DT1101A-Ex / DT1102A-Ex / DO1101A-Ex

Automatic fire detectors
collective/SynoLINE600
for explosion-hazard area of zones 1 and 2

- High degree of reliability and stability
- High resistance to
  - electromagnetic interference
  - humidity and corrosion
- Connection to the detection line via the DC1192 input/output module
  - for galvanic isolation and connection to the collective/SynoLINE600, interactive or AnalogPLUS/SynoLOOP fire detection system
- Connection to the detection line via the FDCIO223 transponder
  - for galvanic isolation and connection to the addressable FDnet/C-NET fire detection system
- Comprehensive final examination and quality control
- Environmentally safe material
  - halogen-free plastic material identifiable through embossed code
  - easy to uninstall and disassemble
Smoke detector DO1101A-Ex, collective wide spectrum Ex

- Uniform response behavior for different types of fire
- New, high performance optoelectronic sensor system
- High resistance to soiling and temperature fluctuation

**Function**
- Penetrating smoke scatters the light of an infrared beam in the detector. If the light scatter exceeds a certain value, the detector transmits a danger signal to the control unit.
- Built-in alarm indicator provides on-site signaling of alarm.

**Application**
- For the early warning of smoke-forming flaming fires and smoldering fires in explosion-hazard areas of zones 1 and 2.

Heat detectors DT1101A/02A-Ex

- Response behavior immune to deceptive phenomena with rapid and slow increases in temperature
- Intelligently designed differential characteristics
- Maximum temperature alarm activation with quality thermo sensor
- Reliable heat detector for demanding requirements:
  - DT1101A-Ex: Heat detector with wide application range (up to +50 °C)
  - DT1102A-Ex: Heat detector for high ambient temperatures (up to +70 °C)

**Function**
- The detector measures the ambient temperature with one NTC thermistor and the detector housing temperature with another NTC thermistor. In this way the detector can rapidly and differentially evaluate an increase in temperature independent of the starting temperature.
- Built-in alarm indicator provides on-site signaling of alarm.

**Application**
- For the monitoring of explosion-hazard areas of zones 1 and 2 where in the event of fire, a rapid increase in temperature can be expected, or other types of detector cannot be used due to operational reasons.

**Design**
- Mounting with detector base DB1101A
- Range of base accessories for installation even in critical locations
- Connection to the control unit via a two-wire line
- Vibration-proof mounting of detector in the base
- Anti-theft device if required
- One external alarm indicator can be connected
- DO1101A-Ex and DT1101A/02A-Ex fire detectors are designed to the explosion protection category 'Intrinsic safety' Ex i. The standards which cover this are EN 50014 (IEC 60079-0) and EN 50020 (IEC 60079-11).
Installation in explosion-hazard areas

Equipment installed in explosion-hazard areas must always comply with local national regulations. The DC1192/FDCIO223 input/output module and the series-connected SB3 shunt Zener diode barrier are used as a galvanic isolation between explosion-hazard and non-hazardous areas.

**Non hazardous area**

- Input/output module DC1192
- Shunt Zener diode barrier SB3
- Smoke detector DO1101A-Ex
- Heat detector DT1101A/02A-Ex
- Transponder FDCIO223
- Equipotent bonding ground
- Alarm indicator DJ11xx-Ex, AJUT24-Ex
- Line termination EOL22(Ex) in the last detector

**Explosion-hazard area of zones 1 and 2**

Application
- AlgoRex, Synova
- Sinteso, Cerberus PRO

Further details can be found in the documents
- Fire protection in explosion-hazard areas, document no. 1204
- Input/output module DC1192, document no. 001571
- Transponder FDCIO223, document no. 009168
- Shunt Zener diode barrier SB3, document no. 001222

**Maintenance**

**DO1101A-Ex / DT1101A/02A-Ex**
- Detectors can be inserted and removed from their bases with a detector exchanger up to a height of 7 m.

**DO1101A-Ex**
- By means of a periodic factory overhaul (cleaning and re-calibration), smoke detectors are given a new lease of life.

**Dimensions**

<table>
<thead>
<tr>
<th>Transducer</th>
<th>Ø 115</th>
<th>47…70</th>
<th>51</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO1101A-Ex</td>
<td>Ø 115</td>
<td>47…70</td>
<td>54.5</td>
</tr>
<tr>
<td>with base DB1101A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DT1101A/02A-Ex</td>
<td>Ø 115</td>
<td>47…70</td>
<td>54.5</td>
</tr>
<tr>
<td>with base DB1101A</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
### Technical data

<table>
<thead>
<tr>
<th>DO1101A-Ex</th>
<th>DT1101A-Ex</th>
<th>DT1102A-Ex</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating voltage</strong></td>
<td>DC 17…24 V</td>
<td>DC 16…24 V</td>
</tr>
<tr>
<td><strong>Operating current (quiescent)</strong></td>
<td>max. 100 µA</td>
<td>max. 100 µA</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-25...+60 °C</td>
<td>-25...+50 °C</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-30...+75 °C</td>
<td>-30...+75 °C</td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>≤95 % rel.</td>
<td>≤95 % rel.</td>
</tr>
<tr>
<td><strong>Protection category IEC60529</strong></td>
<td>IP44</td>
<td>IP44</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>white, ~RAL 9010</td>
<td>white, ~RAL 9010</td>
</tr>
<tr>
<td><strong>Standards</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- for fire detectors</td>
<td>EN 54-7</td>
<td>EN 54-5: A1R</td>
</tr>
<tr>
<td>- for explosion-hazard areas</td>
<td>EN 60079-0</td>
<td>EN 60079-0</td>
</tr>
<tr>
<td><strong>Ex classification</strong></td>
<td>II 2 G Ex ib IIC T4 (-25 °C ≤Ta ≤60 °C)</td>
<td>II 2 G Ex ia IIC T4 (-25 °C ≤Ta ≤50 °C)</td>
</tr>
<tr>
<td><strong>Ex approvals</strong></td>
<td>PTB 02 ATEX 2135</td>
<td>PTB 02 ATEX 2097</td>
</tr>
<tr>
<td><strong>Connection factor KMK</strong></td>
<td>1.6</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Compatibility

- By using the DC1192 input/output module and SB3 shunt Zener diode barrier it is compatible with fire detection system control units with collective/SynoLINE600, interactive or AnalogPLUS/SynoLOOP signal evaluation.
- By using the FDCIO223 transponder and SB3 shunt Zener diode barrier it is compatible with fire detection system control units with FDbnet/C-NET signal evaluation.

#### QS Standards

Fire protection industry certified quality assurance system according to EN ISO 9001:2000.
## Details for ordering

<table>
<thead>
<tr>
<th>Type</th>
<th>Part no</th>
<th>Designation</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO1101A-Ex</td>
<td>BPZ:5008010001</td>
<td>Smoke detector</td>
<td>0.130 kg</td>
</tr>
<tr>
<td>DT1101A-Ex</td>
<td>BPZ:4852140001</td>
<td>Heat detector</td>
<td>0.105 kg</td>
</tr>
<tr>
<td>DT1102A-Ex</td>
<td>BPZ:4852270001</td>
<td>Heat detector</td>
<td>0.105 kg</td>
</tr>
</tbody>
</table>

Base and accessories see document 001035

## Disposal

The device is considered an electronic device for disposal in accordance with the European Guidelines 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.