

Automatic Fire Detectors

AVENAR detector 4000 | DOW 1171 | FAP-520 | FAS-420 |
FAS-420-TM | FCP-320/FCH-320 | FCS-320-TM | FCS-320-TP |
FCS-LHD-2EN | FDOOT271-O | Fireray 50/100RV | FIRERAY 3000 |
Fireray 5000 | FRAY-ONE-EN | OOH740-A9-EX

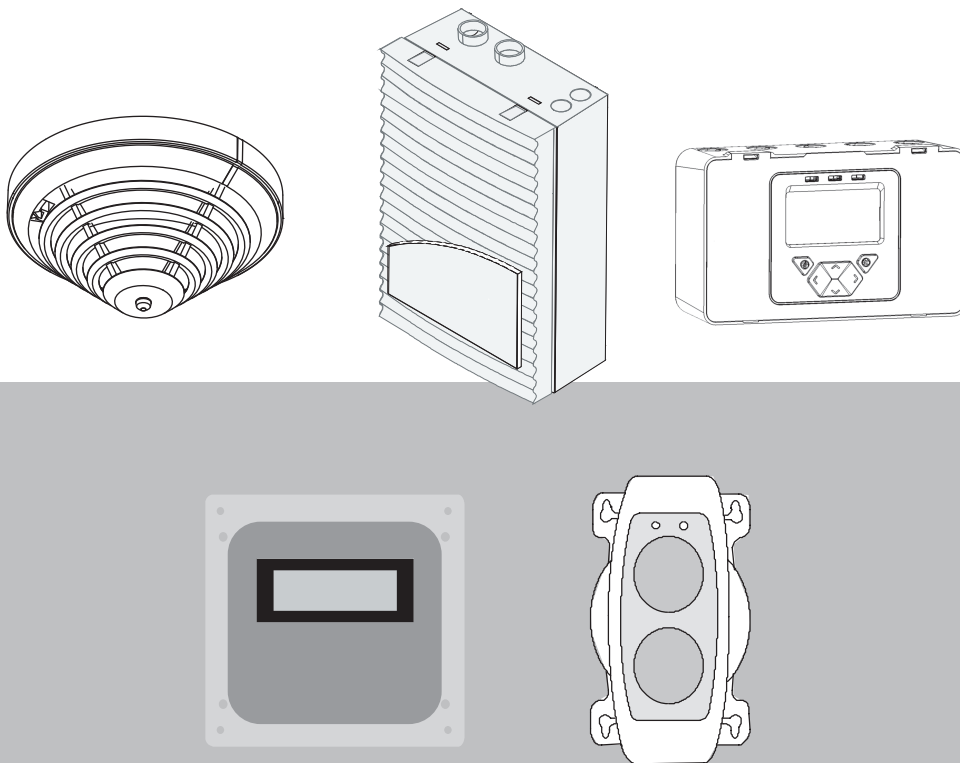


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1 General notes

This document contains application recommendations and lists service and test equipment 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.



Notice!

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



Notice!






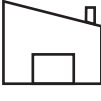


The service and test equipment mentioned is not suitable for Flame detectors, Linear smoke detectors, Aspiration smoke detectors, Linear heat detectors and Heat measurement detectors.









Notice!

The ratings in this document are based on experience. The use of a device depends on the respective environmental conditions.

2 Application Recommendations















	Scope of application
	Electrical system, switch cabinet, IT system
	Clean, maintained room (office, theater, museum)
	Conference room, smokers' office
	Cable duct, false 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















	Scope of application
	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

The used rating symbols mean:















+++	Particularly suitable for use
++	Suitable for use
+	Possible use
o	Not suitable for use
1	Requires dust filter
2	Only with good ventilation
3	Requires detector base with damp room seal
4	Requires water separator
5	Requires special equipment
6	Use depends on environmental conditions

2.1 Multisensor detectors
















														
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-425-DOT-R	+++	+++	+++	+++	o	+++	o	++	o	++ ³	+	+ ³	o	o
FAP-425-OT	+++	+++	+++	+++	o	+++	o	++	o	++ ³	+	+ ³	o	o
FAP-425-OT-R	+++	+++	+++	+++	o	+++	o	++	o	++ ³	+	+ ³	o	o
FAP-425-DOTC-R	+++	+++	+++	+++	o	+++	o	++	o	+++ ³	++	++ ³	o	o
FAP-425-DOTCO-R	+++	+++	+++	+++	o	+++	++ ⁶	++	++ ⁶	+++ 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
FDOOT271-O	+++	+++	+++	++	o	+++	o	++	o	o	o	o	o	o
















2.2 Optical detectors

														
FAP-O 520	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FAP-O 520-P	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FAP-O 500	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FAP-O 500-P	+++	+++	++	o	o	+++	++	+++	++	o	o	o	o	o
FAP-425-DO-R	+++	+++	++	++	o	+++	o	++	o	+	o	o	o	o
FAP-425-O	+++	+++	++	++	o	+++	o	++	o	+ ⁶	o	o	o	o
FAP-425-O-R	+++	+++	++	++	o	+++	o	++	o	+ ⁶	o	o	o	o
FCP-O320	+++	+++	++	++	o	+++	o	++	o	+ ⁶	o	o	o	o
FCP-O320-R470	+++	+++	++	++	o	+++	o	++	o	o	o	o	o	o
FAD-425-O-R	o	o	o	o	+++ ¹	o	o	o	o	o	o	o	o	o
DOW 1171	+++	+++	+++	++	o	+++	o	++	o	o	o	o	o	o
OOH740-A9-EX	o	o	o	o	o	o	o	o	o	o	o	o	+++ ⁵	o
















2.3 Heat detectors

															
FAH-425-T-R	o	+	+++	o	o	o	+++	o	+	+	++	+ ³	o	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	
OOH740-A9-EX	o	o	o	o	o	o	o	o	o	o	o	o	+++ ⁵	o	
















2.4 Flame detectors
















															
016589	o	o	o	o	o	++	++	o	o	+	o	o	o	o	
016519 (Ex)	o	o	o	o	o	o	o	o	o	+	o	o	+++ ⁵	o	

2.5 Linear smoke detectors
















															
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 3000	o	+++	o	o	o	+++	o	++	o	o	o	o	o	o	
Fireray 5000-EN	o	+++	o	o	o	+++	o	++	o	o	o	o	o	o	
FRAY-ONE-EN	o	+++	o	o	o	+++	o	++	o	o	o	o	o	o	

2.6 Aspiration smoke detectors

															
FAS-420-TM	+++	+++	+++	+++	++	++	++ ¹	+++	+++ ¹	o	o	++ ⁴	+ ⁵	+	
FAS-420-TM-R															
FAS-420-TM-RVB															
FAS-420-TP1	+++	+++	+++	+++	++	++	++ ¹	+++	+++ ¹	o	o	++ ⁴	+ ⁵	+	

																
FAS-420-TP2 FAS-420-TP1-SL FAS-420-TP2-SL																
FAS-420-TT1 FAS-420-TT2 FAS-420-TT1-SL FAS-420-TT2-SL	+++	+++	+++	+++	++	++	++ ¹	+++	+++ ¹	o	o	++ ⁴	+ ⁵	+		
FCS-320-TM FCS-320-TM-R	+++	+++	+++	+++	++	++	++ ¹	+++	+++ ¹	o	o	++ ⁴	+ ⁵	+		
FCS-320-TP1 FCS-320-TP2	+++	+++	+++	+++	++	++	++ ¹	+++	+++ ¹	o	o	++ ⁴	+ ⁵	+		

2.7 Linear heat detectors

																
FCS-LHD-2EN	+	+	++	+++	++	++	+++	++	+++	+++	+++	+++	+++	+++ ⁵	o	

3 Installation

Refer to the technical documentation delivered with the device.

Refer to the System manual available for download at www.boschsecurity.com.

4 Service and test equipment

Service devices

	Product ID	Designation
SOLO200	4.998.112.113	Detector Removal Tool
FDUD291	F.01U.335.593	Detector exchanger for OOH740-A9-EX and FDOOT271-O

Test devices

	Product ID	Designation
SOLO461	4.998.112.072	Heat detector test kit
SOLO330	4.998.112.071	Aerosol dispenser

Test aerosols

	Product ID	Designation
FME-SOLO-A10S	F.01U.345.557	Smoke testing aerosol, 250ml
FME-TEST-CO	F.01U.301.469	Test gas for detector with CO sensor

The used rating symbols mean:

+++	Particularly suitable for use
++	Suitable for use
+	Possible use
o	Not suitable for use
1	Use in combination with
2	Optical test has to be made without aerosol
3	Not for locked detector
4	Exchanger devices from Hekatron
5	The test equipment is not explosion proof. Tests only possible, if there is no risk of explosion.

4.1 Multisensor detectors

	Removal tool		Test tool		Testing aerosol	
	SOLO200	FDUD291	SOLO461	SOLO330	FME-SOLO-A10S	FME-TEST-CO
FAP-OC 520	o	o	o	+++ ¹	o ²	+++
FAP-OC 520-P	o	o	o	+++ ¹	o ²	+++
FCP-OC 500	o	o	o	+++ ¹	o ²	+++
FCP-OC 500-P	o	o	o	+++ ¹	o ²	+++
FAP-425-DOTCO-R	+++	o	+++	+++	+++	+++
FAP-425-DOTC-R	+++	o	+++	+++	+++	+++
FAP-425-DOT-R	+++	o	+++	+++	+++	o
FAP-425-OT	+++	o	+++	+++	+++	o
FAP-425-OT-R	+++	o	+++	+++	+++	o
FCP-OC320	+++	o	o	+++	+++	+++
FCP-OC320-R470	+++	o	o	+++	+++	+++
FCP-OT320	+++	o	+++	+++	+++	o
FCP-OT320-R470	+++	o	+++	+++	+++	o
FDOOT271-O	o	+++	o	+++	+++	o

4.2 Optical detectors

	Removal tool		Test tool		Testing aerosol	
	SOLO200	FDUD291	SOLO461	SOLO330	FME-SOLO-A10S	FME-TEST-CO
FAP-O 520	o	o	o	+++ ¹	o ²	o
FAP-O 520-P	o	o	o	+++ ¹	o ²	o
FCP-O 500	o	o	o	+++ ¹	o ²	o
FCP-O 500-P	o	o	o	+++ ¹	o ²	o
FAP-425-DO-R	+++	o	o	+++	+++	o
FAP-425-O	+++	o	o	+++	+++	o
FAP-425-O-R	+++	o	o	+++	+++	o
FCP-O320	+++	o	o	+++	+++	o
FCP-O320-R470	+++	o	o	+++	+++	o
FAD-425-O-R	o	o	o	+++	+++	o
DOW1171	o	+++	o	+++	+++	o
OOH740-A9-EX (default settings)	o	+++	o	+++ ^{1,5}	+++	o

4.3 Heat detectors

	Removal tool		Test tool		Testing aerosol	
	SOLO200	FDUD291	SOLO461	SOLO330	FME-SOLO-A10S	FME-TEST-CO
FAH-425-T-R	+++	o	+++	o	o	o
FCH-T320	+++	o	+++	o	o	o
FCH-T320-R470	+++	o	+++	o	o	o
FCH-T320-FSA	+++	o	+++	o	o	o
OOH740-A9-EX (heat settings)	o	+++	+++ ⁵	o	o	o

4.4 Flame detectors

	Required test equipment	Note
016589	Special infrared test lamp (F.01U.279.881) by Fire Fighting Enterprises (manufacturer) Alternative (not for ex-areas!): Cigarette lighter	<ul style="list-style-type: none"> – Hold the switched on test lamp towards the detector's sensor openings. – Alternatively (not for ex-areas!): Hold a cigarette lighter with a large flame in front of the detector's sensor openings.
016519	Special infrared test lamp (F.01U.279.881) by Fire Fighting Enterprises (manufacturer)	<ul style="list-style-type: none"> – Hold the switched on test lamp towards the detector's sensor openings.

4.5 Linear smoke detectors

	Required test equipment	Note
Fireray 50RV	Special test foil by Fire Fighting Enterprises (manufacturer)	– Cover the detector's receiver part with the test foil.
Fireray 100RV		
Fireray 3000		
Fireray 5000-EN		
FRAY-ONE-EN		

4.6 Aspiration smoke detectors

	Required test equipment	Note
FAS-420-TM	<ul style="list-style-type: none"> – FAS-ASD-DIAG Diagnostic software (F.01U.033.505) – Test pipe for smoke aspiration system (4.998.148.848) is recommended in case of air flow trouble in the pipe system. – Test adapter for smoke aspiration system (4.998.148.849) is recommended in fixed pipe systems. 	
FAS-420-TM-R		
FAS-420-TM-RVB		
FAS-420-TP1		
FAS-420-TP1-SL		
FAS-420-TP2		
FAS-420-TP2-SL		
FAS-420-TT1		
FAS-420-TT1-SL		
FAS-420-TT2		
FAS-420-TT2-SL		
FCS-320-TM		
FCS-320-TM-R		
FCS-320-TP1		
FCS-320-TP2		

4.7 Linear heat detectors

	Required test equipment	Note
FCS-LHD-2EN	Heat gun	<ol style="list-style-type: none"> 1. Heat circa 1 m sensor cable evenly 2. Reduce the alarm temperature to 54°C

5 Detectors no longer available

5.1 Multisensor detectors

	Removal tool			Test tool			Testing aerosol	
	SOLO200	FDUD291	FAA-500-RTL	SOLO461	SOLO330	FAA-500-TTL	FME-SOLO-A10S	FME-TEST-CO
FAP-OC 500	o	o	+++	o	+++ ¹	+++ ¹	o ²	+++

	Removal tool			Test tool			Testing aerosol	
FAP-OC 500-P	o	o	+++	o	+++ ¹	+++ ¹	o ²	+++
OT 200 LSN	+++	o	o	+++	+++	o	+++	o
OTC 410 LSN	+++	o	o	+++	+++	o	+++	+++
OC 410 E	+++	o	o	o	+++	o	+++	+++
OT 410 E	+++	o	o	+++	+++	o	+++	o
OT 400 LSN KKW/FSA	+++	o	o	+++	+++	o	+++	o
FAP-DOTC420	+++	o	o	+++	+++	o	+++	+++
FAP-OTC 420	+++	o	o	+++	+++	o	+++	+++
FAP-DOT420	+++	o	o	+++	+++	o	+++	o
FAP-OT 420	+++	o	o	+++	+++	o	+++	o

5.2 Optical detectors

	Removal tool			Test tool			Testing aerosol	
	SOLO200	FDUD291	FAA-500-RTL	SOLO461	SOLO330	FAA-500-TTL	FME-SOLO-A10S	FME-TEST-CO
O 400 E LSN	+++	o	o	o	+++	o	+++	o
O 400 LSN KKW/LSN	+++	o	o	o	+++	o	+++	o
FAP-O 500	o	o	+++	o	+++ ¹	+++ ¹	o ²	o
FAP-O 500-P	o	o	+++	o	+++ ¹	+++ ¹	o ²	o
FAP-DO420	+++	o	o	o	+++	o	+++	o
FAP-O 420	+++	o	o	o	+++	o	+++	o
FAP-O420 KKW	+++	o	o	o	+++	o	+++	o
FAD-O420	o	o	o	o	+++	o	+++	o
OM 200 LSN	+++	o	o	o	+++	o	+++	o
GOM 120	+++	o	o	o	+++	o	+++	o
NOM 100 LSN	++ ³	o	o	o	+++	o	+++	o
NOM K 100 LSN	++ ³	o	o	o	+++	o	+++	o
BD 102 O	+++	o	o	o	+++	o	+++	o
ORM 130/A (Y)	o	o	o	o	+++	o	+++	o
ORM 130/8 Ex	o	o	o	o	+++	o	+++	o
ORM 140/Z	o	o	o	o	+++	o	+++	o
BR12	+++	o	o	o	+++	o	+++	o
BR12 Ex	+++	o	o	o	+++	o	+++	o

5.3 Heat detectors

	Removal tool			Test tool			Testing aerosol	
	SOLO200	FDUD291	FAA-500-RTL	SOLO461	SOLO330	FAA-500-TTL	FME-SOLO-A10S	FME-TEST-CO
T 400 E LSN	+++	o	o	+++	o	o	o	o
T 400 E LSN KKW/FSA	+++	o	o	+++	o	o	o	o
FAH-T 420	+++	o	o	+++	o	o	o	o
FAH-T 420 KKW	+++	o	o	+++	o	o	o	o
TM 200 LSN	+++	o	o	+++	o	o	o	o
GTM 120	+++	o	o	+++	o	o	o	o
NTM 100 LSN	++ ³	o	o	+++	o	o	o	o
BD 101 D Typ 88	+++	o	o	+++	o	o	o	o
WDM 215/8 Ex	o	o	o	+++	o	o	o	o
WDM 240	o	o	o	+++	o	o	o	o
WDM 241	o	o	o	+++	o	o	o	o
BD 857	+++	o	o	+++	o	o	o	o
BD 957	+++	o	o	+++	o	o	o	o
BM 857	+++	o	o	+++	o	o	o	o

5.4 Ionization detectors

	Removal tool			Test tool			Testing aerosol	
	SOLO200	FDUD291	FAA-500-RTL	SOLO461	SOLO330	FAA-500-TTL	FME-SOLO-A10S	FME-TEST-CO
GIM 120	+++	o	o	o	+++	o	+++	o
NIM 100 LSN	++ ³	o	o	o	+++	o	+++	o
BD 102 IA	++ ³	o	o	o	+++	o	+++	o
IRM 136 A	o	o	o	o	+++	o	+++	o
IRM 146	o	o	o	o	+++	o	+++	o
BR 910	++	o	o	o	++	o	++	o
F 600	++	o	o	o	++	o	++	o
F 6A Ex	++	o	o	o	++	o	++	o
F 911 Ex	++	o	o	o	++	o	+++	o
BR 800	++ ³	o	o	o	++	o	+++	o
BR 716	++ ³	o	o	o	++	o	+++	o

5.5 Flame detectors

	Required test equipment	Note
UFM 840	Special infrared test lamp by Siemens Alternatively (not for ex-areas!): Cigarette lighter	<ul style="list-style-type: none"> – Hold the switched on test lamp towards the detector's sensor openings. – Alternatively (not for ex-areas!): Hold a cigarette lighter with a large flame in front of the detector's sensor openings.
S 2406		
DF 1192		
S 2406 Ex	Special infrared test lamp by Siemens	Hold the switched on test lamp towards the detector's sensor openings.
DF 1001 A-Ex		

5.6 Linear smoke detectors

	Required test equipment	Note
Fireray 1401	Special test foil by Fire Fighting Enterprises	<ul style="list-style-type: none"> – Cover the detector's receiver part with the test foil.
FRAY-5000-EN-50		
Fireray 2000		
FRAY5000-EN		

5.7 Aspiration smoke detectors

	Required test equipment	Note
RAS 51 RAS 54 RAS 100 LSN-1 RAS 100 LSN-2 RAS-XL		
TITANUS: PROSENS TP-1 PROSENS TP-1 A PROSENS TP-2 PROSENS TP-2 A TOPSENS TT-1 TOPSENS TT-2	<ul style="list-style-type: none"> – FAS-ASD-DIAG Diagnostic software (optional) – Test pipe for smoke aspiration system (4.998.148.848) is recommended in case of air flow trouble in the pipe system. – Test adapter for smoke aspiration system (4.998.148.849) is recommended in fixed pipe systems. 	

5.8 Linear heat detectors

	Required test equipment	Note
LHD4- ALARMLINE FCS-LWM-1	Test coil from Kidde (manufacturer), alternatively use the test keys on the device	<ol style="list-style-type: none"> 1. Connect the test coil. 2. Immerse the test coil in hot water. Alternatively use the test keys TEST FAULT and TEST ALARM.
Transafe ADW 511	Test coil from Securiton (manufacturer)	<ol style="list-style-type: none"> 1. Connect the test coil. 2. Immerse the test coil in hot water.

	Required test equipment	Note
Transafe ADW 53 A ADW 511A		
N4387 A	Test coil by Securiton (manufacturer)	<ol style="list-style-type: none"> 1. Connect test coil 2. Immerse test coil in hot water
FCS-LHD-2	Heat gun	<ol style="list-style-type: none"> 1. Heat circa 1 m sensor cable evenly 2. Reduce the alarm temperature to 54°C

5.9 Heat measurement detectors

	Required test equipment	Note
Fenwall	<ul style="list-style-type: none"> - Hot water - Adjustable hot air blower 	<ul style="list-style-type: none"> - Heat up heat measuring stick using hot water or hot air

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