

# HOTSPOT-X20

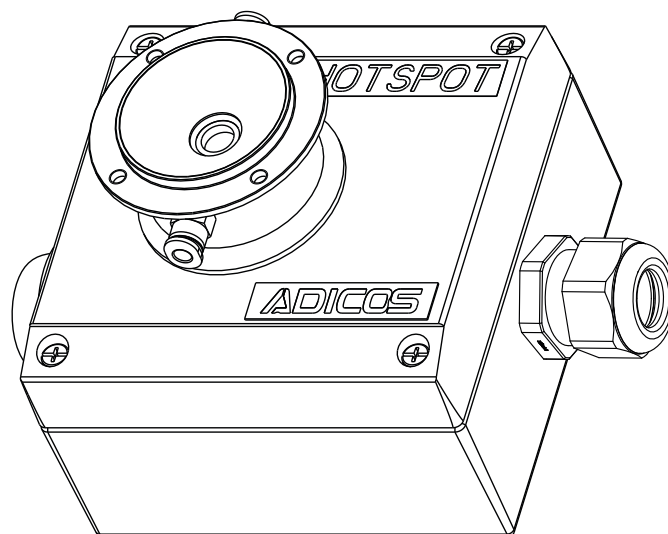
**Industrial-suited parametrizable  
Infrared heat detectors with  
integrated signal evaluation  
for ATEX-Zone 20**

## Characteristics

- *Sturdy design with aluminium diecast housing*
- *Extensive tolerance towards humidity and dust*
- *Detection of smoldering nests*
- *Fast reaction time*
- *Adjustable alarm thresholds for each pixel*
- *Detection not effected by airflow*
- *Fast and easy installation due to pre-wired cable for power-supply and data-signals*
- *Central data archiving and visualization with service PC*
- *Interface-modules for common fire alarm systems such as BOSCH LSNi and SIEMENS FDnet*
- *Suitable for process monitoring*
- *Type tested and certified for use in explosive atmospheres according to ATEX and IECEx*

## Applications

- *Open or enclosed belt conveyors for dust-explosive bulk materials*
- *Storage facilities and bunkers for spontaneously inflammable materials with Ex-classification 20*
- *Drives, shredders, dryers, coolers, chutes and funnels with Ex-classification 20*
- *Silos and mills with Ex-classification 20*



ADICOS HOTSPOT-X20 are thermographic detectors of the Advanced Discovery System („ADICOS“), which was specifically created to provide reliable early fire detection in industrial surroundings.

HOTSPOTs are parametrizable compact Infrared camera systems with integrated signal processing and evaluation. Their sturdy design protects them against surrounding dust and humidity, which enables them to operate in rough industrial surroundings, especially dust-explosive atmospheres with Ex-classification 20. Typical applications for HOTSPOT-X20 are for example the detection of overheating drives or bearings of conveyor belts and the monitoring of spontaneously inflammable bulk materials on conveyor belts or in storage facilities.

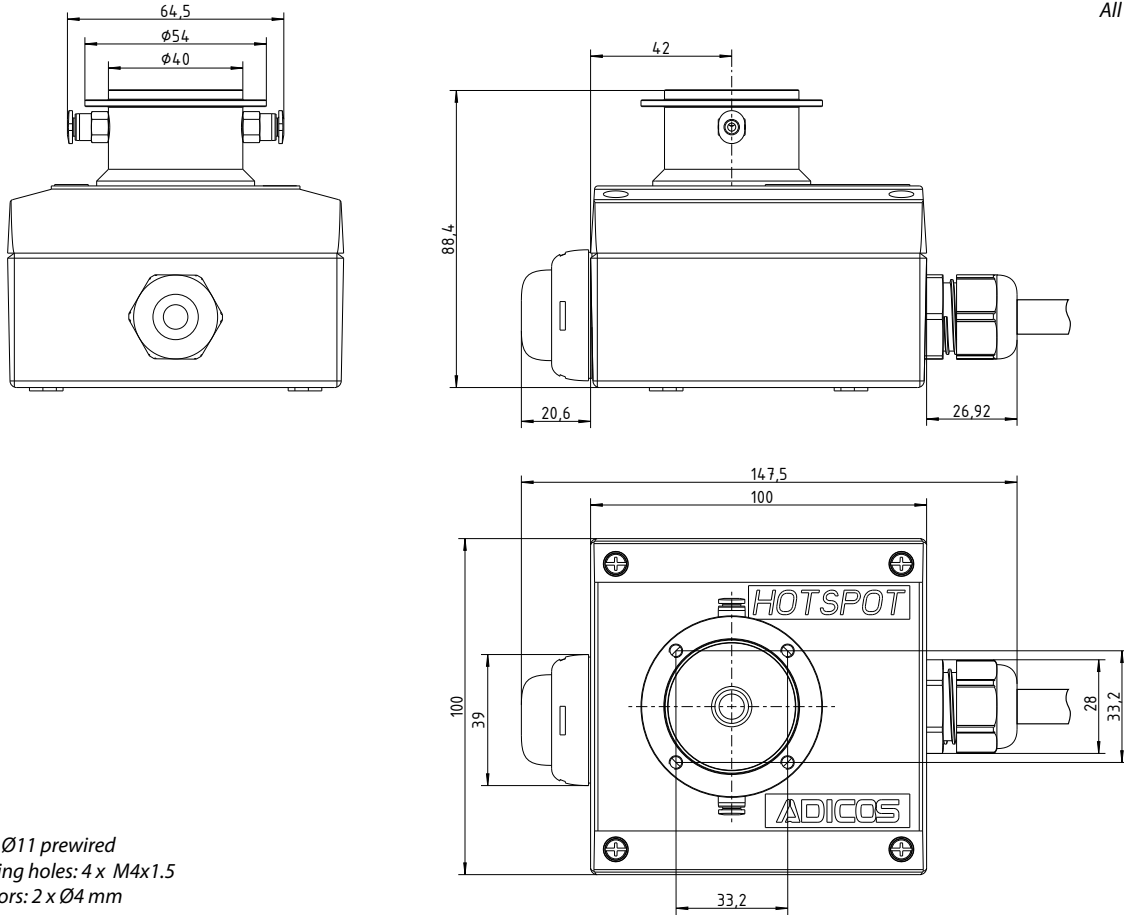
Power-supply and data communication for the detectors in the system are provided over the ADICOS M-Bus. A simple wiring concept with prewired ADICOS system cables and specially designed connection boxes keeps installation simple and fast. A service PC with the ADICOS Manager connected to an ADICOS M-Busmaster 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 temperature curves is also a key feature of the software.

The detector is equipped with a purge air connector for protection of the infrared lens.

# HOTSPOT-X20 - Specifications

## Mechanical dimensions

All dimensions in mm.



Connection cable Ø11 prewired  
Front-side mounting holes: 4 x M4x1.5  
Purge air connectors: 2 x Ø4 mm

## Mechanical characteristics

Enclosure	Coated aluminium diecast (corrosion-resistant)
Weight	0,6 kg (without connection cable)
Protection class	IP 64
Explosion protection	Ex ta IIIC 105°C Da (Certified according to ATEX und IECEx)

## 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)

## Purge air requirements

Air purity class	Dust ≥ 2 — Water ≥ 3 — Oil ≥ 2 (< 0,1 mg/m <sup>3</sup> )
Air flow	200 ... 300 l/h (Testing may be necessary!)

Technical changes reserved!

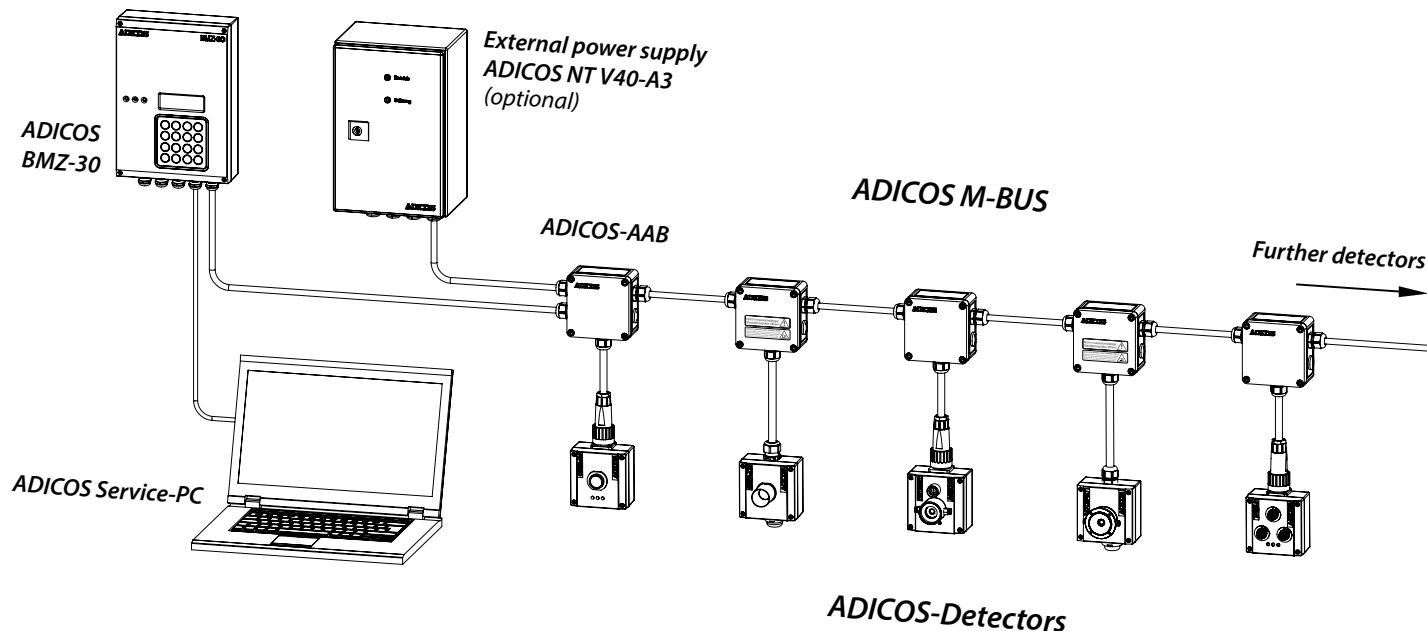
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# HOTSPOT-X20 - Specifications

## Detector characteristics

Sensor resolution	32 x 31 pixels
Optical angle	53° x 52°
Reaction time	1 s
Temporal resolution	0,1 s oder 1 s (depends on configuration)

## ADICOS topology concept



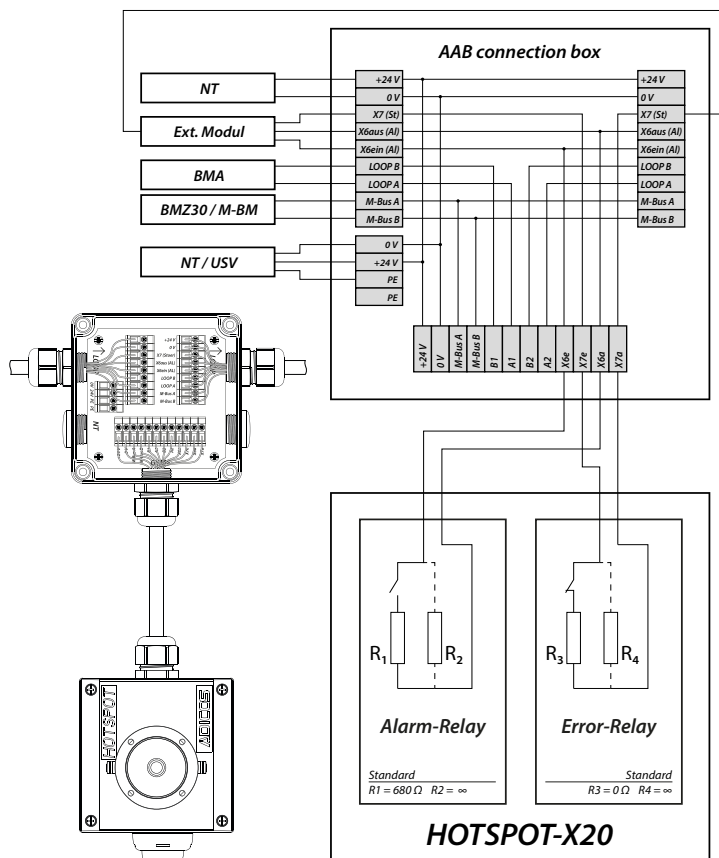
## Electrical connection

### Cable variant - 8-wires

Wire	Color	Signal	Limit value contact
1	black	Operating voltage	
1	white	24 ... 40 V DC non-polarized	
2	black	Relay output X6 e	Alarm NO
2	white	Relay output X6 a	Alarm NO
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		

### Cable variant - 12-wires

Wire	Color	Signal	Limit value contact
1	black	Operating voltage 24 ... 40 V DC non-polarized	
1	white		
2	black	Relay output X6 e	Alarm NO
2	white	Relay output X6 a	Alarm NO
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		



# HOTSPOT-X20 - Application

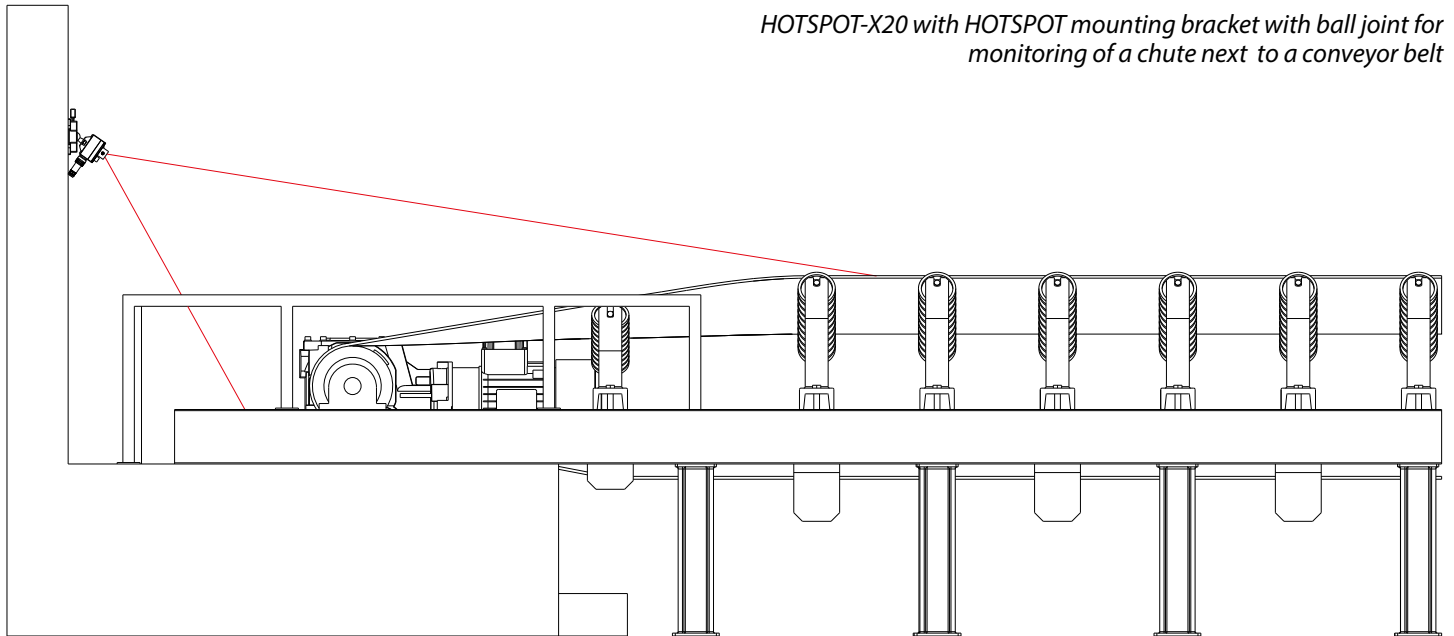
## Planning notes for ADICOS-Detectors



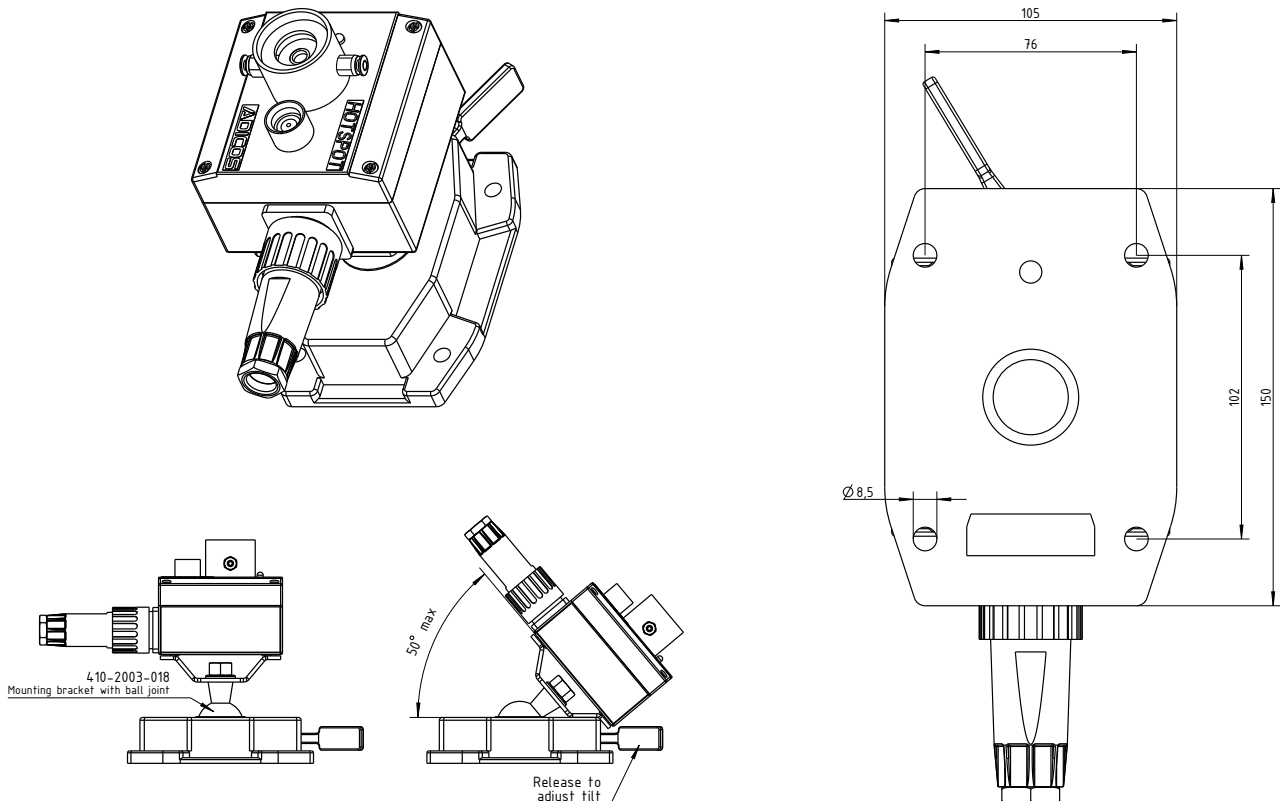
### ATTENTION!

Planning of fire detection system for industrial surroundings requires special expertise.  
Placement and alignment of ADICOS-Detectors has to be done by specialist planners!

## Application example




## HOTSPOT mounting bracket with ball joint



Technical changes reserved!

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## Order information

<b>Detector</b>	<b>Description</b>	<b>Order-No.</b>
ADICOS HOTSPOT-C	Standard version with M-Bus module & limit value output	410-2001-030
ADICOS HOTSPOT-256	Standard version with 256 pixels, M-Bus module & limit value output	410-2001-031
ADICOS HOTSPOT-256 T	Basisausführung mit Teleobjektiv, M-Bus-Modul u. Grenzwertausgang	410-2001-032
ADICOS HOTSPOT-1000	Basisausführung mit 1000 Pixeln, M-Bus-Modul u. Grenzwertausgang	410-2001-033
<b>Detector with -accreditation</b>	<b>Description</b>	<b>Order-No.</b>
ADICOS HOTSPOT-X22	HOTSPOT-1000 for ATEX-Zone 22, prewired connection cable	410-2001-120
ADICOS HOTSPOT-X20	HOTSPOT-1000 with ATEX- and IEC-accreditation for Ex-Zone 20	410-2001-220
<b>Detector accessories</b>	<b>Description</b>	<b>Order-No.</b>
ADICOS pre-alarm module	Internal extension module with pre-alarm relay	405-2002-023
ADICOS BMZ-Module LSNi	Internal extension module for BOSCH LSNi support	405-2002-021
ADICOS BMZ-Module FDnet	Internal extension module for SIEMENS FDnet support	405-2002-022
<b>Mounting accessories</b>	<b>Description</b>	<b>Order-No.</b>
HOTSPOT mounting bracket	Mounting bracket with ball joint for easy and stepless tilting of HOTSPOTs	410-2003-018
ADICOS AAB	Connection and branching box for all detector types	405-2002-037
ADICOS AAB-L	Connection and branching box in high-grade stainless steel enclosure	430-2402-002
ADICOS AAB-X22	Connection and branching box for all detector types for Ex-Zone 22	430-2002-101
ADICOS mounting plate	Aluminium plate with mounting holes for all detector types	405-2003-018
<b>System components</b>	<b>Description</b>	<b>Order-No.</b>
ADICOS BMZ-30	Compact fire alarm panel for administration of ADICOS detectors	425-2001-101
ADICOS BMZ-30 relay module 8	Internal extension module with 8 configurable output relays	425-2002-105
ADICOS BMZ-30 relay module 24	Internal extension module with 24 configurable output relays	425-2002-106
ADICOS BMZ-30 ethernet mod.	Internal extension module for LAN support for BMZ-30 and M-Busmaster XF	425-2002-010
ADICOS M-Busmaster XF	Master unit for ADICOS M-Bus and PC connection // M-Bus Repeater	420-2001-040
ADICOS M-Busmaster AN	Master unit for ADICOS M-Bus and PC connection // M-Bus Repeater	420-2001-015
ADICOS NT-V40 A3	External power supply with 160 VA	430-2001-030
<b>System cables</b>	<b>Description</b>	<b>Order-No.</b>
ADICOS connection cable 5 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-01688
ADICOS connection cable 10 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-02236
ADICOS connection cable 15 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-03001
ADICOS connection cable 20 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-02387
ADICOS connection cable 25 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-03586
ADICOS connection cable 30 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-03039
ADICOS connection cable 35 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-03675
ADICOS connection cable 40 m	Pre-assembled with ADICOS bayonet-plug for all detector types (except Ex)	95-31-03621
<b>System software</b>	<b>Description</b>	<b>Order-No.</b>
ADICOS central software	Software for parameterization and data-logging, for up to 5 detectors	405-2004-016
ADICOS central software	Software for parameterization and data-logging, for up to 20 detectors	405-2004-017
ADICOS central software	Software for parameterization and data-logging, for up to 50 detectors	405-2004-017
ADICOS central software	Software for parameterization and data-logging, for up to 100 detectors	405-2004-018
ADICOS central software	Software for parameterization and data-logging, unlimited detector support	405-2004-020
<b>Maintenance accessories</b>	<b>Description</b>	<b>Order-No.</b>
HOTSPOT-Tester HTL100	Portable device with regulated 100 °C heat-plate for ADICOS HOTSPOTs	410-2402-001
ADICOS M-Busmaster A3	Compact, portable M-Busmaster with RS-232 interface for maintenance	420-2001-006