Fire Safety Application Center

OOH740 for Rail
Automatic fire detector for rail application

- Signal processing with ASA technology
- Event-controlled detection behavior
- Evaluation of the criteria heat
- Quick response
- Highly developed immunity to deceptive phenomena
- Meets material requirements according EN45545-2
- Rail-proved by notified body acc. EN50155
- SIL2 approved acc. EN5012x standards
Properties

Design
- Resistant to environmental and interfering influences such as dust, fibers, insects, moisture, extreme temperatures, electromagnetic interference, corrosive vapors, vibration, artificial aerosols, and atypical fire phenomena

Features
- Shock resistant, protection against sabotage
- Signal processing with ASA technology (Advanced Signal Analysis)
- Time and process-dependent detection behavior
- High degree of immunity to faults in power electronics
- Protected electronics, high-quality components
- Sophisticated sensors and electronic monitoring
- The integrated line separator that locates the defective part on the detector bus of the control panel and isolates between two detectors
- Integrated alarm indicator (AI), 360° visibility
- Rail certified

Eco-friendly
- Environmentally friendly processing
- Reusable materials
- Electronic parts and synthetic materials can be easily separated

Use

OOH740 multi-sensor fire detector, neural ASA

Multi-sensor fire detector consisting of:
- Point detector
- Detector dust cap to protect the point detector during the construction phase

Function:
- Functions according to the scattered light principle with two sensors, optical forward and backward scattering
- Opto-electronic measuring chamber that obstructs disruptive extraneous light but provides excellent detection of both light and dark smoke particles
- Two additional heat sensors increase the point detector's immunity to deceptive phenomena
- Selectable detection behavior thanks to application-specific ASA parameter sets

Use:
- For early detection of flaming fires of solid and liquid substances, as well as of smoldering fires
- For early and reliable fire detection in an environment with deceptive phenomena
- Meets UL94-V0 requirements
## Detector base DB1R-AT with PCB

**Detector base consisting of:**
- Protector top cover for PCB
- Base print (24V or 110V)
- Block terminals incl. metal clips
- Detector base

**Function:**
- Base for fire detector OOH740
- Adjustment of detection sensitivity (J1: standard, suppression, high sensitive fast)
- Signal evaluation through PCB (alarm, interference)
- Potential-free contacts for communication

**Use:**
- Meets UL94-V0 requirements

## Detector base DB2R-AT with PCB

**Detector base consisting of:**
- Protector top cover for PCB
- Base print (24V or 110V)
- Detector base
- Block terminals incl. metal clips
- Wago plug incl. connector PCB
- Protector cover for Wago connector PCB

**Function:**
- Base for fire detector OOH740
- External connectivity through Wago plug
- Adjustment of detection sensitivity (J1: standard, suppression, high sensitive fast)
- Signal evaluation through PCB (alarm, interference)
- Potential-free contacts for communication

**Use:**
- Meets UL94-V0 requirements
### Base attachment wet BA721 with Weidmüller connector

<table>
<thead>
<tr>
<th>Base attachment wet consisting of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Base wet</td>
</tr>
<tr>
<td>● Plug-in connector incl. crimp contacts</td>
</tr>
<tr>
<td>● Blind plugs</td>
</tr>
<tr>
<td>● Internal wiring</td>
</tr>
</tbody>
</table>

**Function:**
- Base attachment wet with additional integrated rubber seal for mounting in wet or humid environments
- For achieving a higher protection category
- For mounting in wet or humid environments
- Quick connectivity through plug-in connector

**Use:**
- Specially for humid and cold environments

(see separate datasheet – DSWxxxR-AT)
## Type Overview

<table>
<thead>
<tr>
<th>Type</th>
<th>Designation</th>
<th>Order no.</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>OOH740</td>
<td>Multi-sensor fire detector, ASA</td>
<td>S54320-F7-A3</td>
<td>0.124</td>
</tr>
<tr>
<td>DB1-AT</td>
<td>Detector base</td>
<td>A5Q00074017A</td>
<td>0.071</td>
</tr>
<tr>
<td>DB2-AT</td>
<td>Detector base</td>
<td>A5Q00074021A</td>
<td>0.076</td>
</tr>
<tr>
<td>DP024R-AT</td>
<td>Detector base print (PCB, 24V)</td>
<td>A5E44023478</td>
<td>0.020</td>
</tr>
<tr>
<td>DP110R-AT</td>
<td>Detector base print (PCB, 110V)</td>
<td>A5E44023479</td>
<td>0.023</td>
</tr>
<tr>
<td>DBC2R-AT</td>
<td>PCB for Wago connector</td>
<td>A5E44023482</td>
<td>0.003</td>
</tr>
<tr>
<td>DBT1R-AT</td>
<td>Protector top cover for main PCB</td>
<td>A5Q00074018A</td>
<td>0.008</td>
</tr>
<tr>
<td>DBT2R-AT</td>
<td>Protector cover for Wago connector PCB</td>
<td>A5Q00074022A</td>
<td>0.002</td>
</tr>
<tr>
<td>WAGO</td>
<td>Plug-in connector Wago</td>
<td></td>
<td>0.002</td>
</tr>
<tr>
<td>Torroidal ferrite</td>
<td>Torroidal ferrite</td>
<td></td>
<td>0.010</td>
</tr>
<tr>
<td>Ferrite PCB</td>
<td>7x Multilayer Ferrite</td>
<td></td>
<td>0.0001</td>
</tr>
<tr>
<td>DB1 024R-AT</td>
<td>Complete Detector base 1, 24VDC Version</td>
<td>6500007747</td>
<td>0.102</td>
</tr>
<tr>
<td>DB1 110R-AT</td>
<td>Complete Detector base 1, 110VDC Version</td>
<td>6500007719</td>
<td>0.114</td>
</tr>
<tr>
<td>DB2 024R-AT</td>
<td>Complete Detector base 2, 24VDC Version</td>
<td>6500007774</td>
<td>0.112</td>
</tr>
<tr>
<td>DB2 110R-AT</td>
<td>Complete Detector base 2, 110VDC Version</td>
<td>6500007787</td>
<td>0.236</td>
</tr>
<tr>
<td>DS1 024R-AT</td>
<td>Complete Detector Set 1, 24VDC Version</td>
<td>6500007594</td>
<td>0.223</td>
</tr>
<tr>
<td>DS1 110R-AT</td>
<td>Complete Detector Set 1, 110VDC Version</td>
<td>6500007595</td>
<td>0.226</td>
</tr>
<tr>
<td>DS2 024R-AT</td>
<td>Complete Detector Set 2, 24VDC Version</td>
<td>6500007587</td>
<td>0.239</td>
</tr>
<tr>
<td>DS2 110R-AT</td>
<td>Complete Detector Set 2, 110VDC Version</td>
<td>6500007588</td>
<td>0.236</td>
</tr>
<tr>
<td>DSW024R-AT</td>
<td>Detector Set Wet, 24VDC</td>
<td>6500007569</td>
<td>0.500</td>
</tr>
<tr>
<td>DSW110R-AT</td>
<td>Detector Set Wet, 110VDC</td>
<td>6500007593</td>
<td>0.503</td>
</tr>
</tbody>
</table>

## Accessories

| LP720      | Detector locking device                              | S54319-F9-A1 | 0.001       |

### Detector locking device LP720

- For protection against theft of the point detector
- Set screw M3 x 12 mm prevents the point detector being unscrewed from the detector base
- Point detector can only be removed with the appropriate Allen key
**Notes**

**Installation**

**Detector Base DB1R-AT and DB2R-AT**

Mounting of the detector base is achieved through 2 appropriate screws in the mounting slits provided for fixation.

- **DB1R-AT:**

![Diagram of DB1R-AT with mounting screws highlighted]

- **DB2R-AT:**

![Diagram of DB2R-AT with mounting screws highlighted]
Maintenance

Detector and detector base

- Mounting slits allows fast and variant fixation
- Connection terminals for conductors up to max. 1.6 mm²

The detector can be screwed into the base easily either by hand or using the detector exchanger DX791 and the corresponding adapter FDUD491.

The internal alarm indicator is centered in the detector, which makes alignment of the point detector superfluous.

1 Detector base 5 Mounting slits
2 Print and Cover 6 Point detector
3 Connection terminals 7 Internal alarm indicator
4 Opening for cable entry

Safety

- Do not operate the device above the specified nominal voltage.
- Avoid touching the connection contacts in any case.
- Use of detector locking device (LP720) to prevent improper opening of the device is highly recommended.
## Technical data

<table>
<thead>
<tr>
<th>OOH740 incl. Base</th>
<th></th>
</tr>
</thead>
</table>
| Operating voltage (modulated) | DC 19…30 V (24V Print Version)  
DC 70…140 V (110V Print Version) |
| Operating current (quiescent) | 10…11 mA (24V Print Version)  
3…3.5 mA (110V Print Version) |
| Max. number of external alarm indicators that can be connected | 2 |
| Operating temperature | -25…+55 °C  
Rail specific approval | Temperature class OT4: -40…+70 °C |
| Storage temperature | -30…+70 °C  
Air humidity (short-term moisture condensation permitted) | ≤ 95 % rel. |
| Communication protocol | Potential-free contacts  
Color | ~RAL 9010 pure white  
Weight | ~0.230 kg |
| Protection category (IEC 60529) | IP40  
Standards | CEA 4021, EN 54-5, EN 54-7, EN 54-17 |
| Approvals OOH740 only: |  |
| • VdS | G211070  
• LPCB | 126bh/05  
• FM | 3051081  
• DNV GL (Marine) | MEDB00003UK |
| OOH740 incl. Base (DBx-R-AT): |  |
| • Standards | EN 50155, EN 50121-3-2, EN 61000-4-2/3/4/5/6,  
EN 60068-2-1/2/7/30, EN 61373, EN 45545-2 |
| • TUEV | Test Report TÜV Austria EN50155 Railway applications  
Prüfbericht TÜV Austria EN50121-3-2, EN50155 EMV  
Prüfbericht AIT EN60068-2-27, EN61373 Schocktest  
Prüfbefund TÜV Austria ÖNORM EN 60068-2-1  
SIL Report & Certificate acc. EN50126, EN50128, EN50129 |
| Permissible wind speed | Max. 5 m/s |

Siemens Switzerland Ltd; Gubelstrasse 22  
CH-6301 Zug  
Technical data: see doc. A6V10305793  
0786 OOH740 - Smoke/heat detector incl. short-circuit isolator for use in fire detection and fire alarm systems installed in buildings.  
305/2011/EU (CPR); EN 54-5 / EN 54-7 / EN 54-17 ; 2014/30/EU (EMC); EN 50130-4 / EN 61000-6-3 ; 2011/65/EU (RoHS); EN 50581  
The declared performance and conformity can be seen in the Declaration of Performance (DoP) and the EU Declaration of Conformity (DoC), which is obtainable via the Customer Support Center: Tel. +49 89 9221-8000 or http://siemens.com/bt/download  
DoP No.: 0786-CPR-21094; DoC No.: CED-OOH740
### Dimensional drawings

<table>
<thead>
<tr>
<th>OOH740</th>
<th>OOH740 with base DB1R-AT</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="OOH740" /></td>
<td><img src="image2" alt="OOH740 with base DB1R-AT" /></td>
</tr>
<tr>
<td><img src="image3" alt="OOH740 with base DB2R-AT" /></td>
<td></td>
</tr>
</tbody>
</table>

The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.
- Dispose of empty batteries in designated collection points.