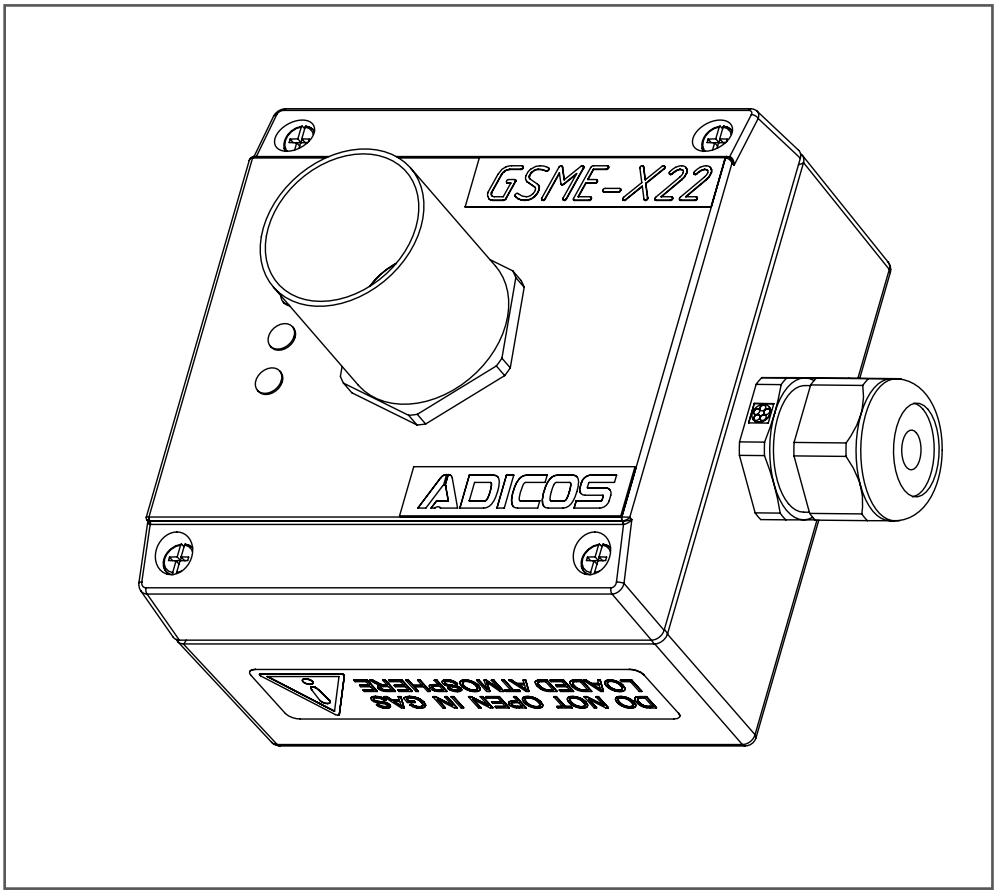

EN CE

Supplementary Instructions Manual

Fire Gas Detector GSME®

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Supplementary Instructions for GSME-X22
Article number: 400-2410-002
Index: EN21
Release date: 28.01.20
– *Translation* –

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Subject to technical changes!

Abstract

The *Advanced Discovery System* (in short: *ADICOS*) is used for early detection of fire scenarios in the industrial environment. It comprises different, independent detector units that enable interference-resistant fulfillment of the detection objective defined during planning via suitable layout and parameterization.

The detector units are connected using the *ADICOS M-bus* to a central unit, which enables voltage supply and parameterization of every individual detector, and which stores all sensor data for statistical analyses.

ADICOS X22-Detectors are designed for for operation within explosive atmospheres of ATEX zone 22.

Contents

1 About this manual

1.1 Objective

This manual describes the special requirements on installation, wiring, commissioning, and operation of *ADICOS detectors* for explosive atmospheres of ATEX zone 22. They are exclusively addressed to knowledgeable specialist personnel *(–› Chap. 2, Safety instructions)*.

1.2 Explanation of symbols

This manual features a continuous structure for best possible comprehension. The following labels are used.

Warning signs

This manual uses the following information types.

NOTE!
This information type provides information directly important for further system operation.

WARNING!
This information type signals a danger that can lead to fatal or severe injuries.

DANGER!
This information type signals a danger that directly leads to fatal or severe injuries.

1.3 Storing the manual

Store this manual easily reachable and in direct vicinity of the detector system to enable use as needed.

2 Safety instructions

ADICOS detectors for explosive atmospheres of ATEX zone 22 *(short: ADICOS X22-Detectors)* ensure operational safety assuming proper installation, commissioning, operation, and maintenance. For this purpose, it is absolutely required to completely read, understand, and follow this manual and the safety information contained.

WARNING!
Installation and operating errors can lead to fatal and severe injuries and damage to the industrial plant.

– **Read and follow this manual carefully!**

2.1 Intended use

ADICOS X22-Detectors are designated for the detection of fire scenarios in explosive atmospheres of ATEX zone 22. In this context, the operating parameters described in Chap. 8, »Technical data« must be met. Any deviating use requires prior consultation with the manufacturer.

Compliance with this manual as well as all applicable country-specific provisions is also part of the intended use.

2.2 Standards and regulations

The safety and accident prevention regulations applicable for the specific application must be observed during detector installation, commissioning, maintenance, and test.

The following standards and directives are of particular importance when handling potentially explosive atmospheres:

Regulation	Description
DIN EN 60079-0:2012 + A11:2013 IEC 60079-0:2011	Explosive atmospheres Equipment - General requirements
DIN EN 60079-31:2014	Explosive atmospheres Equipment protection by intrinsic safety “t”
DIN EN 60529:2014-09	Degrees of protection provided by enclosures

Guideline	Description
2014/34/EU	ATEX Product Directive
1999/92/EG	ATEX Operational Directive

2.3 Personnel qualification

Any work on ADICOS systems may only be performed by qualified personnel. Persons, who can perform work on electrical systems and recognize possible dangers based on their professional education, knowledge, and experience as well as knowledge of the applicable provisions, are considered qualified personnel.

WARNING!
Installation, commissioning, parameterization, and maintenance may only be performed by authorized and respectively trained personnel

2.4 Handling electrical voltage

DANGER!
The electronics of *ADICOS X22-Detectors* works with an electrical voltage that can trigger an explosion in potentially explosive atmospheres.

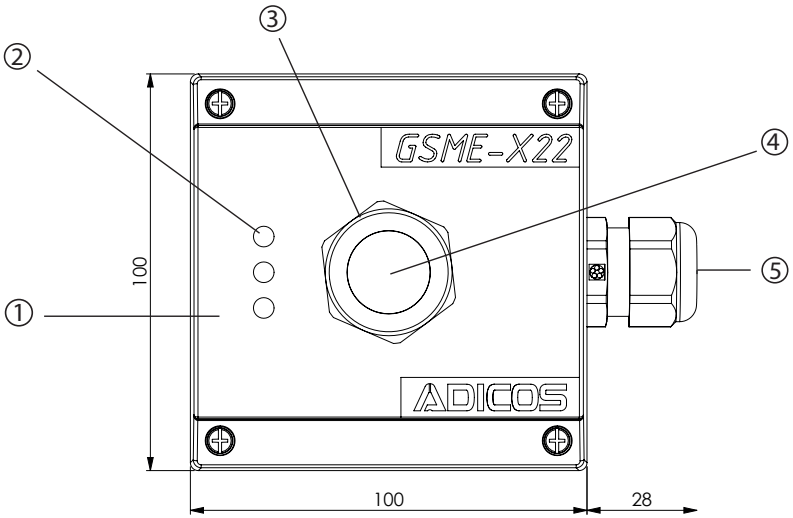
- **Do not open enclosure!**
- **De-energize the entire detector system and secure against unintentionally reactivation for all wiring work!**

2.5 Modification

Any form of unauthorized modifications or extensions are expressively prohibited! In case of doubt, contact the manufacturer.

3 Structure

3.1 Overview



No.	Description
①	Enclosure
②	Display elements
③	GSME spray protection
④	Sinter metal filter
⑤	Cable gland

3.2 Cable assignment

Wire	Color	Signal	Limit value contact
1	black	Operating voltage 24 … 40 V DC non-polarised	
1	white		
2	black	Relay output X6 e	Alarm NO[1]
2	white	Relay output X6 a	Alarm NO[1]
3	black	Relay output X7 a	Fault NC
3	white	Relay output X7 e	Fault NC
4	black	M-Bus max. 40 V non-polarised	
4	white		

[1] *with series resistor, standard 680 Ω*

Analog signal option

Wire	Color	Signal	Analog signal
5	black	Analog signal - protected against polarity reversal	4 … 20 mA
6	black	Analog signal - protected against polarity reversal	0 … 5 V 0 … 10 V
5	white	Analog signal	4 … 20 mA
6	white	Analog signal	0 V

Option Fire panel interface

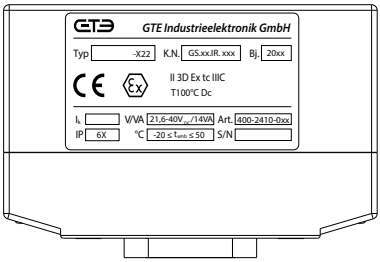
Wire	Color	Interface module	Siemens FDnet	Bosch LSNi
5	black	Interface module A - in	FDnet (+)	LSN a in
5	white	Interface module B - in	FDnet-A (-)	LSN b1 in
6	black	Interface module A - out	FDnet (+)	LSN a out
6	white	Interface module B - out	FDnet-B (-)	LSN b2 out

Option Auxiliary relay

Wire	Color	Auxiliary relay
5	black	-
5	white	Normally open
6	black	Normally closed
6	white	Common

3.3 Type plate information

The type plate of the ADICOS X22-Detectors contains the following information:



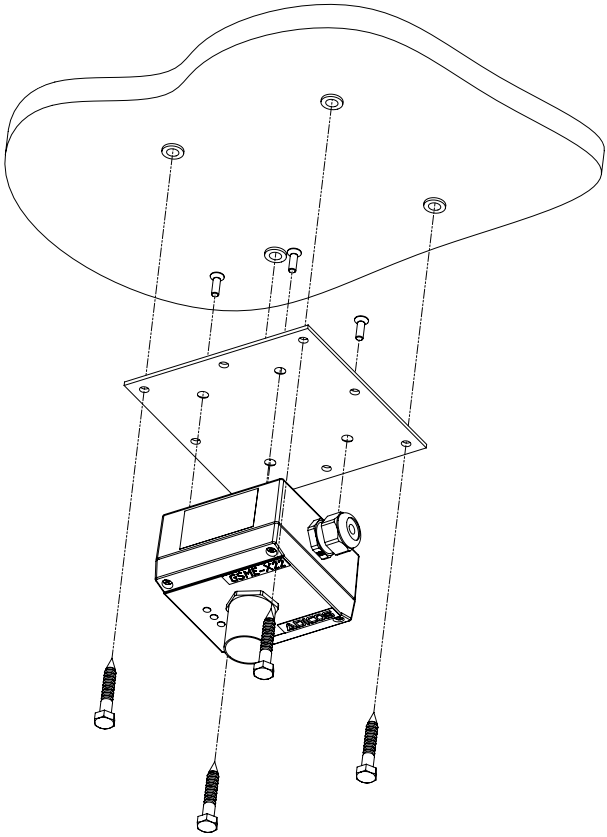
NOTE!
Until 12-2014, some ADICOS X22-Detectors have been labeled as ADICOS Ex detectors.

4 Installation

4.1 Mounting

WARNING!
ADICOS X22-Detectors must be mounted with closed enclosure.

- **Do not open enclosure!**
- **Use ADICOS mounting plate!**



4.2 Wiring

DANGER!
The electronics of the ADICOS X22-Detectors works with an electrical voltage that can trigger an explosion in potentially explosive atmospheres.

- **Do not open enclosure!**
- **De-energize the entire detector system and secure against unintentionally reactivation for all wiring work!**
- **In the case of wiring within potentially explosive atmospheres, only use Ex-protected connection boxes with respective approval!**
- **Do not bend connection cable! Observe minimum bending radius!** *(→ Chap. 8, Technical data)*

5 Commissioning

DANGER!
The electronics of the ADICOS X22-Detectors works with an electrical voltage that can trigger an explosion in potentially explosive atmospheres.

- **Prior to switching on, check that all detectors are properly mounted and wired!**

6 Operation

DANGER!
The electronics of the ADICOS X22-Detectors works with an electrical voltage that can trigger an explosion in potentially explosive atmospheres.

- **Never open the enclosure or loosen the cable gland during operation!**

7 Maintenance: Detector replacement

DANGER!
The electronics of the ADICOS X22-Detectors works with an electrical voltage that can trigger an explosion in potentially explosive atmospheres.

- **Do not open enclosure!**
- **De-energize the entire detector system and secure against unintentionally reactivation for all wiring work!**
- **Replace the closed detector including connection cable only!**

8 Technical Data

General		
Model:		GSME-X22
Item No.:		408-2001-251
Enclosure dimensions:	mm	128 x 100 x 100 (l x w x h)
Weight: (icl. 7 meter cable):	kg	2
Weight (excl. cable):	kg	1,7 kg (incl. 7m cable)
Enclosure:		Aluminum die casting, powder-coated
Electrical properties		
Rated Voltages:	V	DC 24
Voltage range:	V	DC 21,6 … 40
Max. Power consumption: (excl. heating):	VA	3,5
Max. Power consumption: (incl. heating):	VA	14
M-Bus-Voltage (Signal):	V/mA	max. 40 V non-polarised / max. 30 mA
Thermal data		
TEMP:		-20 °C ≤ Ta ≤ + 50 °C
IP:		IP 64
Optional communication modules (input parameters)		
BMZ-ModulSinteso FDnet:	V	DC 33 V; max. 10 mA
ADICOS Coupling module 4-20 mA:	V	DC 35 V; max. 20 mA
BMZ-Modul Bosch LSN:	V	DC 36 V; max. 20 mA
Pre-alarm relay module:	V	DC 40 V; max. 10 mA
	V	DC 24 V; max. 20 mA
Information regarding explosion protection		
Explosion protection class:		II 3D Ex tc IIIC T 80 °C Dc
Max. Surface temperature:		T 80 °C
Device group:		II, category 3D

NOTE!
ADICOS X22-Detectors are rated **Protection by enclosure "tc"**.
– **An Ex barrier is not mandatory!**

9 Appendix: ADICOS mounting plate