

# SENSE-WARE

THE FLAME DETECTOR  
COMPANY



## Manual

## T-940/1Z

### Test lamp for 210 series flame detectors Intrinsically safe



<http://sense-ware.com>

Check the website [www.sense-ware.com](http://www.sense-ware.com) for the latest information and latest version of this manual as well as the applicable Declaration(s) of Conformity.

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## Content

1.	Safety instructions.....	2
2.	Description.....	3
3.	Operation.....	3
4.	First use.....	3
5.	Battery replacement.....	4
6.	Failure analysis.....	4
7.	Warranty.....	5
7.1	Returns and repairs.....	5
8.	Appendices.....	6
8.1	Appendix A: EU declaration of conformity.....	6
8.2	Appendix B: EU declaration of conformity – ATEX Directive 2014/34/EU.....	6
8.3	Appendix C: IECEx Declaration of Conformity - Certificate Hazardous Area.....	6
8.4	Appendix D: North American approvals – FM class 3610 / 3810.....	7



## 1. Safety instructions

Please read this manual carefully and study the cautions, before you start installing or using this equipment. Herewith you ensure a safe and proper use of this equipment. These safety instructions provide important information and must be consulted.

1. Leave the maintenance of this equipment to an authorized and qualified electro mechanic.
2. Use the test lamp according to the instructions of this manual.
3. Never touch the electric components and printed circuit boards of this equipment.
4. Do not drill holes in the test lamp housing; holes in the housing damage the ingress protection of the equipment.
5. Mount and replace batteries exclusively in Safe Area.
6. Make sure that the lid is fully and correctly mounted on the housing before using up the equipment.
7. Never open the equipment in a situation where hazardous gas or dust is present.
8. In case of doubt consult the supplier of this product.
9. Remove the 4 AA batteries after the functional test and before storing the test lamp.
10. SENSE-WARE does not take responsibility for the proper working of this equipment if it is not maintained or used according to the instructions in this manual.
11. Keep away from children.
12. Do not use the test lamp when damaged.
13. Do not open the lamp, send it back for repair. Contact your supplier for details.
14. Do not throw the unit in a fire. The batteries could explode when exposed to intense heat.
15. The non-rechargeable alkaline batteries have a lifetime of several years. Please ask your local city official how to dispose the batteries.
16. The test lamp is only suitable for functional testing of 210-series flame detectors from SENSE-WARE.
17. Make sure testing of the flame detectors does not activate unwanted alarm signals.
18. Suitable for use in safe areas, Class I, Div 1 & 2, Zone 1 & 2.
19. Do not carry the case into an explosive atmosphere.



## 2. Description

The intrinsically safe SENSE-WARE T-940/1Z flame detector test lamp activates 210-series flame detectors from SENSE-WARE; the UV/IR-210/1, the UV-185/5 and the IR3-109/1. For all models the detection range is 4 meters (13 ft). The T-940/1Z test lamp is intrinsically safe, suitable for use in hazardous areas.

### Cautions:

- a. The T-940/1Z test lamp is only compatible with the 210-series flame detectors of SENSE-WARE. The test lamp is not suitable for flame detectors of other brands.
- b. The T-940/1Z test lamp is only compatible with the most recent generation of the 210-series flame detectors of SENSE-WARE.
  - The test lamp T-940/1Z is compatible with 210-series flame detectors with a 2 character 6 digit serial number.
  - The test lamp T-940/1Z is not compatible with 210-series flame detectors with a 2 character 4 digit serial number.

### Specifications:

Voltage	6 Vdc nominal
Test range for all 210-series flame detectors of SENSE-WARE <b>Not suitable for detectors of other brands</b>	up to 4 m (13 ft)
Batteries	4 x Duracell MN1500 alkaline AA battery, 1.5 Vdc.
Housing	Aluminum.
Ingress protection rating	IP66
Working temperature range	-20 to +54 °C (-4 to +130 °F)
Storage temperature range	5 to + 30 °C ( 41 to + 86 °F)
Country of Origin/Intrastatistic Number	The Netherlands, 8531 10 30
Shipping dimensions (box)	32 x 30 x 13 cm ( 13" x 11" x 5" )
Shipping weight	3 kg (7 lbs.)
ATEX Certificate	II 2G Ex ib IIC T4/T3 Gb Ambient temperature range: For temperature class T3: -20 - + 54 °C For temperature class T4: -20 - + 46 °C (see appendix)
IECEX Certificate	Ex ib IIC T4/T3 Gb Ambient temperature range: For temperature class T3: -20 - + 54 °C For temperature class T4: -20 - + 46 °C (see appendix)
FM approval	Intrinsically safe (see appendix)

## 3. Operation

Before a test is carried out make sure the flame detector is switched on and the alarm outputs are in override. Please avoid unwanted alarm signals as a result of your test.

The test lamp will turn on/off by pushing/releasing the pushbutton.

1. Point at the flame detector within the test distance and on the central axis of the cone of vision of the detector.
2. Push the button and wait until the Flame detector is activated. The green control LED will turn on.
3. Operate the test lamp for at least the selected delay time of the detector. This will be no longer than 30 seconds.
4. When the control LED turns on yellow the batteries needs to be replaced. Remove all used batteries from the device at the same time, and then replace them with new batteries of the same size and type. See also chapter 5.

## 4. First use

1. For safety reasons, do the following actions in Safe Areas, thus **not** in Hazardous areas.
2. For safety reason use the genuine batteries, included in the shipping box. If these non-rechargeable batteries are empty, then use the batteries, specified in the section "batteries" of this manual.
3. Remove the cover of the battery compartment (on the back of the test lamp).
4. Place the 4 non-rechargeable Duracell MN1500 AA batteries in the battery holder in the battery compartment.
5. Place the lid of the battery compartment and mount with the 2 screws.



## 5. Battery replacement

1. Read these instructions carefully before installing new batteries.
2. Only replace the batteries by genuine Duracell: MN1500 AA batteries. The batteries can be purchased locally by means of the battery information in the specification.
3. Remove all used batteries from the device at the same time, and then replace them with new batteries of the same size and type.
4. Remove the cover from the battery compartment. Remove the old batteries from the battery compartment.
5. Insert the 4 new batteries. Make sure to insert the new batteries properly, following the symbols showing you the correct way to position the positive (+) and negative (-) ends of the batteries.
6. Place the cover of the battery compartment in the original position, by means of the two screws.
7. Remove batteries from devices that will be stored for extended periods.
8. Inspect the battery compartment every few months to be sure the batteries are not leaking.

### Battery specifications:

Battery type	AA
Battery voltage	1.5 Vdc
Brand and Type	Duracell: MN1500

### Ordering information

Catalog Code	Part #	Description
TC-940/1Z	SW1120	Test lamp for 210-series flame detectors, suitable for ATEX zone 1, including carrying case

## 6. Failure analysis

Possible root causes of faults:

1. The flame detector to be functionally tested is not a 210-series flame detector from SENSE-WARE.
2. The flame detector to be functionally tested is an older model from the 210-series from SENSE-WARE. Older UV/IR-210/1 and UV-185/5 flame detectors are not compatible with the T-940/1Z flame detector test lamp. (see picture below)
3. The flame detector is not working properly and will thus not be activated by the test lamp.
4. The batteries of the test lamp are empty (the yellow lamp for undervoltage will blink)
5. The electronics of the test lamp is damaged.



210 series flame detector with a 2 character 4 digit serial number are not compatible with the T-940/1Z test lamp

### Remarks

If you ask for the support of SENSE-WARE, make sure that you well-reported the fault in the log.



## 7. Warranty

In the Warranty arrangement the conditions are mentioned which apply for the SENSE-WARE flame detector test lamp. If not explicitly mentioned in this manual, the Orgalime S2012 delivery terms and conditions apply.

SENSE-WARE provides for the T-940/1Z test lamp a warranty of 24 months after supply, for defects in the material, providing normal use and maintenance. SENSE-WARE will under these circumstances, during the warranty period free of charge repair and replaces parts of products which are returned according to the instructions of this warranty section. All replaced parts become property of SENSE-WARE. The warranty is only valid for companies which directly purchased the goods from SENSE-WARE and cannot be transferred to other parties.

From the warranty are excluded:

1. Defects which are caused by improper use, an incident or lack of maintenance.
2. Defects or damages which are caused by improper installation or manipulating the hardware and/or software.
3. Applying the wrong operating voltage, water damage etc., or wrongly executed repairs and repairs with non-genuine spare parts.
4. Products from which the serial number is removed or unreadable.
5. Normal wear and tear, including cosmetic damage.

### 7.1 Returns and repairs

1. Ask via your supplier for a SENSE-WARE RMA (Returned Material Authorization). For returns to the factory an RMA is always required.
2. You will get an RMI (Returned Material Information) fill-in form on which you or your supplier fills in the SENSE-WARE invoice number, the serial number and the type of fault.
3. In case of an authorization SENSE-WARE will provide your supplier an RMA number which you have to add to the packing list of the return shipment. You also have to include the RMI form in the shipment plus faxing or emailing it to SENSE-WARE.
4. The shipping cost to and from SENSE-WARE are for the buyer.
5. Make sure that the test lamp is packed thoroughly before you return it to SENSE-WARE.
6. In case you did not buy the test lamp directly from SENSE-WARE please contact your supplier for an RMA.
7. For goods with an RMI, which require a repair within the warranty period, you can request SENSE-WARE an "advance replacement" via your supplier.

#### Remark:

The test lamp does not contain parts which are suitable for a local or field repair.



## **8. Appendices**

### **8.1 Appendix A: EU declaration of conformity**

Moved to separate DoC document, see website [www.sense-ware.com](http://www.sense-ware.com)

### **8.2 Appendix B: EU declaration of conformity – ATEX Directive 2014/34/EU**

Moved to separate DoC document, see website [www.sense-ware.com](http://www.sense-ware.com)

### **8.3 Appendix C: IECEx Declaration of Conformity - Certificate Hazardous Area**

Moved to separate DoC document, see website [www.sense-ware.com](http://www.sense-ware.com)



## 8.4 Appendix D: North American approvals – FM class 3610 / 3810

All drawings and other details are listed in the “Document List T-940/1Z test lamp”.

cFMus approvals for the T-940/1Z Test Lamp:

USA certificate number: FM17US0279

Canada certificate number: FM17CA0141



Intrinsically Safe per FM class 3610 Class I, Div. 1, Groups A, B, C and D, T3

Intrinsically Safe per FM class 3610 Class I, Div. 1, Groups A, B, C and D, T4

Class I, Zone 1, AEx/Ex ia IIC T3 Gb

Class I, Zone 1, AEx/Ex ia IIC T4 Gb

Amb. Temp. T3: -20 °C to +54 °C

Amb. Temp. T4: -20 °C to +46 °C

Ingress Protection: IP66

### WARNING:

1. The screws of the housing lid should be tightened with a torque of 2.5 Nm.
2. Substitution of components may impair suitability for division 1.
3. Do not open when energized.
4. USE ONLY DURACELL MN1500 BATTERIES
5. DO NOT MIX NEW WITH USED BATTERIES
6. BATTERIES MUST BE CHANGED IN AN UNCLASSIFIED LOCATION ONLY
7. DO NOT CARRY THE CASE INTO AN EXPLOSIVE ATMOSPHERE

### Avertissement:

1. Ne pas remplacer les accumulateurs si une atmosphère explosive peut être présente.
2. NE PAS PORTER LE BOÎTIER DANS UNE ATMOSPHERE EXPLOSIVE

### Contact:

For language translation assistance, contact your local representative, or email: [info@sense-ware.com](mailto:info@sense-ware.com)

Pour la langue de traduction aide, contactez votre représentant local ou envoyez, un e-mail: [info@sense-ware.com](mailto:info@sense-ware.com)