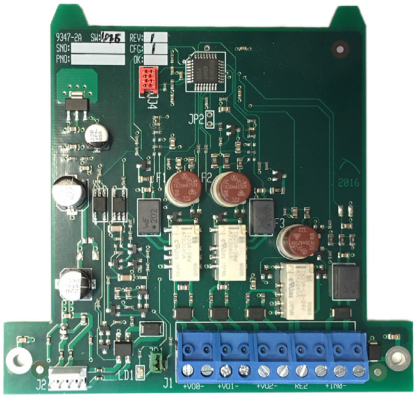
Panasonic



4464

2 VOLTAGE OUTPUTS BOARD

Fire alarm solutions technical description

Table of Contents

1. INTRODUCTION

This document describes the 2 voltage outputs board, type number 4464.
The document contains information about the product and instructions on how to mount and connect it.

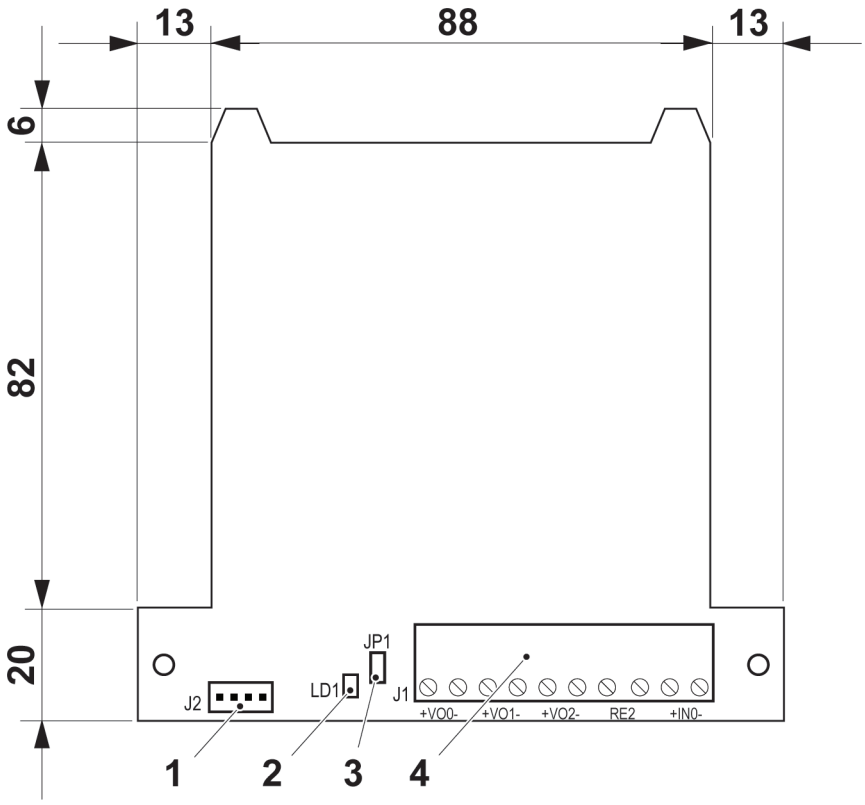
2. ABBREVIATIONS

CIE	Control and indicating equipment	= control unit
I/O	Input/Output	
LED	Light Emitting Diode	
nF	nanofarad	
PCB	Printed circuit board	
RH	Relative humidity	
S/W	Software	

3. GENERAL DESCRIPTION

The 2 voltage outputs board 4464 is intended to be mounted as an expansion board inside the External power supply 4466. The 4464 is power supplied with 24 V DC via the External power supply 4466.
The 4464 has no short circuit isolator, but is protected against short circuits on the COM-loop via the short circuit isolator in 4466.
It is possible to mount maximum two 4464 in each External power supply 4466.

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



(Measure in mm)

1. Molex connector - connection to the 4466
2. LED
3. Jumper 1 (reset address)
4. Terminal block for I/O

3.1. TOGGLE LED

The 4464 supports the function 'Toggle LED' via EBLWin.
For more information, see Planning Instructions for the system.

The function is valid for EBL512 G3 and EBL128 from S/W version 2.5.0.

3.2. OUTPUTS VO0 AND VO1

Two programmable 24 V DC intended for alarm devices. These outputs can be set to be supervised or not supervised.
If supervised, they detect short circuit and open circuit according to the requirements in EN 54-13.

End-of-line device type 4472 shall be mounted after the last unit on the line.

The supervised voltage outputs also support a simplified supervision. In this case an end of line resistor (10 kΩ) is required. This simplified supervision detects open circuit and short circuit but will not fulfil the requirements in EN 54-13. In this case the current outtake can be up to 2.0 A.

The supervised voltage outputs of 4464 do not need calibration.

Voltage: Active Supervised	 15.0 – 30V DC (at the terminals) 12.0 – 30V DC (at the component connected) - 5.4V DC
Current: Active Supervised	 ≤ 1.0 A (Fulfils EN 54-13) ≤ 2.0 A (Does not fulfil EN 54-13, requires changed fuses to 2 A) NOTE! $I_{VO0} + I_{VO1} + I_{VO2} \leq 2.0$ A ~ - 3 mA
Line resistance R_L:	2.0 – 40 Ohm depending on current outtake. (Voltage drop in the wiring must not exceed 3.0 V DC in normal case)

It is not possible to select an intermittent output signal period in combination with end-of-line device type 4472. If intermittent output signal period is used, select the simplified supervision or no supervision.

3.3. OUTPUT VO2

One special 24 V DC output intended for fire door closing.
VO2 is not only controlled by a control expression, it will also be powerless about 30 seconds after:

- Mains fault from the 4466, which the 4464 is mounted in.
- The COM loop communication is interrupted.

This output is parallel controlled with the relay output (RE2). The relay is closed when VO2 is active.

Voltage, active:	15.0 - 27V DC
Current, active:	≤ 1.0 A NOTE! $I_{VO0} + I_{VO1} + I_{VO2} \leq 2.0$ A

3.4. RELAY OUTPUT (RE2)

This relay contact is parallel controlled with the special 24 V DC output (VO2).
The relay is closed when VO2 is active. Contact rating 2A@30 V DC.

3.5. INPUT (IN0)

One general input. The input is intended for open or closed contact.
It can be supervised with 10KΩ.

Working voltage:	9 - 17V DC
Working current:	< 2 A

THRESHOLD LEVELS

EOL resistance 10 KΩ.

LINE RESISTANCE R (KΩ)	
R > 15	Fault
5 < R ≤ 15	Not activated
R ≤ 5	Activated

Value accuracy ± 10%

The outputs and input are programmed via EBLWin. See chapter

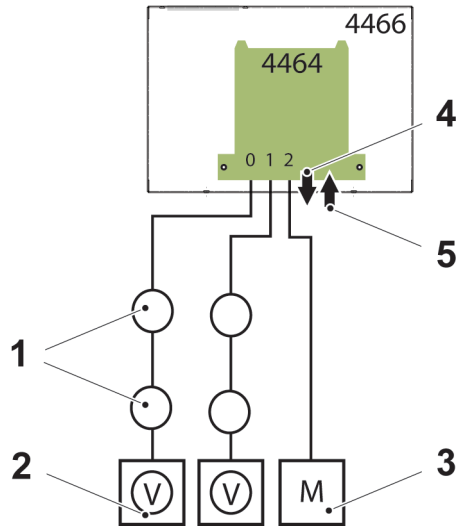
3.6. FUSES

There are three fuses on the 4464 board:
F1 = T1A 24 V DC, output 0, supervision voltage
F2 = T1A 24 V DC, output 1, supervision voltage
F3 = T1A 24 V DC, output 2, supervision voltage
} Max 2 A in total

Max 2A out in total.

3.7. FUNCTIONAL OVERVIEW

This overview is an example of how the 2 voltage outputs board 4464 can be used.



1. Alarm devices
2. EOL Devices
3. Fire door release magnet
4. RE - Alternative control for fire door release magnet
5. IN0 - Supervision for fire door closing

3.8. FAULTS

The 4464 is generating fault signal in the CIE when the following occurs:

- Low Voltage
- Internal Fault
- Fuse Fault output 0, 1, and 2
- Supervision fault output 0 and 1
- Supervision fault input 0

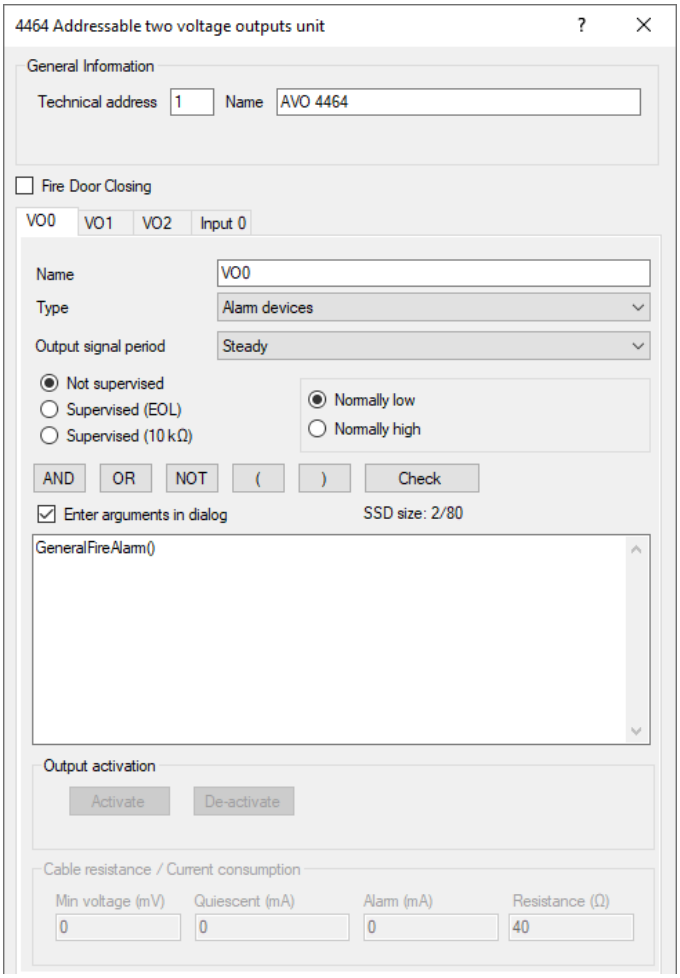
4. CONFIGURATION

The 4464 needs to be added into the configuration, manually or via auto addressing function.
For more information, see the Planning Instructions for the system.
In the 4464 Addressable two voltage outputs unit properties window, set the following:

- Technical address: Automatically set if auto addressing is used.
- Fire Door Closing: If this box is checked, the VO0 and VO1 will get the same properties as the special output VO2.

4.1. VO0 AND VO1

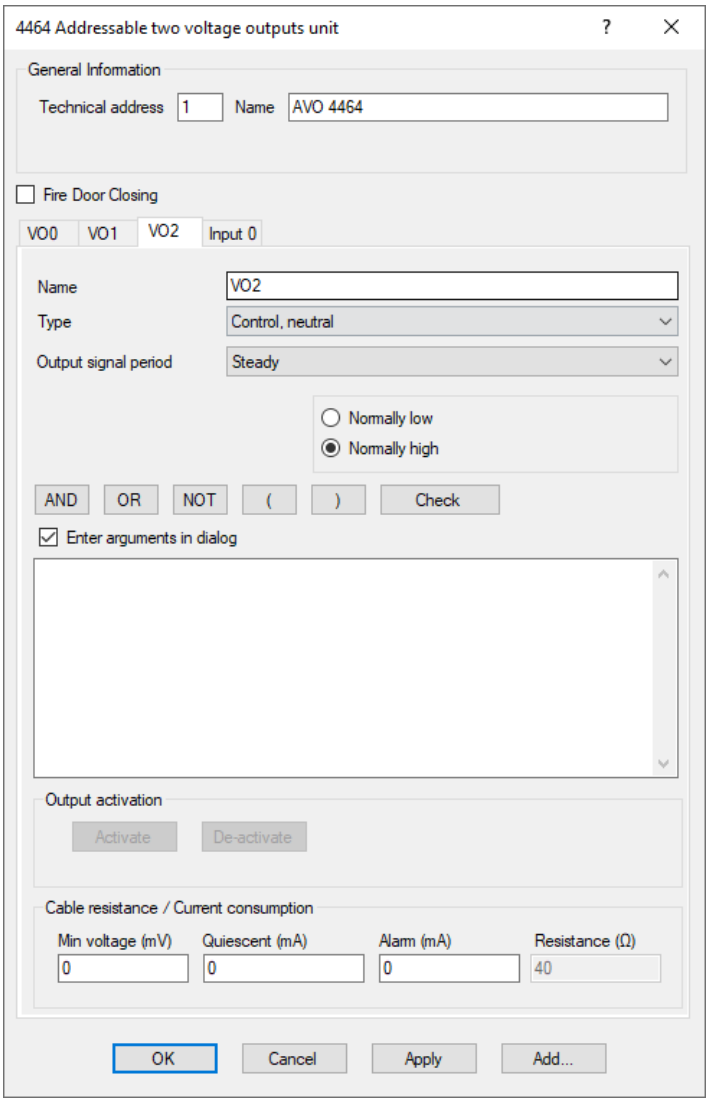
- Type: 'Alarm devices' is set as default. Edit if required.
- Output signal period: 'Steady' is set as default. Edit if required.
- Supervised (EOL) is set as default. Edit if required, see section 3.2. OUTPUTS VO0 AND VO1 on page 6.
- Normally low / Normally high.
- The output is intended for alarm devices, argument 'GeneralFireAlarm()' is set as default. Edit if required.
- Output activation: Activation for example alarm devices connected to the output.
- Min voltage (mV): Total of the connected devices.
- Quiescent (mA): Total of the connected devices.



Output signal period 'Intermittent 0.8/0.8' cannot be chosen when the output is supervised, (this is checked in the "validity check" in EBLWin).

4.2. VO2

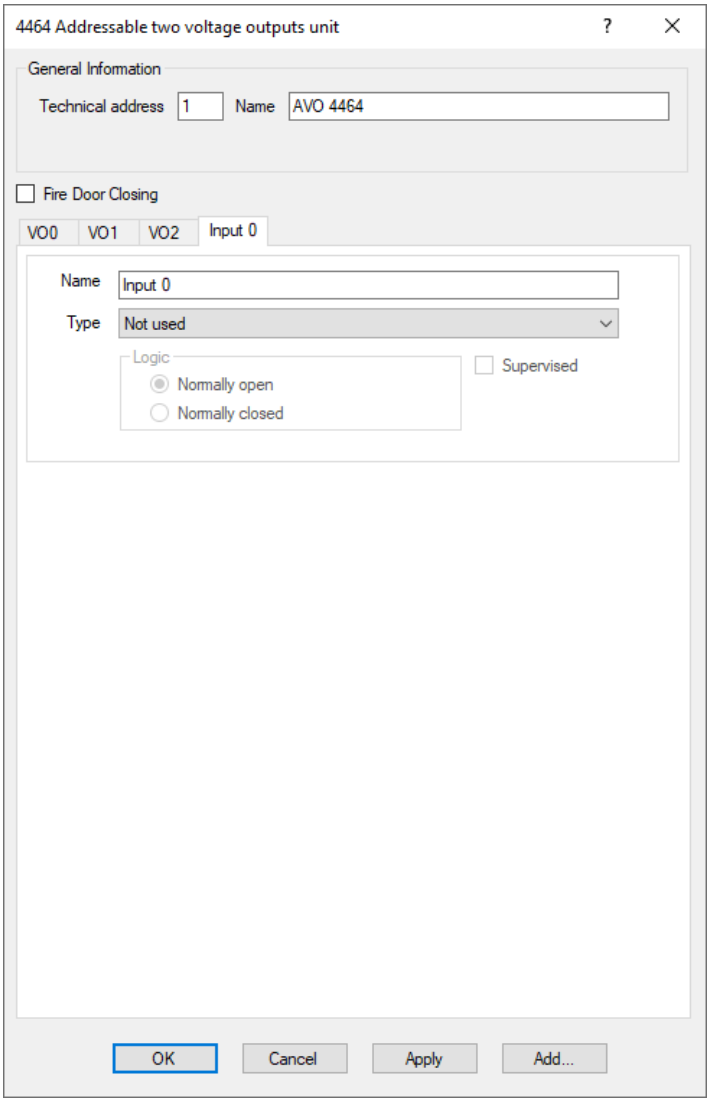
- Type: 'Control, neutral' is set as default.
- Output signal period: 'Steady' is set as default.
- Normally low / Normally high.
- The output is intended for Fire Door Closing. The argument field is left empty as default. Edit if required.
- Output activation.



Output VO2 can also be selected as relay contact. The relay is closed when VO2 is active. See section 3.4. RELAY OUTPUT (RE2) on page 7

4.3. INPUT 0

- Type: Not used is set as default. Choose a type to be able to configure the input.
- Normally open / Normally closed.
- Supervised.
- INPUTS section 3.5. INPUT (IN0) on page 7



5. SET THE COM LOOP ADDRESS

5.1. AUTO ADDRESSING

The 4464 support automatic addressing via EBLWin.
For more information, see the Planning Instructions for the system.

The unit connected to power supply output 0 will get the 4466 technical address plus one. The unit connected to power supply output 1 will get the 4466 technical address plus two.
The 4464 unit will automatically be addressed via the External power supply 4466 unit.

5.2. WHEN POWER SUPPLY 4466 IS MANUALLY ADDRESSED

The 4464 units can only be addressed by the CIE via the 4466 (auto addressing). If manual addressing is used for the 4466, the 4464 unit will get it´s address automatically when the loop is connected / re-enabled to the CIE.

Add the configuration for 4464 manually in EBLWin. The unit connected to power supply output 0 must have the 4466 technical address plus one. The unit connected to power supply output 1 must have the 4466 technical address plus two.

5.2.1. CHECK LOOP

If a 4464 unit without address is found during check loop, the CIE will report it to EBLWin with the correct address, i.e. the address of the 4466 unit plus one or two. This way, a correct SSD can be created after the check loop procedure is finished.
Once the SSD is download to the CIE the CIE will automatically address the 4464 unit.

5.3. CHANGE THE COM LOOP ADDRESS

If the COM loop address for 4466 must be changed, the address for 4464 and 4585 also must be changed (if mounted).

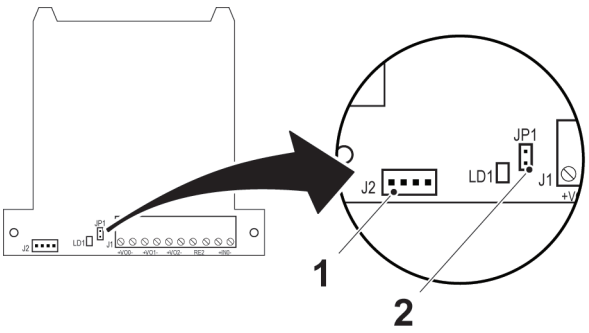
a) Disconnect the 4466 from the COM loop.
b) Reset the address for PCB 4464/4585 according to the instruction 5.4. RESET ADDRESS on page 13.
c) Set the new address manually for 4466.
d) Connect the 4466 to the COM loop.
e) Download SSD to the C.I E. During download SSD, the 4464 and 4585 will get the correct addresses.

5.4. RESET ADDRESS

It is possible to reset the address of the 4464 board by shunting the jumper JP1.
Do the following:

a) Disconnect the Molex connector.
b) Shunt the jumper JP1.
c) Re-connect the Molex connector.
d) Check that LD1 is lit.
e) Remove the jumper
f) Check that LD1 is off.

The technical address of the board is reset to 0.



1. Molex connector
2. Jumper JP1

6. SET THE MODE

The mode is automatically set to Advanced mode during auto addressing.

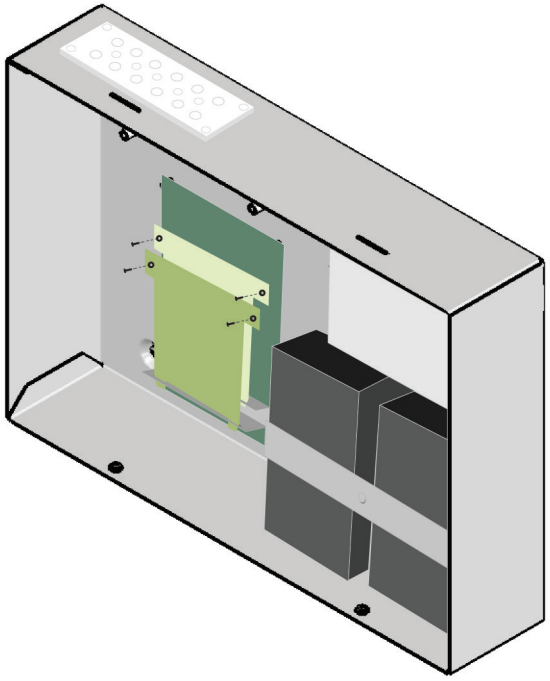
6.1. COMPATIBILITY TABLE

	Advanced mode	NORMAL mode	2330 mode	2312 mode
EBL512 G3	V ≥ 2.5	Not used	Not used	Not used
EBL128	V ≥ 2.5	Not used	Not used	Not used
EBL512	Not used	Not used	Not used	Not used

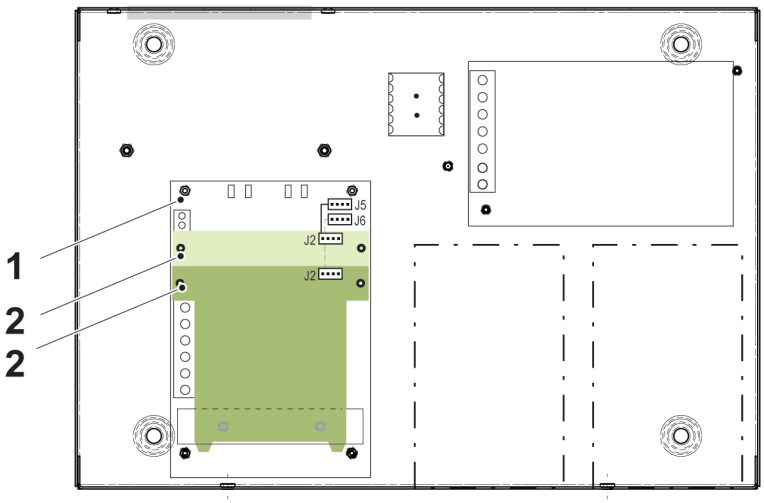
7. MOUNTING

One or two expansion boards 4464 can be mounted on the charger board, inside the 4466.

a) Mount the expansion boards according to the picture below. Screws are supplied with the expansion boards.



b) Connect each Molex connector to contact header J2 on the expansion board, and to contact header J5 or J6 on the charger board.
- J5 is powered from OUT0
- J6 is powered from OUT1



1. Charger board 4467
2. Expansion board

8. INSTALLATION AND WIRING

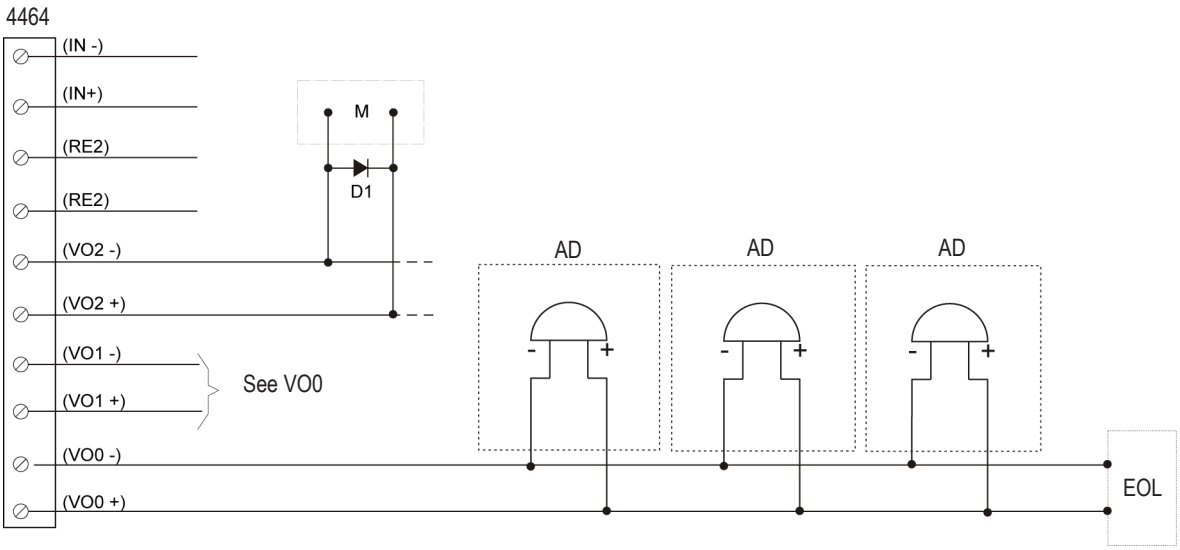
Screen wire termination is not provided.

Wire size (Min)	Ø 0.65 mm (0.33 mm²)
Wire size (Max)	Ø 1.6 mm (2 mm²)

8.1. 4464 CONNECTIONS TO THE CIE

See technical description for External power supply 4466.

8.2. 4464 CONNECTIONS TO ALARM DEVICES



M = Fire door relese magnet
AD = Alarm devices
EOL = End-of-line devices

9. TECHNICAL DATA

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

Voltage: Allowed Normal	The 4464 unit is powere supplied from the 4466. 16 – 30.0V DC 24V DC
Current: Quiescent Active	 ≤ 15 mA ≤ 2.0 mA
COM loop Voltage: Allowed Normal COM loop current: Quiescent Active	 12 - 30V DC 24V DC < 6 mA < 6 mA
Input IN0: Voltage Current	 9 -17V DC < 2 mA
Outputs: VO0 (supervised) VO1 (supervised) VO2 (supervised) RE2	 Max 1A Max 1A } Max 2A in total Max 1A Contact rating 2A@30 V DC
Address range	001-253
Address setting	Automatic
Short circuit isolator	No
Internal battery	No
Material	PC polycarbonate
Ambient temperature: Operating Storage	 -5 to +40 °C -20 to +70 °C
Ambient humidity	Maximum 95 % RH (Non condensing)
Ingress protection rating	Not applicable
Size: H x W x D	 108 x 114 x 15 mm (incl. p.c.b. components)
Weight (including batteries):	 59 g

10. APPROVALS

Applicable directive/ Approval	Applicable standards	Notified body
CPR	EN54-18	VdS No. 0786-CPR-21627
VdS	EN54-18 VdS 2344 VdS 2503	VdS No. G219025
EMC	EN55032 (Emission) EN50130-4 (Immunity)	Self declaration VdS
RoHS	EN IEC 63000	Self declaration

DOCUMENT NAME: TECHNICAL DESCRIPTION 4464
DOCUMENT NUMBER: MEW02040 EN
DATE OF ISSUE: 2019-04-10
REV: 3
DATE OF REVISION: 2022-06-13

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