

GSME

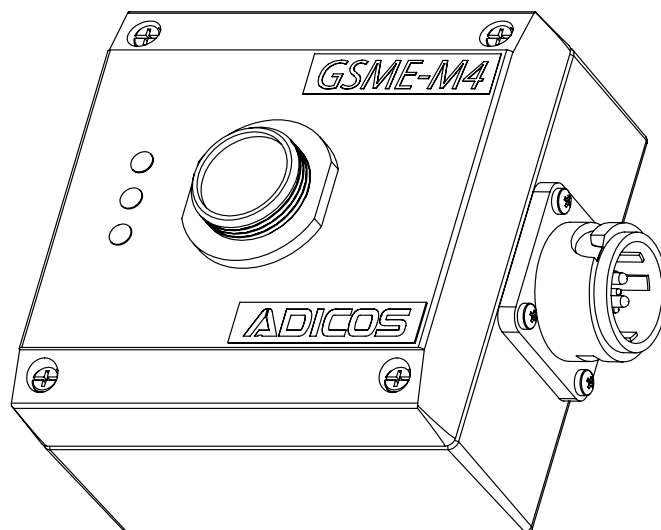
Industrial-suited fire gas detectors with multiple semiconductor gas-sensors, integrated signal evaluation and M-Bus interface

Characteristics

- **Sturdy design with aluminium diecast housing**
- **Extensive tolerance towards humidity and dust thanks to unique diffusion-filter technology**
- **Adjustable sensitivity for each gas-sensor avoids false alarms**
- **Multi-criteria signal evaluation detects smoldering fires long before ignition**
- **Multiple sensor settings for optimized adaption to operation environment**
- **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**

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 (for explosive atmospheres see GSME-X...)**



GSME are compact fire gas detectors. They are part of the Advanced Discovery System („ADICOS“), which was specifically created to provide reliable early fire detection in industrial surroundings.

GSME are based on multiple semiconductor gas-sensors with an intelligent signal processing routine, enabling them to equally detect open and hidden smoldering fires long before complete ignition. The intrusion of surrounding dust and humidity is avoided by a unique diffusion-filter technology, which rules out false alarms due to sensor-pollution.

Power-supply and data communication for the detectors in the system are provided over the ADICOS M-Bus. A simple wiring concept with prewired ADICOS system cables and specially designed connection boxes keeps installation simple and fast.

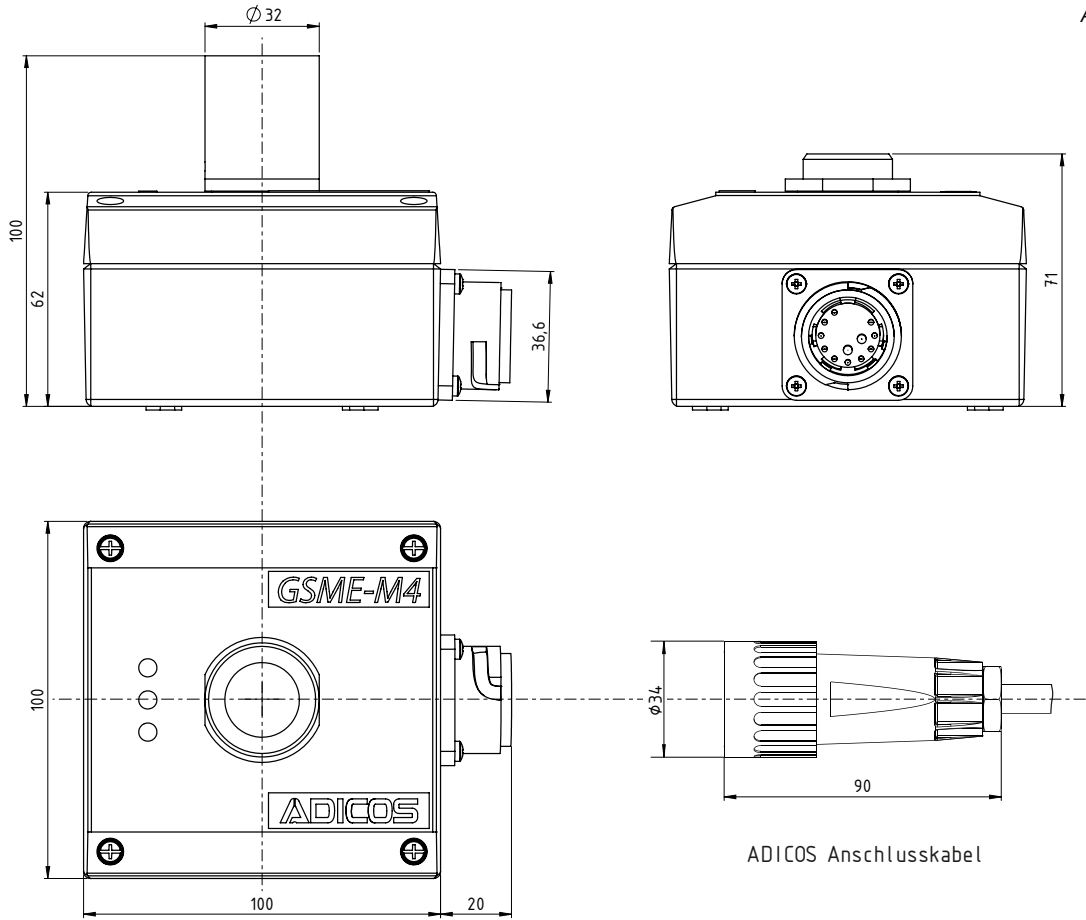
A service PC with the ADICOS Manager connected to an ADICOS M-Busmaster or the ADICOS fire alarm panel BMZ-30 can address each detector individually for advanced data-logging and parametrization features. In this way alarm thresholds can be adapted perfectly to the atmosphere around the specific detector. Displaying and analysing gas concentration curves is also a key feature of the software.

The new hardware platform *GSME-M4* replaces the previous models *GSME-L3*, *-F*, *-FR* und *-HC*.

GSME - Specifications

Mechanical dimensions

All dimensions in mm.



Mechanical characteristics

Enclosure	Coated aluminium diecast (corrosion-resistant)
Dimensions	100 x 100 x 62 mm (H x W x D) (without bayonet socket and splash-guard) 100 x 120 x 100 mm (H x W x D) (with bayonet socket and splash-guard)
Weight	0,63 kg (without splash-guard) 0,7 kg (without splash-guard)
Protection class	IP 64

Thermal characteristics

Relative humidity	0 ... 99 % (non-condensing)
Temperature range	-20 ... +50 °C

Electrical characteristics

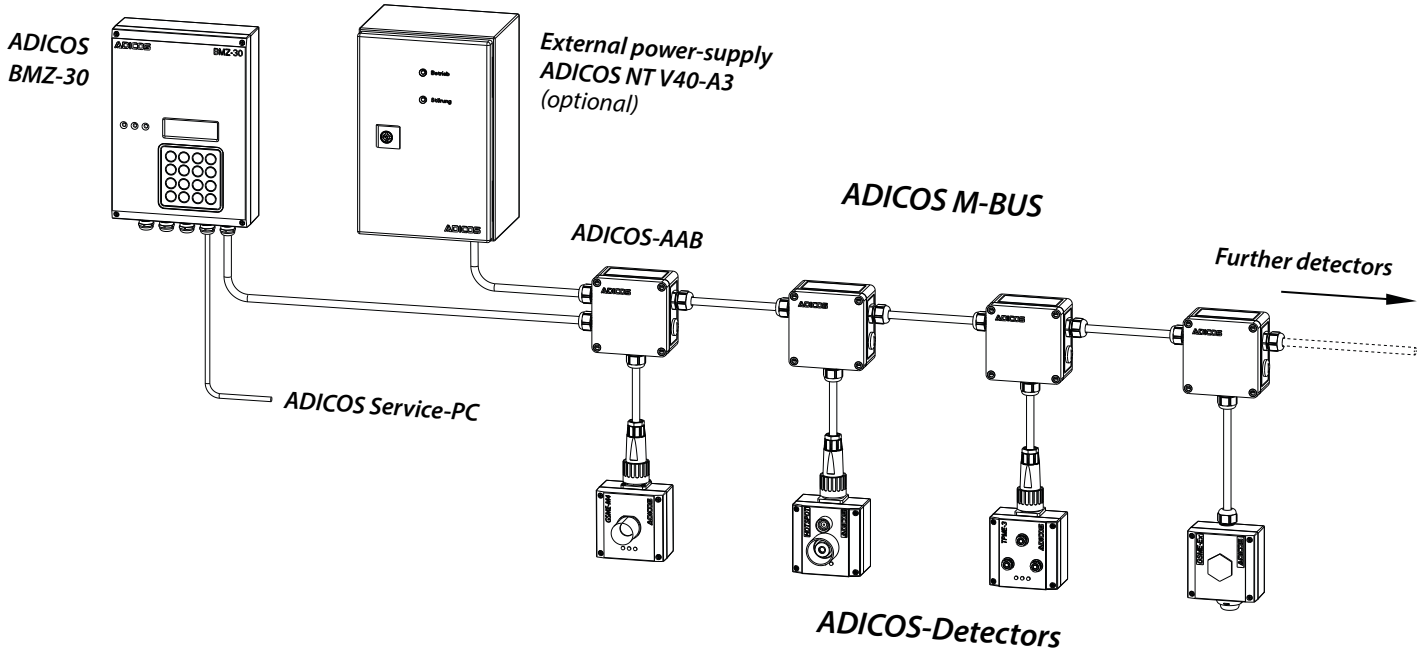
Supply voltage	20 ... 40 V DC
Power consumption	10 VA
Internal fusing	750 mA
M-Bus max. line length	≈ 2 km
M-Bus max. line capacity	≈ 200 nF
M-Bus baudrate	4800 baud
Limit contact alarm relay	680 Ω, 20 mA max. (Alarm N/O relay)
Limit contact error relay	0 Ω, 40 V / 20 mA max. (Error N/C relay)

GSME - Specifications

Detection characteristics

Sensor combination	CO — H ₂ — HC — NO _x
Reaction time	> 30 s
Detection scenarios	Smouldering fires acc. to EN 45/7 Coal smouldering fires

ADICOS topology concept



Electrical connection

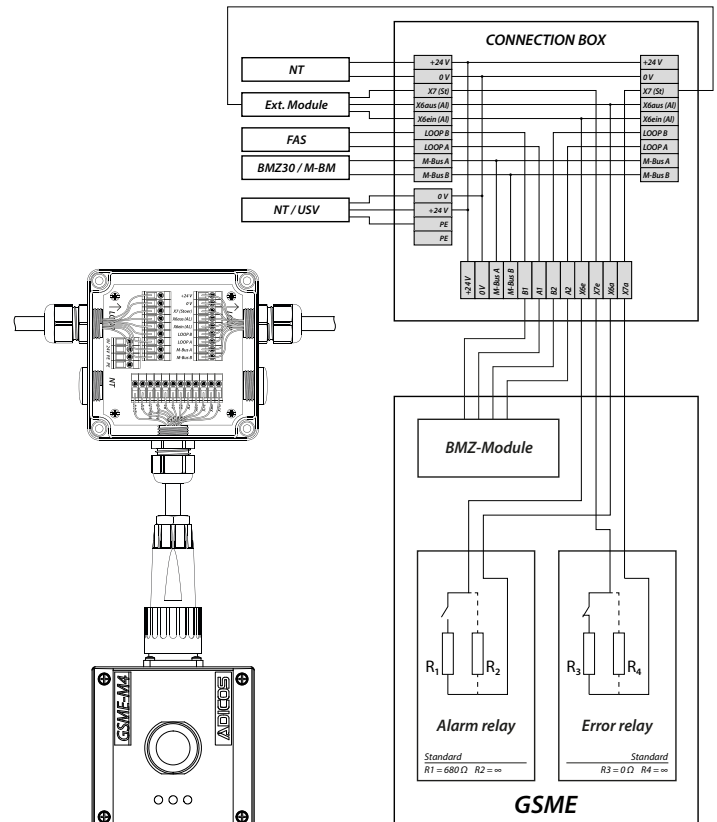
Color	Signal	Limit value contact
red	Operating voltage	
black	24 ... 40 V DC non-polarized	
yellow	Relay output X6 i	Alarm NO
white	Relay output X6 o	Alarm NO
brown	Relay output X7 o	Störung NC
green	Relay output X7 i	Störung NC
pink	Coupling module B - in	Extension module (optional ab Werk)
blue	Coupling module A - in	
purple	Coupling module B - out	
gray	Coupling module A - out	
blue/red	M-Bus	
gray/pink	max. 40 V non-polarized	

Coupling module option

Color	Signal	Siemens FDnet	BOSCH LSNi
pink	Coupling module B - in	FDnet-A (-)	LSN b1 in
blue	Coupling module A - in	FDnet (+)	LSN a in
purple	Coupling module B - out	FDnet-B (-)	LSN b2 out
gray	Coupling module A - out	FDnet (+)	LSN a out

Analog signal option

Color	Signal	Analog signal	Auxiliary relay
pink	Analog signal	4 ... 20 mA	
blue	Analog signal	4 ... 20 mA	NC
purple	Analog signal	0 ... 5V 0 ... 10 V	NO
gray	Analog signal	0 V	C



GSME - Application

Planning notes for ADICOS-Detectors

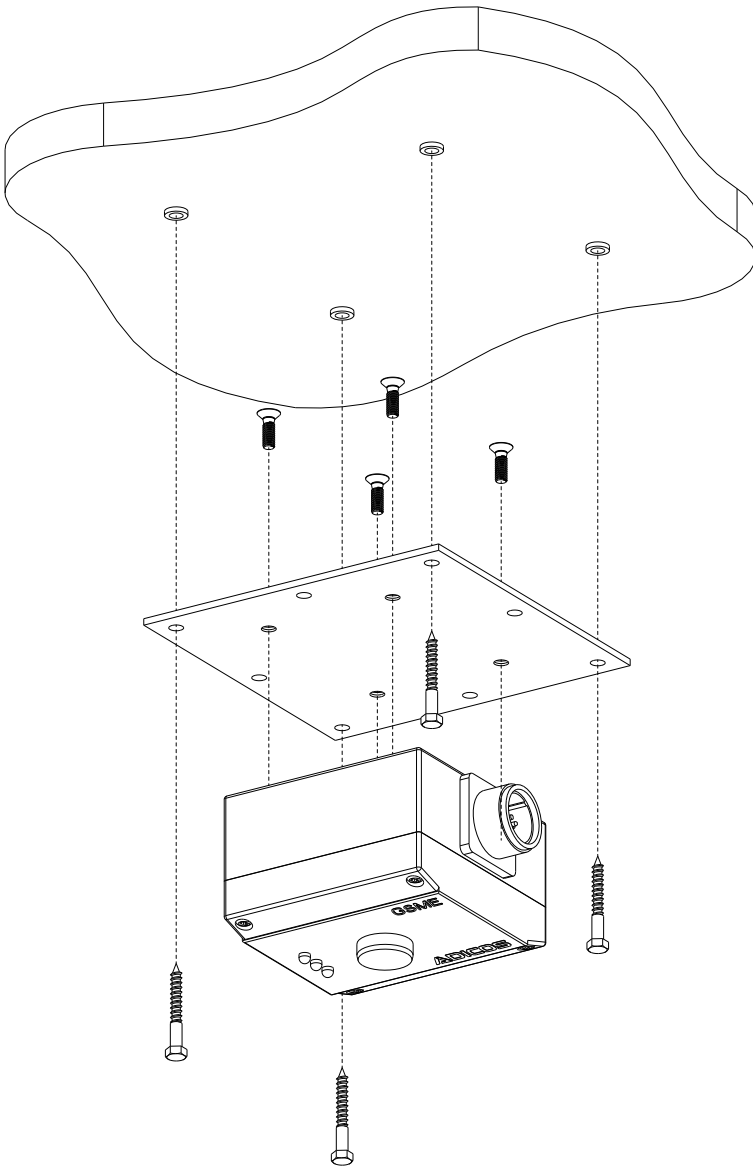


ATTENTION!

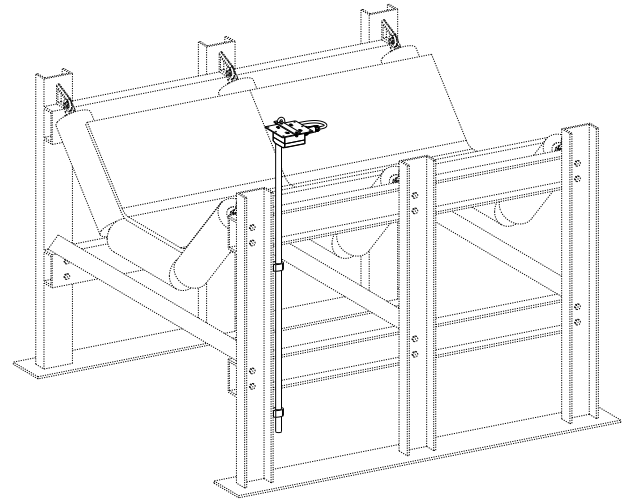
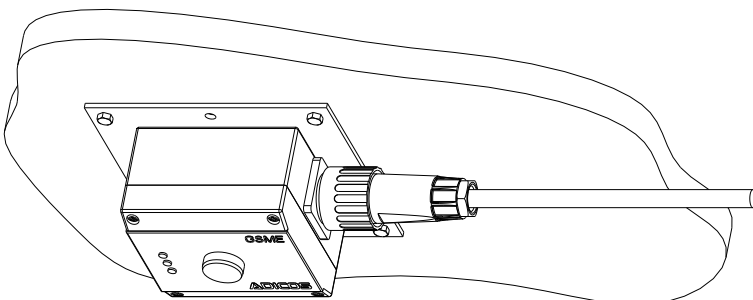
In contrast to conventional smoke detectors, positioning GSME properly is a rather sophisticated task. The detectors need to be placed in a way that allows gas emissions from smoldering fires to reach the gas sensors. This requires the study of the thermal characteristics of a building. The most effective mounting place for a GSME is not necessarily right above the place where a fire is expected. Placement and alignment of ADICOS-Detectors has to be done by specialist planners!

Mounting

GSME have to be mounted with the diffusion-filter pointing downward!

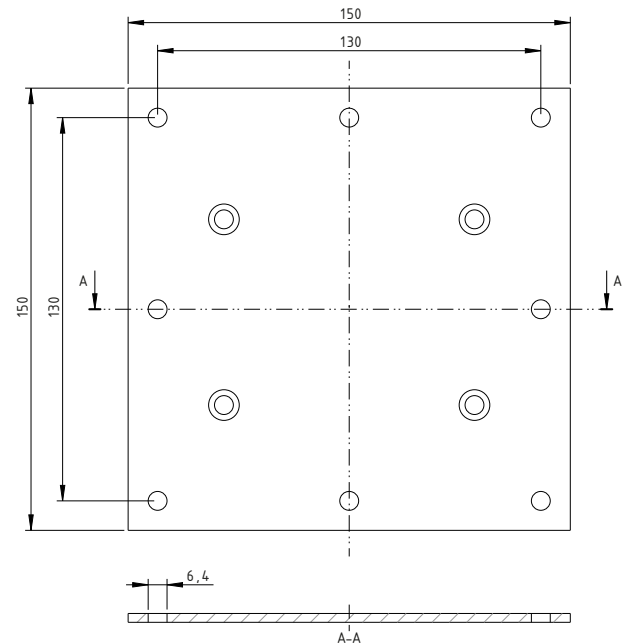


Mounting scheme for ceiling installation with ADICOS Mounting-plate



Mounting scheme for conveyor belt monitoring with ADICOS Mounting-plate and customized gallows construction

ADICOS Mounting-plate



Material: Aluminium sheet, 3 mm
Mounting holes: 8 x Ø 6,4 mm
Distance 130 mm / 65 mm
183,8 mm (diagonal)

Order information

Detector configuration

GSME – M4 – ST – 1 1 00 – 02 01 – 00 – 00

Model

Ex-Approval

M4 = No Ex-Approval

X22 = Ex-Zone 22 (ATEX)

X20 = Ex-Zone 20 (ATEX/IECEX)

Basic configuration

ST = Sensor evaluation Standard

E1 = Sensor evaluation Extended 1

E2 = Sensor evaluation Extended 2

R1 = Sensor evaluation Robust 1

R2 = Sensor evaluation Robust 2

IN = Sensor evaluation Customized

Detector heating

0 = Detector heating inactive

1 = Detector heating active

Splash guard

0 = Without splash guard

1 = With splash guard

Configuration for COM module

00 = Not configured for COM module

01 = Configured for Siemens pulse transmission module

02 = Configured for Siemens SIGMASYS module

03 = Configured for Siemens FDnet module

04 = Configured for Bosch LSNi module

05 = Configured for Pre-alarm relay module

Resistance configuration for alarm relay

01 = Alarm 0R; Normal ∞

02 = Alarm 680R; Normal ∞ (Standard)

03 = Alarm 90R; Normal 180R (Securiton)

04 = Alarm 1K; Normal 20K (Minimax)

Resistance configuration for error relay

01 = Error 0R; Normal ∞ (Standard)

03 = Error 180R; Normal 90R (Securiton)

04 = Error 10K; Normal 20K (Minimax)

Reserved

Length of connection cable

00 = Kein connection cable (not for X22 and X20)

05 = 5 m connection cable (default for model X22)

07 = 7 m connection cable (default for model X20)

10 = 10 m connection cable

20 = 20 m connection cable

30 = 30 m connection cable

40 = 40 m connection cable

50 = 50 m connection cable