# Panasonic

# 4445
## ADDRESSABLE LOCAL ALARM ACKNOWLEDGE UNIT

**Fire alarm solutions technical description**

# Table of Contents

# 1. INTRODUCTION

This document describes the Addressable local alarm acknowledge unit, type number 4445.
The document contains information about the product and instructions on how to mount and connect it.

# 2. ABBREVIATIONS

| | |
|---|---|
| **LED** | Light Emitting Diode |
| **LAAU** | Local Alarm Acknowledge Unit |
| **LAA** | Local Alarm Acknowledge |
| **AA Period** | Alarm Acknowledge Period |

# 3. GENERAL DESCRIPTION

The Addressable Local Alarm Acknowledge Unit (LAAU) is a device connected to the COM loop. Install the LAAU in a room or other area together with a smoke detector and a sounder base.

When the detector detects smoke there will be a local alarm with sound from the sounder base and lit LED in the acknowledge unit. If the green button is pressed (acknowledged) within 30 seconds (or other programmed time) the sounder stops and the alarm will stay local for another 3 minutes (or other programmed time). If the button is not pressed a real fire alarm will be activated.

If the smoke that generated the alarm is removed (e.g. by opening a window) within 3 minutes (or other programmed time) the alarm is reset. If not a real fire alarm will be activated.
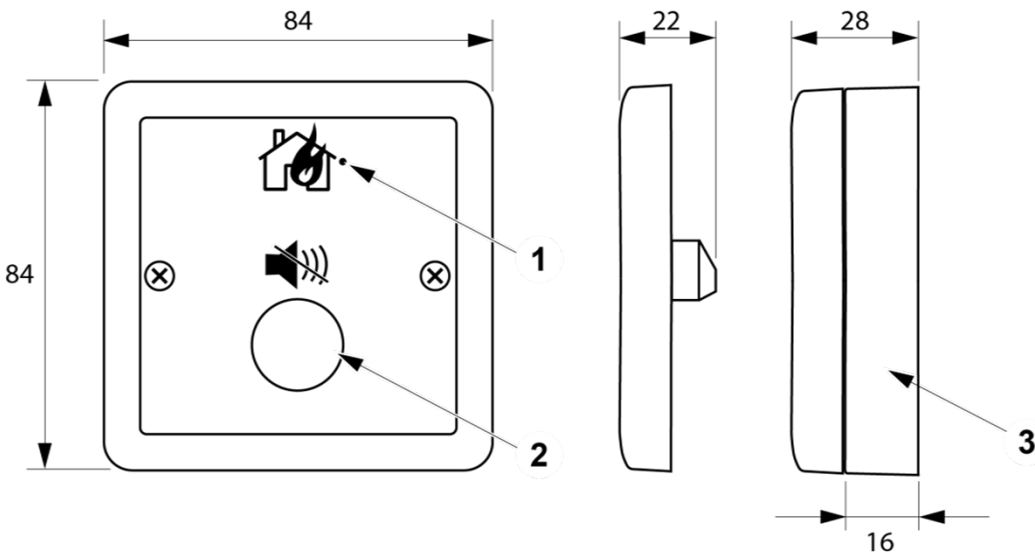


(Measure in mm)

1. LED red
2. Button
3. Frame

# 3.1. LAA ZONE

One LAA zone can consist of one to five analog smoke detectors, at least one LAA buzzer (e.g. Sounder base 4479) and one Local Alarm Acknowledge Unit.

> *All devices belonging to an LAA zone must be connected to the same CIE.*
> *The LAA buzzer has to be programmed with the trigger condition "LAA zone alarm" (and other trigger conditions).*

One LAAU per LAA zone. Up to 100 (0-99) LAA zones per control unit EBL512 G3 or EBLOne can be used, and up to 50 (0-49) LAA zones per control unit EBL128.
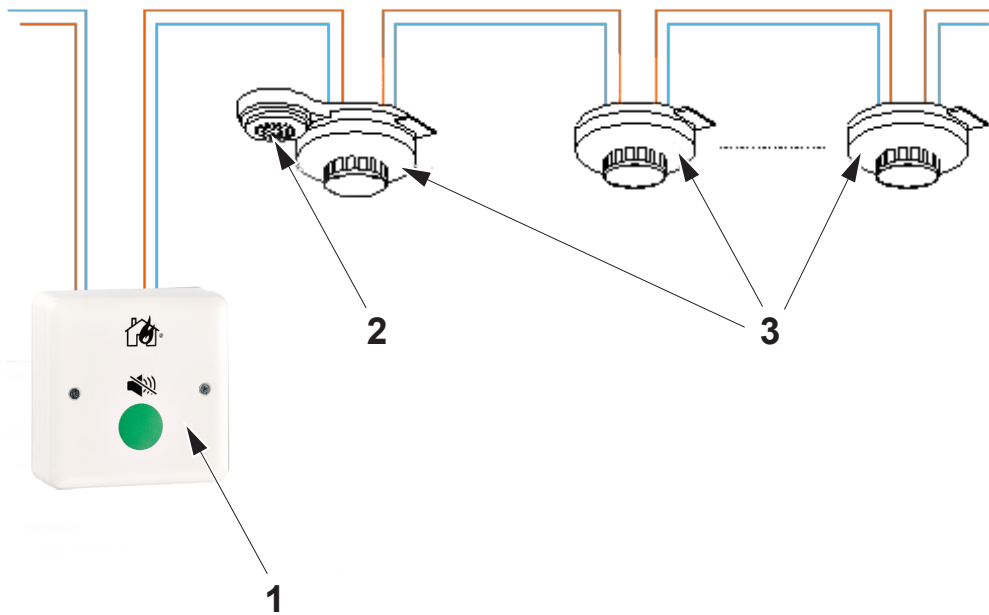


1. LAAU
2. Sounder base
3. Smoke detector

## 3.2. A WHOLE ZONE IN LAA

The EBLWin LAAU properties window is originally set up to handle LAA zones with 5 detectors in each zone.

From EBLWin version ≥2.4.1 it is possible to connect all smoke detectors in a zone to the LAA zone by entering address 100 in EBLWin LAAU properties window.

In the example below the whole zone number 3 is connected to LAA zone number 1.



If more than 5 detectors in a LAA zone are in alarm state at the same time, the LAA function is aborted and real fire alarms are generated.

# 3.3. DETECTORS

The following detectors can be used within the LAA Zone:

- **4401**

- **4401I**

- **4400** (NORMAL mode): If the Analog multi detector 4400 is used in Normal mode, it must be programmed as type "Two addresses", so that only the "smoke part" of the detector can be used for LAA.

- **4400** (Advanced mode): Any algorithm can be used, but note that both smoke and heat sensor is included in the LAA function. It is recommended to turn of the LAA function for the heat element via a checkbox, see 3.4.1. ABORT ON HEAT on page 9. If the LAA function for the heat element is not turned off, there will appear a warning in the validation in EBLWin.

- **4400I** (Advanced mode): Any algorithm can be used, but note that both smoke and heat sensor is included in the LAA function. It is recommended to turn of the LAA function for the heat element via a checkbox, see 3.4.1. ABORT ON HEAT on page 9. If the LAA function for the heat element is not turned off, there will appear a warning in the validation in EBLWin.

- **4611**: Because the wireless detector is a latched alarm point, the algorithm in the CIE needs to be a little bit different:

  - When the acknowledge button has been pressed, a reset pulse is sent to the detector after half the investigation time has passed, if the investigation time is 3 minutes or more. The reset can be seen, as the detector led will be turned off.

  - In any case, a reset pulse is given when the investigation time has ended.

# 3.4. FIRE ALARM

When one of the detectors in the LAA zone goes into alarm the AA Process starts and the acknowledgement period is activated. During the acknowledgement period, (A Period=10-120 sec. -- programmable via EBLWin), the sounder of the LAA zone sounds and the LED on the LAAU and the detectors are lit. The alarm can be acknowledged (up to three times = 3 x 3 min. -- programmable via EBLWin) by pressing the green button located on the LAAU. When the button is pressed, the LED on the LAAU starts flashing. It can take up to 10 seconds before the local sounders stop sounding.

If the button is not pressed during the A Period a normal fire alarm will be activated and send a signal to the fire brigade and emergency warning system.

Acknowledging the alarm will silence the local sounder and activate the investigation period (I Period =1-9 min. -- programmable via EBLWin). At the end of the investigation period, if the alarm still exists, a normal fire alarm will be activated.

The AA Process ends if all the detectors in the LAA zone becomes normal again (goes below its fire alarm level) during the I Period.

# 3.4.1. ABORT ON HEAT

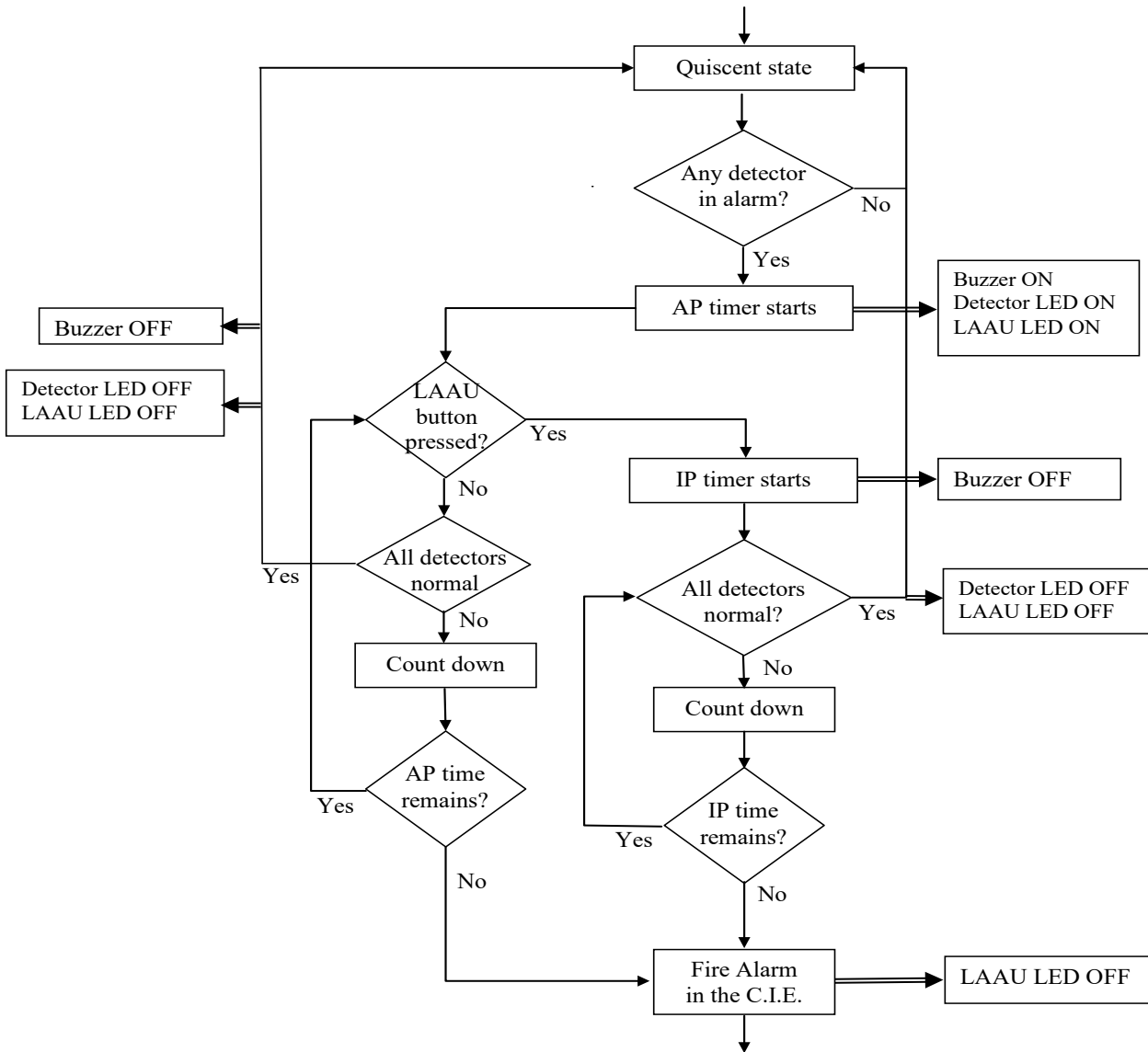For the multi detectors 4400I and 4400, the LAA function can in EBLWin be programmed to abort if the heat element of the detectors detect fire alarm.



The heat detection will then be at a statis temperature of 56°C, corresponding to a class A1 heat detector. If the temperature exceeds the alarm threshold level, the investigation / acknowledge period will be immediately overridden and a normal fire alarm will be generated.

## 3.4.2.   LOCAL ALARM ACKNOWLEDGEMENT FUNCTION FLOW CHART

```
                                    Quiscent state
                                          |
                                   Any detector         No
                                   in alarm?  ------------>
                                          | Yes
                                    AP timer starts  ===>  Buzzer ON
                                          |                 Detector LED ON
    Buzzer OFF  <===                      |                 LAAU LED ON
                                          |
    Detector LED OFF  <===          LAAU          Yes
    LAAU LED OFF                    button  ----------->
                                    pressed?              IP timer starts  ===>  Buzzer OFF
                                          | No                   |
                                    All detectors              All detectors   Yes
                   Yes              normal                      normal?  ------------->  Detector LED OFF
                                          | No                   | No                    LAAU LED OFF
                                    Count down              Count down
                                          |                       |
                   Yes              AP time                 IP time     Yes
                                    remains?                remains?  ----->
                                          | No                   | No
                                                           Fire Alarm     ===>  LAAU LED OFF
                                                           in the C.I.E.
```

# 4. SET THE COM LOOP ADDRESS

Each COM loop unit has to have a unique COM loop address (001-253). This address and the mode are set with the Address Setting Tool (3314 / 4414). Use the connection cable with crocodile clips to connect the flying leads with the tool's SA & SB terminals.
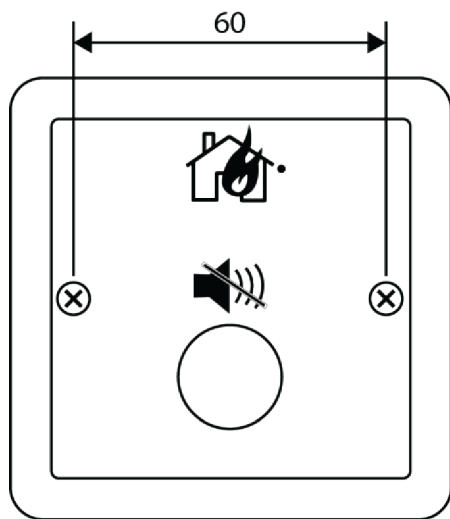
Set the COM loop address and set the mode to NORMAL.



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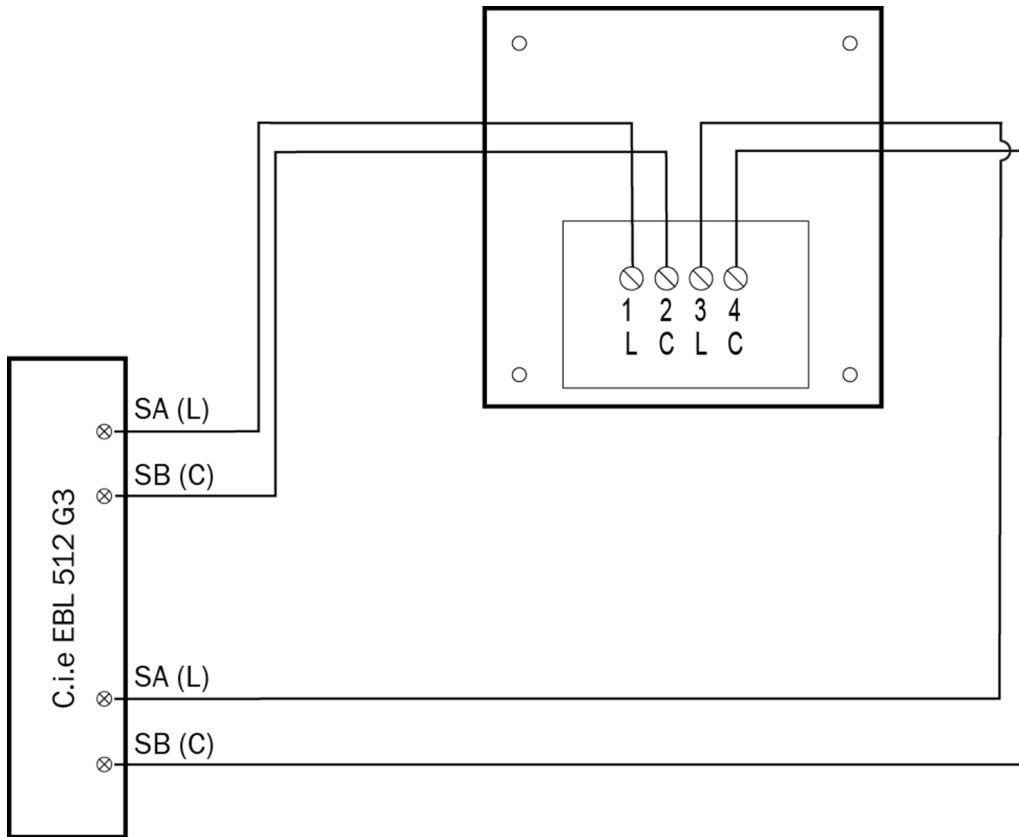
# 5. MOUNTING

The Local Alarm Acknowledge Unit can be wall mounted with a frame or flush mounted in a 65 mm circular mounting box.



(Measure in mm)

# 6. INSTALLATION AND WIRING

*Screen wire termination is not provided.*

# 7. TECHNICAL DATA

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

| | |
|---|---|
| Voltage:<br>Allowed<br>Normal | 12 – 30V DC |
| Current:<br>Quiescent<br>Active | < 2 mA<br>< 5 mA |
| Address range | 001-253 |
| Address setting | With address setting tool |
| Short circuit isolator | No |
| Internal battery | No |
| Material | FR ABS and polycarbonate |
| Ambient temperature:<br>Operating<br>Storage | -10 to +55 °C<br>-25 to +70 °C |
| Ambient humidity | Maximum 90 % RH (Non condensing) |
| Ingress protection rating | IP43 |
| Size:<br>H x W x D | 84 x 84 x 22 mm |
| Weight (including batteries): | 39 g |
| Colour | White |

# 8. APPROVALS

| Applicable directive/ Approval | Applicable standards | Notified body |
|---|---|---|
| EMC | EN61000-6-3 (Emission)<br>EN50130-4 (Immunity) | Self declaration |
| RoHS | EN IEC 63000 | Self declaration |

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**Panasonic Fire & Security Europe AB**
Jungmansgatan 12
SE-211 11 Malmö
Sweden
Tel: +46 (0)40 697 70 00