



ADICOS HOTSPOT-X20 IR Heat Detector Instruction Manual

[Home](#) » [ADICOS](#) » ADICOS HOTSPOT-X20 IR Heat Detector Instruction Manual 

Contents

- 1 ADICOS HOTSPOT-X20 IR Heat Detector
- 2 Product Usage Instructions
- 3 About this manual
- 4 Safety Instructions
 - 4.1 Modification
- 5 Structure
 - 5.1 Display elements
- 6 Installation
 - 6.1 Wiring
- 7 Commissioning
- 8 Operation
- 9 Maintenance
- 10 Technical Data
- 11 Appendix
- 12 Documents / Resources



ADICOS HOTSPOT-X20 IR Heat Detector

**Product Information:**

Product Name: HOTSPOT-X20

Article Number: 410-2410-016

Index: EN24

Release Date: 20.03.2023

Manufacturer: ADICOS

Product Usage Instructions

1. **Objective:** The HOTSPOT-X20 detectors are equipped with thermal imaging sensors and use infrared measurement technology and intelligent signal analysis to detect all types of smoldering fires and open fires, even in the incipient stage.
The detectors have a fast response speed of 100 milliseconds, which enables the monitoring of conveyor belts or other conveyor systems for moving embers.
2. **Explosion Protection:** The ADICOS X20 detectors are designed for operation within explosive atmospheres up to ATEX zone 20.
3. **Installation:** Follow the cable assignment instructions provided in the manual to correctly connect the detector. Ensure that the display elements are properly aligned and visible for easy monitoring.
4. **Maintenance:** The detector system should be regularly inspected and maintained according to the manufacturer's guidelines to ensure efficient and uninterrupted use. Refer to the appendix section for information on ADICOS mounting plate and mounting bracket.
5. **Storing the Manual:** Keep this manual easily accessible and in the direct vicinity of the detector system for reference and troubleshooting purposes. For further assistance or support, contact the ADICOS support hotline at +49 2162 3703-0 or send an email to support.adicos@gte.de. Please note that this is a summarized version of the user manual. For detailed instructions and safety information, refer to the complete user manual provided by the manufacturer.

Abstract

The Advanced Discovery System (ADICOS®) is used for early detection of fires in industrial environments. It is comprised of various, separate detector units. By parameterizing and arranging the detectors appropriately, the system fulfills a predefined detection goal.

The ADICOS system ensures reliable early detection of embers and smoldering fires even in adverse environments.

The detectors of the HOTSPOT product series are equipped with thermal imaging sensors and use infrared measurement technology and intelligent signal analysis to detect all types of smoldering fires and open fires, even in the incipient stage. The fast response speed of 100 milliseconds enables the monitoring of conveyor belts or other conveyor systems, e.g. on moving embers.

ADICOS X20 detectors are designed for operation within explosive atmospheres up to ATEX zone 20.

About this manual

Objective

This manual describes the special requirements on installation, wiring, commissioning, and operation of ADICOS detectors for explosive atmospheres up to ATEX zone 20. They are exclusively addressed to knowledgeable specialist personnel (→ Chap. 2, Safety instructions).

Explanation of Symbols

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

Warning signs

The following types of notes are used through this manual.



DANGER!

This combination of symbol and signal word indicates an immediately dangerous situation that will lead to death or severe injuries if not avoided.



WARNING!

This combination of symbol and signal word indicates a possibly dangerous situation that could lead to death or severe injuries if not avoided.



Explosion Protection

This information type signals measures that must be implemented for maintaining the Explosion protection.

Tips and recommendations

Helpful tips and recommendations as well as information to ensure efficient and uninterrupted use.

Storing the Manual

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

Safety Instructions

ADICOS HOTSPOT-X20 detectors for explosive atmospheres up ATEX zone 20 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!

Personal injury and property damage!

Incorrect installation and operating errors can cause death, serious injury and damage to industrial equipment.

- Read the entire manual and follow the instructions!

Explosion protection

When using ADICOS detectors in potentially explosive atmospheres, follow the specifications of the ATEX operating directive.

Intended Use

ADICOS HOTSPOT-X20 are designated for the detection of fire scenarios in explosive atmospheres of ATEX zone 20, 21 and 22. In this context, the operating parameters described in Chap. 9, »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.

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 in their current version are of particular importance when handling potentially explosive atmospheres:

Standards and Regulations	Description
EN 60079-0	Explosive atmospheres – Part 0: Equipment – General requirements
EN 60079-31	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure „t“
EN 60691	Thermal-links – Requirements and application guide
EN 60529	Degrees of protection provided by enclosures (IP Code)
2014/34/EU	ATEX product directive (about equipment and protective systems intended for use in potentially explosive atmospheres)
1999/92/EG	ATEX operating directive (on safety and health protection of workers potentially at risk from explosive atmospheres)

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!

Risk of property damage and personal injury!

Improperly performed work on and with the device can lead to malfunctions.

- Installation, commissioning, parametrization and maintenance may only be performed by authorized and appropriately trained personnel!

Handling Electrical Voltage

DANGER!

Risk of explosion by electrical voltage in potentially explosive atmospheres The electronics of ADICOS HOTSPOT-X20 detectors requires 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!

Modification

WARNING!

Risk of property damage by any form of unauthorized modification

Any form of unauthorized modification or extension can lead to a failure of the detector system.

- Never make unauthorized modifications on your own authority

Accessories and Spare Parts

WARNING!

Risk of property damage due to short circuit

The use of parts other than the original spare parts and accessories of the manufacturer can lead to material damage due to short circuit.

- Only use original spare parts and original accessories!

WARNING!

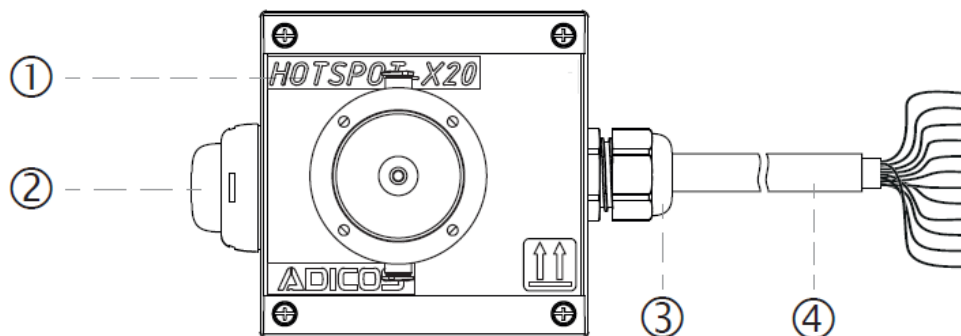
Risk of property damage due to the use of incorrect components

The original spare parts and accessories may only be installed by trained specialist personnel.

- Qualified personnel are persons as described in Chap. 2.3!

Structure

Overview



No.	Description
1	Detector enclosure
2	Signal lamp cap
3	Explosion proof cable gland
4	Ready-made ADICOS connection cable

Cable Assignment

Wire	Color	Signal	Signal limit contact
1	black	Operating voltage DC 21.6 ... 40 V non-polarized	
1	white		
2	black	Relay output X6 e	Alarm NO1
2	white	Relay output X6 a	Alarm NO1
3	black	Relay output X7 a	Fault NC
3	white	Relay output X7 e	Fault NC
4	black	M-bus max. 40 V non-polarized	
4	white		

Option auxiliary relais

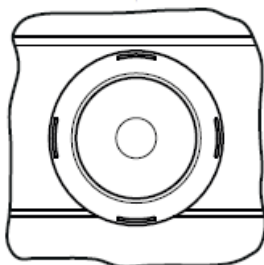
Wire	Color	Auxiliary relay
5	black	Normally closed
5	white	
6	black	Normally open
6	white	Common

Display elements

Signal calotte

The signal calotte is a translucent element, through which the status LED of the HOTSPOT-X20 detector located inside the enclosure can be seen.

The light signals of the ADICOS HOTSPOT-X20 detectors are identical to the signals of the not explosion-proof ADICOS detectors.



Installation

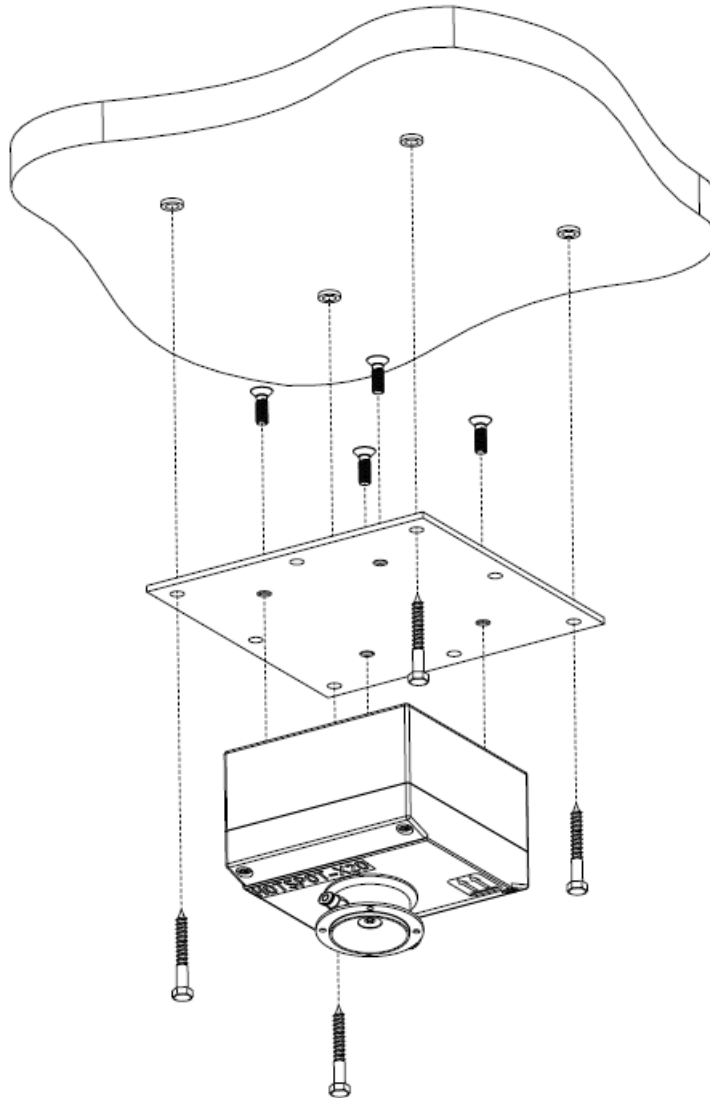
Mounting

DANGER!

Risk of explosion due to electrical voltage in hazardous areas.

The electronics of ADICOS HOTSPOT-X20 works with an electrical voltage that can trigger an explosion in potentially explosive atmospheres.

- Do not open enclosure! Mount the device with closed housing!
- Use ADICOS mounting plate, if necessary!

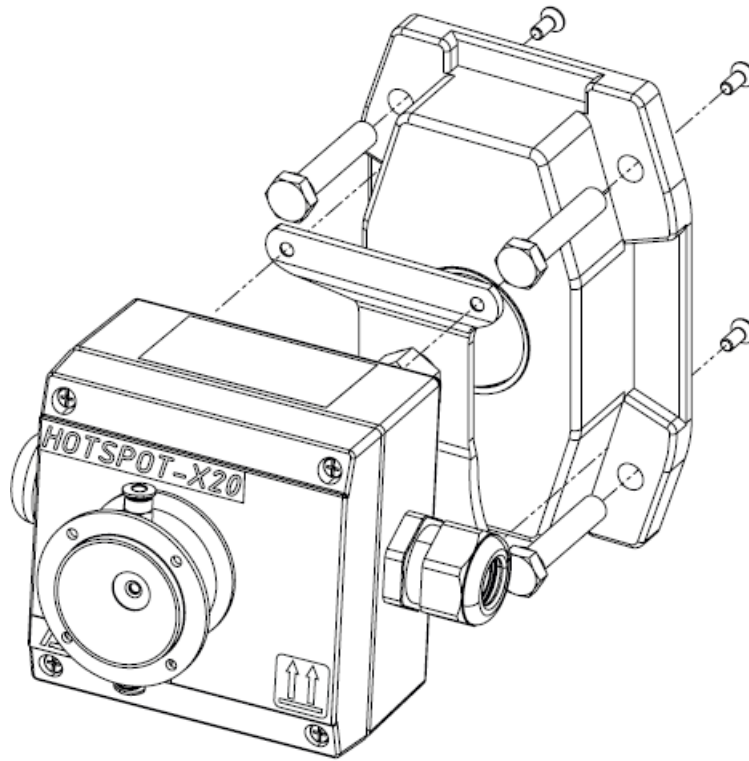


Mounting on Mounting Bracket

WARNING!

Risk of explosion in hazardous areas due to electrical voltage. ADICOS HOTSPOT-X0 detectors must be mounted with closed enclosure.

- Do not open enclosure!
- Use ADICOS mounting bracket!



Wiring

Wiring according to chapter 3.2.

DANGER!

Risk of explosion due to electrical voltage in hazardous areas.

The electronics of ADICOS HOTSPOT-X20 works with an electrical voltage that can trigger an explosion in potentially explosive atmospheres.

- Do not open enclosure! Mount the device with closed 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. 9, Technical Data)

Commissioning

DANGER!

Risk of explosion due to electrical voltage in hazardous areas.

The electronics of ADICOS HOTSPOT-X20 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!

Operation

DANGER!

Risk of explosion due to electrical voltage in hazardous areas.

The electronics of ADICOS HOTSPOT-X20 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!

Maintenance

DANGER!

Risk of explosion in hazardous areas due to electrical voltage.

The electronics of the ADICOS HOTSPOT-X20 detectors requires 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!

Disposal

Return the device to the manufacturer when it reaches the end of its serviceable life. The manufacturer will ensure that the components are disposed of properly, in an environmentally friendly manner.

Technical Data

General

Model:		HOTSPOT-X20
Item No.:		410-2001-220
Enclosure dimensions:	mm	148 x 100 x 88 (Length x Width x Depth) (Length: cable gland included)
Weight (7 m cable incl.):	kg	2
Degree of protection:		IP 64
Enclosure:		Aluminum die casting, powder-coated

Electrical properties

Voltage range:	V	DC 21.6 ... 40
Max. Power consumption: (excl. heating):	VA	2
Max. Power consumption: (incl. heating):	VA	10
M-Bus-Voltage (Signal):	V/mA	max. 40 V non-polarized / max. 30 mA

Thermal, physical data

Ambient Temperature:	°C	-10 ... +50
Relative humidity:	%	≤ 95 (non-condensing)

Optional communication modules (input parameters)

Pre-alarm relay module:	V	DC 40 V; max. 10 mA
	V	DC 24 V; max. 20 mA

Sensor data

Resolution:	Pixels	32 x 31
Capture angle:	°	53 x 52
Reaction time:	s	< 1
Temporal resolution:	s	0.1 or 1 (depending on configuration)

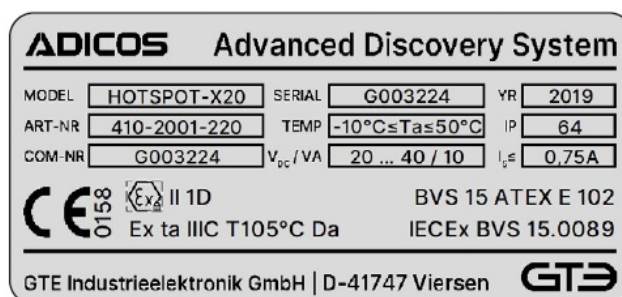
Information regarding explosion protection

Information regarding explosion	protecti	on
Explosion protection class:		Ex ta IIIC 105°C Da Certified according to ATEX and IECEx
Max. surface temperature:	°C	105
Device group:		II, category 1D
Type approval:		Certificate accorting to 2014/34/EU

Other

Bending radius connection cable	mm	> 91,5
---------------------------------	----	--------

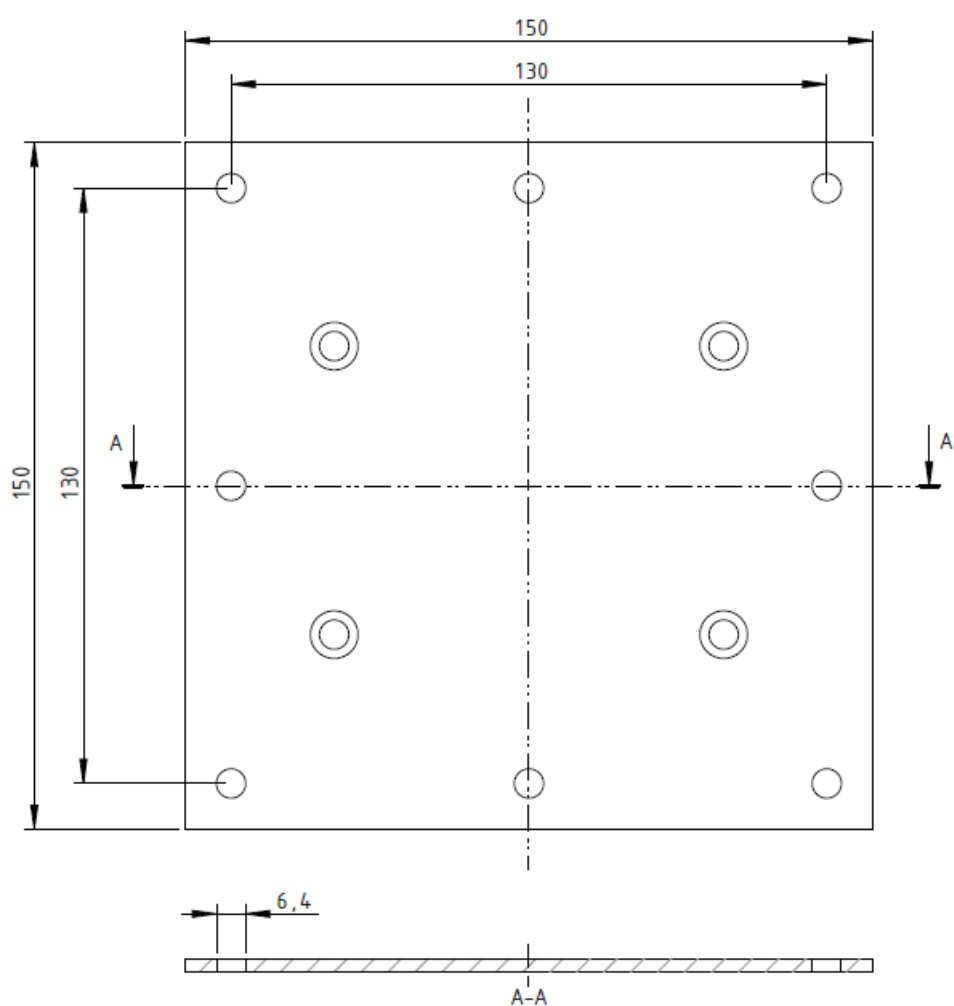
ID Plate



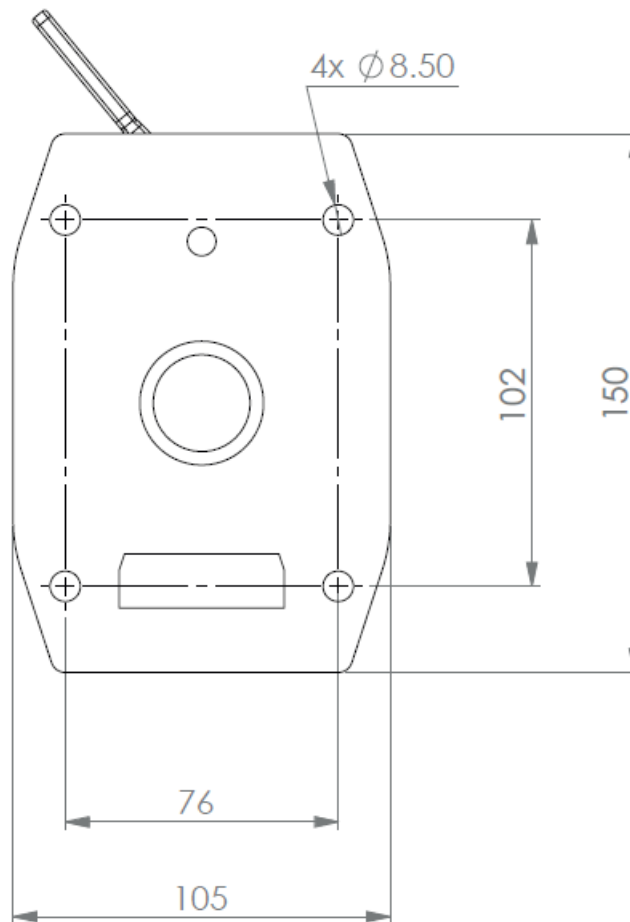
Model:	Device model	SERIAL:	Serial number (variable)	YR:	Year of production (variable)
ART-Nr:	Article number (variable)	TEMP:	Ambient temperature	IP:	Degree of protection
COM-Nr:	Communication number (variable)	VDC/VA:	Voltage range / maximum power consumption (heating incl.)	I0 :	Internal fusing (Short-circuit current)
CE marking		Information on explosion protection			

Appendix

ADICOS mounting plate



ADICOS Mounting Bracket



Supplementary Instructions for HOTSPOT-X20

Article number: 410-2410-016

Index: EN24

Release date: 20.03.2023

– Translation –

Manufacturer:

GTE Industrieelektronik GmbH

Helmholtzstr. 21, 38-40

41747 Viersen

GERMANY

Support hotline: +49 2162 3703-0

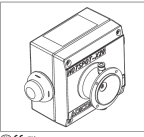
E-Mail: support.adicos@gte.de

© 2023 GTE Industrieelektronik GmbH – This document and all figures contained may not be copied, changed, or distributed without explicit approval by the manufacturer!

Subject to technical changes!

ADICOS® is a registered trademark of GTE Industrieelektronik GmbH.

Documents / Resources

	<p>ADICOS HOTSPOT-X20 IR Heat Detector [pdf] Instruction Manual HOTSPOT-X20 IR Heat Detector, HOTSPOT-X20, IR Heat Detector, Heat Detector, Detector</p>
---	---