



Automatic Fire Detectors



BOSCH

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1 Application Recommendation for Automatic Fire Detectors

1.1 General Notes

In section 1.2 to 1.7, application recommendations are given for automatic fire detectors included in the current product range of Bosch Security Systems. The recommendations include fire detectors for the Local SecurityNetwork LSN and LSN improved version as well as for conventional technology.

The recommendations include scopes of application as follows:

	Scope of application
	Electrical system, switch cabinet, IT system
	Clean, maintained room (office, theater, museum)
	Conference room, smokers' office
	Cable duct, cable funnel, intermediate ceiling, false floor
	Ventilation duct
	Storage depot and production depot with low dust accumulation
	Production workshops with high dust accumulation (wood and textile processing industry)
	High-board warehouse with low dust accumulation
	High-board warehouse with high dust accumulation
	Garage, multi-storey parking lot
	Room where smoke is generated as a result of general operation (welding shop, forge)
	Room where steam is generated as a result of general operation (laundromat, kitchen)
	Area with a potentially explosive atmosphere; see ATEX approval
	Area subject to increased radiation

Legend for recommended scope of application

The symbols and notes used in the section 1.2 to 1.7 mean:

+++	Particularly suitable for use
++	Suitable for use
+	Use possible
o	Not suitable for use
1	Requires dust filter
2	Only with good ventilation
3	Requires detector base with damproom seal
4	Requires water separator
5	Requires special equipment

**NOTICE!**

Observe product specific specifications and country specific guidelines and standards during the planning phase.

1.2 Multisensor Detectors

Type number	Scope of application (refer to Section 1.1 General Notes)													
FAP-OC 520	+++	+++	+++	o	o	+++	+++	+++	+++	++ 3	+	++ 3	o	o
FAP-OC 520-P	+++	+++	+++	o	o	+++	+++	+++	+++	++ 3	+	++ 3	o	o
FCP-OC 500	+++	+++	+++	o	o	+++	+++	+++	+++	++ 3	+	+	o	o
FCP-OC 500-P	+++	+++	+++	o	o	+++	+++	+++	+++	++ 3	+	+	o	o
FAP-DOTC420	+++	+++	+++	+++	o	+++	o	++	o	+++ 3	++	++ 3	o	o
FAP-OTC 420	+++	+++	+++	+++	o	+++	o	++	o	+++ 3	++	++ 3	o	o
FAP-DOT420	+++	+++	+++	+++	o	+++	o	++	o	++ 3	+	+ 3	o	o
FAP-OT 420	+++	+++	+++	+++	o	+++	o	++	o	++ 3	+	+ 3	o	o
FCP-OC320	+++	+++	+++	+++	o	+++	o	++	o	++ 3	+	+ 3	o	o
FCP-OC320-R470	+++	+++	+++	+++	o	+++	o	++	o	++ 3	+	+ 3	o	o
FCP-OT320	+++	+++	+++	+++	o	+++	o	++	o	+ 3	+	o	o	o
FCP-OT320-R470	+++	+++	+++	+++	o	+++	o	++	o	+ 3	+	o	o	o

1.3 Optical Detectors

	Scope of application (refer to <i>Section 1.1 General Notes</i>)													
Type number														
FAP-O 520	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FAP-O 520-P	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FCP-O 500	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FCP-O 500-P	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FAP-DO420	+++	+++	++	++	o	+++	o	++	o	o	o	o	o	o
FAP-O 420	+++	+++	++	++	o	+++	o	++	o	o	o	o	o	o
FAP-O 420 KKW	+++	+++	++	++	o	+++	o	++	o	o	o	o	o	+++
FCP-O320	+++	+++	++	++	o	+++	o	++	o	o	o	o	o	o
FCP-O320-R470	+++	+++	++	++	o	+++	o	++	o	o	o	o	o	o
FAD-O 420	o	o	o	o	+++ 1	o	o	o	o	o	o	o	o	o
DOW 1171	+++	+++	+++	++	o	+++	o	++	o	o	o	o	o	o
DO1101A-Ex	o	o	o	o	o	o	o	o	o	o	o	o	+++ 5	o

1.4 Heat Detectors

Type number														
Type number	A	B	C	D	E	F	G	H	I	J	K	L	M	N
FAH-T 420	o	+	+++	o	o	o	+++	o	+	+	++	+3	o	o
FAH-T 420 KKW	o	+	+++	o	o	o	+++	o	+	+	++	+3	o	+++
FCH-T320	o	+	+++	o	o	o	+++	o	+	+	++	+3	o	o
FCH-T320-R470	o	+	+++	o	o	o	+++	o	+	+	++	+3	o	o
FCH-T320-FSA	o	+	+++	o	o	o	+++	o	+	+	++	+3	o	o

1.5 Flame Detectors

	Scope of application (refer to <i>Section 1.1 General Notes</i>)													
Type number														
DF 1192	o	o	o	o	o	++	++	o	o	+	o	o	o	o
DF 1101 A-Ex	o	o	o	o	o	o	o	o	o	+	o	o	+++ 5	o

1.6 Linear Smoke Detectors

	Scope of application (refer to <i>Section 1.1 General Notes</i>)													
Type number														
Fireray 50RV	o	+++	o	o	o	+++	o	++	o	o	o	o	o	o
Fireray 100RV	o	+++	o	o	o	+++	o	++	o	o	o	o	o	o
Fireray 2000	o	+++	o	o	o	+++	o	++	o	o	o	o	o	o
FRAY5000-EN	o	+++	o	o	o	+++	o	++	o	o	o	o	o	o

1.7 Aspirating Smoke Detectors

	Scope of application (refer to <i>Section 1.1 General Notes</i>)													
Type number														
FAS-420-TM/-TM-R/-TM-RVB	+++	+++	+++	+++	++	++	++ 1	+++	+++ 1	o	o	++ 4	+ 5	+
FAS-420-TP1/-TP2/-TP1-SL/-TP2-SL	+++	+++	+++	+++	++	++	++ 1	+++	+++ 1	o	o	++ 4	+ 5	+
FAS-420-TT1/-TT2/-TT1-SL/-TT2-SL	+++	+++	+++	+++	++	++	++ 1	+++	+++ 1	o	o	++ 4	+ 5	+
FCS-320-TM/-TM-R	+++	+++	+++	+++	++	++	++ 1	+++	+++ 1	o	o	++ 4	+ 5	+
FCS-320-TP1/-TP2	+++	+++	+++	+++	++	++	++ 1	+++	+++ 1	o	o	++ 4	+ 5	+

1.8 Linear Heat Detectors

	Scope of application (refer to <i>Section 1.1 General Notes</i>)													
Type number														
FCS-LWM-1	o	o	o	o	o	o	+++	o	o	+++	++	+++	+ 5	+++
ADW 511A	o	o	o	o	o	o	+++	o	o	+++	++	+++	o	+++

2 Service and Test Equipment for Current Product Range

2.1 General Notes

Service devices

Type number	Product ID	Designation
SOLO200	4.998.112.113	Detector Removal Tool
FAA-RTL-SIEMENS	4.998.120.144	Exchanger Device for DO1101A-Ex and DOW 1171
FAA-500-RTL	F.01U.508.720	Exchanger Device for 500/520 Series

Test devices

Type number	Product ID	Designation
SOLO461	4.998.112.072	Heat Detector Tester
SOLO331	4.998.112.071	Smoke Detector Tester
FAA-500-TTL	F.01U.508.725	Test Adapter with Magnet for 500/520 Series

Test aerosols

Type number	Product ID	Designation
SoloA3-001	4.998.112.074	Test Aerosol for Optical Smoke Detectors
SoloCOtestgas	4.998.142.221	Solo CO Testing Gas

Legend for the recommended service and test equipment

The symbols and notes used in the section 2.2 to 2.8 mean:

+++	Particularly suitable for use
++	Suitable for use
+	Use possible
o	Not suitable for use
1	Use in combination with
2	Optical test has to be made without aerosol
3	Not for locked detectors

NOTICE!

The above-mentioned service and test equipment is not suitable for the following fire detectors:



- Section 2.5 Flame Detectors
- Section 2.6 Linear Smoke Detectors
- Section 2.7 Aspirating Smoke Detectors
- Section 2.8 Linear Heat Detectors

2.2 Multisensor Detectors

Type number	Manu- facturer	Removal tool			Test tool			Testing aerosol	
		SOLO 200	FAA-RTL- SIEMENS	FAA- 500-RTL	SOLO 461	SOLO 331	FAA- 500-TTL	Solo A3-001	Solo CO
FAP-OC 520	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	+++
FAP-OC 520-P	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	+++
FCP-OC 500	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	+++
FCP-OC 500-P	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	+++
FAP-DOTC420	Bosch	+++	o	o	+++	+++	o	+++	+++
FAP-OTC 420	Bosch	+++	o	o	+++	+++	o	+++	+++
FAP-DOT420	Bosch	+++	o	o	+++	+++	o	+++	o
FAP-OT 420	Bosch	+++	o	o	+++	+++	o	+++	o
FCP-OC320	Bosch	+++	o	o	o	+++	o	+++	+++
FCP-OC320-R470	Bosch	+++	o	o	o	+++	o	+++	+++
FCP-OT320	Bosch	+++	o	o	+++	+++	o	+++	o
FCP-OT320-R470	Bosch	+++	o	o	+++	+++	o	+++	o

2.3 Optical Detectors

Type number	Manu- facturer	Removal tool			Test tool			Testing aerosol	
		SOLO 200	FAA-RTL- SIEMENS	FAA- 500-RTL	SOLO 461	SOLO 331	FAA- 500-TTL	Solo A3-001	Solo CO
FAP-O 520	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	o
FAP-O 520-P	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	o
FCP-O 500	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	o
FCP-O 500-P	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	o
FAP-DO420	Bosch	+++	o	o	o	+++	o	+++	o
FAP-O 420	Bosch	+++	o	o	o	+++	o	+++	o
FAP-O 420 KKW	Bosch	+++	o	o	o	+++	o	+++	o
FCP-O320	Bosch	+++	o	o	o	+++	o	+++	o
FCP-O320-R470	Bosch	+++	o	o	o	+++	o	+++	o
FAD-O 420	Bosch	o	o	o	o	+++	o	+++	o
DOW 1171	Siemens	o	+++	o	o	+++	o	+++	o
DO1101A-Ex	Siemens	o	+++	o	o	+++	o	+++	o

2.4 Heat Detectors

Type number	Manu- facturer	Removal tool			Test tool			Testing aerosol	
		SOLO 200	FAA-RTL- SIEMENS	FAA- 500-RTL	SOLO 461	SOLO 331	FAA- 500-TTL	Solo A3-001	Solo CO
FAH-T 420	Bosch	+++	o	o	+++	o	o	o	o
FAH-T 420 KKW	Bosch	+++	o	o	+++	o	o	o	o
FCH-T320	Bosch	+++	o	o	+++	o	o	o	o
FCH-T320-R470	Bosch	+++	o	o	+++	o	o	o	o
FCH-T320-FSA	Bosch	+++	o	o	+++	o	o	o	o

2.5 Flame Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
DF 1192	Siemens	Special infrared test lamp by Siemens Alternative (not for ex-areas!): Cigarette lighter	Hold the switched on test lamp towards the detector's sensor openings. Alternative (not for ex-areas!): Hold a cigarette lighter with a large flame in front of the detector's sensor openings.
DF 1101 A-Ex	Siemens	Special infrared test lamp by Siemens	Hold the switched on test lamp towards the detector's sensor openings.

2.6 Linear Smoke Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
Fireray 50RV	Fire Fight- ing Enter- prises	Special test foil by the manufacturer	Cover the detector's receiver part with the test foil.
Fireray 100RV			
Fireray 2000			
FRAY5000-EN			

2.7 Aspirating Smoke Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
FAS-420-TM FAS-420-TM-R FAS-420-TM-RVB FAS-420-TP1(-SL) FAS-420-TP2(-SL) FAS-420-TT1(-SL) FAS-420-TT2(-SL) FCS-320-TM FCS-320-TM-R FCS-320-TP1 FCS-320-TP2	Wagner	Acid-free smoke rods (2.799.320.762) Retainer for smoke rods FAS-ASD-DIAG Diagnostic software (F.01U.033.505): – Mandatory setup and testing equipment for all FCS-320 variants and for FAS-420-TM-R/-RVB – Recommended for any other variant Test pipe (4.998.148.848): Recommended in case of air flow trouble in the pipe system. Test adapter (4.998.148.849): Installation is recommended in fixed pipe systems.	Hold retainer with smoldering smoke rods in front of an aspiration hole.

2.8 Linear Heat Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
FCS-LWM-1	Kidde-Deugra	Test coil by the manufacturer, alternatively via test keys on the device	Clip on test coil and immerse in hot water. Alternatively, use the test keys TEST FAULT and TEST ALARM.
ADW 511A	Securiton	Test coil by the manufacturer	Connect test coil and immerse in hot water.

3 Service and Test Equipment for Fire Detectors No Longer Available

For service and test devices overview, refer to *Section 2.1 General Notes, page 8*



NOTICE!

The service and test equipment listed in *Section 2.1 General Notes, page 8* is not suitable for the following fire detectors:

- *Section 3.5 Flame Detectors*
- *Section 3.6 Linear Smoke Detectors*
- *Section 3.7 Aspirating Smoke Detectors*
- *Section 3.8 Linear Heat Detectors*
- *Section 3.9 Heat Measurement Detector*

Legend for the recommended service and test equipment

The symbols and notes used in the section 3.1 to 3.9 mean:

+++	Particularly suitable for use
++	Suitable for use
+	Use possible
o	Not suitable for use
1	Use in combination with
2	Optical test has to be made without aerosol
3	Not for locked detectors
4	Exchanger devices from Hekatron

3.1 Multisensor Detectors

Type number	Manufacturer	Removal tool			Test tool			Testing aerosol	
		SOLO 200	FAA-RTL-SIEMENS	FAA-500-RTL	SOLO 461	SOLO 331	FAA-500-TTL	Solo A3-001	Solo CO
FAP-OC 500	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	+++
FAP-OC 500-P	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	+++
OT 200 LSN	Bosch	+++	o	o	+++	+++	o	+++	o
OTC 410 LSN	Bosch	+++	o	o	+++	+++	o	+++	+++
OC 410 E LSN	Bosch	+++	o	o	o	+++	o	+++	+++
OT 410 E LSN	Bosch	+++	o	o	+++	+++	o	+++	o
OT 400 LSN KKW/FSA	Bosch	+++	o	o	+++	+++	o	+++	o

3.2 Optical Detectors

Type number	Manu- facturer	Removal tool			Test tool			Testing aerosol	
		SOLO 200	FAA-RTL- SIEMENS	FAA- 500-RTL	SOLO 461	SOLO 331	FAA- 500-TTL	Solo A3-001	Solo CO
O 400 E LSN	Bosch	+++	o	o	o	+++	o	+++	o
O 400 LSN KKW/ LSN	Bosch	+++	o	o	o	+++	o	+++	o
FAP-O 500	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	o
FAP-O 500-P	Bosch	o	o	+++	o	+++ 1	+++ 1	o 2	o
OM 200 LSN	Bosch/Ziton	+++	o	o	o	+++	o	+++	o
GOM 120	Bosch/Ziton	+++	o	o	o	+++	o	+++	o
NOM 100 LSN	Detectomat	++ 3	o	o	o	+++	o	+++	o
NOM K 100 LSN	Detectomat	++ 3	o	o	o	+++	o	+++	o
BD 102 O	Detectomat	+++	o	o	o	+++	o	+++	o
ORM 130/A (Y)	Hekatron	o	o	o	o	+++	o	+++	o
ORM 130/8 Ex	Hekatron	o	o	o	o	+++	o	+++	o
ORM 140/Z	Hekatron	o	o	o	o	+++	o	+++	o
BR12	Siemens	+++	o	o	o	+++	o	+++	o
BR12 Ex	Siemens	+++	o	o	o	+++	o	+++	o

3.3 Heat Detectors

Type number	Manu- facturer	Removal tool			Test tool			Testing aerosol	
		SOLO 200	FAA-RTL- SIEMENS	FAA- 500-RTL	SOLO 461	SOLO 331	FAA- 500-TTL	Solo A3-001	Solo CO
T 400 E LSN	Bosch	+++	o	o	+++	o	o	o	o
T 400 LSN KKW/ FSA	Bosch	+++	o	o	+++	o	o	o	o
TM 200 LSN	Bosch/Ziton	+++	o	o	+++	o	o	o	o
GTM 120	Bosch/Ziton	+++	o	o	+++	o	o	o	o
NTM 100 LSN	Detectomat	++ 3	o	o	+++	o	o	o	o
BD 101 D Typ 88	Detectomat	+++	o	o	+++	o	o	o	o
WDM 215/8 Ex	Hekatron 4)	o	o	o	+++	o	o	o	o
WDM 240	Hekatron 4)	o	o	o	+++	o	o	o	o
WDM 241	Hekatron 4)	o	o	o	+++	o	o	o	o
BD 857	Siemens	+++	o	o	+++	o	o	o	o
BD 957	Siemens	+++	o	o	+++	o	o	o	o
BM 857	Siemens	+++	o	o	+++	o	o	o	o

3.4 Ionization Detectors

Type number	Manu- facturer	Removal tool			Test tool			Testing aerosol	
		SOLO 200	FAA-RTL- SIEMENS	FAA- 500-RTL	SOLO 461	SOLO 331	FAA- 500-TTL	Solo A3-001	Solo CO
GIM 120	Bosch/Ziton	+++	o	o	o	+++	o	+++	o
NIM 100 LSN	Detectomat	++ 3	o	o	o	+++	o	+++	o
BD 102 IA	Detectomat	++ 3	o	o	o	+++	o	+++	o
IRM 136 A	Hekatron 4)	o	o	o	o	+++	o	+++	o
IRM 146	Hekatron 4)	o	o	o	o	+++	o	+++	o
BR 910	Siemens	++	o	o	o	++	o	++	o
F 600	Siemens	++	o	o	o	++	o	++	o
F 6A Ex	Siemens	++	o	o	o	++	o	++	o
F 911 Ex	Siemens	++	o	o	o	++	o	+++	o
BR 800	Siemens	++ 3	o	o	o	++	o	+++	o
BR 716	Siemens	++ 3	o	o	o	++	o	+++	o

3.5 Flame Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
UFM 840	Hekatron	Special infrared test lamp by Siemens Alternative (not for ex-areas!): Cigarette lighter	Hold the switched on test lamp towards the detector's sensor openings. Alternative (not for ex-areas!): Hold a cigarette lighter with a large flame in front of the detector's sensor openings.
S 2406	Siemens		
S 2406 Ex	Siemens	Special infrared test lamp by Siemens	Hold the switched on test lamp towards the detector's sensor openings.

3.6 Linear Smoke Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
Fireray 1401	Fire Fight- ing Enter- prises	Special test foil by the manufacturer	Cover the detector's receiver part with the test foil.
FRAY-5000-EN-50			

3.7 Aspirating Smoke Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
RAS 51	Securiton	Acid-free smoke rods(2.799.320.762) Retainer for smoke rods	Hold retainer with smoldering smoke rods in front of an aspiration hole.
RAS 54	Securiton		
RAS 100 LSN-1 RAS 100 LSN-2	Securiton		
RAS-XL	Securiton		
TITANUS: - PROSENS TP-1 - PROSENS TP-1 A - PROSENS TP-2 - PROSENS TP-2 A - TOPSENS TT-1 - TOPSENS TT-2	Wagner	Acid-free smoke rods (2.799.320.762) Retainer for smoke rods FAS-ASD-DIAG Diagnostic software (optional) Test pipe (4.998.148.848): Recommended in case of air flow trouble in the pipe system. Test adapter (4.998.148.849): Installation is recommended in fixed pipe systems.	Hold retainer with smoldering smoke rods in front of an aspiration hole.

3.8 Linear Heat Detectors

Type number	Manu- facturer	Required test equipment	Testing notes
Alarmline LHD4	Kidde- Deugra	Test coil from device manufacturer, alternatively via test keys on the device	Clip on test coil and immerse in hot water. Alternatively, use the test keys TEST FAULT and TEST ALARM.
Transafe ADW 511 Transafe ADW 53 A	Securiton	Test coil from device manufacturer	Connect test coil and immerse in hot water.

3.9 Heat Measurement Detector

Type number	Manu- facturer	Required test equipment	Testing notes
Heat Measurement Detector	Fenwall	Hot water, adjustable hot air blower	Heat up heat measuring stick using hot water or hot air.

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