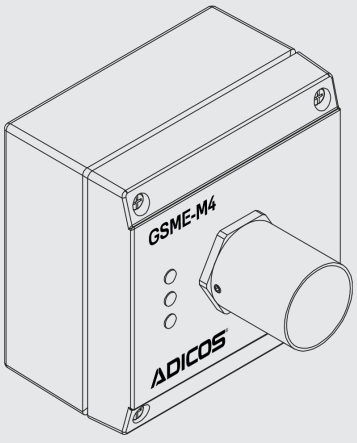
ADICOS®

Industrial-suited fire gas detectors with multiple semi-conductor gas-sensors, integrated signal evaluation and M-Bus interface

GSME-M4



- Robust design with aluminum die-cast enclosure
- Extensive tolerance towards humidity and dust thanks to unique diffusion-filter technology (IP64)
- Adjustable sensitivity for each gas-sensor avoids false alarms
- Detection of smodering fires already at an early stage
- Multi-criteria signal evaluation detects smoldering fires long before ignition
- Fast and easy installation due to plug-and-play cable for power-supply and data-signals
- Central data archiving and visualization with service PC
- Interface modules for common fire alarm systems

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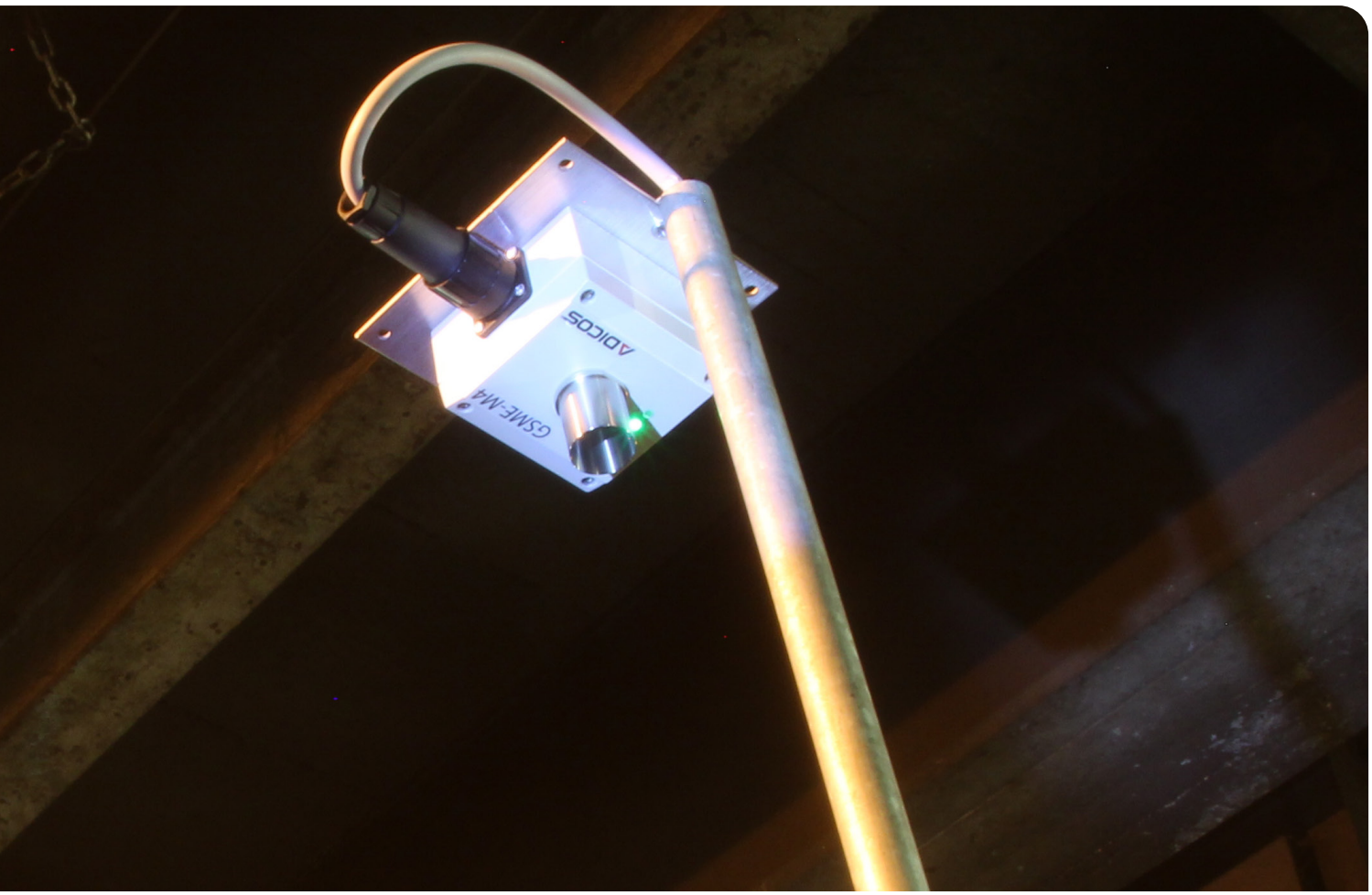


GSME-M4

ADICOS GSME-M4 are compact fire gas detectors from the ADICOS system.

There are several typical gases or gaseous components that are released at an early stage during fires in industrial plants, such as carbon monoxide, hydrogen, various hydrocarbons and nitrogen oxides. GSME fire gas detectors detect these gases that are characteristic of developing fires at an early stage. They detect both open and concealed smoldering fires.

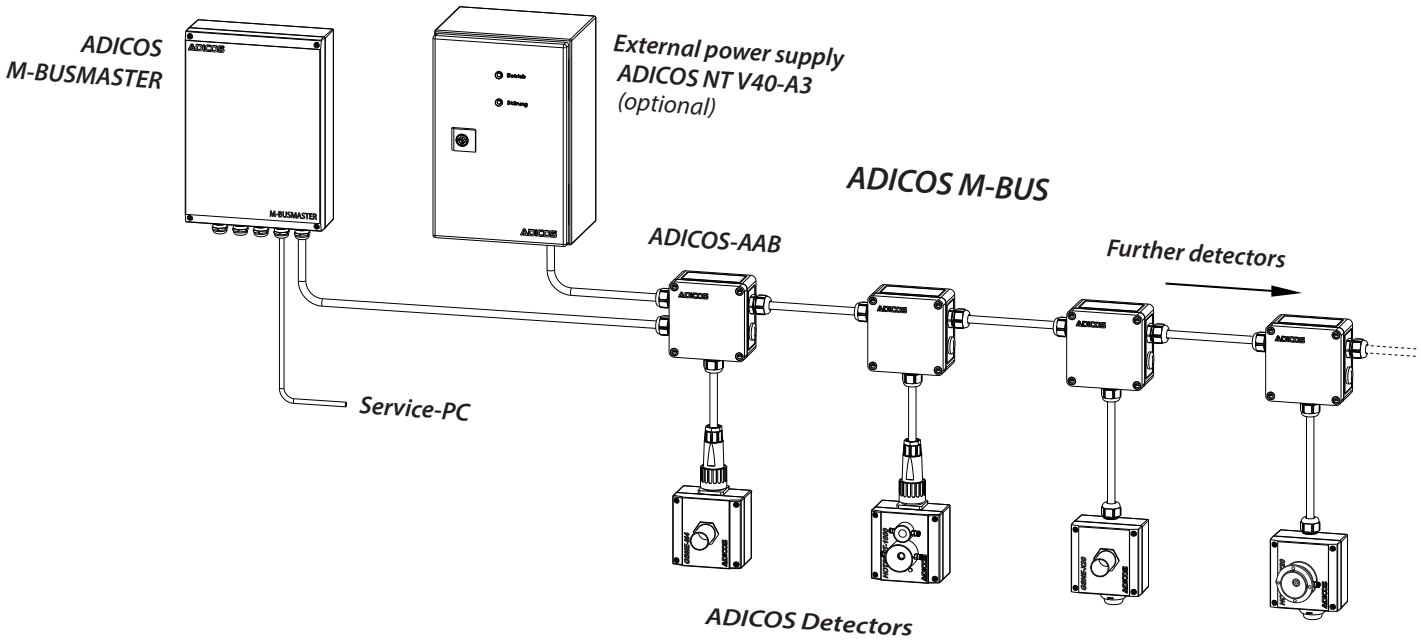
Highly sensitive and at the same time robust, they are ideal for fire gas detection in industrial environments - and already in the formation phase. Four parameterizable semiconductor gas sensors monitor and evaluate the concentration curve of these gases according to multi-criteria technology. This enables the GSME detectors to distinguish real fires from interference signals. In industrial environments, this often occurs under harsh conditions, e.g. due to vehicle exhaust fumes, dust, water vapour or cigarette smoke.

The ADICOS M-Bus enables communication between the ADICOS system software and the ADICOS detectors. With this software, all detector states and concentration curves can be graphically displayed and sensitivities and alarm thresholds can be individually parameterized for each detector.

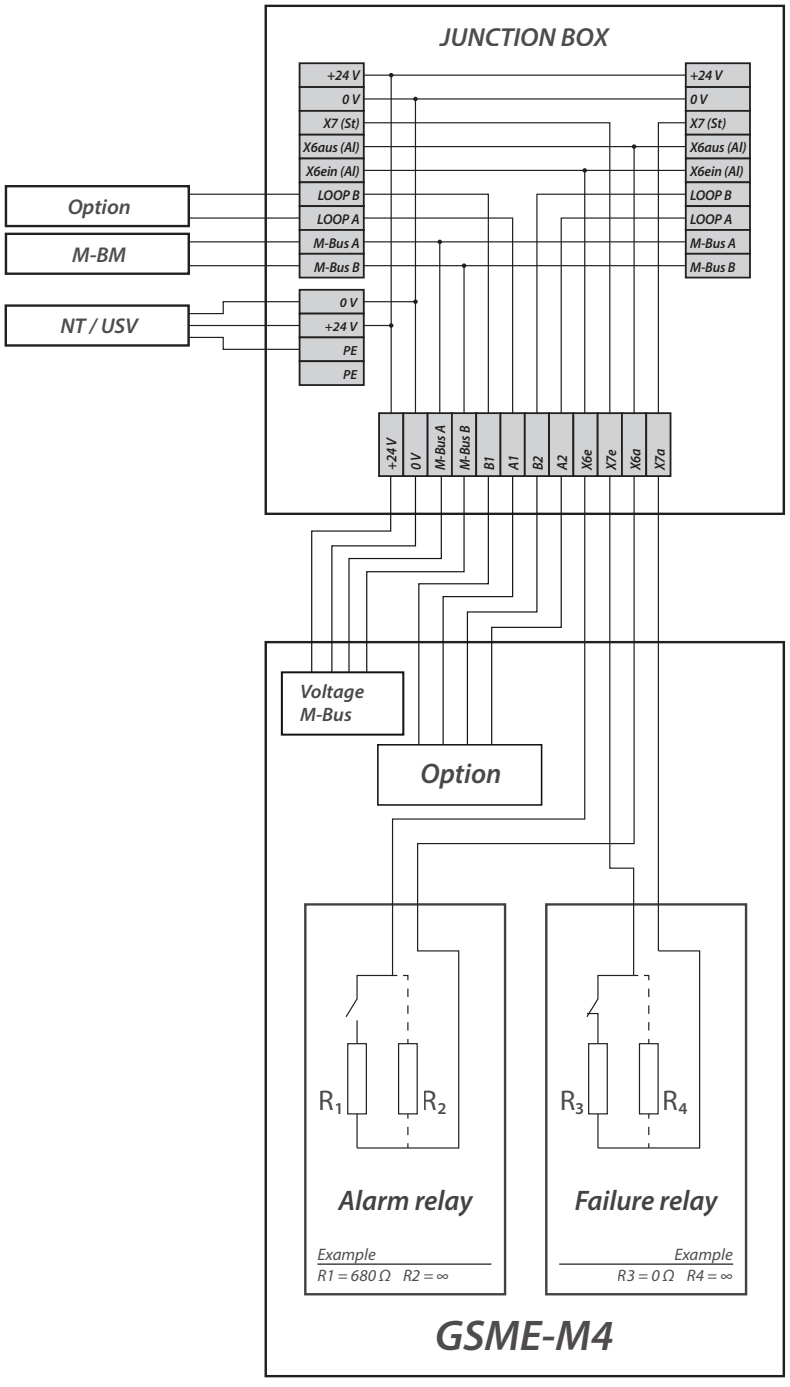
Applications

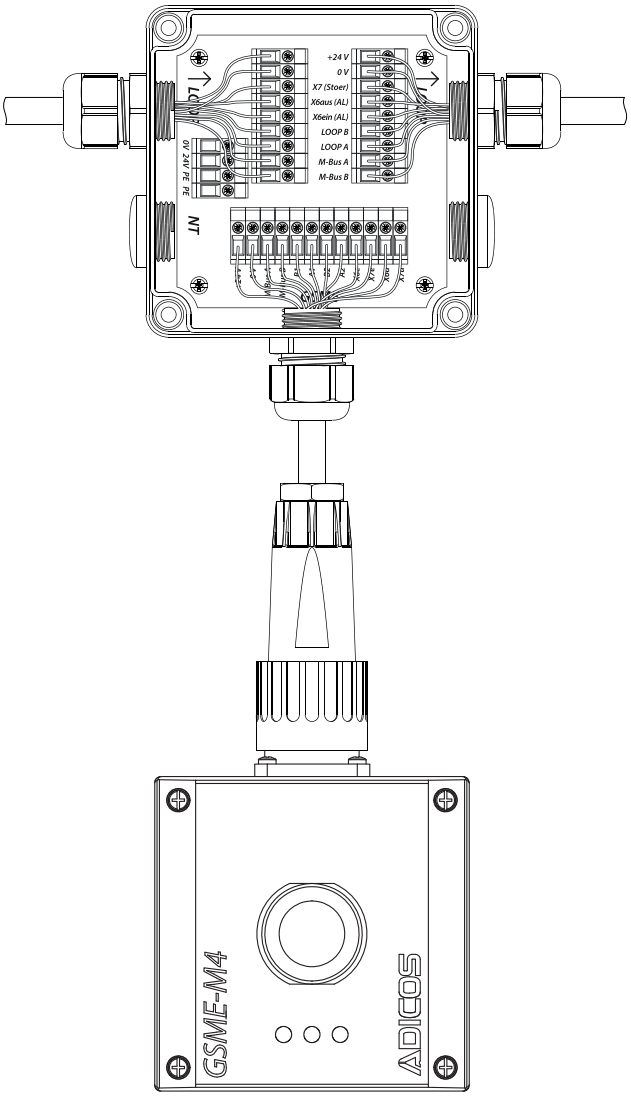
- Enclosed belt conveyors for bulk materials (e.g. coal, biomass, wood, waste, surrogate fuels, etc.)
- Storage facilities and bunkers for spontaneously inflammable materials
- Drives, shredders, dryers, coolers, chutes and funnels
- Silos and mills for non-explosive materials
- Type-tested models for applications in explosion hazardous areas available

ADICOS topology concept



Electrical Connection





Legend:

Option	Interface module for FDnet or LSNi or pre-alarm auxiliary relay
M-BM	ADICOS M-BUSMASTER
NT / USV	External power supply / uninterruptible power supply

Cable Assignment GSME-M4

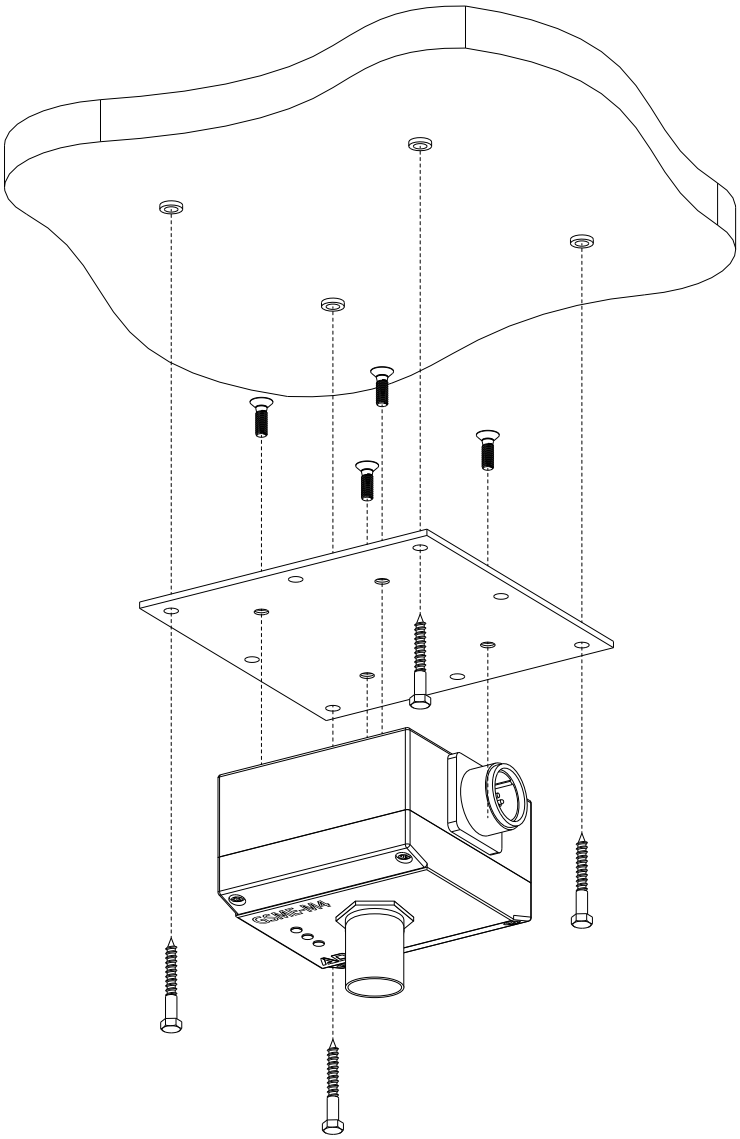
Color	Signal	Potencial-free contact
red	Supply voltage	
black	DC 21.6 ... 40 V (non-polarized)	
yellow	Relay output X6 e	Alarm (NO)
white	Relay output X6 a	Alarm (NO)
brown	Relay output X7 a	Fault (NC)
green	Relay output X7 e	Fault (NC)
pink	Fire panel interface B - in	
blue	Fire panel interface A - in	Add-on module
violet	Fire panel interface B - out	(optional, ex-factory)
grey	Fire panel interface A - out	
blue/red	M-Bus	
grey/pink	max. 40 V (non-polarized)	

Option Interface Module

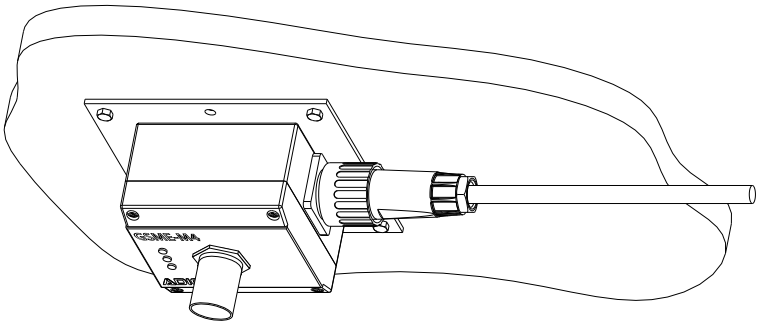
Color	Signal	Siemens FDnet	BOSCH LSNi
red	Fire panel interface B - in	FDnet-A (–)	LSN b1 in
blue	Fire panel interface A - in	FDnet (+)	LSN a in
violet	Fire panel interface B - out	FDnet-B (–)	LSN b2 out
grey	Fire panel interface A - out	FDnet (+)	LSN a out

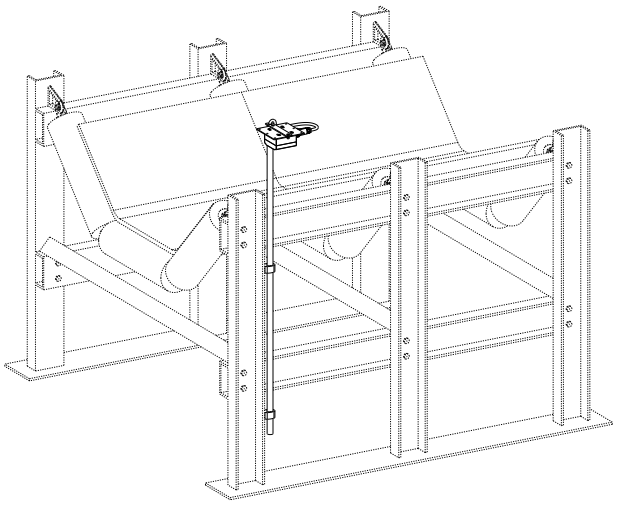
Option Auxiliary Relay

Color	Additional relay
blue	normally closed
violet	normally open
grey	common

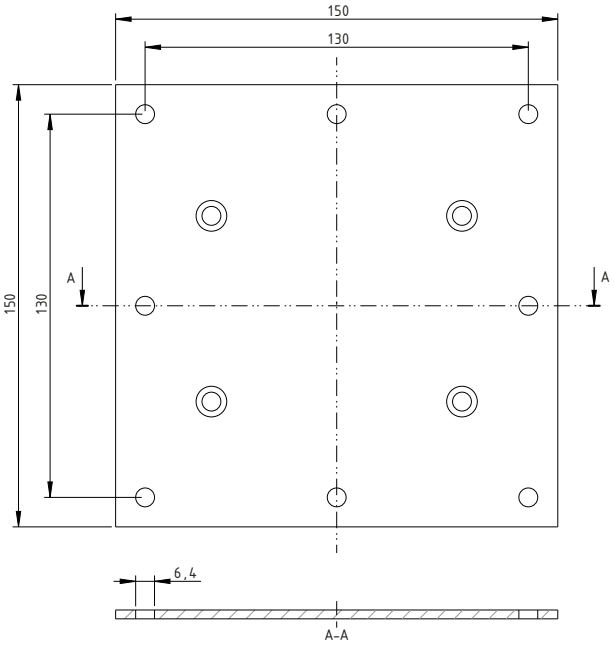


GSME must be mounted with the diffusion-filter pointing downward!





Mounting example: monitoring a conveyor belt with ADICOS mounting plate and custom gallows construction



Material:	Aluminum sheet, 3 mm
Mounting holes:	8 x Ø 6,4 mm Spacing 130 mm / 65 mm or 83,8 mm (diagonal)

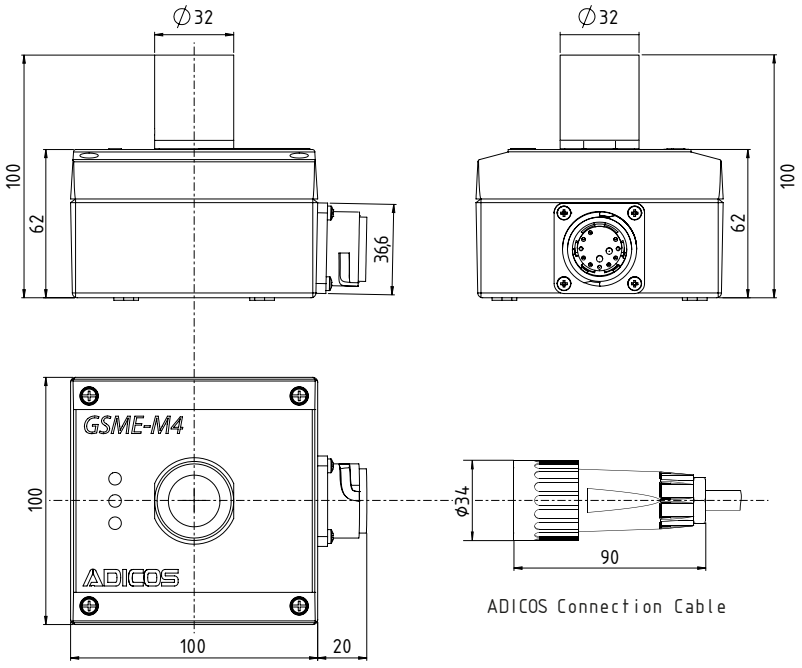
Spezification GSME-M4

General Characteristics	
Enclosure	Aluminum die-cast, coated (corrosion resistant)
Dimensions	100 x 120 x 100 mm (Length L x Width W x Depth D) (Length: Bayjonet connection included, depth with spray water protection))
Weight	0,7 kg
Degree of protection	IP64

Environmental Characteristics	
Relative Humidity	≤ 95 % (non-condensing)
Temperature range	-20 ... +50°C

Electrical Characteristics	
Operating voltage	DC 21.6 ... 40 V
Power consumpion	4 VA / 14 VA (without / with heating)
Internal fusing	2 x 500 mA
M-Bus max. line length	≈ 2 km
M-Bus max. line capacity	≈ 200 nF
M-Bus Baudrate	4800 baud
Potencial-free contact alarm relay	20 mA max. (Alarm NO)
Potencial-free contact failure relay	40 V resp. 20 mA max. (Failure NC)
Max. Kontaktbelastbarkeit Stör-/Alarm Relais	DC 40 V; 70mA

Detector Characteristics	
Sensor combination	CO — H_2 — HC — NOx
Response time	> 30 s
Detection szenarios	Smodering fires according to EN 54-7 Coal smoldering fires



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