



Fire Products & Solutions

Panasonic

Technical Manual

5054

Rev 0



DISPLAY UNIT 5054

Firmware V2

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Table of Contents

1	INTRODUCTION	3
1.1	RS485	3
1.2	Power supply	4
1.2.1	Joint communication and power supply in twisted pairs, shielded, RS485-cables	4
1.2.2	Separate communication cable	4
1.2.3	Separate power supply cable	4
1.3	USB Interface	4
1.4	Touch Screen	5
1.5	Generic Alarm Presentation	6
2	EXTERNAL PRESENTATION UNIT	7
2.1	Fire Alarm	7
2.2	Buzzer	7
2.3	Disablement Message	8
2.4	Quiet Alarm	8
2.5	Fault	8
2.6	Buttons	8
3	ALERT ANNUNCIATION UNIT	9
3.1	Fire Alarm	9
3.1.1	Fire Alarm without Alert Annunciation (normal alarm)	9
3.1.2	Fire Alarm with Alert Annunciation	10
3.2	Alert Annunciation Function	11
3.3	Buzzer	11
3.4	Quiet Alarm	12
3.5	Operation	12
3.6	Buttons	12
4	EXTERNAL FIRE BRIGADE PANEL	13
5	SERVICE MENU	14
5.1	Unit Type	14
5.2	Compatibility and EBLWin Configuration:	14
5.3	Unit Address	15
5.4	Language / Area	15
5.5	Display Brightness	15
5.6	Buzzer / Sound Volume	15
5.7	Pin Code	15
5.8	Test Image	15
5.9	Network Settings	16
5.10	Selective Alarm Presentation	16
6	USER DEFINABLE TEXT MESSAGES	17
7	FAULT MESSAGES IN THE DISPLAY UNIT	18
8	IP CAMERA AND DRAWING	19
8.1	EBL Graphics	19
8.2	EBL Service	19
9	FIRMWARE AND FILE SYSTEM	22
9.1	Versions	22

9.2	Display unit 5054 Driver	22
9.3	Firmware Download	23
9.3.1	Download Firmware in Boot Mode	24
9.4	File System Download	25
10	MOUNTING	26
10.1	Drill Measurement	28
11	INSTALLATION AND WIRING	29
12	RESTART	30
13	COMMISSIONING	31
14	SPECIFICATIONS	32
15	GUARANTEE	33
16	REVISION HISTORY	34

Table of Figures

Figure 1	Dimensions of 5054 Display Unit	3
Figure 2	5054 Display configured as an External Presentation Unit.....	7
Figure 3	5054 configured as an Alert Annunciation Unit	9
Figure 4	Fire brigade option (not conforming to AS4428.3.....	13
Figure 5	Display unit property window in EBLWin	21

1 Introduction

The display unit 5054 is a coloured touch screen display. It is intended to be used for fire alarm presentation and information in the fire alarm system.

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

The following types of the display unit can be selected:

- **External presentation unit:** Replaces the old External Presentation Unit 1728 style. The 5054 in this configuration is used to display fire alarm messages, General fault and General disablement in the FDCIE.
- **Alert annunciation unit:** Replaces the Alert Annunciation Unit 1736 style. When the alert annunciation function is required in the FDCIE, 5054 presents fire alarm messages and provide buttons to acknowledge and reset the alert annunciation alarms.
- **External fire brigade panel:** Currently not conforming to AS4428.3 as the disable button is not supported and the red border is not shown i.e. cannot be used as fire brigade panel in Australia.

The display unit meets the requirements of IP30 and intended for indoor use and in dry premises.

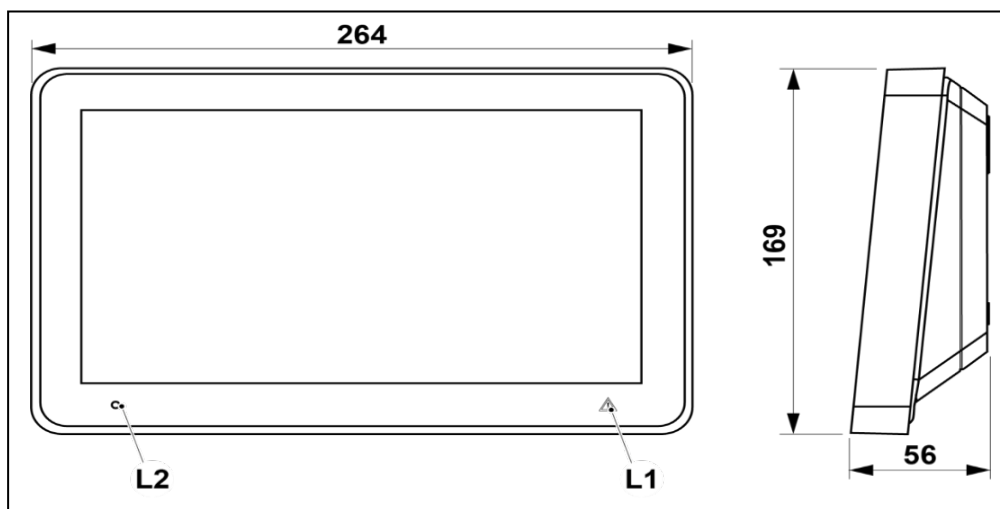


Figure 1 Dimensions of 5054 Display Unit

Two separate indicators are shown in Figure 1 above and described as follow:

	LED	Colour	Indicating
L1	Watchdog fault / communication fault	Yellow	Steady
L2	Power (main power or battery)	Green	Steady

1.1 RS485

The display unit communicates with the FDCIE via RS485.

In system FT1020G3, the RS485 connection is available on the main board.

In system FT128, the unit communicates via the "Communication module 4552" plugged on the main board 4556.

A termination resistor 120R has to be connected in the last unit on the RS485 bus. In 5054 units, this is done via jumper "J7" or "J3". ("J7" shunted = the termination resistor is connected.)

1.2 Power supply

The three tables below are some examples of the minimum cable length and type requirements to use in display unit wiring.

1.2.1 Joint communication and power supply in twisted pairs, shielded, RS485-cables

Cable (nearest size)	Type	Distance to unit
Belden 1419A, 2pr	1 pair of Communication & 1 pair of power	150 m
Belden 1420A, 3pr	1 pair of Communication & 2 pairs for power	300 m
Belden 1421A, 4pr	1 pair of Communication & 3 pairs for power	450 m
Belden 1212F, 4pr	1 pair of Communication & 3 pairs for power	400 m

1.2.2 Separate communication cable

Communication Cable	Type	Distance to unit
Belden 1419A, 2pr	1 pair of Communication (RS485)	1200 m
Belden 1421F, 4pr	1 pair of Communication (Cat5e F/UTP)	1200 m
Belden 7703NH, 1pr	1 pair of Communication (LonWorks)	1200 m

Note: Maximum cable length for communications is 1200 m irrespective of the cable type. Brooks recommend to use higher gage shielded cables for communications e.g. 0.7 mm² or 1.0 mm².

1.2.3 Separate power supply cable

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

Note: As the limitation for communication cable length is max 1200 metre, it is recommended to use 1.5mm² for the power supplied to display units.

The display unit has two screw terminal blocks for cable connections.

Note: The current consumption of 5054 units is higher than the older style 1728 or 1736. Current calculation must be performed based on the number of units that can be connected to the FDCIE. The FDCIE can supply power to a maximum of 4 display units, additional units require external power supply.

1.3 USB Interface

The display unit is equipped with an USB interface (X2) to directly download the firmware and file system to the display unit via EBLWin.

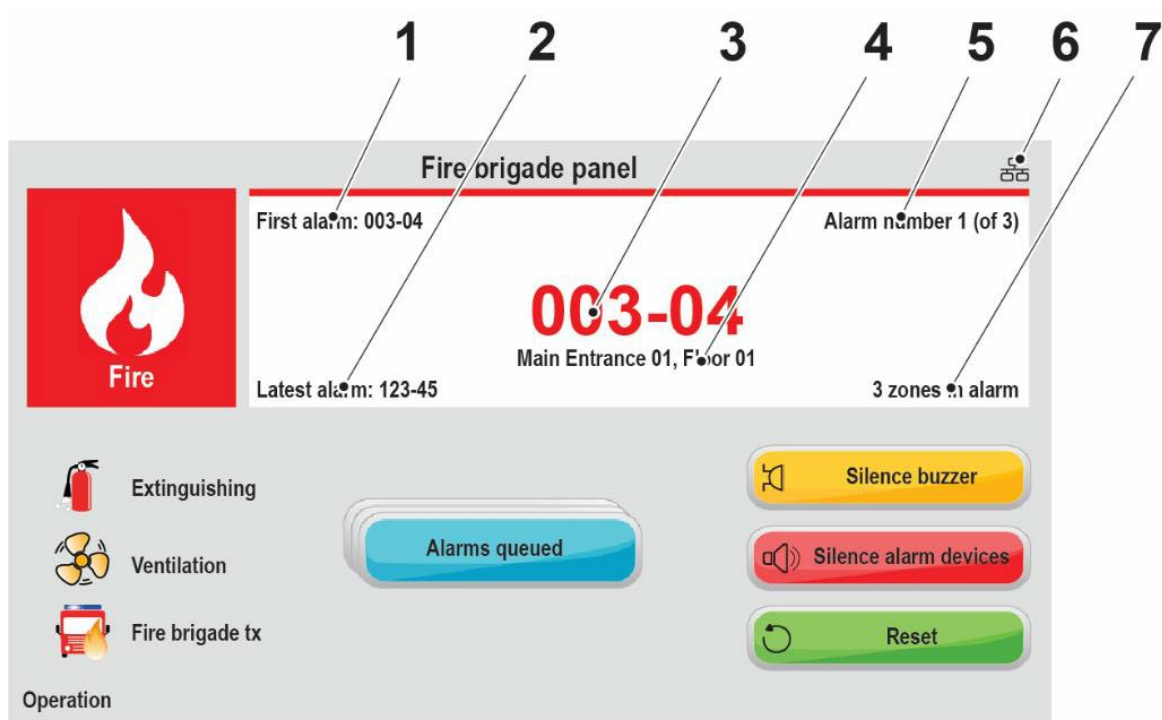
1.4 Touch Screen

The display is a coloured touch screen. The screen brightness and volume can be adjusted, see section 5.5 Display Brightness, page 15. The touch screen goes to sleep mode after 2 minutes.

Specifications:

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

1.5 Generic Alarm Presentation



1. First zone in alarm
2. Last zone in alarm
3. Latest alarm
4. Free text
5. Displayed alarm in the list
6. Ethernet connection
7. Number of zones in alarm

Note: The above picture is only for illustration, it cannot be used as a fire brigade panel.



Extinguishing: Outputs for extinguishing equipment are activated



Ventilation: Outputs for smoke control ventilation system are activated



Fire brigade tx: Output for fire brigade tx (routing equipment) is activated

Note: The symbols are greyed out when the event is not active.

2 External Presentation Unit

When 5054 is programmed as an external presentation unit, the display will be as shown in Figure 2 below.

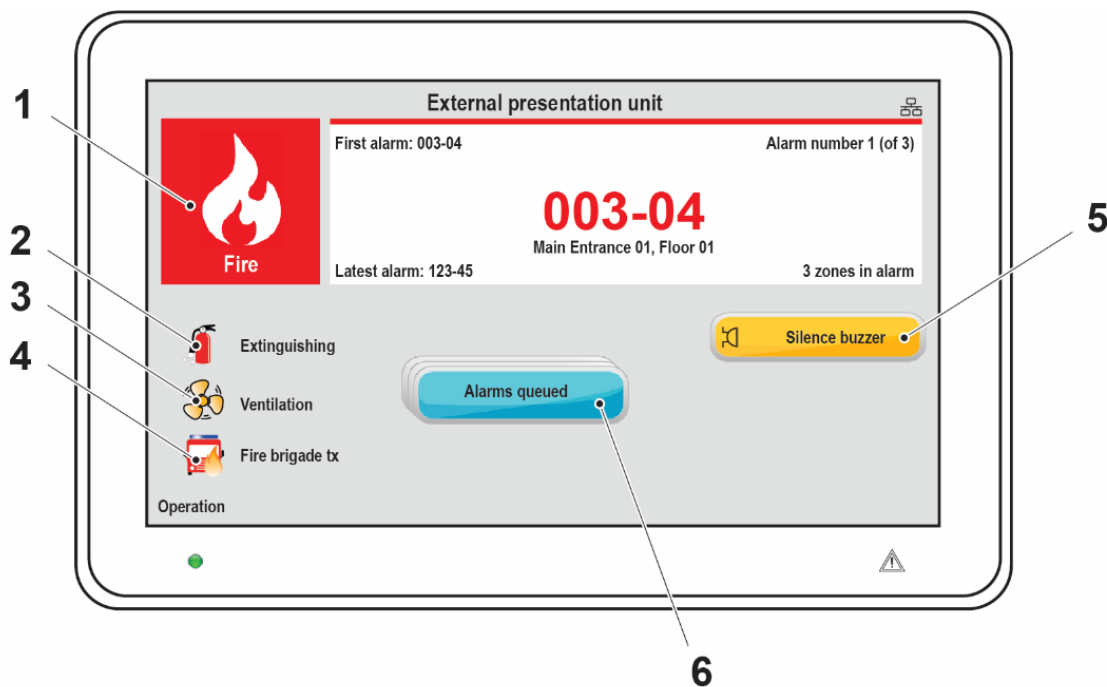


Figure 2 5054 Display configured as an External Presentation Unit

1. Fire alarm indicator
2. Extinguishing symbol
3. Ventilation symbol
4. Fire brigade tx symbol
5. Silence buzzer
6. Alarm queued

2.1 Fire Alarm

When an alarm is activated, the type of alarm will be presented on the display e.g. pre-warning, co-incidence alarm, fire alarm, quiet alarm or heavy smoke / heat alarms.

Upon receiving a fire signal, the fire alarm indicator will flash (0.4/0.4 s) for a real fire alarm (it will not flash for pre-warning or co-incidence) and depending on the type of alarm, the following indicators may be illuminating:

The button **"Silence buzzer"** is available to silence the display unit buzzer.

If two or more alarms are activated in the system, the button **"Alarms queued"** will be shown and you can scroll amongst the alarms but the fire alarms cannot be reset via the external presentation unit.

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


2.2 Buzzer

The display unit provides a built-in buzzer that sounds (0.4/0.4 s) when a real fire alarm is activated and (0.8/5 s) for pre- warning or co-incidence.

The buzzer can be silenced but the alarm devices in the system cannot be silenced via 5054 **"Silence buzzer"**.

If the buzzer is programmed in EBLWin as **"Disabled"**, in this case it will never sound.

2.3 Disablement Message


Disablement  in the system will be displayed as **"General disablement in system"** on the display. When the disablement symbol is activated, the display back-light is turned on for two minutes. The backlight will remain turned on with 10% screen brightness as long as there are disablements in the system..

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

2.4 Quiet Alarm

Quiet alarm can be shown in the display unit.

2.5 Fault

Fault  in the system will be displayed as **"General faults in system"** on the display.

When the fault symbol is activated, the display back-light is turned on for two minutes. The back-light will remain turned on with 10% screen brightness as long as faults exist in the system.

The buzzer will sound (steady) as long as the fault is not acknowledged in the system.

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

2.6 Buttons

"Silence buzzer" is Always visible. The button **"Silence buzzer"** can be used to silence the built-in buzzer. The buzzer will re-sound when a new fire alarm or fault occurs.

"Alarms queued" is Visible only when two or more fire alarms exist in the system. When the button **"Alarms queued"** is visible, the user 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.

3 Alert Annunciation Unit

When 5054 is programmed as an alert annunciation unit, the display will be as shown in Figure 3 below.

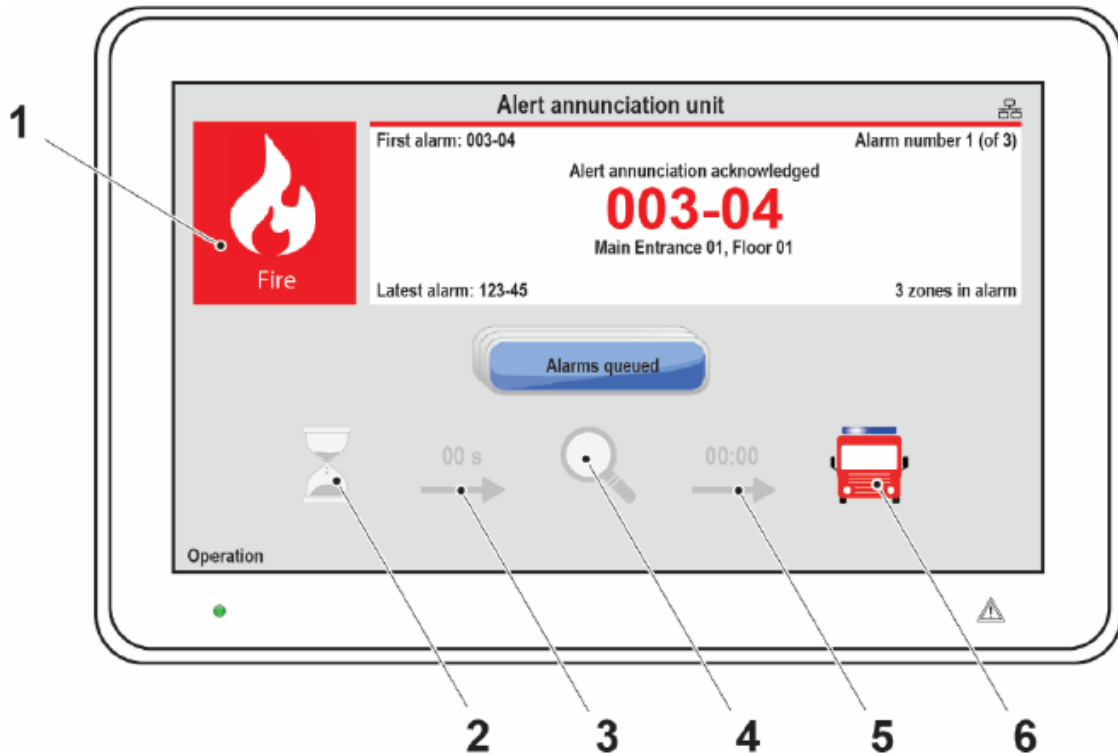


Figure 3 5054 configured as an Alert Annunciation Unit

1. Fire alarm indicator
2. Acknowledge symbol
3. Acknowledge time
4. Investigation symbol
5. Investigation time
6. Fire brigade alerted symbol

Note: In normal quiescent condition, no buttons will be shown

3.1 Fire Alarm

3.1.1 Fire Alarm without Alert Annunciation (normal alarm)

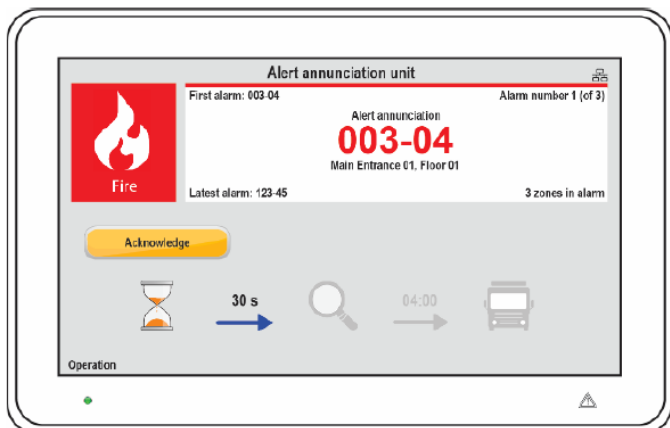
When a normal fire alarm is activated, fire alarms and heavy smoke / heat alarms will be presented on the display. The fire alarm indicator will flash (0.4/0.4S) and the Fire brigade alerted symbol is activated.

If two or more alarms activated in the system, the button "**Alarms queued**" will be shown and the user can scroll amongst the alarms but the fire alarms cannot be reset via the display unit.

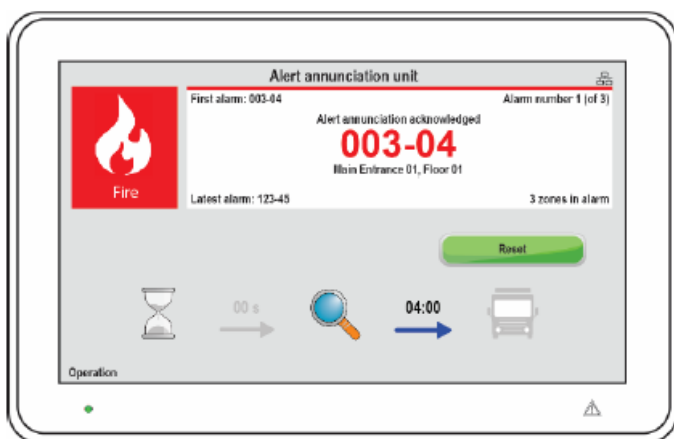
When all fire alarms are reset from the FDCIE, the display unit will return to normal operation.

3.1.2 Fire Alarm with Alert Annunciation

When an alert annunciation alarm is activated, the acknowledgement time starts. The fire alarm indicator will start to flash (0.4/0.4 s) and the button “**Acknowledge**” will be available to use.

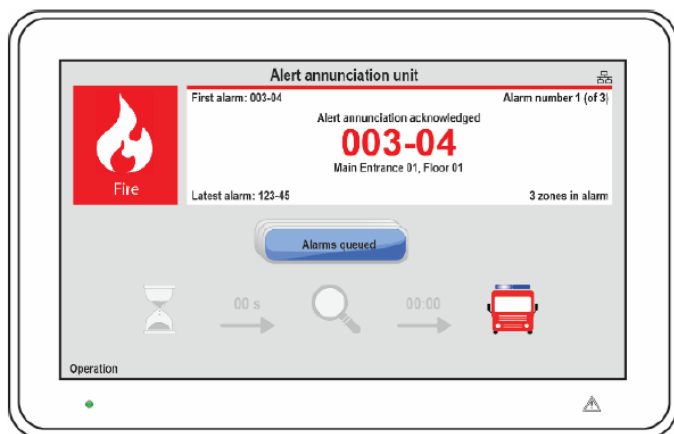


When the alarms have been acknowledged, the investigation time starts. The fire alarm indicator will stop flashing and the button “**Reset**” will be available to reset the alert annunciation alarm.



If the alarms are not reset within the investigation time, the Fire brigade alerted symbol will be activated. If two or more alarms exist in the system, the button “**Alarms queued**” will be shown, and the user can scroll amongst the alarms.

When all fire alarms are reset (from 5054), the display unit will return to normal operation (if the fire alarm is cleared).



3.2 Alert Annunciation Function

The alert annunciation function can be used to avoid nuisance alarms to the fire brigade (if connected). The function is configured via EBLWin and normally analogue smoke detectors and zones with smoke detectors, can be programmed for alert annunciation. Heat detectors and manual call points should not normally 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.

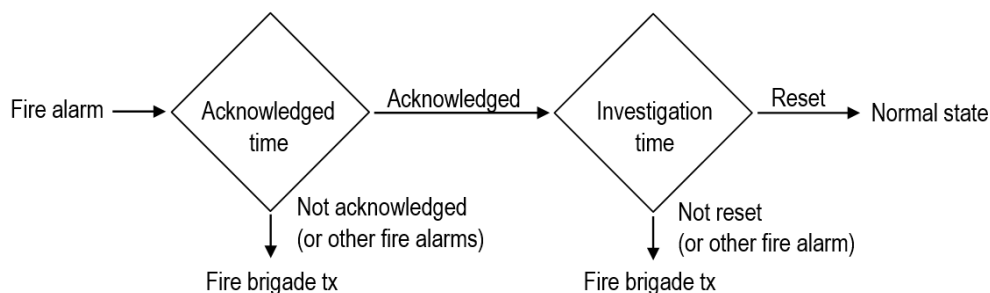
The alert annunciation alarms have to be acknowledged within an acknowledgement time. The acknowledged alarm should be verified and reset within an investigation time, else the output(s) for fire brigade tx will be activated.

During acknowledgement and investigation time:

- The output for fire brigade tx will be activated if a normal 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 the "multiple alarms allowed within same zone", option 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 programmed.

Acknowledgement and reset of an alert annunciation alarm can be performed from the display unit. A programmable output for indication and programmable inputs for acknowledge or reset alert annunciation alarm can also be used. Acknowledge time and investigation time are set in system properties in EBLWin. The acknowledgement time can be set to 0-120 seconds and the investigation time can be set to 0-9 minutes.

Note: The total delay time (acknowledgement 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 time glass on the FDCIE front. Normally only one-time channel is used for this function but two or more channels can be used. As an alternative, the alert annunciation function can be continuously on.

Note: The alert annunciation function can be turned off via the menu in the FDCIE and will stay off until turned on again via the same menu.

3.3 Buzzer

The unit is provided with 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 true fire alarm.

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

3.4 Quiet Alarm

Quiet alarm can be shown in the display unit.

3.5 Operation

The time glass symbol is activated whilst an alert annunciation function is active in the system.

3.6 Buttons

“Acknowledge” is Visible when there are un-acknowledged alert annunciation alarms exist in the system. The button **“Acknowledge”** can be used to acknowledge the alert annunciation alarms.

“Reset” is 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 section 5.7 page 15.

Alarms Queued is Visible when two or more fire alarms exist in the system. In case of multiple alarms, the button **“Alarms queued”** will be visible and the user can scroll amongst the fire alarms. The first alarm will be automatically shown again after 20 seconds, if no button is pressed during that time.

4 External Fire Brigade Panel

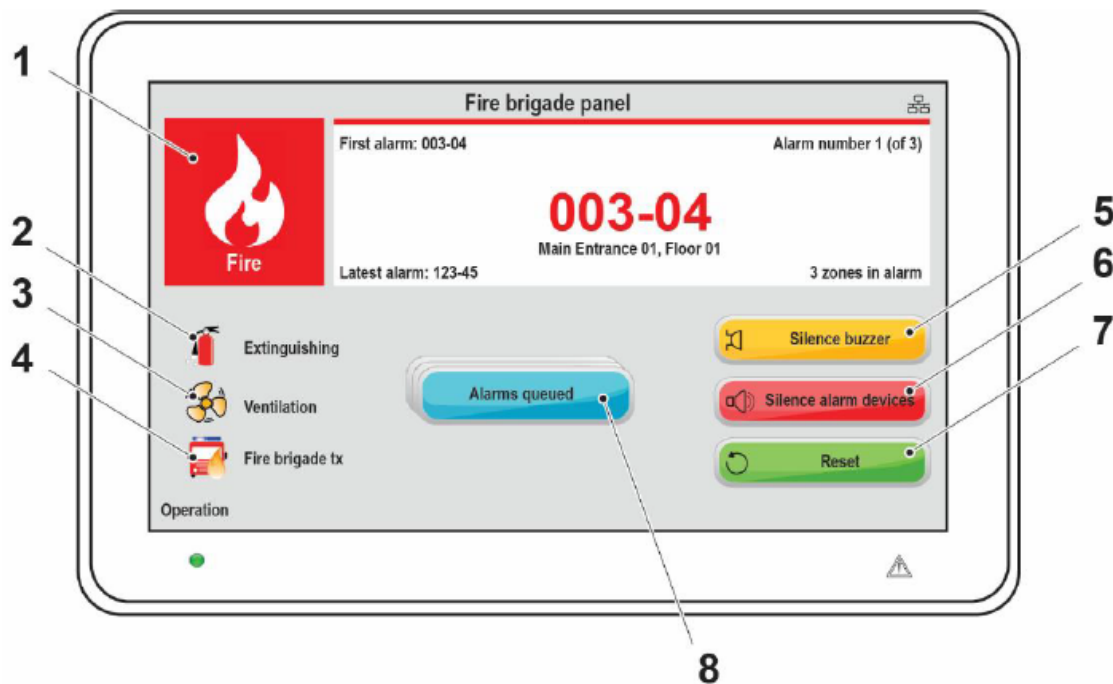


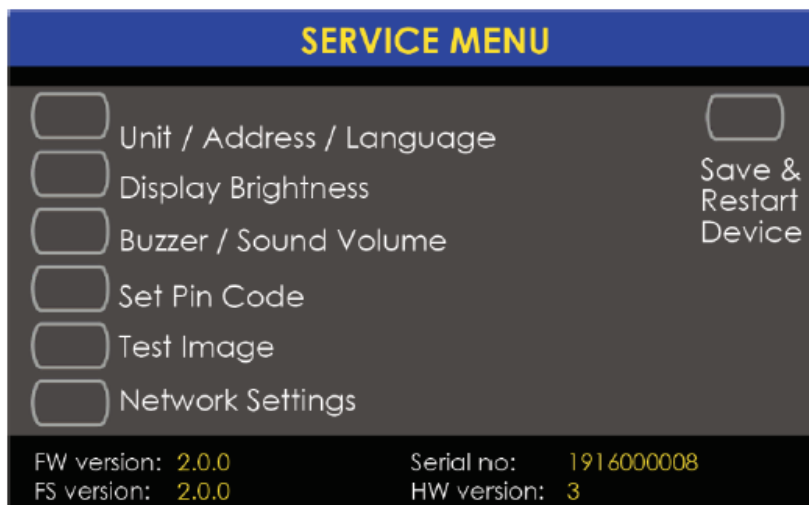
Figure 4 Fire brigade option (not conforming to AS4428.3)

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

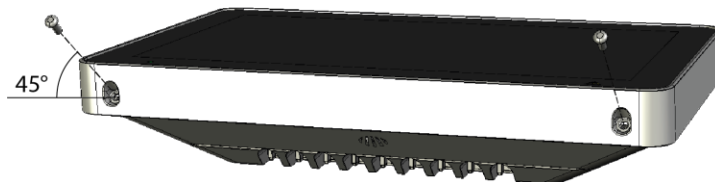
Note: The current fire brigade panel **cannot be used in Australia**. It's not conforming to the AS4428.3.

5 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 display the service menu as shown below.



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° angle, Torx driver must be used to remove mounting screws.

The service menu can also be opened via menu "Activate address setting mode for DU" in the FDCIE, see the operation manual for the FDCIE.

5.1 Unit Type

When 5054 is connected to FT128 or FT1020G3, the unit type can be changed to one of the following:

- External presentation unit
- Alert annunciation unit
- Fire brigade panel (**not used in Australia, not conforming to AS4428.3**)

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

5.2 Compatibility and EBLWin Configuration:

Set the display unit type according to the table below:

System	FT1020G3 Software
Fire brigade panel ¹⁾	V ≥ 2.8.x
Alert annunciation unit ²⁾	V ≥ 2.8.x
External presentation unit ³⁾	V ≥ 2.8.x


- 1) The option is currently not supported as a fire brigade panel in Australia.
- 2) For FT1020G3, version \geq V2.8, program as Display unit 5054 - Alert annunciation unit in EBLWin. For others, program as AAU 1736.
- 3) For FT1020G3, version \geq V2.8, program as Display unit 5054 - External presentation unit in EBLWin. For others, program as EPU 1728.

Note: The maximum current consumption of 5054 display unit is higher than the 1728 or 1736 display units (45 mA in quiescent and 180 mA in active condition). Ensure the current supplied to 5054 units is sufficient.

5054 current calculation consider the worst case scenario, 50 mA quiescent and 350 mA @ 12V DC active.


5.3 Unit Address

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

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


5.4 Language / Area

The language used on the LCD can be selected.

Select the required language (English) and press  to save the settings.

5.5 Display Brightness

The default screen brightness is 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.

5.6 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.

5.7 Pin Code

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

Note: This feature cannot be used as the fire brigade is not an option due to the non-conformity with AS4428.3.

5.8 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 enables 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.

5.9 Network Settings

Network settings will show basic system information e.g. device name, IP address, etc.

5.10 Selective Alarm Presentation

Normally all fire alarms will be presented in the FDCIE and 5054. It is possible to select which alarms may be presented in the display unit. For example, if there are many buildings in a system, the units in one specific building can present alarms activated within this building only.

The following operands are available (FT128 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 selected for a display unit.

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

Default programming in FT1020G3 system is Control units (00, 29). All alarms from all FDCIE's will be presented in all display units.

Default programming in FT128 system is Control units (00, 00). All alarms will be presented in all display units.

The programming is performed via EBLWin.

6 User Definable Text Messages

The user definable text messages (alarm texts) are dependent 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 FDCIE, 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 Operation Manual for the system respectively.

The alarm texts shown in the FDCIE 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 FDCIE. Up to 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 FDCIE

When alarm texts have been stored in all or in some display units, the unique alarm texts are created in EBLWin and downloaded when the SSD in the FDCIE is downloaded.

Note: It is also possible to select which fire alarms that can be presented in the display unit respectively, see chapter 5.10 Selective Alarm Presentation page 16

7 Fault Messages in the Display Unit

"General fault in system"

Displayed when any fault not corrected or serviced in the system and any non-acknowledged fault in the system. To see the faults, refer to the FDCIE menu system.

Note: General fault is shown only when 5054 configured as external presentation unit, but not displayed for alert annunciation unit.

"No contact with control unit"

The contact with the FDCIE is interrupted for > 45 sec. This fault is also indicated by LED indicator.

- Check cable, all connections, and the communication module 4552 in the FT128 FDCIE
- Is a correct / complete SSD download (via EBLWin) performed without errors?
- 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 section 9.4 "File System Download" page 25. Ensure that the file system software 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 section 9.4 "File System Download" page 25. Ensure 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 section 9.4 "File System Download" page 25. Ensure 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 section 9.4 "File System Download" page 25. Ensure 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 section 9.4 "File System Download" page 25. Ensure that the file system version matches the firmware version.

8 IP Camera and Drawing

In EBL Graphics it is possible to connect an IP camera and / or overview drawing to one or several alarm points. The camera picture and the drawing will be sent to the display unit over TCP/IP, by using EBL Service.

Note: For information on configuration data, contact the site system administrator.

Information  – Visible when the selected alarm point in alarm state is connected to a system overview drawing.

IP Camera  – Visible when the selected alarm point in alarm state is connected to an IP camera.

When a fire alarm occurs, the alarms are presented on the display unit in a list view. The buttons will be shown when an IP camera or overview drawing is connected to the selected alarm point.

1. Select an alarm in the alarm list.
2. Press the camera button or the information button to open a pop-up window.
3. Press anywhere on the window to close.

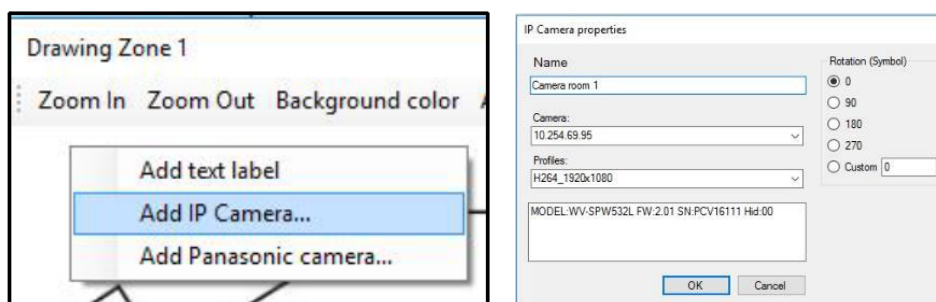
A new fire alarm has higher priority and will be displayed instead of the camera window or the information window.

When all fire alarms in the system are reset, the pop-up window will be closed.

8.1 EBL Graphics

An EBL Graphics project needs to be created to connect the IP cameras to the alarm points.

1. Create a new project in EBL Graphics.
2. Add the IP cameras.
3. Save and close the project.
4. Copy the entire root folder to the C drive on the PC where EBL Service will be installed.



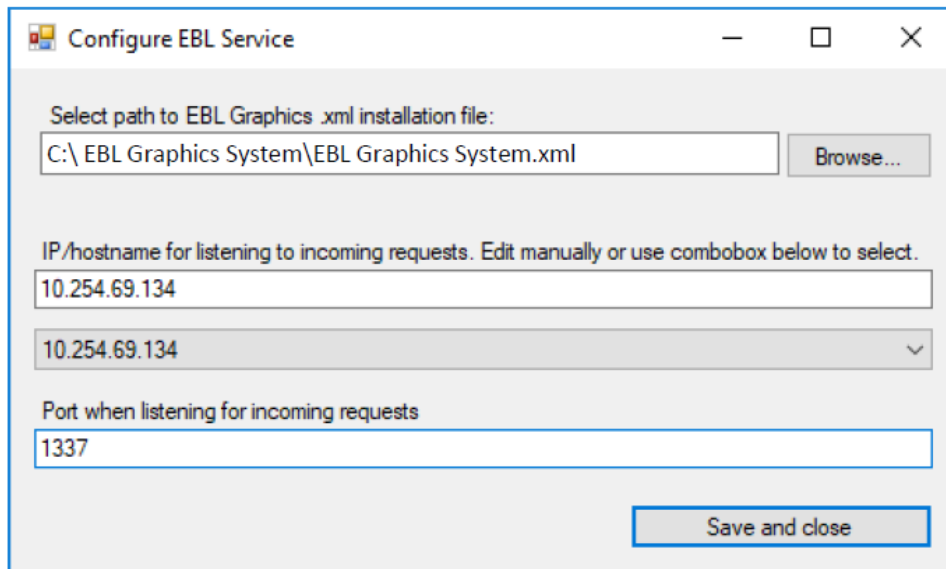
8.2 EBL Service

EBL Service is an installation software and is dependent on Visual Studio 2015 run-time components (both x64 and x86 versions). These can be requested to download from Brooks engineering.

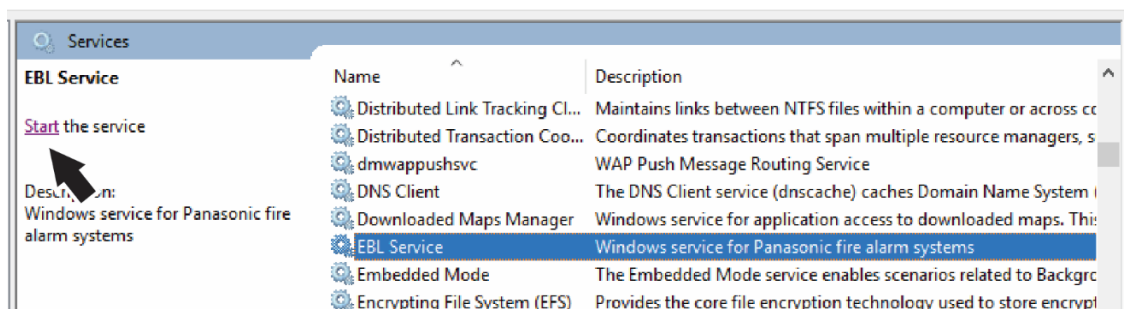
Note: The settings are saved in the “Panasonic Fire and Security” folder. The user account that the EBL Service is running under must have at least read access to the folder where the EBL Graphics configuration is located.

1. Install EBL Service.

2. Make sure you are logged on as System Administrator on the computer.
3. Go to Start menu / Configure EBL Service.
4. Browse for the EBL Graphics XML-file folder.
5. Enter the IP address of the PC.
6. Enter the port number.



7. Click Save and close.
8. Open the Windows Control Panel / Administrator Tool / Service.
9. Select EBL Service and click Start.



The IP address of the PC with EBL Service installed also need to be set in EBLWin.

10. Open the Display unit 5054 properties window in EBLWin as shown in Figure 5 below.
11. Enter the Server IP address and Server port.
12. If a static IP number (not DHCP) shall be used the following data have to be specified:
 - IP address (for display unit)
 - Netmask
 - Gateway

Figure 5 Display unit property window in EBLWin

Note: The bottom section of the 5054 properties window shown in Figure 5 above is available only in software V2.0.x.

9 Firmware and File System

Two system software files must be downloaded in every new display unit; the firmware (FW.dfu) and file system (FS.bin). The two files are stored in a flash memory in each unit. Both files can be downloaded from EBL Firmware Manager which is opened via the menu in EBLWin.

The EBL Firmware Manager program is installed separately and is available in software versions \geq V2.8.0.

The procedures below describes the EBL Firmware manager version 1.2.3.

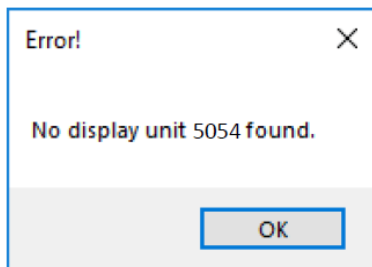
9.1 Versions

The firmware and file system software versions are shown in the service menu in the display unit.

All units connected to the same RS485 bus must have the same firmware version and file system version e.g. V2.0.x and V2.0.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 5054 units in the system.

9.2 Display unit 5054 Driver

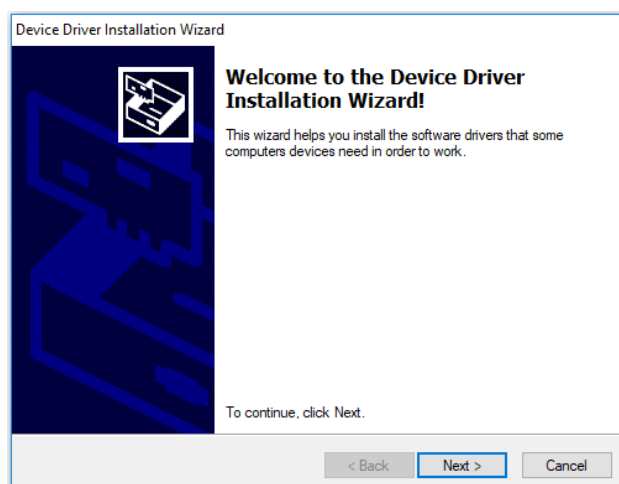
A driver is required to download the firmware and the file system software into your PC. If the driver is missing when downloading firmware, the following fault message will be shown:



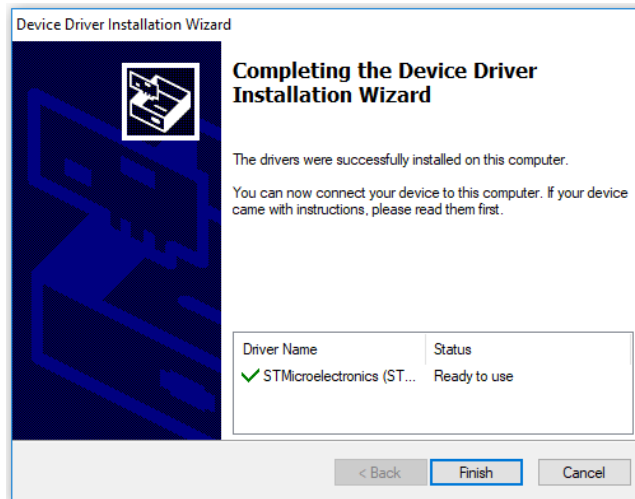
The display unit driver DU5054 V3.0.6 is available for Win7, Win8, Win8.1 and Win10 and can be obtained from Brooks Australia.

Installation procedures for display unit's driver in Windows 10 PC:

1. Unzip the driver software and select windows version.
2. Double click on "dpinst_amd64" exe file for 64 bit machine, the following will display.



- Click "Next", the following window displays:

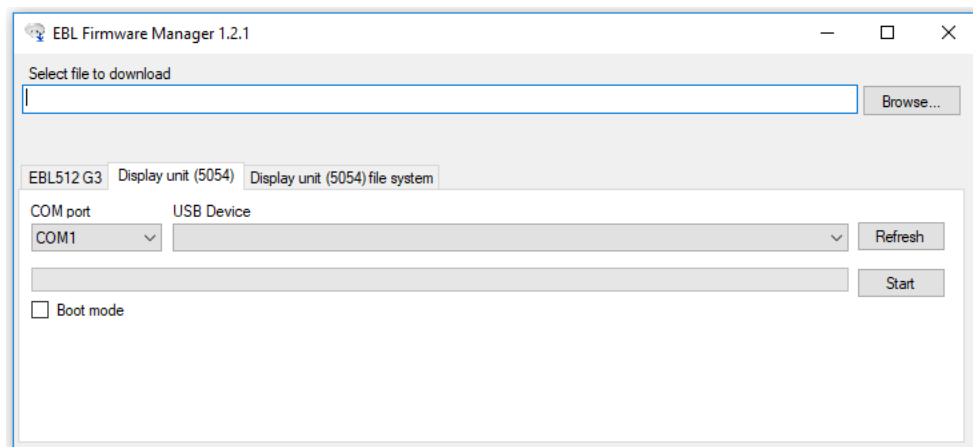


- Click "Finish" to complete driver installation.

9.3 Firmware Download

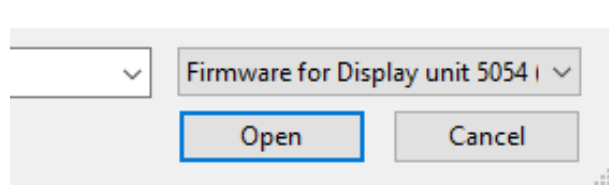
The display unit is equipped with a USB, which enables you to connect your PC directly to the display unit and carry out the download of the firmware to the unit as shown in the following procedures:

- Connect the PC to the display unit via a USB and start EBLWin.
- In EBLWin, click **Tools / Download software** to open the EBL Firmware Manager, the following window displays:

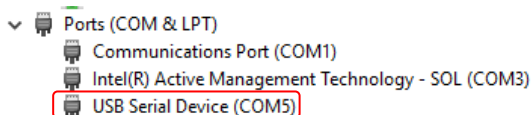


- Select the **"Display unit (5054)"** tab.
- Browse to the firmware file location in your PC to be downloaded, DU5054_x.x.x_FW.dfu. You must select the correct file extension.

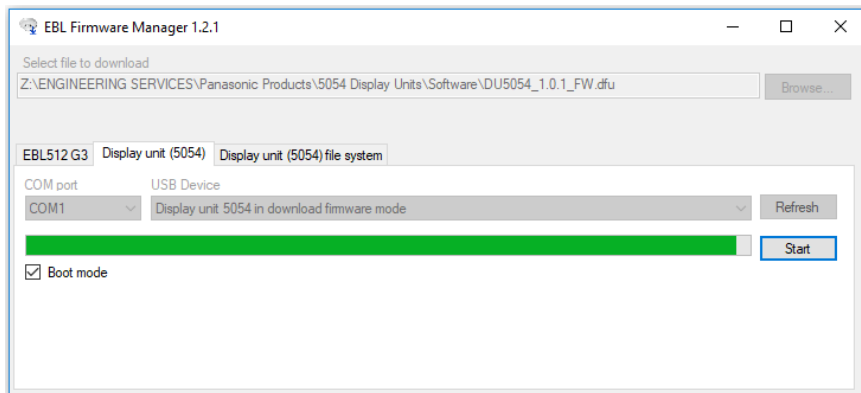
Note: When you browse to select the FW.dfu file, ensure to select the correct extension as shown below



5. Select COM Port, check in file manager and select the USB serial port number (COM5 in this case).



6. Start download, the following window will be shown



7. When the download is completed, there will be a pop-up dialog window, asking if you want to restart the display unit. Click "Yes" to restart.

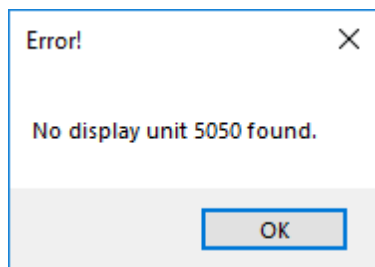
Note: If something unforeseen happens and the display unit cannot be restarted, it can be forced into boot mode as shown in the following section.

9.3.1 Download Firmware in Boot Mode

If the display unit cannot be restarted, it can be forced into boot mode to be able to download a new firmware.

A Display unit driver in section 9.2 "Display unit 5054 Driver" page 22 is needed when the unit is in boot mode. Make sure you have the driver installed on your computer before you open EBL Firmware Manager.

If the driver is missing when downloading firmware, the following fault message will be shown:



The latest Display unit driver can be downloaded from the homepage.

1. Force the display unit into boot mode by placing jumper J2 BOOT0 and momentarily short jumper J1 RESET.
2. In Firmware Manager, check the checkbox "Boot mode" and click Refresh.
3. Select the display unit in the USB Device dropdown list and click Start.
4. When the downloading is completed, remove the jumper BOOT0 before clicking YES in the "Restart unit" dialog window.

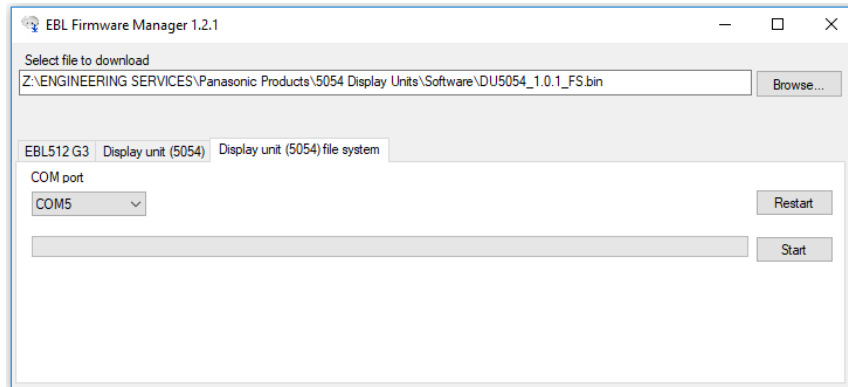
Proceed to the next section to download the file system.

9.4 File System Download

The firmware must be downloaded first before proceeding with the file system download.

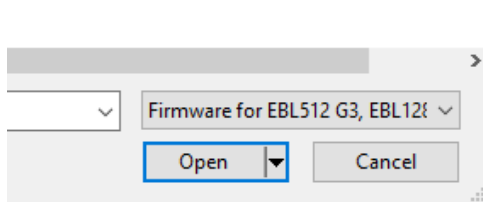
Procedures to download the file system:

1. Connect your PC to the display unit via the USB and start EBLWin.
2. In EBLWin, click **Tools / Download software** to open the EBL Firmware Manager.
3. Select the **“Display unit (5054) file system”** tab as shown below.

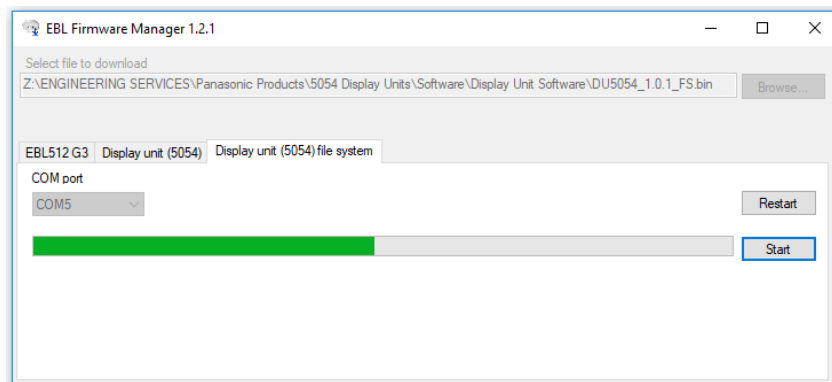


4. Browse to the file system location in your PC to be downloaded, **DU5054_x.x.x_FS.bin**. You must select the correct file extension.

Note: When you browse to select the FS.bin file, ensure to select the correct extension as shown below



5. Select COM Port as per section 9.3 above.
6. Click **Start** to download the file system, the following window will be shown



7. When the download is completed, the pop-up dialog “Download completed successfully” will be shown, click **“OK”** and the display unit will restart.

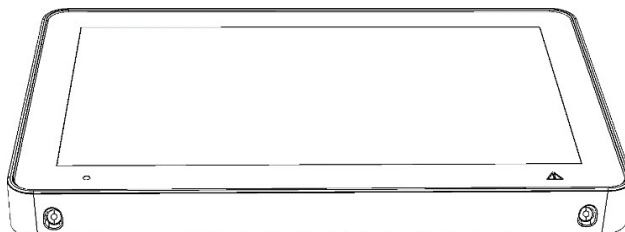
Note: The boot mode is not required when you download the file system.

Note: Following a new firmware download, a new file system download must be performed.

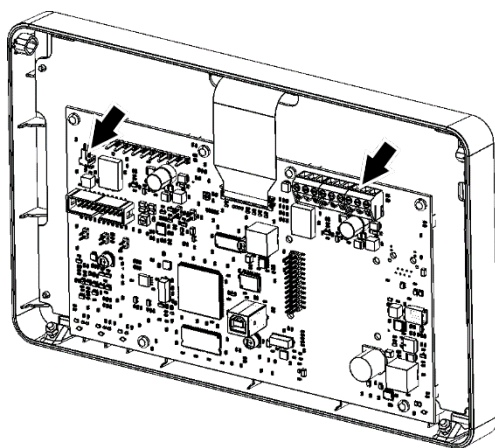
10 Mounting

The display unit must be mounted on the wall. Screws for wall mounting are not supplied. The following procedures can be used to mount the display unit:

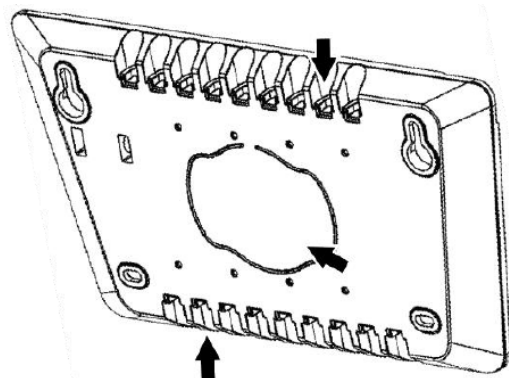
1. Remove the two screws (Torx T10) at the bottom of the display unit and open the cover.



2. Disconnect the loudspeaker cable, see left arrow below.
3. Remove terminal block J5 from the PCB as shown below (right arrow).



4. Cut out the required number of knockouts, into the top, bottom or rear.



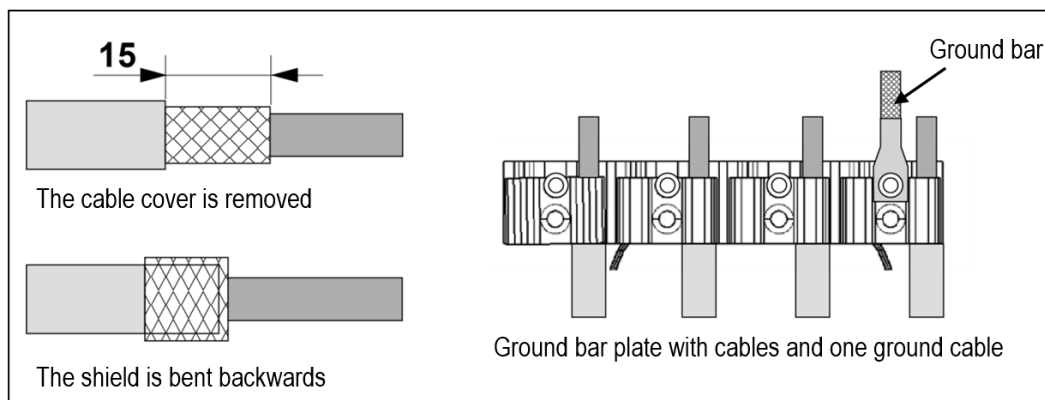
5. Enter the cables into the box.

Note: The cable length should be as long as possible when entering from top. Move the ground bar plate to the lower position when entering from top.

6. Mount the box on the wall, see section 10.1 next page.

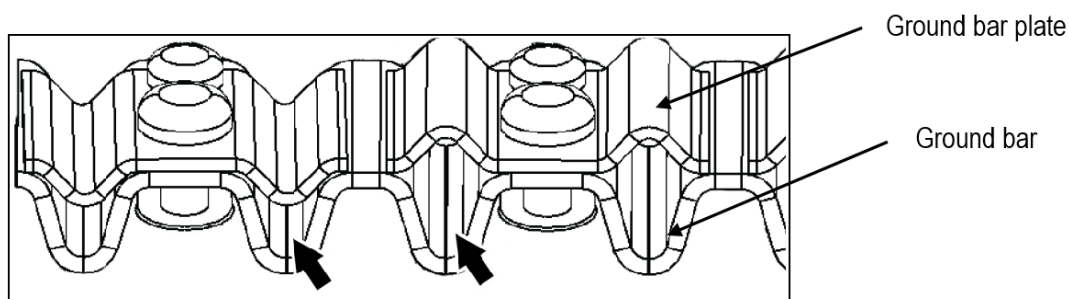
Tip: Use the internal level vial to make sure the display unit is levelled.

7. Remove the insulating cover on the cables. The remaining strip of the shield should be about 15 mm.
8. Bend the shield backwards over the insulating cover.

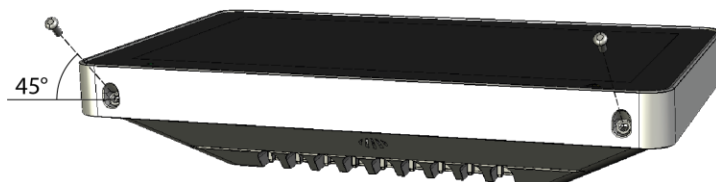


9. Clamp the cables on the ground bar plate. In order to avoid short circuit, ensure secured connection, do not let the sprawl outside the cable fixing clamp.

Note: The ground bar plate is reversible to fit all cable thicknesses.



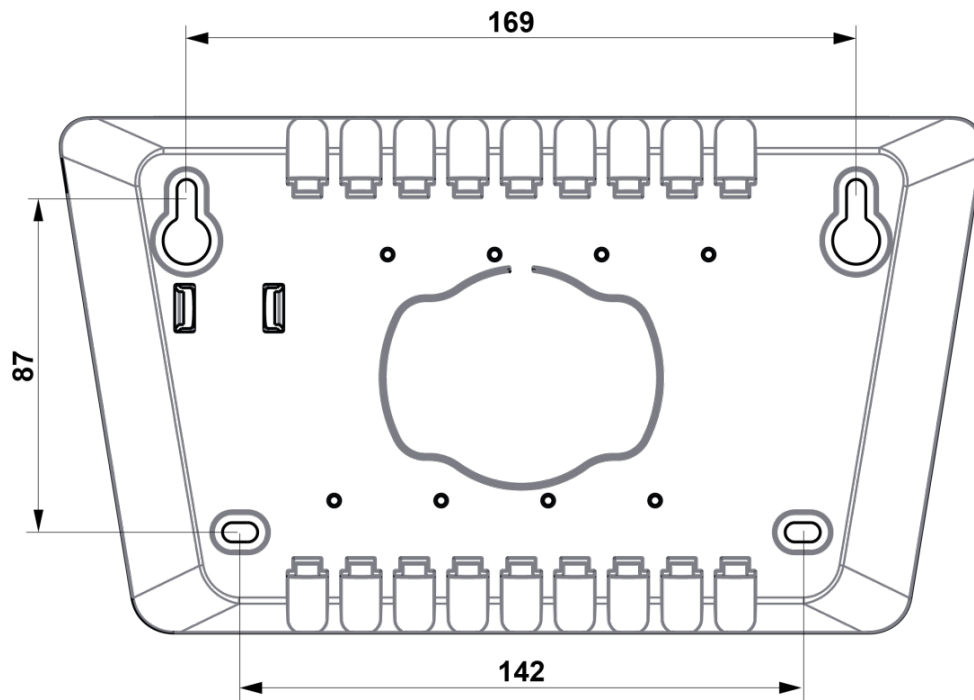
10. Connect the ground cable to the ground bar plate.
11. Reconnect the terminal block J5 to the P.C.B.
12. Reconnect the loudspeaker.
13. Assemble the front of the display unit with the two screws. Be careful not to pinch any cables.



Note: The screws are mounted at a 45 degree angle.

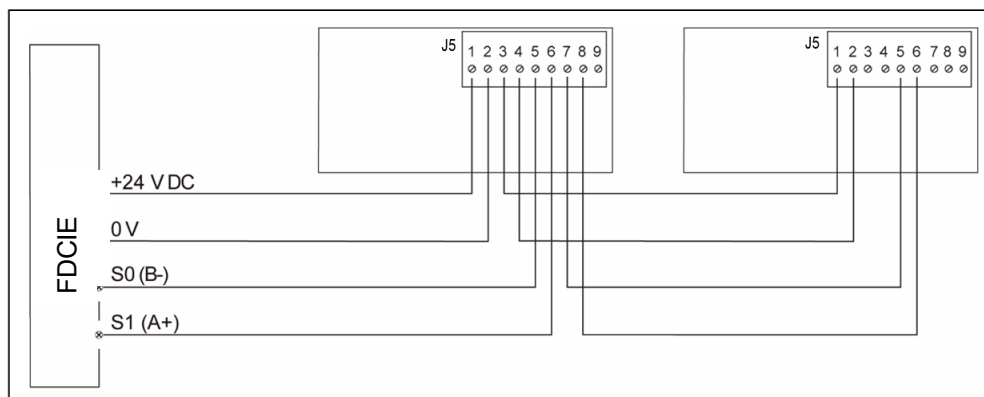
14. Connect the cables to the appropriate terminal block in the FDCIE.

10.1 Drill Measurement



11 Installation and Wiring

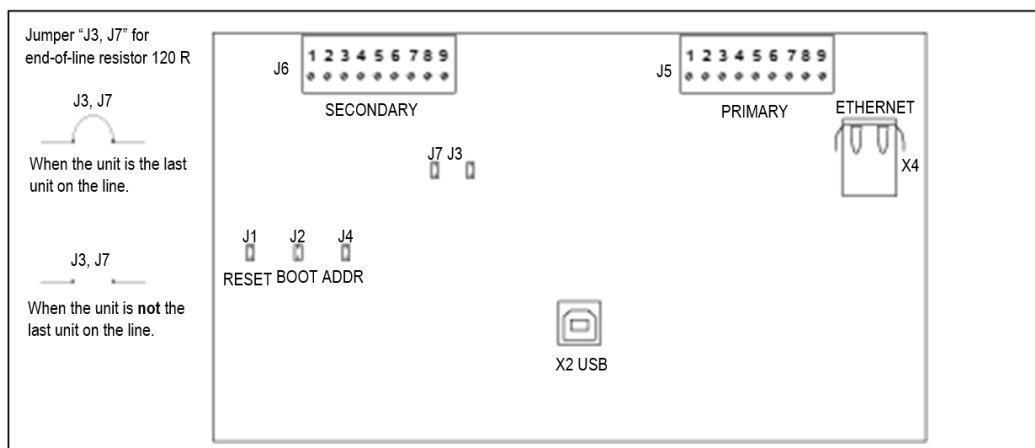
Up to 1200 metre communication cable (RS485) can be used.



Data Cable

	Ø (mm)	Area (mm ²)	AWG
Wire size (Min)	0.64	0.33	22
Wire size (Max)	1.62	2.08	14

Jumper links and connections



- J1 Reset
- J2 Boot
- J4 Used to set the unit type and address
- J3 Used to connect the built-in end-of-line resistor (primary terminal) in last unit
- J7 Used to connect the built-in end-of-line resistor (secondary terminal, for redundant connection)

Note: "J3" or "J7" must only be shunted if the unit is the last unit on the RS485 bus.

- J5 Primary terminal block to connect to FDCIE or next unit
- J6 Secondary terminal block, is used for redundant connection of communication and power supply, when this is supported by the FDCIE (new 5012 in G3).

Note: In the 4556 for FT128 and 5010 in FT1020G3, the redundant connection is not available. The redundant path can be used only in the new 5012 main board for G3 (when released).

12 Restart

The display unit will restart when one of the following occurs:

- When powered up
- After address setting
- If the contact with the control unit is re-established after the message:

“No contact with Control unit”

If a program memory fault existed in the unit, the following message will display:

“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 FDCIE:

- FT1020G3: **“FAULT: No reply, display unit xx, control unit xx”**
- FT128: **“FAULT: No reply EPU x”**

If an SSD memory fault in 5054 or no SSD downloaded, the display unit will still work since the alarm texts will be sent out from the FDCIE.

A fault message will be shown in the FDCIE:

FT1020G3: **“FAULT: Site specific data, display unit xx, control unit xx”**

FT128: **“FAULT: Site specific data (SSD), EPU x”**





13 Commissioning

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

Preparations

1. Prepare the FDCIE:
 - FT1020G3: Remove the fuse “F19” on the main board.
 - FT128: Ensure to power of the FDCIE is disconnected and that the communication module 4552 is plugged on the main board (4556).
2. Ensure that the cable (RS485 bus) to the display unit is connected.
3. Connect the cable from the FDCIE to the display unit terminal block “J5”.
4. Re-place the fuse in FT1020G3 or restore power to FT128.

Set Unit Type, Address, and Language

1. Select **Service** menu / 'Unit / Address / Language' 
2. Select **Unit type** and choose one of the unit types. Press 
3. Select **Unit Address** and set the address with the arrow buttons. Press 
4. Select **Language** and then choose “**English**” from the list. Press 
5. Return to the Service menu and press the “**Save & Restart Device**” button. The unit will restart.

Programming in EBLWin and Downloading SSD

1. Connect a PC to the FDCIE.
2. Download the SSD to the FDCIE.

When the SSD download to the FDCIE is completed, 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**”
3. After the download of the SSD, the unit will restart and then start working in normal operation mode.

14 Specifications

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

Voltage: Allowed Normal	12-30V DC 24V DC
Current: Quiescent Active (incl. internal LED)	12 V DC 24 V DC 80 mA 45 mA 350 mA 180 mA
Address range	0-29
Address setting	See section 5.3 Unit Address page 15
Short circuit isolator	No
Internal battery	No
Display size	10.1 inch
Material	PC/ABS, Polyblend 65FS
Ambient temperature: Operating Storage	-5 to +40 °C -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)

Note: the current consumption shown in the table above is the maximum allowed current depending on the supply voltage.

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 Operation of this class A equipment in a residential environment could cause radio interference

15 Guarantee

If the product has any defect due to faulty workmanship or material it is to be returned to Brooks freight paid. Brooks will, at its sole discretion, repair or replace the item free of charge.

On returning the complete product, proof of purchase will be required, all accessories **MUST** be returned.

This guarantee does not cover damage caused to the product or its components as a result of incorrect installation, accident, neglect, misuse or unauthorised dismantling howsoever caused, careless handling or where repairs have been made or attempted by others.

No other guarantees written or verbal are authorised to be made on behalf of Brooks. All other conditions and warranties whether expressed or implied are, to the extent permitted by law, hereby excluded.

As Brooks has no control over the system's design, installation to the relevant Australian Standard or maintenance, the Company and its agents take no responsibility for any damage, consequential loss or injury caused to any equipment, property or persons resulting from the use of 5054 display units.

Brooks guarantees 5054 display units for a period of 15 month from the date of purchase the equipment or 12 months from the date of operation.

16 Revision history

Issue	Date	Description	Written By	Checked By
1	7/5/2021	First revision of firmware V2.03 Manual	A.S.	AS / HN

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