated
Fire brigade tx – Output(s) for fire brigade tx (routing equipment) is/are activated

The button silence buzzer is possible to use.

If there are two or more alarms in the system, the button alarms queued will start to flash (0.4/0.4 s), and you can scroll amongst the alarms but the fire alarms cannot be reset via the display unit.

When all fire alarms are reset, the display unit will return to normal operation.

4.2. BUZZER

The unit has a built-in buzzer that will sound (0.4/0.4 s) when a real fire alarm is activated (0.8/5s for pre-warning or co-incidence). The buzzer will have a steady sound for not acknowledge faults in the system. The buzzer can be silenced but the alarm devices in the installation cannot be silenced via the display unit.

If the buzzer is programmed as "disabled" via EBLWin, it will never sound.

4.3. DISABLEMENT MESSAGE

Disablement in the system will be displayed as "General disablement in system" on the display.
When the disablement message is displayed, the display back-light is turned on for two minutes, and the disablement message will be displayed on the third row in the display.

A fire alarm has higher priority and will be displayed instead of the disablement message.

NOTE! The disablement presentation described above is not valid in the Swedish convention (SBF).

4.4. QUIET ALARM

Quiet alarm can be shown in the display unit. This is valid for Australian and New Zeeland conventions only.

4.5. FAULT

Fault in the system will be displayed as "General faults in system" on the display.
When the fault message is displayed, the display back-light is turned on for two minutes, and the fault message will be displayed on the second row in the display.
The buzzer will sound (steady) as long as the fault(s) are not acknowledged in the system.

A fire alarm has higher priority and will be displayed instead of the fault message.

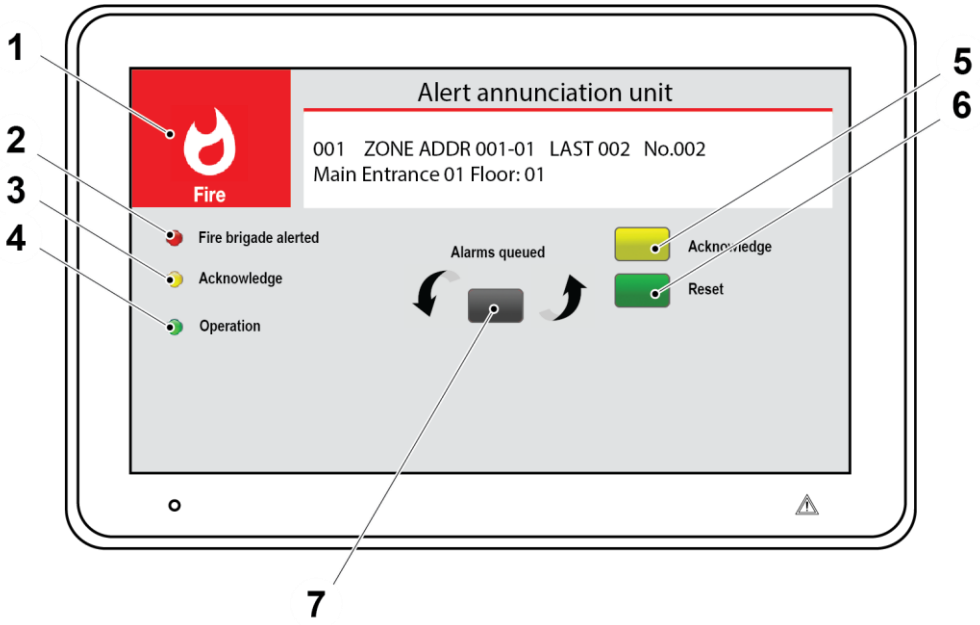
4.6. BUTTONS

SILENCE BUZZER – Always visible. The button Silence buzzer can be used to silence the internal buzzer. The buzzer will re-sound for a new fire alarm / fault.

ALARMS QUEUED – Visible when there are two or more fire alarms in the system. The button Alarms queued is visible, the arrows flashes (0.4/0.4 s), and you can scroll amongst the fire alarms. The first alarm will automatically be shown again after 20 seconds, if no button is pressed during that time.

For pre-warnings the button Alarms queued will not be visible. The arrows flashes (0.4/0.4 s), and the pre-warnings will be automatically scrolled (each five seconds).

5. ALERT ANNUNCIATION UNIT



1. Fire alarm indicator
2. Fire brigade alerted indicator
3. Acknowledge indicator
4. Operation indicator
5. Acknowledge
6. Reset
7. Alarms queued

5.1. FIRE ALARM

Fire alarm without alert annunciation

When a fire alarm is activated, fire alarms and heavy smoke / heat alarms will be presented on the display. The fire alarm indicator will start to flash (0.4/0.4 s) and the Fire brigade alerted is turned on.

If there are two or more alarms in the system, the button alarms queued will start to flash (0.4/0.4 s), and you can scroll amongst the alarms but the fire alarms cannot be reset via the display unit. When all fire alarms are reset, the display unit will return to normal operation.

Fire alarm with alert annunciation

When an alert annunciation alarm is activated the acknowledge time starts. The fire alarm indicator will start to flash (0.4/0.4 s) and the button Acknowledge is possible to use.

When the alarms have been acknowledged, the Acknowledge indicator is turned on and the fire alarm indicator will stop flashing. The button Reset is possible to use.

If there are two or more alarms in the system, the button alarms queued will start to flash (0.4/0.4 s), and you can scroll amongst the alarms.

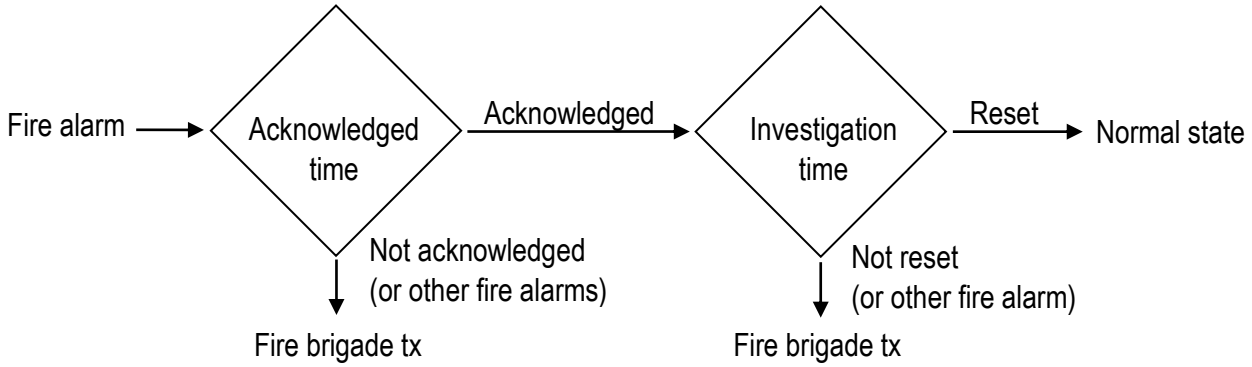
When all fire alarms are reset, the display unit will return to normal operation.

5.2. ALERT ANNUNCIATION FUNCTION

The alert annunciation function can be used to avoid nuisance alarms to the fire brigade. The alert annunciation function is programmed via EBLWin, and normally analog smoke detectors and zones with smoke detectors only are programmed. Heat detectors and manual call point should normally not be programmed for alert annunciation. A manual call point can only activate the alert annunciation function if there are no other fire alarms activated in the system.
The alert annunciation alarms have to be acknowledged within an acknowledged time. The acknowledged alarms has to be reset within an investigation time, else the output(s) for fire brigade tx will be activated.
During acknowledge and investigation time:

- the output(s) for fire brigade tx will be activated, if a fire alarm is activated by a detector/zone not programmed for alert annunciation or if the alarm is activated by a manual call point
- more than one alert annunciation alarm is allowed within the same zone, if “multiple alarms allowed within same zone” is set via EBLWin
- “Number of zones” can be set via EBLWin. Normally only one zone with alert annunciation alarm is allowed but up to four zones can be allowed.

Acknowledge and reset is done on the display unit. A programmable output for indication and programmable inputs can also be used. In some conventions can this also be done in the c.i.e. The acknowledge time can be set to 0-120 seconds and the investigation time can be set to 0-9 minutes.
NOTE! The total delay time (acknowledge time + investigation time) of a fire alarm must not exceed 10 minutes.



The alert annunciation function is normally turned on during daytime, working hours only. A time channel can turn on/off this function. When the alert annunciation function is turned on, it is indicated by the LED Routing equipment “Fire brigade tx delay” on the c.i.e. front. Normally only one time channel is used for this function but two or more channels can be used. The alert annunciation function can, as an alternative, be continuously on.

NOTE! The alert annunciation function can be turned off via menu in c.i.e and will stay off until turned on again via the menu.

5.3. BUZZER

The unit has a built-in buzzer that will sound (0.4/5 s) when an alert annunciation alarm is activated. The buzzer will be silent when the acknowledge button is pressed or when the alert annunciation alarm turns into a real fire alarm.

If the buzzer is programmed as "disabled" via EBLWin, it will never sound.

5.4. QUIET ALARM

Quiet alarm can be shown in the display unit. This is valid for Australian and New Zeeland conventions only.

5.5. OPERATION

The Operation indicator is turned on when the alert annunciation function is active in the system.

5.6. BUTTONS

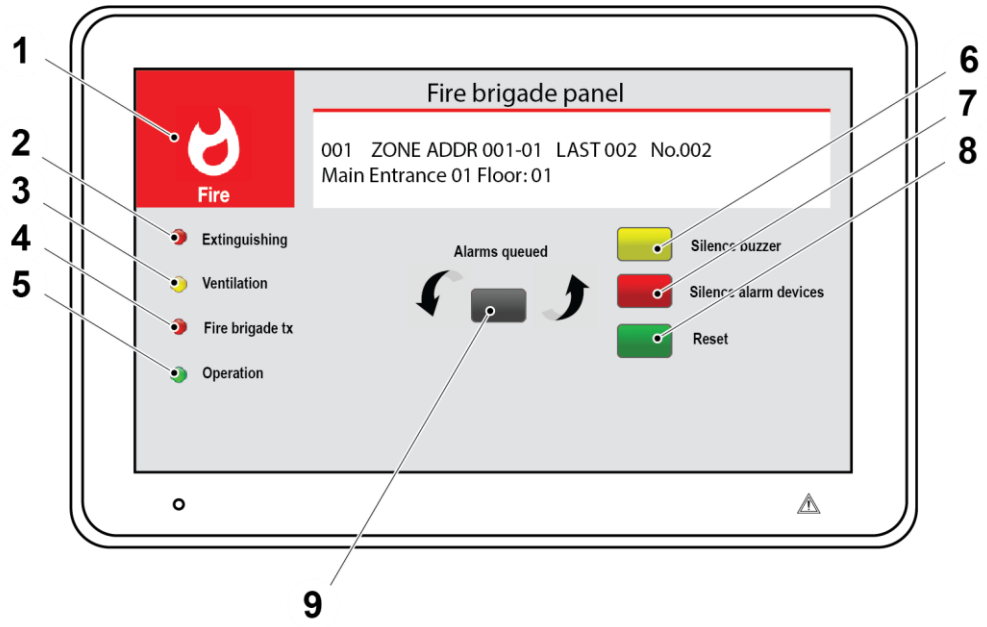
ACKNOWLEDGE – Visible when there are un-acknowledged alert annunciation alarms in the system. The button Acknowledge can be used to acknowledged the alert annunciation alarms.

RESET – Visible when a fire alarm is activated. The button Reset can be used to reset the fire alarms in the system. This button is password protected, see 7.7 PIN CODE.

ALARMS QUEUED – Visible when there are two or more fire alarms in the system. The button Alarms queued is visible, the arrows flashes (0.4/0.4 s), and you can scroll amongst the fire alarms. The first alarm will automatically be shown again after 20 seconds, if no button is pressed during that time.

For pre-warnings the button Alarms queued will not be visible. The arrows flashes (0.4/0.4 s), and the pre-warnings will be automatically scrolled (each five seconds).

6. EXTERNAL FIRE BRIGADE PANEL



1. Fire alarm indicator
2. Extinguishing indicator
3. Ventilation indicator
4. Fire brigade tx indicator
5. Operation indicator
6. Silence buzzer
7. Silence alarm devices
8. Reset
9. Alarms queued

6.1. FIRE ALARM

When a “Fire alarm” is activated, Pre-warnings, co-incidence, fire alarms, and heavy smoke / heat alarms will be presented on the display. The fire alarm indicator will start to flash (0.4/0.4 s) and depending on the type of alarm the following led can be turned on:
Extinguishing – Outputs for extinguishing equipment are activated
Ventilation – Outputs for (fire / smoke) ventilation are activated
Fire brigade tx – Output(s) for fire brigade tx (routing equipment) is/are activated

The buttons Silence buzzer, Silence alarm devices, and Reset are possible to use.

If there are two or more alarms in the system, the button alarms queued will start to flash (0.4/0.4 s), and you can scroll amongst the alarms. The fire alarms can be reset via the display unit. When all fire alarms are reset, the display unit will return to normal operation.

6.2. BUZZER

The unit has a built-in buzzer that will sound (0.4/0.4 s) when an alarm is activated (0.8/5s for pre-warning or co-incidence). The buzzer will have a steady sound for not acknowledge faults in the system. The buzzer can be silenced.

If the buzzer is programmed as "disabled" via EBLWin, it will never sound.

6.3. FAULT

Fault in the system will be displayed as "General faults in system" on the display.
When the fault message is displayed, the display back-light is turned on for two minutes, and the fault message will be displayed on the second row in the display.
The buzzer will sound (steady) as long as the fault(s) are not acknowledged in the system.

A fire alarm has higher priority and will be displayed instead of the fault message.

6.4. BUTTONS

SILENCE BUZZER – Always visible. The button Silence buzzer can be used to silence the internal buzzer. The buzzer will re-sound for a new fire alarm / fault.

SILENCE ALARM DEVICES – Visible when a fire alarm is activated. The button Silence alarm devices can be used to silence the alarm devices in the system. This button is password protected, see 7.7 PIN CODE.
The alarm devices will re-sound for a new alarm.

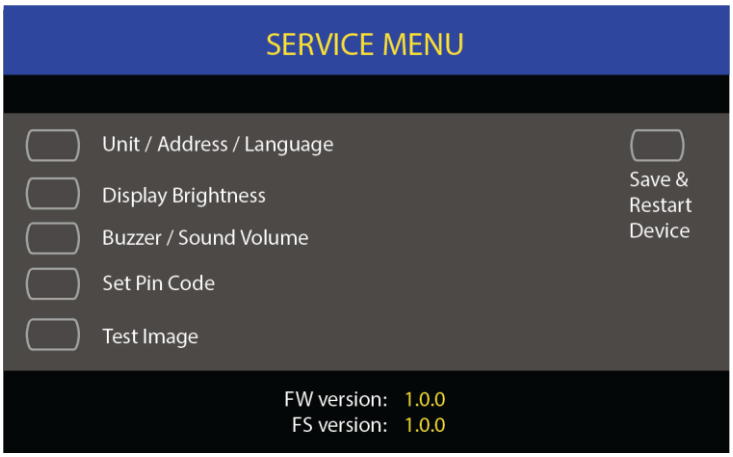
RESET – Visible when a fire alarm is activated. The button Reset can be used to reset the fire alarms in the system. This button is password protected, see 7.7 PIN CODE.

ALARMS QUEUED – Visible when there are two or more fire alarms in the system. The button Alarms queued is visible, the arrows flashes (0.4/0.4 s) and you can scroll amongst the fire alarms. The first alarm will automatically be shown again after 20 seconds, if no button is pressed during that time.

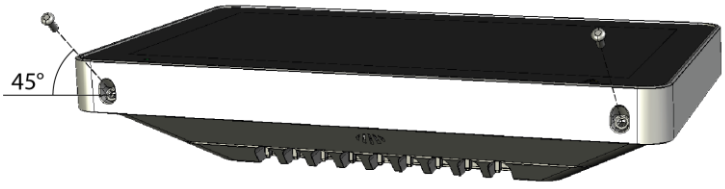
For pre-warnings the button Alarms queued will not be visible. The arrows flashes (0.4/0.4 s), and the pre-warnings will be automatically scrolled (each five seconds).

7. SERVICE MENU

A new display unit has no unit type, address, or language selected, it is factory set to "Not selected". When the display unit is powered for the first time it will automatically show the service menu.



For a display unit in operation, the service menu can be opened via the jumper "J4" in the unit. Remove the two screws (Torx T10) at the bottom of the display unit to open the unit.



NOTE! The screws are mounted at a 45 degree angle.

The service menu can also be opened via menu “Active address setting mode for DU” in the c.i.e, see Operating instructions for the c.i.e.

7.1. UNIT TYPE

The unit type can be changed to one of the following:

- Fire brigade panel
- Alert annunciation unit
- External presentation unit
- Fire brigade panel (1582)
- External presentation unit (1582)
- External presentation unit (Limited)

Select the wanted unit type and press  to save the settings.

7.1.1. EXTERNAL FIRE BRIGADE PANEL 1582 & EXTERNAL PRESENTATION UNIT 1582

These unit types are only for system EBL512, and should only be used when the display unit is connected to a 1582 expansion board.
(Not for systems EBL128 & EBL512 G3.)

7.1.2. EXTERNAL PRESENTATION UNIT – LIMITED

In this mode the display unit works as an external presentation unit with the following exceptions:

- Pre-warning is not shown
- Co-incidence alarm is not shown
- 'General fault' and 'General disablement' is not shown
- During fire alarm the upper row only shows 'Fire alarm' ('Brandlarm' in Swedish convention).
  No information about zone-address will be shown.
  The second row shows the alarm text as usual

7.2. COMPATIBILITY TABLE

Set the unit type according to the table below:

System	EBL 512 G3	EBL 128	EBL 512 (1587)	EBL 512 (1582)
Fire brigade panel [1)]	All versions	All versions	V ≥ 2.2	Not used
Alert annunciation unit [2)]	All versions	All versions	V ≥ 2.2	Not used
External presentation unit [3)]	All versions	All versions	V ≥ 2.2	Not used
Fire brigade panel (1582)	Not used	Not used	Not used	All versions
External presentation unit (1582)	Not used	Not used	Not used	All versions
External presentation unit (Limited)	All versions	All versions	V ≥ 2.2	Not used

(V=Software version)

1) For EBL512 G3, version ≥ 2.5, program as Display unit 5054 – Fire brigade panel in EBLWin. For others program as FBP 1826, 1828.

2) For EBL512 G3, version ≥ 2.5, program as Display unit 5054 – Alert annunciation unit in EBLWin. For others program as AAU 1735, 1736.

3) For EBL512 G3, version ≥ 2.5, program as Display unit 5054 – External presentation unit in EBLWin. For others program as EPU 1728.

7.3. UNIT ADDRESS

The unit shall have a unique address on the RS485 line. The address can be set to **00-29** (Default is "00".)

Set the address with the arrow buttons, and press  to save the settings.

7.4. LANGUAGE / AREA

You can set the language used on the LCD. There are more than 13 languages to choose between.

Select the wanted language, and press  to save the settings.

7.5. DISPLAY BRIGHTNESS

The screen brightness is default set to 50%. The brightness may need to be changed due to the lighting conditions.

Change the brightness level with the arrow buttons, and press  to save the settings.

7.6. BUZZER / SOUND VOLUME

You can set the volume for the buzzer and the sound for when a button is pressed.

Change the volume with the arrow buttons, and press  to save the settings.

7.7. PIN CODE

An authorization code can be set which gives access to silence alarm devices and to reset fire alarms. The code is default set to **0000** = no code is required. The digits are replaced with * in the display, this can be changed with the show / hide button.

Set the authorization code and press  to save the settings.

7.8. TEST IMAGE

With the test images you can check your LCD for defective pixels, that are not working as expected.
Pick a colour from the list to test. The screen is filled with the test colour, and makes it possible for you to find pixels that fail to show the selected colour.
NOTE! Pixels are very small so you have to look carefully at all test images.

8. SELECTIVE ALARM PRESENTATION

Normally all fire alarms will be presented in the c.i.e and the display unit. It is possible to select which alarms that shall be presented in the display unit. For example if there are many buildings in an installation, the units in one specific building shall only present alarms activated within this building.

The following operands are available (EBL128 is always CU 00):

- Control unit (**CU**)
- Consecutive control units (**CU1,CU2**)
- Zone (zone)
- Consecutive zone (**zone1, zone2**)
- Zone – address (**zone, addr**)
- Consecutive zone – address (**zone1, addr1, zone2, addr2**)

Up to 50 operands can be used to make a, selector for an display unit.

Example: **Control unit (00), Consecutive zones (100, 500), Zone – address (900, 01)**.
In this unit will only be presented alarms that origin from the c.i.e. no. 00, from the zone 100-500, or from the alarm point 900-01.

Default programming in system EBL512 G3 is: **Control units (00, 29)**. All alarms from all c.i.e:s will be presented in all display units.
Default programming in system EBL128: **Control units (00, 00)**. All alarms will be presented in all display units.

The programming is done via EBLWin.

9. USER DEFINABLE TEXT MESSAGES

The user definable text messages (alarm texts) are depending on which unit type the display unit is running in. Each alarm text (up to 40 alphanumeric characters) will be shown on the second row. The texts are created and downloaded via EBLWin.
In the c.i.e., each alarm point (zone – address) and each zone can have an individual user definable text message (alarm text) presented in the display unit by fire alarm; see the Planning and Operating Instructions for the system respectively.

The alarm texts shown in the c.i.e. will also be sent to each display unit and shown in its display.

Text messages for all or selected alarm points / zones can also be stored in each display unit. These alarm texts will be shown instead of the alarm texts sent out from the c.i.e. 617 unique user definable texts can be programmed in the memory for each unit. If a word or a whole sentence is reused in another “alarm text”, more than 617 user definable texts can be added to the memory.

The priority order of the alarm texts is as follows:
1. Point alarm text stored in the display unit.
2. Text sent out from the c.i.e.

When alarm texts shall be stored in all or in some display units, the unique alarm texts are created in EBLWin and downloaded when the c.i.e. SSD is downloaded.
NOTE! It is also possible to select which fire alarms that shall be presented in the display unit respectively, see chapter 8. SELECTIVE ALARM PRESENTATION.

10. FAULT MESSAGES IN THE DISPLAY UNIT

"General fault in system"

Any not corrected / serviced fault in the system and any not acknowledged fault in the system. To see the fault(s), use any c.i.e. in the system.

"No contact with control unit"

The contact with the c.i.e. is interrupted for > 45 sec. This fault is also indicated by LED.

- Check the cable, all connections, and the communication module 4552 in the EBL128 c.i.e.
- Is a correct / complete SSD download (via EBLWin) performed?
- Check the address and SW mode settings in the display unit.

“File system update failed. Waiting for command over USB”

Something went wrong during the download, or the wrong file was downloaded. Try to download again, see 11.3 FILE SYSTEM DOWNLOAD. Make sure that the file system version matches the firmware version.

"File system damaged. Waiting for command over USB."

Something went wrong during the download, or the wrong file was downloaded. Try to download again, see 11.3 FILE SYSTEM DOWNLOAD. Make sure that the file system version matches the firmware version.

“File system version incompatible. Waiting for command over USB.”

Something went wrong during the download, or the wrong file was downloaded. Try to download again, see 11.3 FILE SYSTEM DOWNLOAD. Make sure that the file system version matches the firmware version.

"Failed to mount file system! Waiting for command over USB."

Something went wrong during the download, or the wrong file was downloaded. Try to download again, see 11.3 FILE SYSTEM DOWNLOAD. Make sure that the file system version matches the firmware version.

"Failed to load layout from file system! Waiting for command over USB."

Something went wrong during the download, or the wrong file was downloaded. Try to download again, see 11.3 FILE SYSTEM DOWNLOAD. Make sure that the file system version matches the firmware version.

11. FIRMWARE AND FILE SYSTEM

The firmware and file system is stored in a flash memory in each display unit. The firmware and file system can be downloaded from EBLWin.

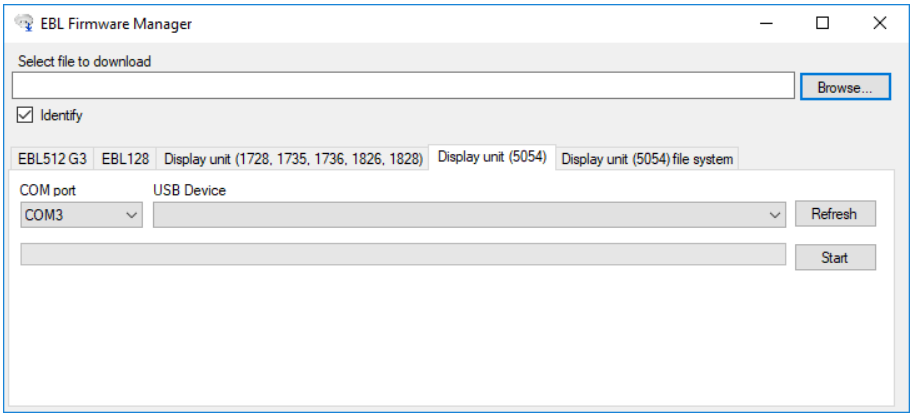
11.1. VERSION

The firmware and file system version is shown in the service menu in the display unit.
All units connected to the same RS485 line must have the same firmware version and file system version, for example. 1.0.x and 1.0.x respectively. X indicates only a small correction and is not required to be the same. It is highly recommended to have the same versions in all the display units in the system.

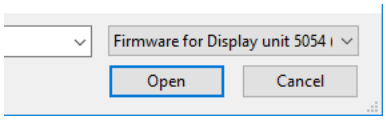
11.2. FIRMWARE DOWNLOAD

The display unit is equipped with an USB, which makes it possible to connect a PC and carry out the downloading directly to the unit.

a) Prepare the PC and start EBLWin.
b) Connect the PC to the display unit via USB.
c) In EBLWin, click **Tool / Download software** to open the EBL Firmware Manager.
d) Select the Display unit 5054 firmware tab.



e) Browse to the firmware file to be downloaded, DU5054_x.x.x_FW.dfu.
NOTE! You must select the correct file extension.

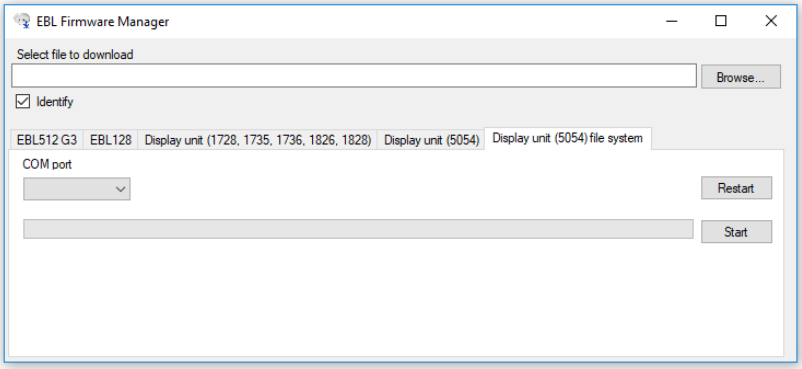


f) Select comport.
g) Start the downloading.
h) When the download is ready, there will be a pop up dialog window, asking if you want to restart the display unit. Click Yes to restart the display unit.
i) Normally a new file system must be downloaded after the firmware is changed, continue with 11.3 FILE SYSTEM DOWNLOAD.

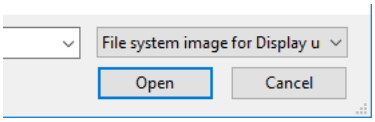
11.3. FILE SYSTEM DOWNLOAD

Download the file system

a) Prepare the PC and start EBLWin.
b) Connect the PC to the display unit via USB.
c) In EBLWin, click **Tool / Download software** to open the EBL Firmware Manager
d) Select the Display unit 5054 file system tab.



e) Browse to the file system file to be downloaded, DU5054_x.x.x_FS.bin
NOTE! You must select the correct file extension.



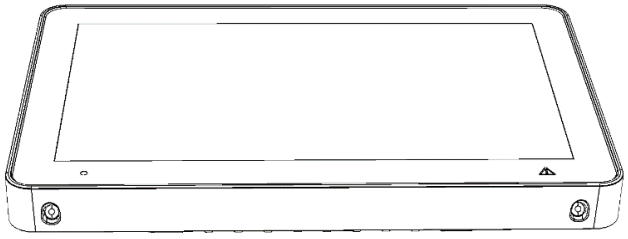
f) Select comport.
g) Start the downloading.
h) When the download is ready the pop up dialog window 'Download completed successfully' is shown and the display unit will restart.

Regarding fault messages see chapter 14. RESTART.

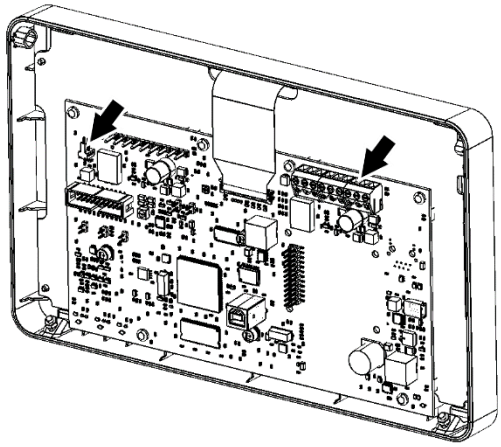
12. MOUNTING

The display unit must be mounted on the wall. Screws for wall mounting are not supplied.

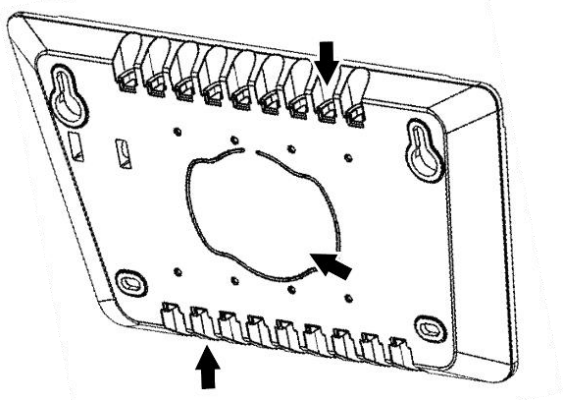
a) Remove the two screws (Torx T10) at the bottom of the display unit and open it.



b) Disconnect the loudspeaker cable, see arrows below.
c) Remove the terminal J5 from the P.C.B.

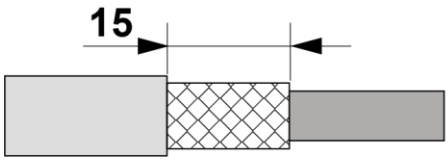


d) Cut out the required number of knockouts, into the top, bottom, or from behind.

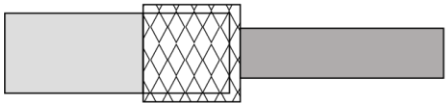


e) Enter the cables into the box.
Note! As long cable as possible is desirable when entering from above. Move the ground bar plate to the lower position when entering from above.
f) Mount the box on the wall, see 12.2 DRILL MEASURES.
Tip! Use the internal level vial to make sure the display unit is levelled.

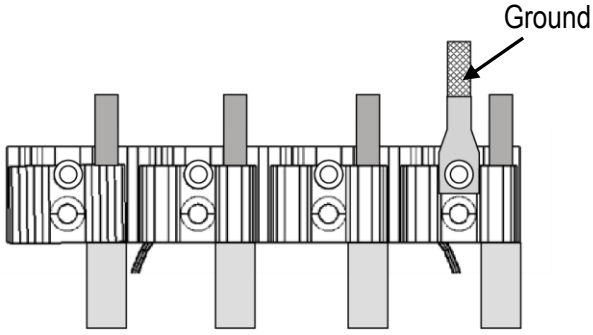
g) Remove the insulating cover on the cables. The remaining strip of the shield shall be about 15 mm.
h) Bend the shield backwards over the insulating cover.



The cable cover is removed



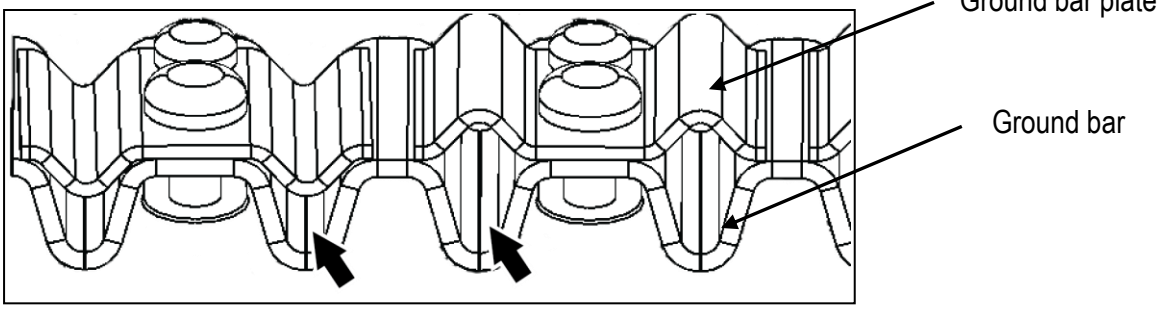
The shield is bent backwards



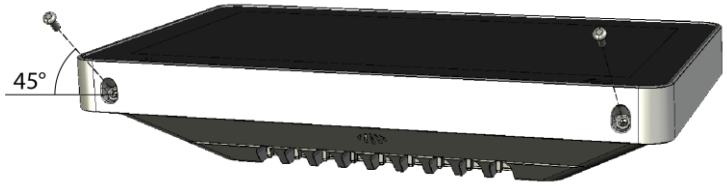
Ground bar plate with cables and one ground cable

(Measures in mm)

i) Clamp the cables on the ground bar plate. In order not to cause a short circuit, do not let the sprawl outside the cable fixing clamp.
NOTE! The ground bar plate is reversible to fit all cable thicknesses.



j) Connect the ground cable to the ground bar plate.
k) Reconnect the terminal J5 to the P.C.B.
l) Reconnect the loudspeaker.
m) Assemble the front of the display unit with the two screws. Be careful not to pinch any cables.

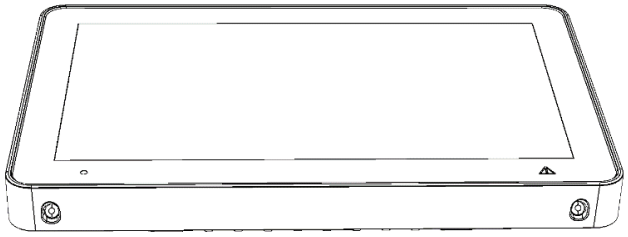


NOTE! The screws are mounted at a 45 degree angle.
n) Connect the cables to the terminal block J1 in the c.i.e.

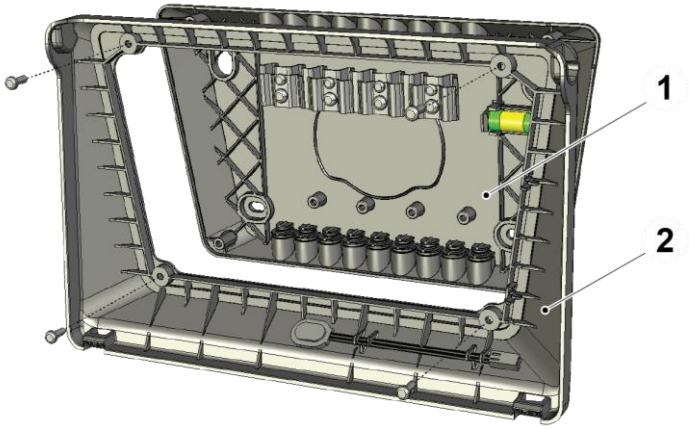
12.1.1. MOUNTING IN DISPLAY UNIT METAL CABINET

The display unit can be mounted in the display unit metal cabinet 5055.

a) Remove the two screws (Torx T10) at the bottom of the display unit and open it.



b) Remove the four screws (Torx T10) and remove the back cover.

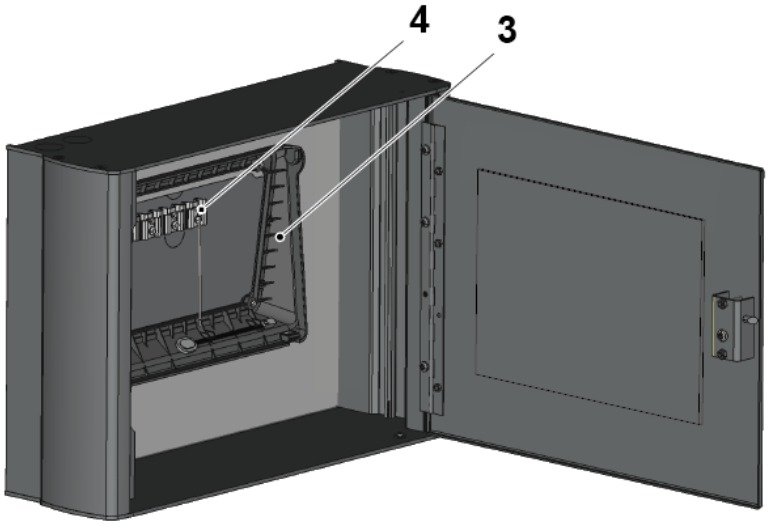


1. Back cover
2. Frame back

c) Mount the frame back inside the cabinet.

d) Remove the ground bar plate from the back cover and mount it inside the cabinet. Use the screws enclosed with the cabinet.

e) Remove the ground cable and replace it with the longer ground cable supplied with the cabinet.

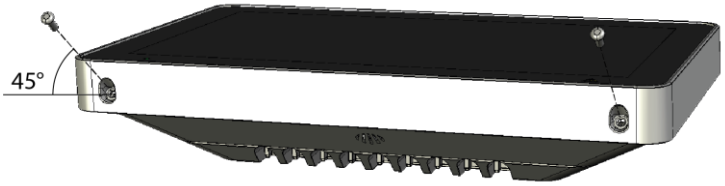


3. Frame back
4. Ground bar plate

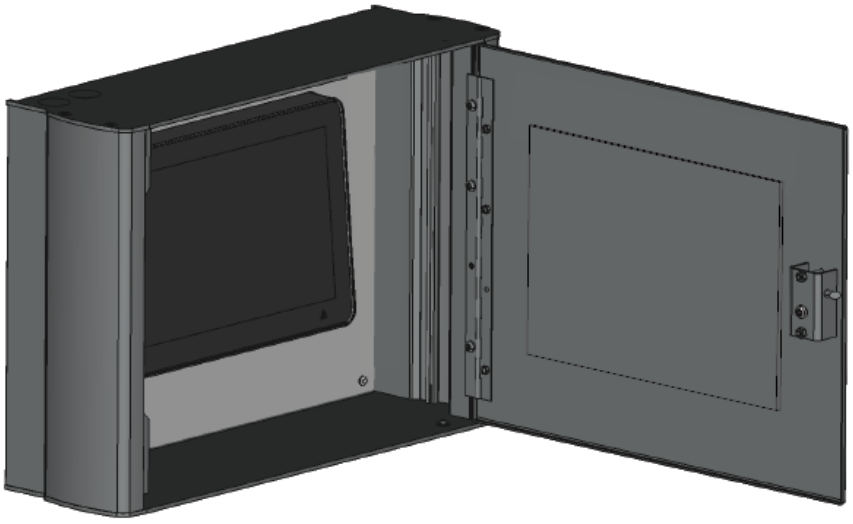
f) The cabinet has several knock-outs for cable inlets, four knock-outs on the top, bottom, and back. Four compression glands are supplied with the cabinet.

g) Pull the cables through the inlets, and clamp the cables on the ground bar plate.

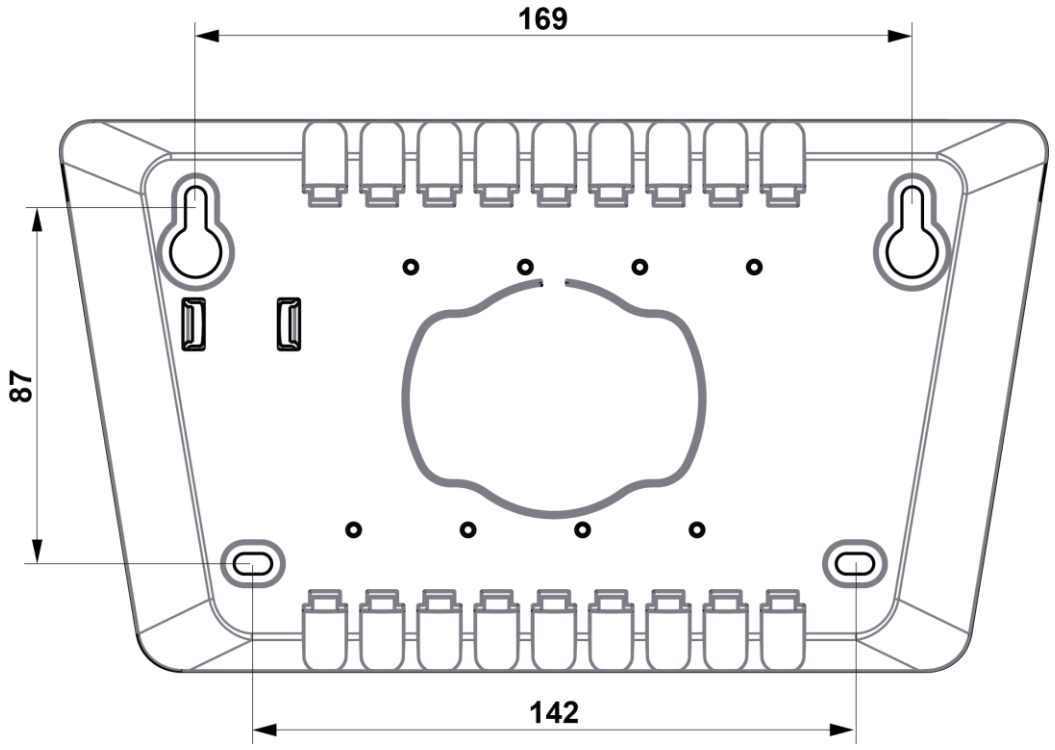
h) Assemble the front of the display unit with the two screws.



NOTE! The screws are mounted at a 45 degree angle.



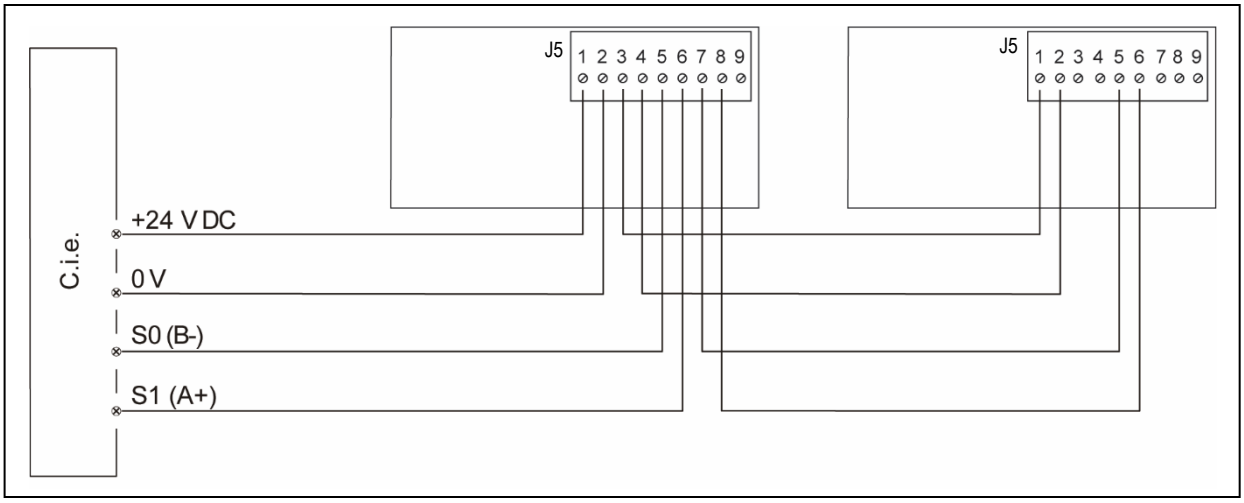
12.2. DRILL MEASURES



Measures in mm

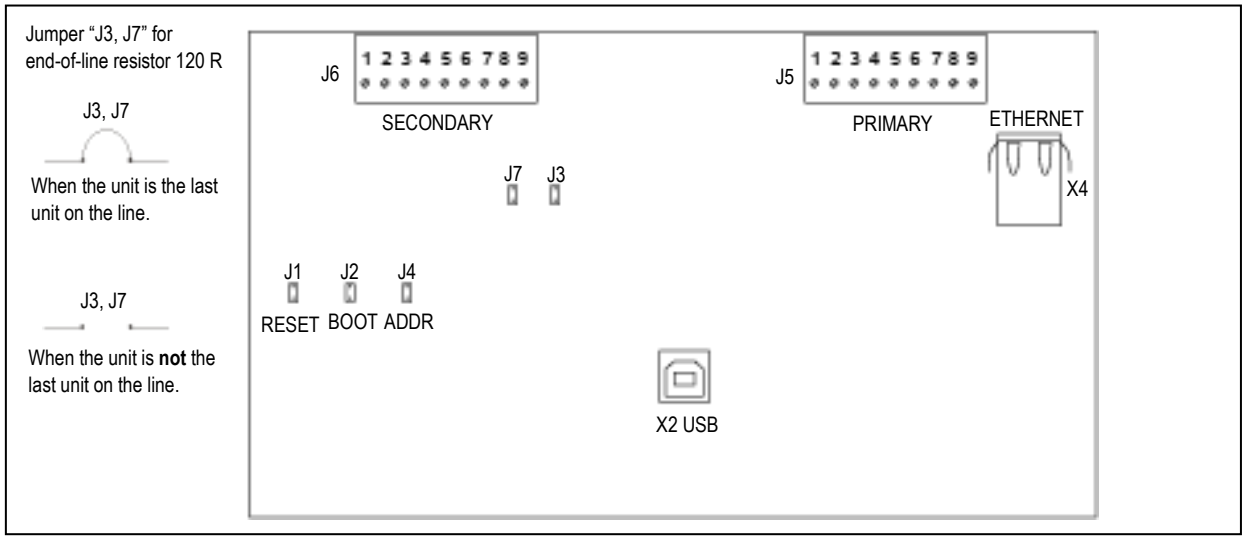
13. INSTALLATION AND WIRING

Up to 1200 m communication cable can be used.



DATA

	Ø (mm)	Area (mm²)	AWG
Wire size (Min)	0.64	0.33	22
Wire size (Max)	1.85	2.08	14



J1 Reset
J2 Boot
J4 Used when setting unit type and address
J3 Used to connect the built-in end-of-line resistor (primary terminal)
J7 Used to connect the built-in end-of-line resistor (secondary terminal, for redundant connection)
NOTE! "J7" and "J3" must only be shunted if the unit is the last unit on the line.
J5 Primary terminal block
J6 Secondary terminal block, can be used for redundant connection of communication and power supply, when this is supported by the c.i.e.

14. RESTART

The display unit will restart:

- When it is powered up
- After address setting
- If the contact with the control unit is OK again after the message:
  "No contact with Control unit"

If there is a program memory fault, there will be a fault message in the display unit:
"Memory fault in program area (n)" (n=1 or 2)

The display unit will not work, and a fault message will be shown in the c.i.e:

- EBL512 G3: **"FAULT: No reply, display unit xx, control unit xx"**
- EBL128: **"FAULT: No reply EPU x"**

If there is an SSD memory fault or no SSD downloaded, the display unit will still work since the alarm texts will be sent out from the c.i.e.
A fault message will be shown in the c.i.e:

- EBL512 G3: **"FAULT: Site specific data, display unit xx, control unit xx"**
- EBL128: **"FAULT: Site specific data (SSD), EPU x"**

15. COMMISSIONING

This chapter describes the correct sequence to install, set, and check the display unit.

PREPARATIONS

a) Prepare the c.i.e:
   - EBL512 G3: Remove the fuse “F19” on the main board.
   - EBL128: Make sure that the c.i.e is powerless and that the communication module 4552 is plugged on the main board (4556).

b) Make sure that the cable (RS485 line) to the display unit is connected.
c) Connect the cable from the c.i.e to the display unit terminal block “J5”.
d) Put back the fuse.

SET UNIT TYPE, ADDRESS, AND LANGUAGE

e) Select **Service** menu / ‘**Unit / Address / Language**’ .
f) Select **Unit type** and choose one of the unit types. Press .
g) Select **Unit Address** and set the address with the arrow buttons. Press .
h) Select **Language** and then choose a language in the list. Press .
i) Return to the Service menu and press the ‘**Save and & Restart Device**’ button. The unit will restart.

PROGRAMMING IN EBLWIN AND DOWNLOADING SSD

j) Connect a PC to the c.i.e
k) Download the SSD to the c.i.e.
   When the download of SSD to the c.i.e. is finished, it will restart. Then the download of SSD to the display unit(s) will take place. During the download, the following will be shown on the display:
   "SSD download in progress....."
l) After the download of the SSD, the unit will restart and then start working in normal operation mode.

16. TECHNICAL DATA

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

Voltage:	
Allowed	12-30V DC
Normal	24V DC
Current:	**12 V DC** **24 V DC**
Quiescent	80 mA 45 mA
Active (incl. internal LED)	350 mA 180 mA
Address range	0-29
Address setting	See chapter 7.3 UNIT ADDRESS
Short circuit isolator	No
Internal battery	No
Display size	10.1 inch
Material	PC/ABS, Polyblend 65FS
Ambient temperature:	
Operating	-5 to +40 °C
Storage	-30 to +80 °C
Ambient humidity	Maximum 93, % RH (Non condensing)
Ingress protection rating	IP 30
Size:	
H x W x D	169 x 264 x 56 mm
Weight	1400 g
Colour	Light grey (NCS S 1500-N)

17. APPROVALS

Applicable directive / Approvals	Applicable standards	Notified body
EMC	EN 55032 Class B (Emission) EN 55032 Class A when mounted in 5055 (Emission) 1) EN50130-4 (Immunity)	Self declaration
RoHS	EN50581	Self declaration

1) Note: Operation of this class A equipment in a residential environment could cause radio interference.

CE