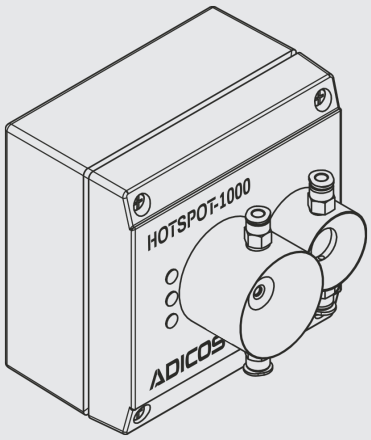
ADICOS®

Infrared heat detector with programmable internal signal evaluation for the detection of hot surfaces, flames and moving embers – suitable for industrial applications

HOTSPOT-1000



- Robust design due to aluminum housing
- Integrated purge air connection with 4-mm connector
- Switchable, integrated detector heating
- High resistance to moisture and dust (IP 64)
- Extremely responsive
- Separate alarm thresholds for up to 16 zones
- Independent of building thermal conditions
- Low wiring effort required thanks to pluggable bayonet cnnector
- Central data acquisition and visualization via PC software
- Can be integrated into existing fire alarm systems

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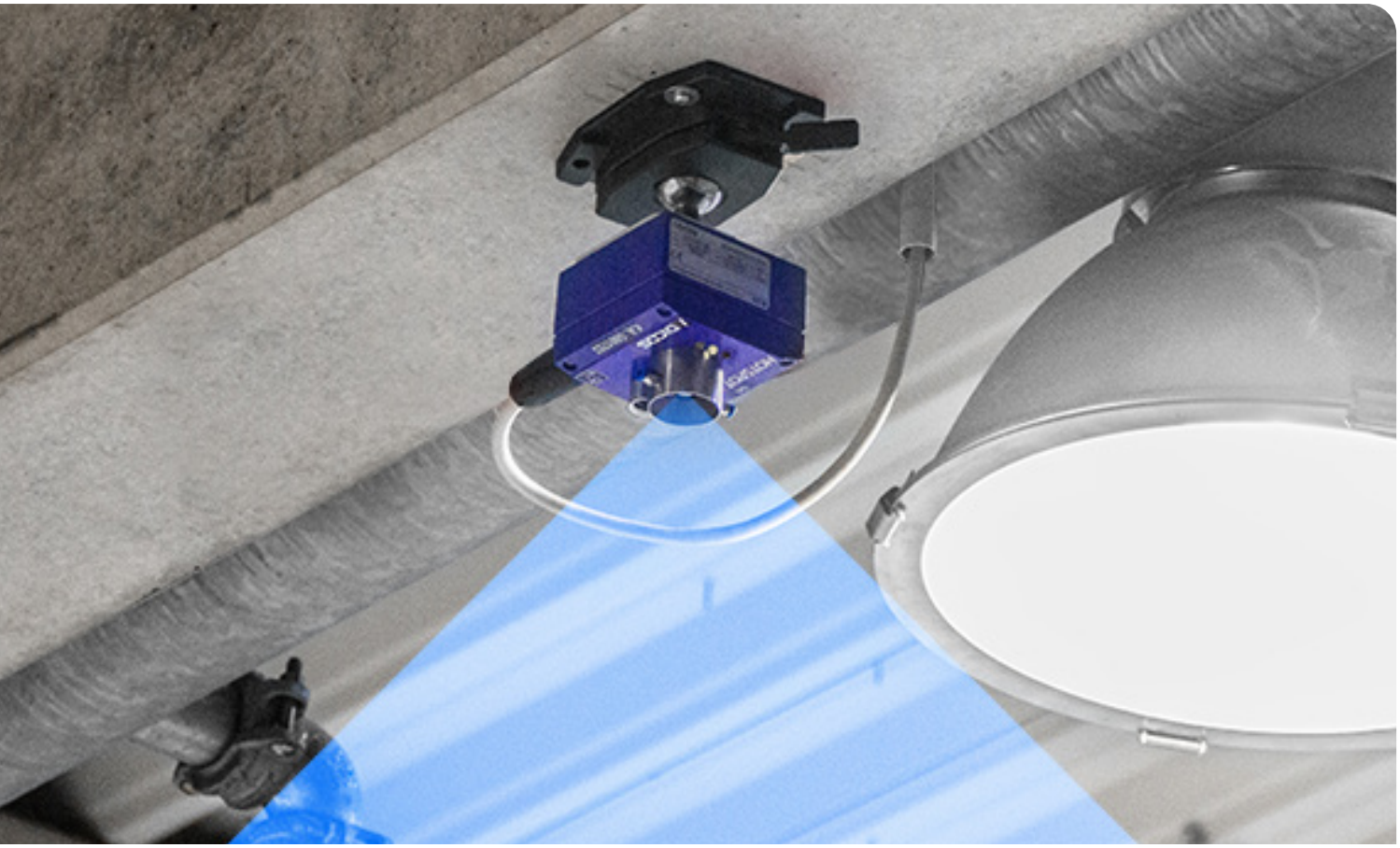


HOTSPOT-1000

The ADICOS HOTSPOT-1000 is an IR fire detector from the Advanced Discovery System (ADICOS), which is specially tailored to the requirements of early fire detection in the industrial sector.

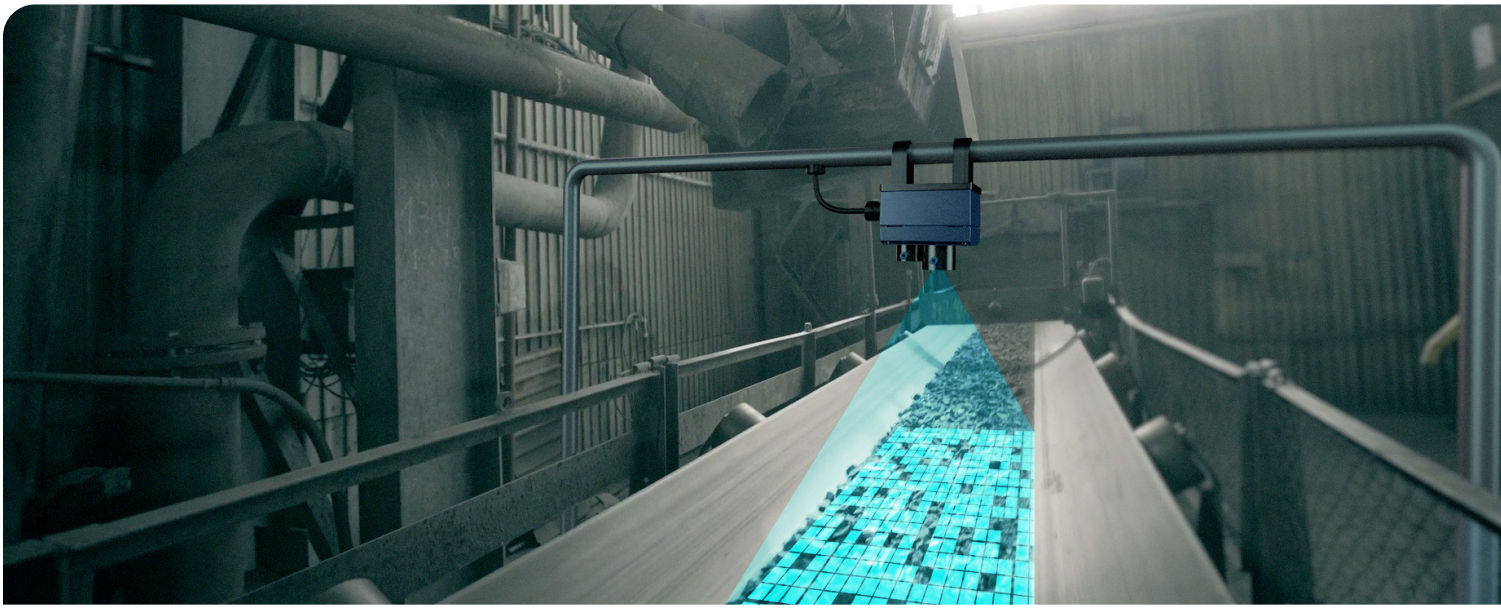
The HOTSPOT-1000 IR fire detector uses a thermal imaging sensor to detect the temperature distribution of an object and recognizes both smoldering fires and open fires still in the incipient stage. In addition to the infrared sensor, a conventional camera is installed for easy alignment and orientation. With a resolution of 1000 heat-sensitive pixels, the entire field of view of the thermographic detector can be parameterized with alarm criteria. The robust design and the purge air connection integrated as standard protect the HOTSPOT-1000 from dust, dirt, and moisture.

ADICOS HOTSPOT-1000 is especially suitable for process and storage monitoring in applications with spontaneously inflammable bulk material as well as for the surveillance of conveyor systems. Bulk material and equipment prone to overheating can be observed at the same time.

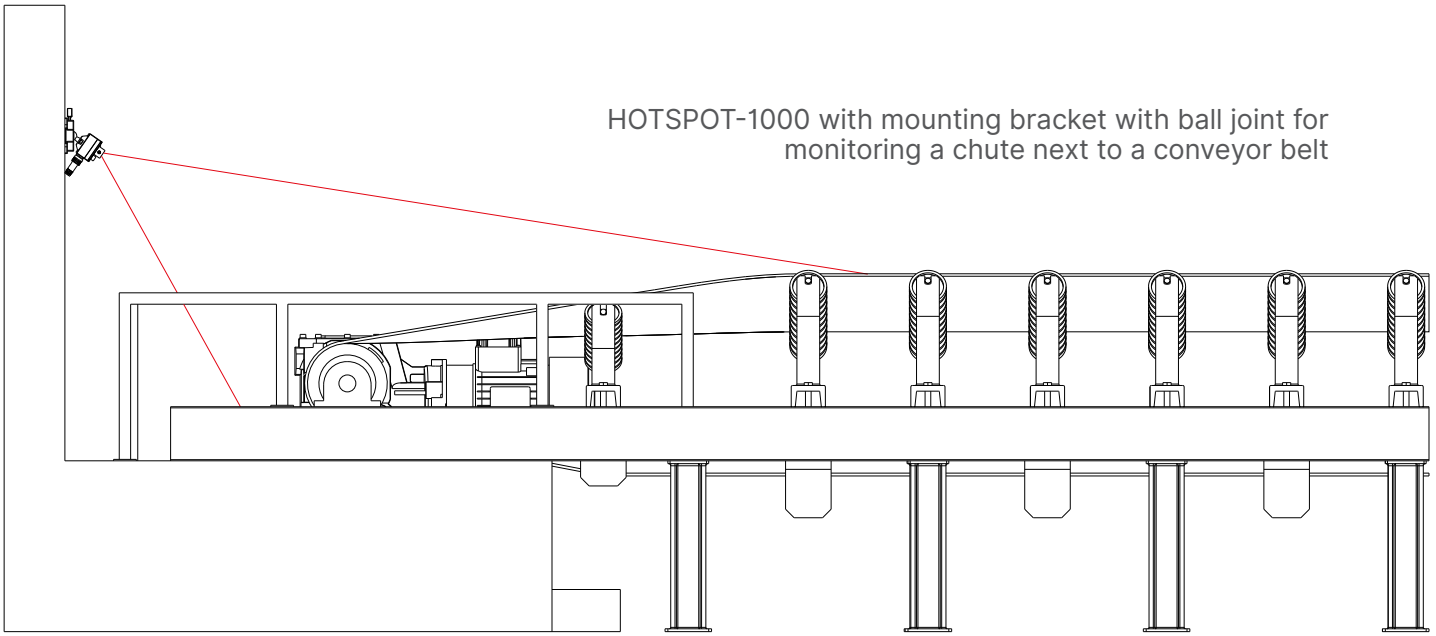
Communication between the individual system elements can be controlled via the ADICOS M-Bus. The ADICOS system software enables convenient, computer-aided visualization of all measurement data and states of the ADICOS detectors. Fault and alarm messages are clearly displayed and their chronological course is documented.

Application Fields

- Detection of hot surfaces, flame and moving embers
- Monitoring of machines and plants
- Conveyor systems for coal, biomass, wood, paper, plastics, substitute fuel
- Storage facilities and bunkers with self-igniting materials, silos and mills
- For drives, shredders, dryers, chutes and hoppers
- Type-tested models for applications in explosion hazardous areas available

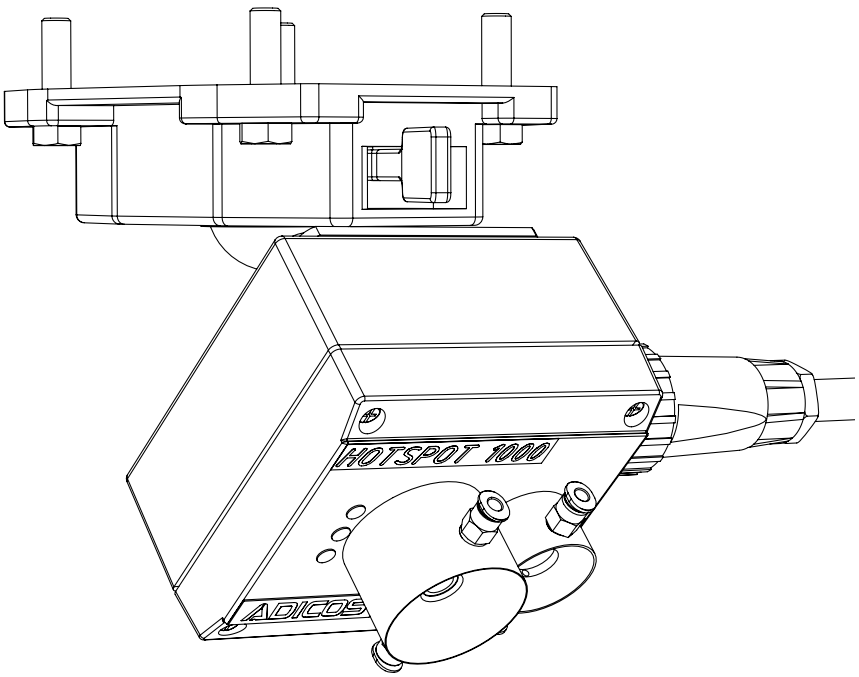


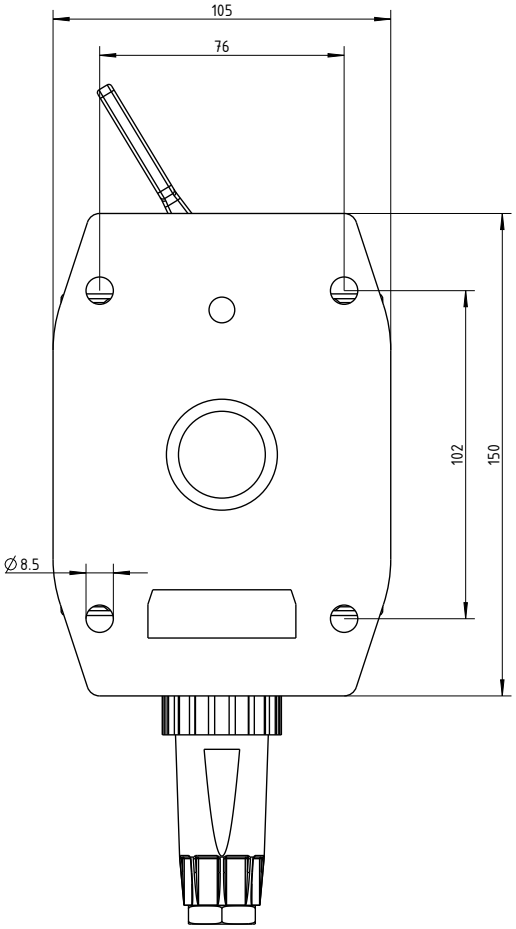
Application Example



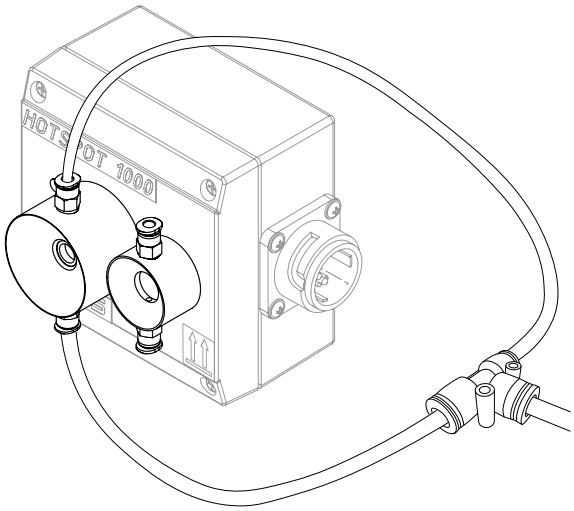
HOTSPOT-1000 with mounting bracket with ball joint for monitoring a chute next to a conveyor belt

HOTSPOT Mounting Bracket





HOTSPOT-1000 Purge Air Connection



Required Purity level

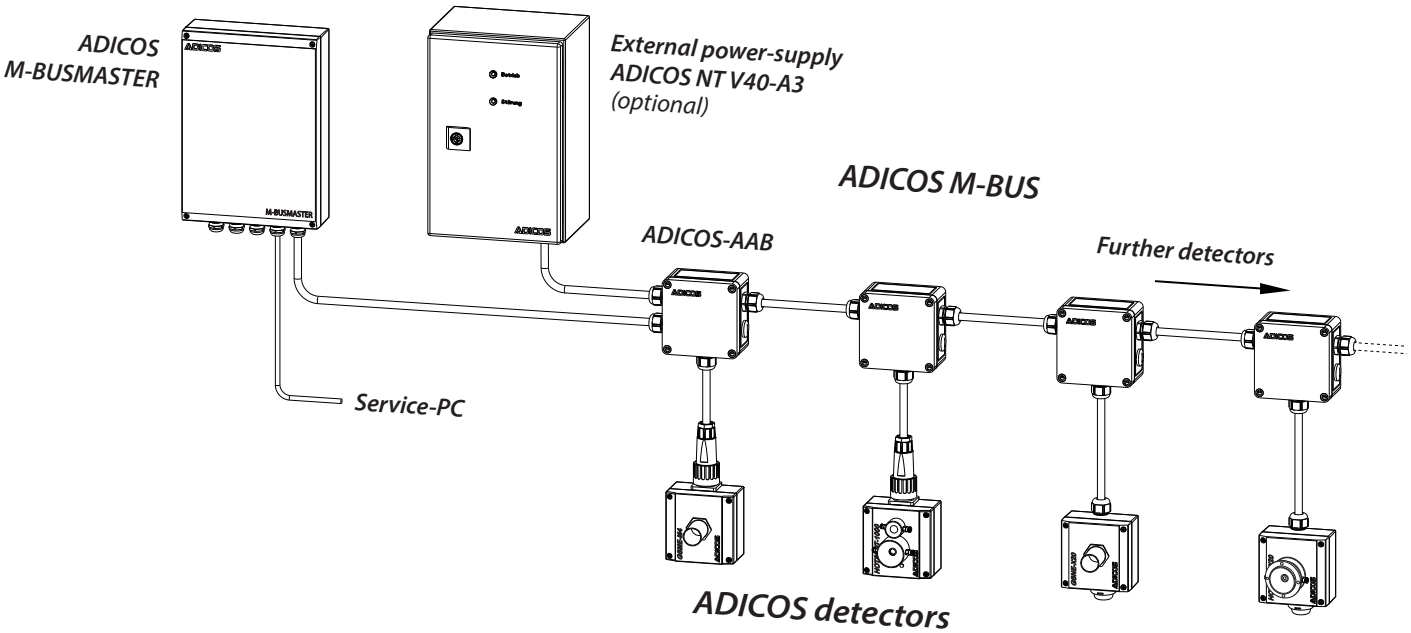
Dust:	2
Humidity:	3 (-20 °C dew point)
Oil:	2 (< 0,1 mg/m³)

Required airflow rate

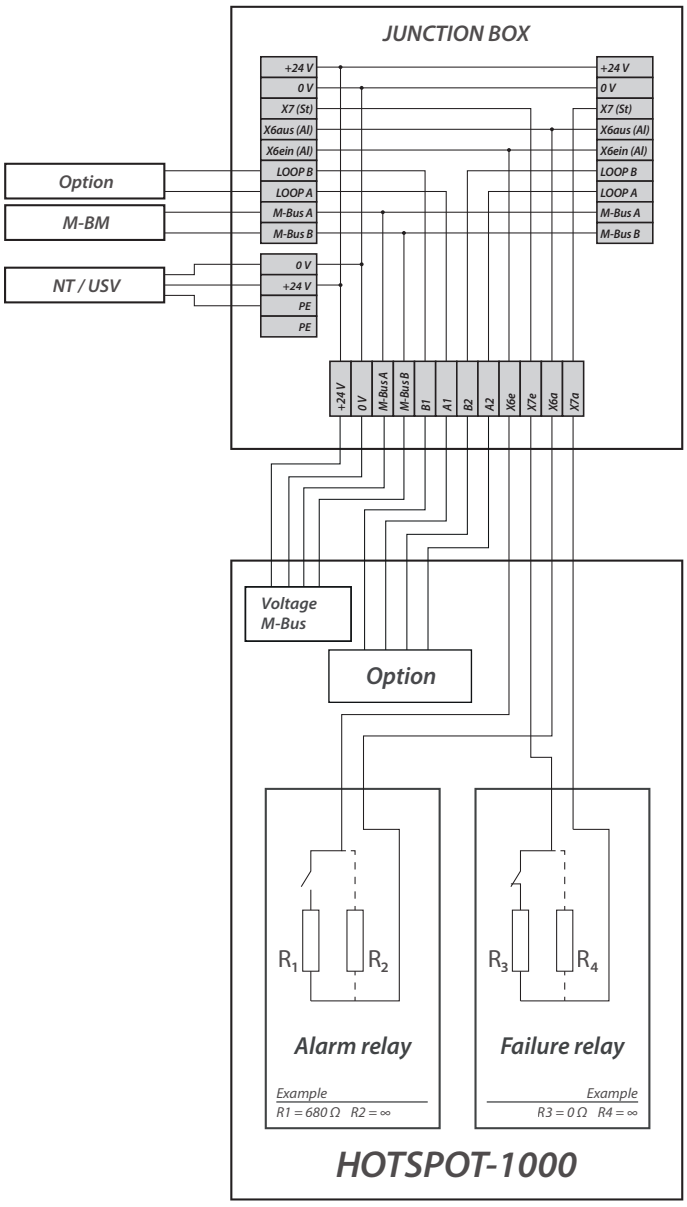
Dust loaded:	> 2 l/min
Dust loaded streaming air:	> 8 l/min

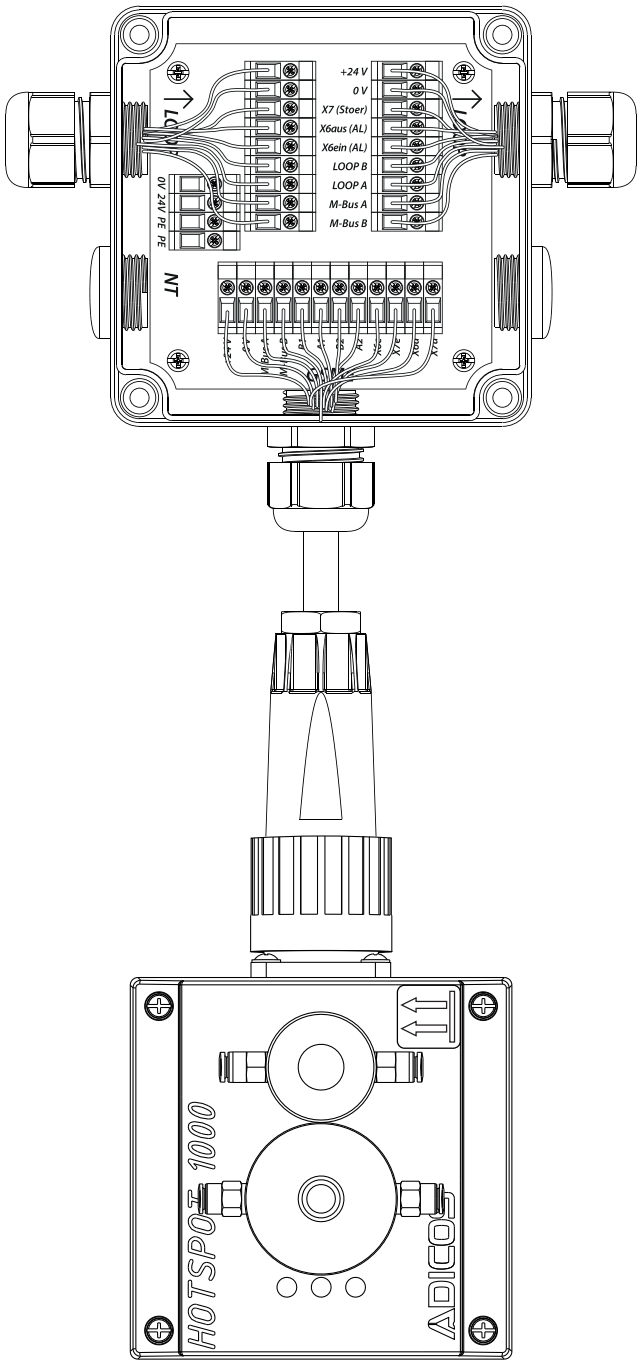
In case of dust loaded air with a high velocity a test is recommended.

ADICOS Topology Concept



Electrical Connection





Cable assignment HOTSPOT-1000

Color	Signal	Potential-free contact
red	Supply voltage DC 21,6 ... 40 V (non-polarized)	
black		
yellow	Relay output X6 e	Alarm (NO)
white	Relay output X6 a	Alarm (NO)
brown	Relay output X7 a	Failure (NC)
green	Relay output X7 e	Failure (NC)
pink	Fire panel interface B - in	add-on module (option, ex-factory)
blue	Fire panel interface A - in	
violet	Fire panel interface B - out	
grey	Fire panel interface A - out	
blue/red	M-Bus max. 40 V (non-polarized)	
grey/pink		

Legend:

Option : Connection-module for FDnet or LSNi or analog module or pre-alarm auxiliary relay
M-BM : ADICOS M-Busmaster XF
NT / USV : External power supply / uninterruptible power supply

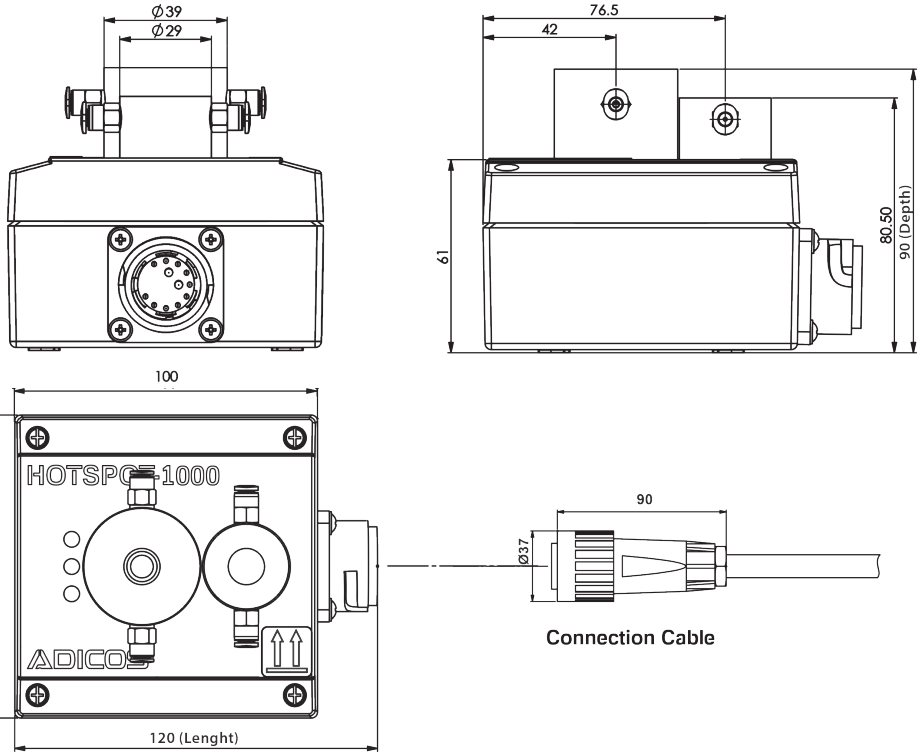
HOTSPOT-1000 Specifications

Mechanical Characteristics	
Enclosure	Coated aluminum die cast
Weight	0.9 kg
Protection class	IP 64
Dimensions (Length x Width x Depth) (Length: bayonet connection included)	120 mm x 100 mm x 90 mm

Thermal Characteristics	
Relative humidity	≤ 95 % (non-condensing)
Temperature range	–10 °C ... +50 °C

Electrical Characteristics	
Supply voltage	DC 21.6 ... 40 V
Power consumption (without intern. heating)	2 VA
Power consumption (with internal heating)	10 VA
Internal fusing	500 mA
M-Bus max. line length	ca. 2 km
M-Bus max. line capacity	ca. 200 nF
M-Bus baudrate	4800 baud
Potential-free contact alarm relay	40 V resp. 20 mA max. Alarm (NO), further configurations on request
Potential-free contact failure relay	40 V resp. 20 mA max. Failure (NC), further configurations on request

Detector Characteristics	
Sensor resolution	32 Pixel x 31 Pixel
Field of view	60° x 58°
Reaction time	< 1 s
Temporal resolution	0,1 s or 1 s (depending on pre-set configuration)
Standard measuring range	0 °C ... +200 °C



Connection Cable

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