

397A8510 / HEATSHIELD 500

High-temperature Heat Detector

Quick Installation, Commissioning and Functional Test Guide



50-450 C

Configurable alarm setting

9 m

Corrugated sensor hose

IP66

Industrial detector enclosure

APPLICATION SUMMARY

HeatShield 500 uses a PT1000 sensing element for static maximum or differential/maximum heat detection in high-temperature environments. Dry alarm and fault contacts support fire panels, PLCs and building-management interfaces.

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Select the correct configuration

Select the response temperature and behavior from the hazard study and normal process temperature. Keep the detector housing outside the hot zone; only the sensor element is intended for the application temperature.

ORDERING REFERENCE

397A8510P313	9000 mm sensor; 310 deg C threshold; hazardous-area version
397A8510P314	9000 mm sensor; 310 deg C threshold; hazardous-area version
397A8510P303	9000 mm sensor; 160 deg C threshold; hazardous-area version
397A8510P801	200 mm sensor; 160 deg C threshold; hazardous-area version

Key technical data

Principle	PT1000 temperature sensor
Response	Static maximum or differential/maximum
Alarm setting	Configurable 50-450 deg C
Measurement cycle	1 s
Accuracy	2% FS or 2 deg C, whichever is greater
Ready time	30 s after power-on
Supply	14-29 VDC nominal; 10-30 VDC operating

Consumption	Approx. 30 mA at 24 V
Contacts	Dry contact; max 60 VDC / 25 VAC, 1 A
Hose	9000 +/-200 mm; minimum bend radius 120 mm
Protection	IP66; approx. 2 kg
Temperatures	Detector -20 to +90; hose -20 to +500; sensor -20 to +600 deg C
Coverage	Up to 30 m2 and 6 m room height, subject to local code
Approval	GB 4716-2024; EN 54-5; ECM 25 ATEX-B CS86

02

Install and connect

Installation sequence

- 1 Confirm the product label, configured threshold, response behavior, hazardous-area requirements and approved detector location.
- 2 Mount the base with cable entries facing down. Keep the detector housing and decoupling element outside the high-temperature zone.
- 3 Route the corrugated hose without kinks and maintain at least the 120 mm minimum bend radius.
- 4 Connect 24V+IN and 24V-IN. Wire alarm contacts COM1/NO1 or COM1/NC1 to the receiving system as required.
- 5 Wire the fail-safe fault contacts COM2/NO2 or COM2/NC2 and include the housing/shield in the approved potential-equalization scheme.
- 6 Seal both M16 entries and tighten detector/base screws crosswise to 3.5 Nm before energizing.

WIRING REFERENCE

POWER

24V+IN and 24V-IN; verify 10-30 VDC operating range.

ALARM RELAY

COM1-NO1 closes on alarm; COM1-NC1 opens on alarm.

FAULT RELAY

Energized in normal operation. COM2-NO2 opens and COM2-NC2 closes on fault or loss of power.

RESET / TEST

Hold the T/R switch for 2 s for alarm test/reset. The sensor must cool below the threshold before reset.

FIELD CHECKS

- Detector threshold is at least 15 K above the highest normal process temperature where applicable.
- Housing remains below +90 deg C and hose below +500 deg C.
- Cable glands, seals and potential equalization are complete.
- Alarm and fault cause-and-effect are verified before live testing.

SAFETY AND APPLICATION BOUNDARIES

- Installation, configuration and testing must be performed by qualified personnel under the approved fire-system and hazardous-area procedures.
- Before any function test, place the fire panel zone in test/revision mode and disable secured transmission or extinguishing outputs.
- Never use an open flame or unapproved hot-air equipment in a hazardous area. Avoid burns from a heated sensor or test equipment.
- Do not expose the detector housing or decoupling element to the high process temperature; only the sensor element may enter the hot zone.

03

Commission and verify

Commissioning checklist

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| ☐ Verify threshold, response behavior and nameplate. | ☐ Test alarm and both relay contact states. |
| ☐ Confirm sealed entries and 3.5 Nm housing screws. | ☐ Verify fault indication by the approved test method. |
| ☐ Power on and wait at least 30 seconds. | ☐ Reset only after the sensor is below threshold. |
| ☐ Confirm green LED flashes every 10 seconds. | ☐ Restore panel outputs and record the test result. |

Fast fault isolation

Green LED does not flash	Check 10-30 VDC supply, polarity, wiring and fault indication. Replace the detector if power is correct and the indicator remains inactive.
Yellow fault indication	Check PT1000 sensor circuit, cable condition, supply and fault-line wiring. Alarm indication has priority over fault display.
False alarm	Check threshold, normal temperature ramps, RF/magnetic interference, vibration and sensor location.
No alarm during test	Verify panel test mode, T/R or magnet test method, alarm relay wiring and sensor condition. Replace failed sensor/detector as required.
Alarm will not reset	Allow the sensor to cool below the configured threshold, then hold T/R for 2 s or apply the approved line reset.

TECHNICAL SUPPORT

Provide the full 397A8510 order code, configured threshold and response mode, normal and maximum temperatures, installation photos, relay wiring and the alarm/fault test result.

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