Heat detector with SelfVerify – BD-500

Interactive fire detection systems
Product datasheet

Features

- Interactive
- Plug-in detector head
- Heat detector intended for use in humid areas
- Additional coating of PCB circuit for environmental protection
- Short circuit isolator in each detector
- Conforms to EMC directive
- Comprises a built-in alarm indicator (LED)
- Automatic addressing
- Proven technology
- Configurable to class A1, A1R, A2S, B, C
- Not influenced by dust, humidity, exhaust-gases, or electromagnetic fields i.e.: Radio transmitters, cellular phones, etc.
- EN 54-5/EN 54-17
- Designed to meet the requirement of the major maritime classification societies

Applications

BD-500 is a point heat detector for detection of rise in ambient temperature caused by a fire. The detector is designed for use with Autronica's interactive fire alarm systems. The SelfVerify function ensures the highest grade of reliability. All units comprising this function are automatically tested with a calibrated test once every 24 hours.

Additional coating of PCB and sealing of the sensing element makes this detector suitable for rough areas like heavy industry, maritime and offshore applications.

BD-500 is often used in areas where the environment is likely to produce false/unwanted alarms from smoke detectors such as:
- Kitchens
- Galleys
- Bathrooms
- Boiler rooms
- Workshops, etc.
- Refrigeration rooms, etc.

Optionally there is a BD-500/N version for use in hazardous area zone 2. It must be connected to the BSD-310/N loop driver.

Principle

Temperature measurement by means of a thermistor for registration and reading of temperature at the detector point. Alarms at temperature according to configured class (Ref. table 1).

"SelfVerify®", the detector's ability to initiate alarm at correct temperature is regularly checked.


Versions

- BD-200*   Heat detector without SelfVerify
- BD-300*   Heat detector with SelfVerify
- BD-500   Heat detector with SelfVerify, environmentally protected
- BD-500/EX* Heat detector with SelfVerify, EExia-version for use in all zones
- BD-500/N   Heat detector with SelfVerify, Eexn-version for use in zone 2 only

*See separate data sheet

Technical specifications	
Weight	140 g
Materials	PC/ABS
Colour	White
Sensitivity	Ref. table 1
Voltage	10-27 VDC
Current consumption Stand by: External alarm indicator:	< 0,3mA 6mA
CPD certificate	1134-CPD-018
Degree of protection	IP44D
Working temperature	-20 - +80°C
Storage temperature	-55 - +80°C
Max. application	Ref. table 1
Humidity (non condensing)	Max. 95%
Maintenance	None
Service	Replace if faulty
Approvals	See web site

Dimensions/Connections

1. - in
2. - out
3. common (+ in, + out)
4. external LED
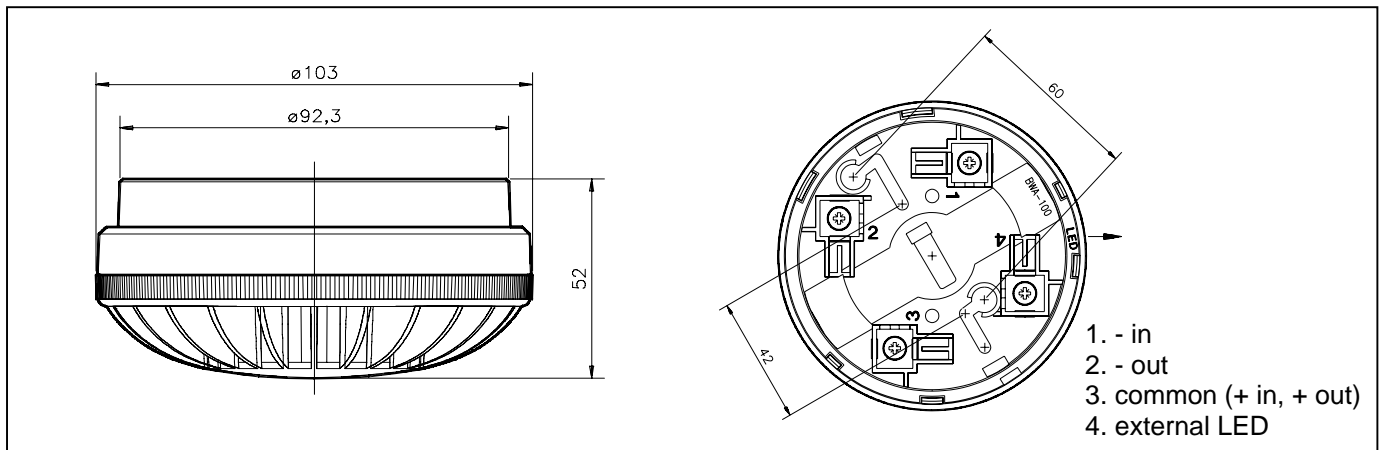
Use of LED output

When LED or other equipment is connected to the LED output, a varistor - Siemens SIOVS07K25 (39V) – Autronica part. no. 116-8464-003.5039, is required between terminals 1 and 4 in base.
The LED is connected between terminals 3 and 4, terminal 3 being the positive terminal.

Table 1

Detector class	Typical application temperature °C	Maximum application temperature °C	Minimum static response temperature °C	Maximum static response temperature °C
A1	25	50	54	65
A1R*	5	50	54	65
A2S*	25	50	54	70
B	40	65	69	85
C	55	80	84	100

* R= Rate of rise.
* S= (Slow) Does not respond below the minimum static response temperature.

Note: The detector may give prewarning on a temperature below the max. application temperature.

Part number	Description
116-BWA-100	Detector base
116-BDH-500	Detector head
116-BDH-500/N	Detector head certified for use in zone 2
116-BWP-100/20	Optional conduit box for M20 glands
116-BWP-100/25	Optional conduit box for M25 glands
116-BBR-52	Optional audible indicator – SmartBuzzer