Certificate

of

Approval

of

Components and Systems

Holder of the Approval:

SCHRACK SECONET AG
Eibesbrunnergasse 18
A-1120 Wien

This approval
is valid only for the specified component/system as submitted for the test

■ together with the parts listed in enclosure 1

■ documented in the technical papers acc. to enclosure 2 (n/a for systems)

■ for application in the specified fire protection and security installations. Use of the subject matter of the approval, is subject to the hints/comments of enclosure 3.

The validity of the approval can be extended upon application. Application for extension shall be submitted six months before expiry of the current approval at the latest.

This certificate may only be reproduced in its present form without any modification including all enclosures. All changes of the underlying conditions of this approval shall be reported at once to the VdS Certification Body enclosing the required documentation.

Any advertising with this VdS approved component/system shall reflect the correct contents of the certificate and shall not violate the trade practice rules.

Approval No.:	*No. of pages:*	*Valid from:*	*Valid to:*
S 200081	70	11.10.2009	10.10.2013

Subject matter of the Approval:

Fire Detection System
Type INTEGRAL C

Use:

in Automatic Fire Detection Systems

Basis for approval:

DIN EN 54, Part 13 (08/05) - Compatibility Assessment of System Components
VdS 2489 (02/96) - Fire Detection Systems
VdS 2344 (12/05) - Procedure Guidelines

Köln, den 01.10.2009

Schüngel
Managing Director

i.V. Hesels
Head of the VdS Certification Body

Deutscher Akkreditierungs Rat
DAR
DAT-ZE 005/92

VdS Schadenverhütung GmbH
Zertifizierungsstelle
Amsterdamer Str. 174
D-50735 Köln

A company of the German Insurance Association (GDV) (German federation of insurance companies)

Accredited by the "Deutsche Akkreditierungsstelle Technik (DATech)" as a certification body for the areas of fire protection and security

VdS

Enclosure 1 **Page 1**

to Certificate of Approval No. S 200081 dated 01.10.2009

The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
Control and Indicating Equipment:			
1. Control and Indicating Equipment	BMZ INTEGRAL C		G 200081
Combined Control and Indicating Equipment / Electrical Control and Delay Device	BLZ INTEGRAL C		
Optical Smoke Detectors:			
2. Optical Smoke Detector	SSD 531		G 297049
3. Optical Smoke Detector	SSD 521		G 297049
4. Optical Smoke Detector	ORM 130 Ex-i		G 296035
5. Optical Smoke Detector	DOW 1171		G 200112
6. Optical Smoke Detector	FCP-O500		G 205124
7. Optical Smoke Detector	LKM 531		G 206086
Multi Sensor Smoke Detectors:			
8. Multi Sensor Smoke Detector	MSD 523		G 207123
9. Multi Sensor Smoke Detector	STD 531		G 204008
10. Multi Sensor Smoke Detector	MTD 533		G 206106
11. Multi Sensor Smoke Detector	FCP-OC500		G 205118
12. Multi Sensor Smoke Detector	MSD 533		G 206107

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The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
Aspirating Smoke Detectors:			
13. Aspirating Smoke Detector	ASD 535-x		G 208154
14. Aspirating Smoke Detector	VESDA Laser COMPACT		G 298024
15. Aspirating Smoke Detector	VESDA Laser PLUS		G 298024
16. Aspirating Smoke Detector	VESDA Laser SCANNER		G 298024
17. Aspirating Smoke Detector	VESDA Laser FOCUS		G 205060
Line Type Smoke Detectors:			
18. Line Type Smoke Detector	ARDEA SF 2P/100		G 294043
19. Line Type Smoke Detector	FireRay 50/100 RV		G 203070
20. Line Type Smoke Detector	FireRay 2000		G 297058
21. Line Type Smoke Detector	FireRay 5000		G 208017
22. Line Type Smoke Detector	ECO ES25-i		G 205128
23. Line Type Smoke Detector	ECO ES50		G 205128
24. Line Type Smoke Detector	ECO ES80		G 205128
25. Line Type Smoke Detector	ECO ES100		G 205128
26. Line Type Smoke Detector	Boomerang S 5P/70		G 294043

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The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
27. Line Type Smoke Detector	Boomerang S 6P/150		G 294043
28. Line Type Smoke Detector	Boomerang SF 5P/70		G 294043
29. Line Type Smoke Detector	Boomerang SF 6P/150		G 294043
30. Line Type Smoke Detector	ARDEA SF 2P/100D-S1		G 294043
31. Line Type Smoke Detector	ARDEA S/2 2P/100		G 294043
32. Line Type Smoke Detector	SPC-E		G 207152
Rate of Rise Heat Detectors:			
33. Rate of Rise Heat Detector	UTD 531		G 297047
34. Rate of Rise Heat Detector	UTD 521		G 297047
35. Rate of Rise Heat Detector	UTD 523		G 207124
36. Rate of Rise Heat Detector	UTD 533		G 206108
Static Heat Detectors:			
37. Static Heat Detector	WMM 216 Ex-i		G 296034
Line Type Heat Detectors:			
38. Line Type Heat Detector	ADW 511A		G 204137

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The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
39. Line Type Heat Detector	TSC 515		G 204076
40. Line Type Heat Detector	MHD 535		G 208190
41. Line Type Heat Detector	LWM-1		G 205066
Manual Call Points:			
42. Manual Call Point	MCP 535-0007		G 299035
43. Manual Call Point	MCP 535-0008		G 299035
44. Manual Call Point	MCP 535-0011		G 206077
45. Manual Call Point	MCP 535-0014		G 206078
46. Manual Call Point	MCP 525-0007		G 207007
47. Manual Call Point	MCP 525-0008		G 207007
48. Manual Call Point	MCP 525-0011		G 208106
49. Manual Call Point	MCP 525-0014		G 208107
50. Manual Call Point	C31, dC31		G 206113
51. Manual Call Point	C31, dC31		G 207079
52. Manual Call Point	C31, dC31		G 207099
53. Manual Call Point	SMF 121		G 299032

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The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
Flame Detectors:			
54. IR Flame Detector	X3301		G 202136
55. IR Flame Detector	X9800		G 203084
56. IR Flame Detector	Sharpeye 20/20 XI		G 206033
57. IR Flame Detector	Sharpeye 20/20 MI		G 207073
58. IR Flame Detector	Sharpeye 20/20 SI		G 207121
59. IR Flame Detector	DF1191		G 299085
60. IR Flame Detector	DF1192		G 299085
61. IR Flame Detector	DF1101-EX		G 299085
62. UV Flame Detector	X2200		G 203083
63. UV/IR Flame Detector	X5200		G 203085
Alarm Devices:			
64. Sounder	YO3		G 28702
65. Sounder	YO4		G 28702
66. Sounder	YO5		G 28702
67. Sounder	B/SE 128		G 200117
68. Sounder	Symphoni Low Power		G 206026
69. Sounder	Symphoni High Power		G 206027

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The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
70. Sounder	Roshni LP Solista		G 206020
71. Sounder	BA-SOL		G 207151
72. Sounder	SBL 50x		G 208159
73. Sounder	CS 200		G 209123
74. Optical Alarm Device	V4		G 28714
75. Optical Alarm Device	Solex 3,10,15		G 207018
Detector Bases:			
76. Detector Base	143 Ex-i		G 297055
77. Detector Base	SMF 6120		G 203060
Key Box Adapters:			
78. Key Box Adapter	FSK A 0750		G 194010
79. Key Box Adapter	AD 900-1		G 105045
80. Key Box Adapter	FSD-AD		G 103057
Input/Output Modules:			
81. Input/Output Module	B3-MMI-UIO		G 200116
82. Input/Output Module	BA-OI3		G 204021
83. Input Module	BA-AIM		G 204052
84. Input Module	BX-AIM		G 208138

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The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
85. Input Module	BA-IM4		G 204056
86. Input Module	BA-RGW		G 204053
87. Output Module	BA-REL4		G 204054
88. Output Module	BA-IOM		G 204055
Adressable Devices:			
89. Adressable Device	SDI 82A, SDI 82/1		G 206038
Triggering Devices for Key Safes:			
90. Triggering Device for Key Safe	Typ 2		G 192034
91. Triggering Device for Key Safe	PZ		G 199083
92. Triggering Device for Key Safe	FSE P		G 199062
Batteries:			
93. Battery	Powerfit S312/18 G5		G 103016
94. Battery	CT 17-12		G 103051
95. Battery	WP 18-12		G 103064
Fire Brigade Control Panels:			
96. Fire Brigade Control Panel	FBF 0740		G 201004

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The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
97. Fire Brigade Control Panel	FBF 2001		G 299034
98. Fire Brigade Control Panel	FBF 260		G 203012
99. Fire Brigade Control Panel	FBF 2003		G 205053
Fire Brigade Indication Panels:			
100. Fire Brigade Indication Panel	B3-MMI-FAT		G 206116
101. Fire Brigade Indication Panel	FAT 3000		G 205076
Further Devices:			
102. Power Supply Equipment	BE-PSE12-C		G 209171
103. Power Supply Equipment	BE-PSE03-C		G 209170
104. Transmission Device	Comline 2016 M/E/S/S (GSM)		G 100809
105. Transmission Device	Comline 3216 M/FS/S (GSM)		G 101804
106. Transmission Device	TAS-Link		G 105805
107. Transmission Device	TAS-Link II – PSTN analog		G 107805

Enclosure 2

to Certificate of Approval No. S 200081 dated 01.10.2009

The approved component/system is described as follows:

Type of document	Manufacturer's identification	Date	Number of pages
VdS System Test Report No. BMA 03028 dated 17.09.2003 VdS System Test Report No. BMA 05117 dated 06.10.2005 VdS System Test Report No. BMA 07135 dated 12.12.2007 VdS System Test Report No. BMA 08165 dated 17.11.2008			

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Instructions for the application of the approval component/system (see enclosure 1)

Pos. 1:

Fire detection control and indicating equipment type INTEGRAL C is suitable to trigger one extinguishing zone.

A maximum number of 512 detectors can be connected to the c.i.e.

The c.i.e. INTEGRAL C may be equipped with an internal as well as an external control and indicating panel and in both cases optionally with an (integrated) printer. The external control and indicating panel shall only be used as a primary panel in direct proximity to the INTEGRAL C.

The c.i.e. INTEGRAL C is networkable and can be connected to higher systems (e.g. control systems).

The c.i.e. INTEGRAL C provides interfaces for a direct connection to fire brigade control panels acc. to DIN 14661 and DIN 14662.

The c.i.e. comprises the following options according to DIN EN 54, part 2:

- Fault signals from points
- Alarm counter
- Two detector coincidence
- Routing delays of output signals
- Disablement of adressable points
- Output to the fire protection devices C
- Output to the routing devices for fire alarms E
- Output for the triggering of fire protection devices G
- Output to the routing devices for fault signals J
  (with external modules type BA-AIM and type BA-OI3)
- Standardized I/O interface
  (with external modules type BA-AIM and type BA-OI3)

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Instructions for the application of the approval component/system (see enclosure 1)

The combined c.i.e / electrical control and delay device type BLZ INTEGRAL C is suitable to trigger, receive, process and indicate signals of an extinguishing zone.

A maximum number of 512 detectors can be connected to the BLZ INTEGRAL C.
The BLZ INTEGRAL C may be equipped with an internal as well as an external control and indicating panel and in both cases optionally with an (integrated) printer. The external control and indicating panel shall only be used as a primary panel in direct proximity to the BLZ INTEGRAL C.

The BLZ INTEGRAL C is networkable and can be connected to higher systems (e.g. control systems).

The BLZ. INTEGRAL C provides interfaces for a direct connection to fire brigade control panels acc. to DIN 14661 and DIN 14662.

In addition to the a.m. DIN EN 54 part 2 options the BLZ INTEGRAL C comprises the following options acc. to DIN EN 12094, part 1:

- Delay of extinguishing signal
- Signal representing the flow of extinguishing agent
- Monitoring of the status of components
- Emergency hold device
- Control of flooding time
- Initiation of secondary flooding
- Manual only mode
- Triggering signals of equipment within the system
- Extinguishing signals to spare cylinders
- Triggering of equipment outside the system
- Emergency abort device
- Control of extended discharge
- Release of the extinguishing media for one flooding zones

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Instructions for the application of the approval component/system (see enclosure 1)

BLZ INTEGRAL C is designed for the use within a temperature range of -5°C to +40°C acc. to DIN EN 12094, part 1, class A.

BLZ INTEGRAL C is suitable to trigger preactioned water extinguishing systems by means of assembly B4-EIO as well as the external modules BA-IOM, BA-IM4, BA-REL4 and BA-OI3.

Peripher equipment (sirens, flash lights, magnet valves a.s.o.) may be connected via assembly B4-EIO. The assembly has the following performance characteristics:

- I = 1,5A
- U = (22...28)V
- T = adjustable

The following notes shall be regarded when installing the fire extinguishing system acc. to VdS CEA guideslines for planning and installation:

The use of the following optional functions is not permissible:

'Emergency abort' device (Sect. 4.27, DIN EN 12094-1)
'Emergence hold' device (Sect. 4.20 b, DIN EN 12094-1), (variant Sect. 6)

For water extinguishing systems preactioned water extinguishing systems, preactioned quick alarm valve systems and water spray systems may be triggered. The adjustment of prewarning times here is not permissible.

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Instructions for the application of the approval component/system (see enclosure 1)

Pos. 2 and 3:

Detector type SSD 521 is a non-adressable detector, SSD 531 is an individually adressable smoke detector scattered-light type for operation in automatic fire detection and fire alarm systems.

Type SSD 531 provides an integrated short circuit isolator acc. DIN EN 54.17 to enable the isolation of a faulty line segment on a loop while the operation of all other detectors is maintained.

Technical data type SSD 521:

Supply voltage:	(18 ... 30) V
Current consumption at 30 V:	max. 22.5 mA in alarm max. 120 µA in quiescent condition
Signal transmission:	current increase

Technical data type SSD 531:

Supply voltage:	(15 ... 30) V
Current consumption:	max. 20 mA in alarm (pulsed) max. 250 µA in quiescent condition
Signal transmission:	seriel data transmission
Line receiving unit:	SecuriLine module, SCB 01

Pos. 4:

Optical smoke detector type ORM 130 Ex-i operates with scattered light.

Operating voltage:	(15 ... 28) V
Quiescent current:	max. 150 µA
Alarm current:	max. 22 mA

With conformity certificate dated 19.11.02 the manufacturer confirms compliance with the standard EG-94/9/EG: 'Devies and protection systems for the intended use in explosive areas' with reference to the EG type of contraction test certificate ZELM 01 ATEX 0066.

Marking:	EEx ia IIC T4 Ta 70°C

Detector ORM 130 Ex-i is suitable for the use in explosive areas of zone 1 and 2.

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 5:

Detector type DOW 1171 is an individually addressable scattered light smoke detector for the use in automatic fire detection and fire alarm systems.

The detector communicates via a radio control panel with a gateway of type SPU 6100 resp. SPU 6102, which in turn operates as a participant on the loop of a Schrack control and indicating equipment.

Radio transmission takes place on the so-called SRD band between 868 MHz and 870 MHz.

Batteries of type 'Ultralife, U9VL-J (lithium) are to be replaced after four years at the latest, batteries of type 'Duracell MN 1604' (alcaline-manganese) after two years at the latest.

Pos. 6:

Multi sensor smoke detector type FCP-O500 is suitable for the use in automatic fire detection and fire alarm systems of the company Bosch with GL technology.

If used in automatic fire detection and fire alarm systems it shall be regarded, that the multi sensor detector is intended for flush mounting. In special cases a wall mounting only in connection with the surface box specified by the manufacturer is possible. Furthermore the projection instructions of the manufacturer, especially the base spring specified by the manufacturer depending on the ceiling construction shall be regarded.
The detector may only be installed outside the hand range (2.5 m). The distance to lightings shall be more than 0.5 m.

Important techn. data (acc. manufacturer's specifications):

Operating voltage range:	(8.5 ... 33) VDC
Current consumption:	ca. 3.5 mA
Ambient temperature:	-10°C < T < +50 °C

Pos. 7:

The smoke detection equipment for air ducts type LKM 531 consists of an air duct base type LKS 517 and an optical smoke detector scattered light type of type SSD 531K. It may be used in air ducts with wind velocities between 1 m/s and 20 m/s..

Instructions for the application of the approval component/system (see enclosure 1)

Air duct base type LKS 517 is mounted from outside on the air duct. Two pipes project into the air duct. Via the inlet pipe with an installation length of 345 mm the air is taken from the air duct and led to detector insert SSD 531K. Via the outlet pipe the air sample can flow back into the air duct.

If inlet pipes of a shorter installation length are used it shall be assured, that the air mass flow through the sample chamber - independent of the pipe length - remains constant at air velocities in the air duct of 1 m/s to 20 m/s.
In order to trigger fire and/or smoke exhaust venting equipment a "Allgemeine bauaufsichtliche Zulassung" (approval) of the "Deutsches Institut für Bautechnik (DIBt)" in Berlin (german constructional supervising body) is necessary.

The installation instructions of the manufacturer shall be regarded.

The smoke detection equipment for air ducts type LKM 531 may be operated on a SecuiLine loop of a control and indicating equipment.

Pos. 8:

Detector type MSD 523 is a nonadressable multi sensor smoke detector (smoke and heat) for an operation in automatic fire detection and fire alarm systems.
The scattered light smoke element of detector MSD 523 is always supported by the heat element, i.e. the sensitivity of the smoke element is directly depending on the detected environmental temperature of the detector.
The response behaviour of the heat detection part is not classified acc. DIN EN 54-5.

Technical data (acc. manufacturer´s specifications):

Supply voltage:	(18 ... 30) V
Current consumption (in alarm):	(19... 22,5) mA
Current consumption (quiescent cond.):	max. 120 µA
Range of environmental temperature:	(-25... +60) °C
Rel. humidity, without dewing:	(10... 95) %

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 9:

Detector type STD 531 is an individually addressable multi sensor detector (smoke and heat) for operation in automatic fire detection and fire alarm systems.
The detector has a short circuit isolating function to isolate the defective line segment in case of short circuit in a loop, thus keeping all detectors in operation.
The detector's smoke and heat sensor operate self-sufficiently. By parameterisation at the control and indicating equipment they can be switched off individually or operated jointly by OR relation.
By parameterisation at the CIE the heat sensor can be set to one of three response classes A1, A2 and B acc. EN 54-5.
For response class A1 the maximum mounting height shall be 7.5 m and for classes A2 and B it shall be 6 m.
If the smoke sensor of these multi sensor detectors is to be switched off during operation (e.g. at day/night change-over), the detectors shall be designed as heat detectors.

Technical data of type STD 531:

Supply voltage:	(15 ... 30) V
Current consumption:	max. 20 mA in alarm state (pulsed) typ. 250 µA in quiescent state
Signal transmission:	serial data transmission
Line receiving module:	SecuriLine-module, SCB 01

Pos. 10:

Detector type MTD 533 is an individually adressable multi sensor detector (smoke and heat) for the operation in automatic fire detection and fire alarm systems.

The detector comprises an integrated short circuit isolator to isolate the defective line segment in case of short circuit in a loop while keeping all detectors in operation.

The scattered-light smoke part of detector type MTD 533 always is supported by the heat part, i.e. the sensitiveness of the smoke part is directly depending on the detected ambient temperature of the detector. By a respective parameterization the smoke part may be adjusted to the responsivities 80%, 100% and 120%. The fulfilment of the requirements acc. to DIN EN 54-7 however has only been proved for the responsivity of 100%.

Additionally, the heat part acc. to EN 54-5 operates parallel to the smoke part.

Instructions for the application of the approval component/system (see enclosure 1)

Both fire characteristics then are OR-interlaced.

The heat part may be operated in the following response classes: A1, A1R, A1S, A2, A2R, A2S, B, BR, BS.

For response classes A1, A1R and A1S a maximum installation height of 7.5 m and for the other classes a maximum installation height of 6 m shall be kept.

In case the smoke sensor of these multi sensor detectors shall be switched off during operation (e.g. at day-night-switch) the detectors shall be projected as heat detectors.

Technical data (acc. manufacturer`s specification):

Supply voltage:	(16 ... 30) V
Current consumption (alarm condition):	static 5 mA, pulsed 20 mA
Current consumption (quiescent condition):	typ. 400 µA, max. 460 µA (5000612.0201)
Current consumption (quiescent condition):	typ. 235 µA, max. 250 µA (5000612.0211)
Ambient temperature range:	(-25... +60) °C
Rel. humidity, without dewing:	(10... 95) %
Signal transmission:	serial data transmission
Line receive unit:	SCB01, DAI2

Pos. 11:

Multi sensor detector type FCP-OC500 is suitable for the use in automatic fire detection and fire alarm systems of the company Bosch with GL technology.
If used in automatic fire detection and fire alarm systems it shall be regarded, that the multi sensor detector is intended for flush mounting. In special cases a wall mounting only in connection with the surface box specified by the manufacturer is possible. Furthermore the projection instructions of the manufacturer, especially the base spring specified by the manufacturer depending on the ceiling construction shall be regarded.
The detector may only be installed outside the hand range (2.5 m). The distance to lightings shall be more than 0.5 m. The gas sensor of the detector shall be inspected regularly (at least once a year) acc. to the manufacturer´s specifications in order to guarantee a constant sensitivity.

Instructions for the application of the approval component/system (see enclosure 1)

Important techn. data (acc. manufacturer´s specifications):

Operating voltage range:	(8.5 ... 33) VDC
Current consumption:	approx. 3.5 mA
Ambient temperature:	-10°C < T < +50 °C

Pos. 12:

Detector type MSD 533 is an individually adressable multi sensor smoke detector (smoke and heat) for operation in automatic fire detection and fire alarm systems.

The detector comprises an integrated short circuit isolator to isolate the defective line segment in case of short circuit in a loop while keeping all detectors in operation.

The scattered-light smoke part of detector type MSD 533 always is supported by the heat part, i.e. the sensitiveness of the smoke part is directly depending on the detected ambient temperature of the detector. By a respective parameterization the smoke part may be adjusted to the responsivities 80%, 100% and 120%. The fulfilment of the requirements acc. to DIN EN 54-7 however has only been proved for the responsivity of 100%.

The response behaviour of the heat detection part is not classified acc. to DIN EN 54-5.

Technical data (acc. manufacturer`s specifications):

Supply voltage:	(16 ... 30) V
Current consumption (alarm condition):	static 5 mA, pulsed 20 mA
Current consumption (quiescent condition):	typ. 400 µA, max. 460 µA (5000610.0201)
Current consumption (quiescent condition):	typ. 235 µA, max. 250 µA (5000610.0201)
Ambient temperature range:	(-25... +60) °C
Rel. humidity, without dewing:	(10... 95) %
Signal transmission:	serial data transmission
Line receive unit:	SCB01, DAI2

Pos. 13:

For design and planning of the aspirating pipework the projecting instructions of the manufacturer acc. the Technical Manual T 131 192 Edition 03.10.2008 shall be regarded. The calculation program 'ASD PipeFlow' Version 2.0 may be used for the calculation of the pipework and the adjustment of devices.

Only those accessories for aspirating pipes listed in Enclosure 1 of this approval may be used.

Instructions for the application of the approval component/system (see enclosure 1)

Technical data:

Supply voltage range: 10.5 to 30 V-DC

Max. current consumption, measured in

Ventilator rotational speed level V and at ➔		10.5 V-DC	18 V-DC	24 V-DC
ASD 535-1	Quiescent/Fault	approx. 575	approx. 340	approx. 260 mA
	Alarm I	approx. 660	approx. 390	approx. 295 mA
ASD 535-2	Quiescent/Fault	approx. 645	approx. 380	approx. 290 mA
	Alarm I + II	approx. 745	approx. 450	approx. 350 mA
ASD 535-3	Quiescent/Fault	approx. 575	approx. 340	approx. 260 mA
	Alarm I	approx. 695	approx. 405	approx. 310 mA
ASD 535-4	Quiescent/Fault	approx. 645	approx. 380	approx. 290 mA
	Alarm I + II	approx. 820	approx. 490	approx. 385 mA
Additionally with 1 RIM 35		approx. 15	approx. 10	approx. 7mA
Additionally with 2 RIM 35		approx. 30	approx. 20	approx. 14mA
Additionally with SLM 35		approx. 20	approx. 10	approx. 5mA
Additionally with MCM 35		approx. 25	approx. 15	approx. 10mA

Pos. 14 to 16:

The following threshold data as a function of the size of the pipe system are to be observed for setting the airflow monitoring system:

50% of the total airflow per pipe system is allowable as a threshold for a fault warning.

Instructions for the application of the approval component/system (see enclosure 1)

If this fault is not detected and displayed within 100s, the use of the aspirating smoke detector shall be limited to those fields of application where conventional point detectors cannot be used such as for example in inaccessible areas, in spaces where due to the ambient conditions no electrically operated fire detectors may be used or where object monitoring in addition to an already installed conventional fire detection system designed for room monitoring is to be performed.

VESDA LaserSCANNER-aspirating smoke detector:

The system is equipped with a valve system in the four aspirating holes which allows spotting of the place of the fire within the area to be monitored.

The VESDA LaserCOMPACT-aspirating smoke detector is equipped with one (1) aspirating opening only. The detector is made in two variants:

Type VLC-500, RO (relais only)

The signals may be caught via relay outputs.

Type VLC-505, VN (VESDAnet)

The signals may be caught via relay outputs. As a further option an operation within the network 'VESDAnet' is possible.

OEM (Original equipment manufacturer-system) version:

In this version the front plate of the housing is made from metal. It has the drillings for the LED indications "Fire", "Fault" and "Operation".

19“ rack:

All modules mentioned in annex 1 of the approval may be integrated in a 19" rack.

Exclusively shielded cables are to be used for the VESDAnet-system.

The instructions for configuration given in the manufacturer's manuals "System Design Manual" (05/97), 'Pipe Modelling Program' (05/03) and 'Program Aspire' (3.09.II) are to be observed as well as the requirements of the VdS 2095 Rules on "Planning and Installation", Issue 08/93.

Supply voltage range:	(18...- 30) V DC
Operating voltage:	24 V

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 17:

The type VESDA LaserFOCUS VLF-250 and VESDA LaserFOCUS VLF-500 detection systems are aspirating smoke systems based on the laser technology. These systems are connected directly to the control and indicating equipment via an integrated coupler.

The following threshold data as a function of the size of the pipe system are to be observed for setting the airflow monitoring system:

50% of the total airflow per pipe system is allowable as a threshold for a fault warning.

If this fault is not detected and displayed within 100s, the use of the aspirating smoke detector of types VESDA LaserFOCUS VLF-250 and VESDA LaserFOCUS VLF-500 shall be limited to those fields of application where conventional point detectors cannot be used such as for example in inaccessible areas, in spaces where due to the ambient conditions no electrically operated fire detectors may be used or where object monitoring in addition to an already installed conventional fire detection system designed for room monitoring is to be performed.

The instructions for installation dated 28 February 2005 provided by Vision Systems for the LaserFOCUS VLF-250 and/or Laser-FOCUS VLF-500 are to be observed.

Supply voltage range:	(18 ... 30) V DC
<u>LaserFOCUS VLF-250:</u>	
Output at 24 VDC:	5.2 W nominal output, 7.0 under alarm
Current consumption:	220 mA nominal current, 295 mA under alarm
<u>LaserFOCUS VLF-500:</u>	
Output at 24 VDC:	9.8 W nominal output, 11.7 W under alarm
Current consumption:	410 mA nominal current, 490 mA under alarm

Pos. 18:

Line type smoke detectors types ARDEA SF 2P/100 and ARDEA S/2 2P/100 comprise one interface, transmitting and receiving unit each, types Boomerang S and Boomerang SF comprise one interface, transmitting/receiving and reflection unit.
The size of one detector zone monitored by one detector group shall not exceed 1600 m².
Individual adjacent rooms combined to detector zones shall be monitored individually.
The detectors shall be adjusted according to the manufacturer¿s installation instructions.

Instructions for the application of the approval component/system (see enclosure 1)

Technical data:

Supply voltage range:	(18.5 ... 32.5) V
Wavelength:	958 nm
Service temperature:	(-15 ... + 60) °C
Humidity:	max. 95 %
Range:	(5 ... 150= m

Current consumption at 75 m monitoring range:

Quiescent current:	max. 96 mA
Alarm current:	max. 118 mA
Fault current:	max. 106 mA

Pos. 19:

Range FireRay 50RV:	(5 ... 50) m
Range FireRay 100RV	(50 ... 100) m
Voltage Supply:	(10,2 ... 30,0) V DC
Current Consumption Quiescent State:	< 4 mA, no indication
Current Consumption Alarm/Fault:	< 15 mA
Required Time RESET-Control:	> 5 s
Temperature Range:	(-30 ... 55) °C
Tolerance of axis deviation at 35% receive.:	Detector ± 1,0°, Prisma ± 5,0°
Alarm Threshold:	1,63 dB (25%), 2,78 dB 35%, 6,02 dB (50%)
Infrared Wavelength:	880 nm
Max. Detector Dimensions:	Width 130 mm, Height 210 mm, Depth 120 mm
Weight:	0,670 kg

Pos. 20:

The connection of line type smoke detector type FireRay 2000 and FireRay2000EExd may only be done by a shielded cable.
The detector may also be operated in 'Retro Operation' acc. to the projection instructions dated 18.07.2005.

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Instructions for the application of the approval component/system (see enclosure 1)

Supply Voltage Range: (11.5 ... 28) V

Relay contacts: (2 A / 30 V) ohmic load

Pos. 21:

Line-type smoke detector FireRay 5000 may only be connected with shielded cable.

Supply voltage range:	14 - 28 V
Operating current (lowest current):	8 - 12 mA
Operating current (highest current):	48 - 52 mA
Housing combustibility category:	UL94 V0

For the projection the instructions for use shall be regarded.

Pos. 22 - 25:

Technical data:

ES 100 / 80:

Current supply:	at 9,6 V – 14,4 V		at 19,2 V – 28,8 V	
Position S1:	TX LO	TX HI	TX LO	TX HI
Normal Operation:	45 mA	87 mA	26 mA	47 mA
Alarm condition:	70 mA	105 mA	38 mA	60 mA
Max. surveillance length:	100 m			

ES 50 / 25-1

Current supply:	at 9,6 V – 14,4 V		at 19,2 V – 28,8 V	
Position S1:	TX LO	TX HI	TX LO	TX HI
Normal Operation:	35 mA	79 mA	19 mA	39 mA
Alarm condition:	62 mA	95 mA	32 mA	52 mA
Max. surveillance length:	50 m			

Instructions for the application of the approval component/system (see enclosure 1)

ES 100, ES 80, ES 50 and ES 25-1:

Contact rating:	Alarm relay 1A / 30 V, fault relay (opto coupler) 170 mA / 30 V	
Max. cable length at 24 V:	1000 m with cable diam. 0.5 mm², 2000 m with cable diam. 1 mm²	
Max. cable length at 12 V:	500 m with cable diam. 1 mm²	
Surveillance width:	15 m	
Max. surveillance length:	ECO ES 100	100m
	ECO ES 80	80 m
	ECO ES 50	50 m
	ECO ES 25-1	25 m
Min. surveillance length:	2 m	
Operating temperature:	-20°C - +55°C	
Storage temperature:	-25°C - +70°C	
Relative humidity:	95%	
Protection type:	IP 44	

Pos. 26 to 31:

Line type smoke detectors types ARDEA SF 2P/100 and ARDEA S/2 2P/100 comprise one interface, transmitting and receiving unit each, types Boomerang S and Boomerang SF comprise one interface, transmitting/receiving and reflection unit.

The size of one detector zone monitored by one detector group shall not exceed 1600 m².

Individual adjacent rooms combined to detector zones shall be monitored individually.

The detectors shall be adjusted according to the manufacturer's installation instructions.

Technical data:

Supply voltage range:	(18.5 ... 32.5) V
Wavelength:	958 nm

Instructions for the application of the approval component/system (see enclosure 1)

Service temperature:	(-15 ... + 60) °C
Humidity:	max. 95 %
Range:	(5 ... 150= m

Current consumption at 75 m monitoring range:

Quiescent current:	max. 96 mA
Alarm current:	max. 118 mA
Fault current:	max. 106 mA

Pos. 32:

The optical line-type smoke detector type SPC-E Beam Detector consists of a transmitter and a receiver unit.

The detection device shall be supplied by an external power supply.

Technical data (acc. manufacturer's specifications):

Supply voltage range:	(15 ... 33) V
Rated voltage:	24 V
Quiescent current:	max. 250 µA
Alarm current:	max. 50 mA
Range:	(5 ... 100) m
Response sensitivity:	(25, 50, 60) % damping
Max. permitted line resistance:	50 Ω

Pos. 33 and 34:

Detector type UTD 521 is a non-adressable and detector type UTD 531 an individually addressable rate of rise heat detector.

Type UTD 531 comprises an integrated short circuit isolator acc. DIN EN 54-17 to enable an isolation of the faulty line segment of a loop and to maintain the operation of all detectors.

Both detectors are available in the response classes A1, A2 and B specified acc. DIN EN 54, Part 5. The manufacturer in the software determines the response class.

Instructions for the application of the approval component/system (see enclosure 1)

Depending on the class, the maximum ceiling height shall be kept concerning the installation:

DIN EN 54, Part 5, Cl. A1:	7.5 m
DIN EN 54, Part 5, Cl. A2 und B:	6.0 m

Technical data UTD 521:

Supply voltage:	(18 ... 30) V
Current consumption at 30 V:	max. 22.5 mA in alarm max. 150 µA in quiescent condition
Signal transmission:	current increase

Technical data UTD 531:

Supply voltage:	(15 ... 30) V
Current consumption at 30 V:	max. 20 mA in alarm max. 150 µA in quiescent condition
Signal transmission:	seriel data transmission
Line receiving unit:	SecuriLine module, SCB 01

Pos. 35:

Detector type UTD 523 is a nonadressable heat detector for operation in automatic fire detection and fire alarm systems.

Heat detector type UTD 523 is available in the following response classes:

UTD 523-1: A1
UTD 523-2: A2
UTD 523-3: B

Response class A1 requires a maximum installation height of 7.5 m, all other classes require a maximum installation height of 6 m.

Instructions for the application of the approval component/system (see enclosure 1)

Technical data (acc. manufacturer's specifications):

Supply voltage:	(18 ... 30) V
Current consumption (alarm):	(19... 22.5) mA
Current consumption (quiescent condition):	max. 120 µA
Environmental temperature range:	(-25... +60) °C
Rel. humidity, without dewing:	(10... 95) %

Pos. 36:

Detector type UTD 533 is an individually adressable heat detector for operation in automatic fire detection and fire alarm systems.

The detector comprises an integrated short circuit isolator to isolate the defective line segment in case of short circuit in a loop while keeping all detectors in operation.

Heat detector type UTD 533 is available in the following response classes:

- UTD 533-a: A1
- UTD 533-2: A2
- TD 533-3: B

For response class A1 a maximum installation height of 7,5 m and for the other classes a maximum installation height of 6 m shall be kept.

Technical data (acc. manufacturer's specifications):

Supply voltage:	(16 ... 30) V
Current consumption (alarm condition):	static 5 mA, pulsed 20 mA
Current consumption (quiescent condition):	typ. 370 µA, max. 430 µA (5100164.020x)
Current consumption (quiescent condition):	typ. 205 µA, max. 220 µA (5100164.021x)
Ambient temperature range:	(-25... +60) °C
Rel. humidity, without dewing:	(10... 95) %
Signal transmission:	serial data transmission
Line receive unit:	SCB01, DAI2

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 37:

Static heat detector type WMM 216 Ex-i operates with current increase.
Due to it´s response behaviour it is assigned to class A1 acc. DIN EN 54-5.
If used in automatic fire detection and fire alarm systems it shall be regarded that it is only used in rooms with heights not exceeding 7.5 m.
The requirements acc. VdS 2503, Sect. 5.6, were not completely fulfilled concerning the resistance against electromagnetic fields with a field strength of 30 V/m (see test report sect. 4.14).
Static heat detector type WMM 216 Ex-i shall not be used in systems or system components intended to trigger or control extinguishing systems.
The test of the electromagnetic compatibility against highfrequency signals showed a resistance up to a field strength of 10 V/m.
Test and certification body ZELM Ex confirms with EG prototype sample test certificate ZELM 01 ATEX 066 dated 03.07.2002 compliance with the european standards EN 50014:1997 +A1 +A2 and EN 50020:1994.

Marking: Ex II 2 G EEx ia IIC T6

The detector WMM 216 Ex-i is suitable for the use in explosive areas of zones 1 and 2.

Technical data (acc. manufacturer´s specifications):

Operating voltage range:	(15 ... 28) V DC
Quiescent current:	150 µA
Alarm current:	max. 22 mA
Ambient temperature:	(-20... + 70) °C

Pos. 38:

Line type heat detector type ADW 511A consists of an evaluation unit and a sensor pipe and is suitable for the use in automatic fire detection and fire alarm systems.

The detector was designed for areas of use in which point type detectors can not be used due to special environmental conditions such as street tunnels, railway and subway tunnels, paint spraying and painting systems, underground garages, loading platforms, tank farms (Tanklager), underground working and object surveillance.

Instructions for the application of the approval component/system (see enclosure 1)

The manufacturer's instructions for configuration, Document No. T 139 420 resp. T 130 882, shall be regarded. If the manufacturer does not configurate the system, all configuration documents are to be countersigned by the manufacturer.

For standard applications the manufacturer specified seven system configurations for different areas of use, which can be chosen bevor commisioning by a rotary switch within the detector housing.

Depending on the chosen program a response behaviour can be adjusted, which complies with response classes A1 to G acc. EN 54-5. Depending on the adjusted response class, the maximum ceiling height shall be kept when positioning the sensor pipe: class A1: 7.5 m, all other classes: 6.0 m.

Important technical data (acc. manufacturer´s specifications):

Operating voltage:	(10.5 ... 30) VDC
Max. current consumption:	135 mA
Sensor pipe length:	(20 ... 130) m in tunnel applications
	(20 ... 80) m for all other applications

Pos. 39:

Line type heat detector type TSC 515 is suitable for operation in automatic fire detection and fire alarm systems.
The detector is conceived for areas of application in which point detectors cannot be used because of specific environmental conditions such as road, railway and subway tunnels, paint spraying and painting systems, underground garages, loading platforms, tank farms, underground working and object surveillance.

The system consists of the following components:

Cable Terminal Processor	CTP 515
Temperature sensor cable	TSC 515
Cable Terminator Module	CTM 515
Connector Filter Module	CFM 515
Protector Filter Module	PFM 515
Relais-Output Extension	ROE 515

The protector filter module PFM 515 shall be used in any case as a protection against electromagnetic disturbances.

Instructions for the application of the approval component/system (see enclosure 1)

For planning the instructions for planning of the manufacturer, document no. T 130 271a, shall be observed. If planning is not performed by the manufacturer, all planning documents shall be countersigned by the manufacturer.

The terminal processor may be loaded with different data sets reflecting response classes A1R, A2R, BR, CR and DR according to EN 54-5. The data sets for classes A1R and A2R are identical. According to the chosen response class, the maximum ceiling height must be observed for the installation of the sensor cable.

Class A1R:	7.5 m
all other classes:	6.0 m

In case of connecting a ROE 515 with a CTP 515, both devices shall be installed in a mutual protective housing. If this is not possible, at least the connection wires between the devices shall be mounted in a protective way (protection tube or cable conduit).
While using the ROE 515 the maximum load of the open-collector-outputs shall be considered.

Important technical data (acc. to manufacturers specifications):

Cable Terminal Processor CTP 515:

Operating voltage:	(20 ... 30) VDC
Max. current consumption:	415 mA
Max. connectable sensor cable length:	2000 m
Max. number of sensors (per CTP):	500
Max. number of sensors (per sensor cable):	250
Temperature range:	(-20 ... +50) °C
Humidity (permanent):	70 % rel. H.

Temperature Sensor Cable TSC 515:

Operating voltage:	(10 ... 20) VDC
Max. current consumption:	approx. 200 µA per sensor
Temperature range (permanent):	(-40 ... +85) °C
Humidity (permanent):	100 % rel. H. (connectors excluded)

Cable Terminator Module CTM 515:

Operating voltage:	(10 ... 20) VDC
Max. current consumption:	approx. 5 mA
Temperature range (permanent):	(-40 ... +85) °C
Humidity (permanent):	70 % rel. H.

Instructions for the application of the approval component/system (see enclosure 1)

Connector / Protector Filter Module CFM 515 / PFM 515:

Operating voltage:	(10 ... 20) VDC
Max. current consumption:	approx. 0 mA (CFM 515) approx. 11 mA (PFM 515)
Temperature range (permanent):	(-40 ... +85) °C
Humidity (permanent):	70 % rel. H.

Relais In/Out Extension ROE 515:

Operating voltage:	(20 ... 30) VDC
Max. current consumption:	346 mA
Max. load for relais contacts:	50VDC /1A /30W
Max. load for OC-Output:	50 mA
Temperature range:	(-20 ... +50) °C
Humidity (permanent):	70 % rel. H.

Pos. 40:

Line type heat detector system type MHD 535 is suitable for the use in automatic fire detection and fire alarm systems.

It was designed for areas of application in which point detectors cannot be used because of specific environmental conditions such as road, railway or subway tunnels, production and transport plants.

Line type heat detector system type MHD 535 operates on the basis of individual temperature sensors integrated within an electric sensor cable, individually adressable and evaluated by a processor unit.

Instructions for the application of the approval component/system (see enclosure 1)

The processor units provide the following characteristics:

	Sensor cable	General alarm	General fault	8 group relay	Connection RCU	RS 232	RS422 / mode bus	Fault tolerance network	Double-ended feeding	System base module	Input-output module
SSP 535	✓	✓	✓			✓	✓			✓	
SRG 535	✓	✓	✓	✓	✓	✓	✓			✓	✓
RSP 535	✓	✓	✓			✓		✓	✓	✓	
RXG 535	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
RRG 535			✓	✓	✓	✓		✓		✓	✓
RSS 535			✓			✓		✓		✓	
RAP 535			✓			✓		✓		✓	

Alarm and fault shall be transmitted to the CIE via potential-free relay contacts of the processor units.

For the temperature registration three different sensor cable types with different coatings are available:

- Sensor cable type MHD 535FX: TPE coating (mechanical tensile strength)
- Sensor cable type MHD 535SD: additional PUR coating (chemical reliability)
- Sensor cable type MHD 535HD: additional ECTFE caoting (chemical and UV reliability)

Instructions for the application of the approval component/system (see enclosure 1)

The sensor cables are available with different sensor distances. Only variants with a sensor distance up to 7m are approved.

Mounting of the heat detector system requires further connection/filter and terminating modules:

- ECB 535: Connection and filter module with additional lightning protection elements
- CFM 535: Connection and filter module
- PFM 535: Connection and filter module with additional lightning protection elements
- CTM 535: Terminating module

In order to guarantee the electromagnetic immunity modules PFM 535 and ECB 535 shall always be used.

Relay unit RCU 535 may be connected to processor units SRG 535, RXG 535 and RRG 535 for provision of additional inputs and outputs. One processor unit is able to support up to 6 RCU 535. The RCU 535 shall be installed in close proximity to the processor unit. The devices shall preferably be housed together (e.g. switching cabinet). If this is not possible, at least the connecting cables shall be layed together in a protection pipe or a cable channel.

Fault Tolerant Network (FatNet):
Cross-linking of processor units via a copper or glass fibre cable at present is not part of the approval.

Instructions for the application of the approval component/system (see enclosure 1)

The response behaviour of the line type heat detector system MHD 535 can be influenced by individual parameterization. For response classes A1, A2, B and C acc. EN 54-5 fixed parameter sets are determined and transmitted to the respective processor unit:

Response class acc. EN 54-5	Parameter	Sensor cable FX	Sensor cable MHD 535SD Sensor cable MHD 535HD
A1 and A2	Max 1	55 °C	55 °C
	Max 2	44 °C	44 °C
	Diff 1	1.98 °C / 60s	1.98 °C / 60s
	Diff 2	3.1 °C / 20s	2.1 °C / 20s
B	Max 1	69 °C	69 °C
	Max 2	58 °C	58 °C
	Diff 1	1.98 °C / 60s	1.98 °C / 60s
	Diff 2	3.1 °C / 20s	2.1 °C / 20s
C	Max 1	83 °C	83 °C
	Max 2	72 °C	72 °C
	Diff 1	1.98 °C / 60s	1.98 °C / 60s
	Diff 2	3.1 °C / 20s	2.1 °C / 20s

Under the following conditions the detector releases an alarm:

Max 1 or Diff 2 or [Max 2 and Diff 1]

For planning, projection and installation the specifications of the manufacturer shall be regarded.

Depending on the adjusted response class the maximum ceiling height shall be kept when laying the sensor cables:

Class A1: 7.5 m
All other classes: 6.0 m

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Instructions for the application of the approval component/system (see enclosure 1)

Important technical data (acc. manufacturer's specifications):

All processor units:

Operating voltage:		(10 ... 36) VDC
Max. connectable sensor cable length:		2000 m
Max. number of sensors:		250
Response behaviour:	EN 54-5	classes A1 to C
Max. loading capacity relay contact:		250V / 6A
Voltage range of inputs:		(10 ... 36) VDC
Temperatur range:		(-25 … +85) °C
Humidity:	short-term without dewing	95 % rel.
	constant	70 % rel.

Maximum current consumption of the processor units (at 10 V):

	Quiescent	Fault	Alarm	All relays released
SSP 535	170 mA	160 mA	190 mA	--
SRG 535	180 mA	180 mA	190 mA	324 mA
RSP 535	210 mA	200 mA	230 mA	--
RXG 535	220 mA	220 mA	230 mA	363 mA
RRG 535	210 mA	190 mA	--	380 mA
RSS 535	210 mA	200 mA	--	--
RAP 535	210 mA	200 mA	--	--
RCU 535	150 mA	--	--	870 mA

All Modules:

Operating voltage:		(10 ... 20) VDC
Max. current consumption:	ECB 535	approx. 0 mA
	CFM 535	approx. 0 mA
	PFM 535	approx. 11 mA
	CTM 535	approx. 8.5 mA
Temperatur range:		(-40 … +85) °C
Humidity:	short-term without dewing	95 % rel.
	constant	70 % rel.

Instructions for the application of the approval component/system (see enclosure 1)

Sensor cable MHD 535:

Operating voltage:		(10 ... 20) VDC
Max. current consumption:	per sensor	approx. 200 µA
Max. sensor cable length:	dep. on sensor distance	2000 m
Max. feeder length:		200 m
Max. number of sensors:		250
Temperature range:	Measuring range	(-55 ... +125) °C
	Laying temperature range	(+5 ... +45) °C
	constant	(-40 ... +85) °C
	long-term (up to 5 h)	(-40 ... +95) °C
	short-term (up to 60 s for approx. 10 times per 24 h)	(-40 ... +120) °C
Humidity sensor cable:	(no junction resp. connection points)	95 % rel.
Humidity junction resp. connection points:	short-term without dewing	95 % rel.
	constant	70 % rel.

Pos. 41:

Line type heat detector type LWM-1 is suitable for the use in automatic fire detection and fire alarm systems.

It consists of an evaluation unit to which a heat sensor cable with a length of up to 300 m is connected.

Evaluation unit type LWM-1

Heat sensor cable type 22-11800-010 (blue)

Heat sensor cable type 22-11800-011 (black)
(increased resistance against chemical biologic exposures)

Heat sensor cable type 22-11800-013 (black with stainless-steel coat)
(increased resistance against chemical biologic and mechanical exposures)

The detector is conceived for areas of application in which point detectors cannot be used because of specific environmental conditions such as road tunnels, underground garages, cable ducts, conveyors, loading platforms, tank farms a.s.o.

Instructions for the application of the approval component/system (see enclosure 1)

For planning, installation and commissioning the technical specifications of the manufacturer manual LWM1.doc / No 22-51912-002 shall be regarded.

The response behaviour of the line type heat detector may be adjusted freely within a large range by means of three 16-ary DIP switches, seperated by maximum temperature behaviour (MAXALARM) and differential temperature behaviour (DIFF-ALARM and DIFF-TIME).

With the following device parameterizations the heat detector system is approved for a response behaviour acc. DIN EN 54-5, class A1, A2, B or C may be reached if a sensor cable segment of 10 m length is charged steadily with temperature:

Cable type	**Detector class A1**			**Detector class A2**			**Detector class B**			**Detector class C**		
	dT	D	M	dT	D	M	dT	D	M	dT	D	M
22-11800-010	5	5	5	5	8	6	5	9	9	-	-	-
22-11800-011	5	4	5	5	8	6	5	9	9	6	13	12
22-11800-013	-	-	-	-	-	-	5	9	8	-	-	-

dT = Switch adjustment for DIFF-TIME
D = Switch adjustment for DIFF-ALARM
M = Switch adjustment for MAX-ALARM

Depending on the adjusted response class the maximum ceiling height shall be kept when installing the sensor cable:

Class A1: 7.5 m
All other classes: 6.0 m

Important technical data (acc. manufacturer's specifications):

Operating voltage:	(10 ... 30) VDC
Quiescent current consumption (at 24 V):	approx. 25 mA
Current consumption alarm (at 24 V):	approx. 25 mA
Current consumption fault (at 24 V):	approx. 15 mA
Starting current (at 24 V):	< 100 mA
Temperature range:	(-20 ... +50) °C
Sensor cable length:	max. 300 m

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 42 and 43:

The individually addressable manual call points type MCP 535-0007 and MCP 535-0008 are designed for an operation in fire detection and fire alarm systems. They may be operated on a SecuriLine loop.

Type MCP 535-0007 may be used in buildings, type MCP 535-0008, provided with an additional rubber sealing, may be used outdoors.

Technical data:

Rated voltage:	(15 ... 30) V DC
Quiescent current at 30 V DC:	275 µA
Alarm current at 30 V DC:	max. 20 mA
Signal transmission:	Data record

Pos. 44:

Manual release device type MCP 535-0011 serves for the manual release of an extinguishing process with gaseous extinguishants. It is suitable for the use in buildings and provides a short circuit isolator.

Technical data:

Rated voltage:	(15 ... 30) V DC
Quiescent current at 30 V DC:	275 µA
Alarm current at 30 V DC:	max. 20 mA
Signal transmission:	Data record

The release is indirect (type B), i.e. after glass breakage the operation element must be pressed in order to trigger the prewarning time and the following extinguishing process.

Pos. 45:

Stop button type MCP 535-0014 serves for the interruption of the release of an extinguishing process with gaseous extinguishants during the prewarning time.

It is provided with a rubber sealing and may be used outdoors.

The stop button provides a short circuit isolator.

Instructions for the application of the approval component/system (see enclosure 1)

Technical data:

Rated voltage:	(15 ... 30) V DC
Quiescent current at 30 V DC:	275 µA
Alarm current at 30 V DC:	max. 20 mA
Signal transmission:	Data record

The release is indirect (type B), i.e. after glass breakage the operation element must be pressed in order to interrupt the release of the extinguishing process.
The operation element then does not snap in.

Pos. 46 and 47:

Manual call points type MCP525-0007 and MCP525-0008 are non-addressable and designed for operation in fire detection and fire alarm systems. They may be connected to control and indicating equipment working with DC line technology acc. to the current increase principle.

Type MCP525-0007 may be installed in buildings, type MCP525-0008, provided with an additional rubber sealing, may be used in the open.

Technical data:

Operating voltage:	(16,2 ... 30) V DC
Current consumption:	given by the respective hazard detection system

The release is indirect (type B), i.e. after glass breakage the operation element has to be pressed in order to release the fire alarm.

Pos. 48:

Manual release device type MCP 525-0011 serves for the manual release of an extinguishing process with gaseous extinguishants.
It operates with current increase.

Technical data:

Operating voltage:	(12 ... 30) V DC
Current consumption:	given by the resp. alarm system

Instructions for the application of the approval component/system (see enclosure 1)

The release is indirect (type B), i.e. after glas breakage the operating element must be pressed in order to release the fire alarm.

Pos. 49:

Stop button type MCP 525-0014 serves for the interruption of the release of an extinguishing process with gaseous extinguishants during the prewarning time.

It is provided with a rubber sealing and may be used outdoors.

It operates with current increase.

Technical data:

Operating voltage:	(19 ... 30) V DC
Current consumption:	given by the resp. alarm system

The release is indirect (type B), i.e. after glas breakage the operating element must be pressed in order to release the fire alarm.

Pos. 50:

Manual call points type C31 and dC31 are designed for operation in fire detection and fire alarm systems.

Both types are intended for an outdoor use pursuant the protection type of their housing.

The release is indirect (type B), i.e after glass breakage the operation element has to be pressed in order to release the fire alarm.

Technical data:

Contact rating:	0.5 - 30 V / 0.1 A
LED rating:	5 - 15 mA

Instructions for the application of the approval component/system (see enclosure 1)

The notified testing body DEKRA EXAM GmbH with attestation of conformity BVS 09 ATEX E 016 X dated 24.03.2009 certifies for switch housing type dC31 conformity of the electrical apparatus with the harmonized european standards EN 60079-0:2006, EN 60079-7:2003, EN 60079-18:2004, EN 61241-0:2006 and EN 61241-1:2004.

Marking: II 2G Ex emb IIC T6
II 2D Ex tD A21 IP6X T80°C

Pos. 51:

Manual release devices type C31 and dC31 serve to manually trigger an extinguishing order for gas extinguishing systems.

The release is indirect (type B), i.e after glass breakage the operation element has to be pressed in order to release the fire alarm.

Both types are intended for an outdoor use pursuant the protection type of their housing.

Technical data:
Contact rating: (0.5 - 30) V / 0.1 A
LED rating: (5 - 15) mA

The notified testing body DEKRA EXAM GmbH with attestation of conformity BVS 09 ATEX E 016 X dated 24.03.2009 certifies for switch housing type dC31 conformity of the electrical apparatus with the harmonized european standards EN 60079-0:2006, EN 60079-7:2003, EN 60079-18:2004, EN 61241-0:2006 and EN 61241-1:2004.

Marking: II 2G Ex emb IIC T6
II 2D Ex tD A21 IP6X T80°C

Pos. 52:

Electrical stop devices type C31 and dC31 serve to interrupt an extinguishing order for gas extinguishing systems.

Instructions for the application of the approval component/system (see enclosure 1)

The electrical devices for secondary floodings serve for the release of additional extinguishant after an implemented flooding of a gas extinguishing system and was tested according Guidelines VdS 2496.

The release is indirect (type B), i.e after glass breakage the operation element has to be pressed in order to release the fire alarm.

Both types are intended for the use in the open according to their housing protection class.

Technical data:

Contact rating:	(0.5 ... 30) V / 0.1 A
LED capacity:	(5 ... 15) mA

The notified testing body DEKRA EXAM GmbH with attestation of conformity BVS 09 ATEX E 016 X dated 24.03.2009 certifies for switch housing type dC31 conformity of the electrical apparatus with the harmonized european standards EN 60079-0:2006, EN 60079-7:2003, EN 60079-18:2004, EN 61241-0:2006 and EN 61241-1:2004.

Marking:	II 2G Ex emb IIC T6 II 2D Ex tD A21 IP6X T80°C

Pos. 53:

Manual call point type SMF 121 is a non-addressable detector. It is not equipped with a short circuit isolator.

It complies with type B and is intended for the use in buildings.

Technical data:

Operating voltage	20 V DC ± 10%
Signal transmission	currrent increase
Shelf temperature	(-30...+75) °C
Operating temperature	(-25...+70) °C
Protection class	IP 43

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 54:

The installation shall take into account, that the orientation arrow on the flame detector is directed upwards, as the view angle in this direction is less than 90 °.

The IR-flame detector corresponds to class 1.
The test acc. DIN EN 54-10 Sect. 5.12 'Shock' was not applicable due to the weight of the flame detector incl. support.

The detector with aluminium housing could be used with the aluminium- or the stainless-steel-mounting-arm. The detectors with the stainless-steel-mounting-arm have to be installed with the stainless-steel-mounting-arm.

Operating voltage range: (18 ... 32) V DC

For detector type X3301 with conformity certificate DEMKO No. 01 ATEX 130204 dated 31.08.2007, DEMKO confirms compliance of the electrical equipment with the harmonised European standards 'Electrical apparatus for gas explosive atmospheres' EN 60079-0:2006, EN 60079-1:2004, EN 60078-7:2003 and EN 50020:2002.

Marking: Ex d e m IIC T4
or Ex d e m IIC T3

Pos. 55:

Flame detector type X9800 is only approved in rebatable fire detection and fire alarm systems, if the alarm detection of one flame detector does neither results in the release of an external alarm (audible alarm outside the surveilled building) nor in the triggering of a transmission device for fire detection and fire alarm systems of a public fire detection and fire alarm system.

The installation shall take into account, that the orientation arrow on the flame detector is directed upwards, as the view angle in this direction is < 90 °.

The IR/UV flame detector is a detector of class 1.

The test acc. DIN EN 54-10 Sect. 5.12 'Shock' was not applicable due to the weight of the flame detector incl. support.

Instructions for the application of the approval component/system (see enclosure 1)

The detector with aluminium housing could be used with the aluminium- or the stainless-steel-mounting-arm. The detectors with the stainless-steel-mounting-arm have to be installed with the stainless-steel-mounting-arm.

Operating voltage range: (18 ... 30) V DC

By certificate of conformity DEMCO No. 02 ATEX 132195 dated 28.11.2002, compliance of the detector with the harmonised European standards 'Electrical apparatus for explosive atmospheres' EN 50014, EN 50018, EN 50019 und EN 50281-1-1 has been confirmed by DEMKO for detector type X9800.

Marking: II 2 GD EEx d IIC T5 - T6 T 86°C
or II 2 GD EEx de IIC T5 - T6 T 86°C

Pos. 56

The IR flame detector type Sharpeye 20/20 XI consists of three IR sensors with different wave length ranges each. Due to it's response behaviour it corresponds to a detector of class 1.

The test acc. to DIN EN 54-10, sect. 5.12 - shock - due to the weight of the flame detector and it's holder was not applicable.

Operating voltage range:	(18 ... 32) V DC	
Power consumption (quiescent):	max. 100mA	(with temperated optics: max. 150mA)
Power consumption (alarm):	max. 150mA	(with temperated optics: max. 200mA)

The notified test institute Sira Certification Service confirms for the IR flame detector type Sharpeye 20/20 XI with attestation of conformity Sira 03ATEX1163X dated november 3rd, 2003 the conformity of the electric apparatus with the harmonized European Standards 'Electrical Apparaturs for Hazardous Areas' EN 50014, EN 50018, EN 50019, EN 50020, EN 50284 und EN 50281-1-1.

Marking: EEx d e [ia] IIC T5

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 57

IR flame detector type Sharpeye 20/20 MI has three IR sensors with different ranges of wave length.

The IR flame detector complies with the following response classes:

- lowest sensitivity adjustment 10: response behaviour corresponding class 3
- sensitivity adjustments 20, 30 and 40: response behaviour corresponding class 1

Operating voltage range: (18 ... 32) V DC
Current consumption (quiesc.): max. 25mA
Current consumption (alarm): max. 50mA

With declaration of conformity Sira 04ATEX201 dated September 15th 2005 the notified testing body Sira Certification Service confirms for IR flame detector type Sharpeye 20/20 MI the conformity of the electrical aparatus with the harmonized european standard 'Electrical Aparatuses for Hazardous Areas' EN 50014:1997 + Annex 1+2, EN 50020:2002, EN 50284:1999 and EN 50281-1-1:1998.

Marking: EEx ia IIC T4 and EEX ia IIC T5

Pos. 58

IR flame detector type 20/20 SI comprises three IR sensors with different wavelength ranges each.

The IR flame detector complies with the following response classes:
- Lowest sensitivity adjustment 10: response behaviour complies with class 2
- Sensitivity adjustments 20, 30 and 40: response behaviour complies with class 1

Operating voltage range: (18 ... 32) V DC
Current consumption (quiescent condition): max. 100mA
Current consumption (alarm): max. 150mA

Instructions for the application of the approval component/system (see enclosure 1)

Notified testing body Sira Certification Service certifies for IR flame detector type Sharpeye 20/20 SI versions '-C' and '-C-ST' with declaration of conformity Sira 00ATEX1163 dated 01 September 2006 compliance of the electrical apparatus with the harmonized European Standards 'Electrical Apparatuses for Hazardous Areas' EN 50014:1997 + Annex 1+2 and EN 50018:1994.

Marking: EEx d IIB+H2 T5

Notified testing body Sira Certification Service certifies for IR flame detector type Sharpeye 20/20 SIE versions '-C' and '-C-ST' with declaration of conformity Sira 00ATEX1164 dated 01 September 2006 compliance of the electrical apparatus with the harmonized European Standards 'Electrical Apparatuses for Hazardous Areas' EN 50014:1997 + Annex 1+2, EN 50018:1994 and EN 50019:1994..

Marking: EEx de IIB+H2 T5

Pos. 59 - 61:

IR flame detector type DF 1191 according to VDE 0833-2, sect. 6.4.1.4 is only approved for rebateable fire detection and fire alarm systems, if the alarm signal of only one flame detector does not cause any external alarm (loud audible alarm) or an alarm or a transmission device of a public fire detection system.

IR flame detectors type DF 1191 and DF 1192 may alternatively be switched over to the various line technologies AnalogPLUS, collective or interactive by means of DIP switches placed on the back of the detectors. IR flame detector DF 1101-Ex however is only designed for the collective fire detection system.

When projecting the detectors it shall be regarded, that the view angle is equal to or less than 90°.

Supply voltage range:
(AnalogPLUS and collective): (16 ... 28) V DC

Supply voltage range:
(interactive): (21.2 ... 33.3) V DC

Instructions for the application of the approval component/system (see enclosure 1)

The 'Physikalisch -Technische Bundesanstalt' certifies for IR flame detector type DF 1101-Ex with declaration of conformity PTB 02 ATEX 2161 dated 22.01.2003 the conformity with the harmonized European standards 'Electrical Apparaturs for Hazardous Areas'.

Marking: II 2 G Eex ib IIC T4

Pos. 62

UV flame detector type X2200 is only approved in rebateable fire detection and fire alarm systems, if an alarm raised by only one flame detector does neither results in the release of an external alarm (audible alarm outside the surveilled building) nor in the triggering of the transmission device for fire detection and fire alarm systems of a public fire detection and fire alarm system.
The installation shall take into account, that the orientation arrow on the flame detector is directed upwards, as the view angle in this direction is < 90 °.
The IR/UV flame detector is a detector of class 1.
The test acc. DIN EN 54-10, Sect. 5.12 'Shock' due to the weight of the flame detector and it¿s mounting arm was not applicable.

The detector with aluminium housing could be used with the aluminium- or the stainless-steel-mounting-arm. The detectors with the stainless-steel-mounting-arm have to be installed with the stainless-steel-mounting-arm.

Operating voltage range: (18 ... 30) V DC

By certificate of conformity DEMCO No. 02 ATEX 132195 dated 15.12.2004, compliance of the detector with the harmonised European standards 'Electrical apparatus for explosive atmospheres' EN 50014, EN 50018, EN 50019 und EN 50281-1-1 has been confirmed by DEMKO for detector type X2200.

Marking: II 2 GD EEx d IIC T5 - T6 T 86°C
or II 2 GD EEx de IIC T5 - T6 T 86°C

Pos. 63

The installation shall take into account, that the orientation arrow of the flame detector is directed upwards, as the view angle in this direction is < 90°.

Instructions for the application of the approval component/system (see enclosure 1)

The IR/UV flame detector is a detector of class 1.

The test acc. DIN EN 54-10, sect. 5.12 'shock' due to the weight of the flame detector and it¿s mounting arm was not applicable.

The detector with aluminium housing could be used with the aluminium- or the stainless-steel-mounting-arm. The detectors with the stainless-steel-mounting-arm have to be installed with the stainless-steel-mounting-arm.

Operating voltage range: (18 ... 30) V DC

By certificate of conformity DEMKO No. 02 ATEX 132195 dated 28.11.2002, compliance of the detector with the harmonised European standards 'Electrical apparatus for explosive atmospheres' EN 50014, EN 50018, EN 50019 und EN 50281-1-1 has been confirmed by DEMKO for the detector of type X5200.

Marking: II 2 GD EEx d IIC T5 - T6 T 86°C
or II 2 GD EEx de IIC T5 - T6 T 86°C

Pos. 64 - 66:

Sounders type Y03, YA30, Y04, YA40, Y05 and YA50 are approved as alarm devices for the use in automatic fire detection and fire alarm systems.

Types Y03 and YA30 are technically identical and only differ in the type designation. The same applies to types Y04/YA40 and Y05/YA50.

Sounders Y03/M0, Y04/M0 and Y05/M0 are constructionally identical with the sounders mentioned above apart from an additionally integrated supply voltage switch for the protection against voltage loss.

The approval covers three types of tones:

Tone No 1: alternating two-tone (800/1000) Hz
Tone No 30: slow tone (500-1200) Hz
Tone No 31: reversal sweep (1200-500) Hz.

Instructions for the application of the approval component/system (see enclosure 1)

The volume control of the sounders must be set to the maximum.
The sounders operated within a supply voltage range of 18 V to 26.4 V.
The sounders correspond to type A and thus are exclusively intended for the use in buildings.

Pos. 67:

The audible warning device, sounder type B/SE 128 offers 28 different types of tones.

The following tones were tested and approved for the use in fire detection and fire alarm systems:

No. (acc.to manufacturer)	Type of tone	Frequency [Hz]	Modulation [Hz]	Code 12345
8	Fading-out saw tooth	1200 - 500	1	11000

Supply voltage range:	(10 ... 28) V DC
Nominal operating voltage	12/24 V DC

A retention screw against falling out of the support bracket shall secure the warning device.

Pos. 68:

4 different tones may be adjusted at sounders type Symphoni Low Power. The sounders are available as 'standard version' and as 'european version'. For both models 3 tones were tested.

For the 'standard version' of type SY/C and SY/C/WP only the following tones are approved for the use in fire detection and fire alarm systems:

Tone No.	Tone	Frequency	
29	Alternating tone	990 Hz / 650 Hz	250ms / 250ms
33	Continuous tone	990 Hz	
34	Pulse tone	990 Hz	500ms / 500ms

Instructions for the application of the approval component/system (see enclosure 1)

For the 'european version' of type SY/C/E and SY/C/E/WP only the following tones are approved for the use in fire detection and fire alarm systems:

Tone No.	Tone	Frequency	
7	Slow whoop	500-1200 Hz	3.5s / 0.5s Pause
8	Slow whoop	1200-500 Hz	1 Hz
33	Continuous tone	990 Hz	

Models SY/C and SY/C/E of sounders type Symphoni Low Power correspond with type A for the use in buildings, models SY/C/WP and SY/C/E/WP correspond with type A/B for the use in buildings and in the open.

Operating voltage range:	18 - 28 V DC
Alarm current:	0.5 - 11 mA

Pos. 69:

32 different tones may be adjusted at sounders type Symphoni High Power.

Only the following tones are approved for the use in fire detection and fire alarm systems:

Tone No.	Tone	Frequency	
3	Slow whoop	800-970 Hz	1 Hz
7	Slow whoop	500-1200 Hz	3,5s / 0,5s Pause
8	Slow whoop	1200-500 Hz	1 Hz
14	Continuous tone	970 Hz	
29	Alternating tone	990 Hz / 650 Hz	250ms / 250ms
30	Alternating tone	510 Hz / 610 Hz	250ms / 250ms

Version SYHO/C of sounder type Symphoni High Power corresponds with type A for the use in buildings, version SYHO/C/WP corresponds with type A/B for the use in buildings and in the open.

Operating voltage range:	18 - 28 V DC
Alarm current:	220 - 260 mA

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 70:

32 different tones may be adjusted at sounder type Roshni LP Solista.

Only the following tones are approved for the use in fire detection and fire alarm systems:

Tone No.	Tone	Frequency	
3	Slow whoop	800-970 Hz	1 Hz
7	Slow whoop	500-1200 Hz	3,5s / 0,5s Pause
8	Slow whoop	1200-500 Hz	1 Hz
14	Continuous tone	970 Hz	
29	Alternating tone	990 Hz / 650 Hz	250ms / 250ms
30	Alternating tone	510 Hz / 610 Hz	250ms / 250ms

Sounder type Roshni LP Solista corresponds with type A for the use in buildings.
Operating voltage range: 18 - 28 V DC
Alarm current: 9 - 38 mA

Pos. 71:

The adressable sounder type BA-SOL is approved as alarm device for the use in automatic fire detection and fire alarm systems. Adressing and supply is realised directly via the loop wiring technology.

Type BA-SOL may exclusively be connected to loop wiring technology type SecuriLine.

Two sound levels may be adjusted via a DIP switch.

Type BA-SOL complies with environmental class type A acc. DIN EN 54-3:2006 and is intended for the indoor use.

The adressable alarm device provides an isolating function.

Tone:	Frequency:
Slow whoop	1200/500Hz
Slow whoop	500/1200Hz
Continuous tone	990Hz (Puls rate in the control and indicating equipment freely adjustable)

Instructions for the application of the approval component/system (see enclosure 1)

Technical data:

Operating voltage:	15 to 30 VDC
Current consumption:	2.4 mA @ 24 VDC (loudness low)
	4.8 mA @ 24 VDC (loudness high)
Connection:	Screwing terminals, max. 2.5 mm²
Loudness @ 24 VDC:	89 dB ± 3 dB @ 1 m (loudness low)
	99 dB ± 3 dB @ 1 m (loudness high)
Protection class:	IP 21c
Environmental temperature:	-10° to +55°C
Diameter:	max. 108 mm
Installation height:	96 mm
Housing colour:	white or red
Housing material:	ABS
Weight:	230 g

Pos. 72:

3 different tones may be adjusted at the sounders.

The following tones are approved for the use in fire detection and fire alarm systems:

Tone No.	Tone	Frequency
01	DIN Tone	(1200 ~ 500) Hz
02	Slow Whoop	(500 ~ 1200) Hz
03	Continuous Tone	880 Hz

The sounders comply with type A and are intended for the use in buildings. Loop sounders type SBL 501 and SBL 502 are multi tone horns with a direct voltage supply from the loop.
They comprise a short circuit isolator. Alarm device SBL 501 may be operated independently or together with a detector of series SecuriStar or SecuriStarH. Alarm device SBL 502 can only be operated as a pure acoustic alarm device.

Operating voltage range:	(15 - 30) V DC
Alarm operating current:	max. 3.9 mA

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 73:

32 different tones may be adjusted at sounder type CS200.

The environmental class corresponds with type A for the use in buildings.

Only the following tones are approved for the use in fire detection and fire alarm systems:

Tone No.	Tone	Frequency	
3	Slow whoop	800-970 Hz	1 Hz
7	Slow whoop	500-1200 Hz	3,5s / 0,5s Pause
8	Slow whoop	1200-500 Hz	1 Hz
14	Continuous tone	970 Hz	
29	Alternating tone	990 Hz / 650 Hz	250ms / 250ms
30	Alternating tone	510 Hz / 610 Hz	250ms / 250ms

Operating voltage range: 18 - 28 V DC
Current consumption (alarm): max. 33 mA

Pos. 74:

The flash lights operate in the following operating voltage ranges:

Type V4 9 - 15 V DC
FL40/B25/R-/RF, -/RN, -/WN
FL40/B25/A-/RF, -/RN, -/WN
FL40/B25/O-/RF, -/RN, -/WN
FL40/B25/C-/RF, -/RN, -/WN

Type V4 18 - 30 V DC
FL40/D50/R-/RF, -/RN, -/WN
FL40/D50/A-/RF, -/RN, -/WN
FL40/D50/O-/RF, -/RN, -/WN
FL40/D50/C-/RF, -/RN, -/WN

The flashing light is designed for use in dry rooms.

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 75:

Detectors type Solex 3, 10 and 15 serve for an optical alarm in case of a fire.

The detectors are assigned to environmental class A (for the use in buildings).

Operating voltage range:	(9 to 60) V DC
Current consumption (at 24 V DC):	38 mA (for Solex 3)
	88 mA (for Solex 10)
	242 mA (for Solex 15)

Pos. 76:

Detector base type 143 Ex-i serves for the connection of intrinsically safe detectors of series 130 Ex-i.

It may only be used within an intrinsically safe area.

The connection lines shall be led through the blew cable glands.

Pos. 77:

Radio base type SMF 6120 is operated together with manual call point type SMF 121.

It enables the wireless bidirectional communication of the manual call point SMF 121 with a radio receiver (gateway), which forwards via wire the detections transferred via radio signal to the control and indicating equipment.

Technical data:

Operating voltage:	2 x 3.6 V lithium batteries
Medium current consumption:	60 µA
Battery life time:	> 5 years
Transmitting performance:	max. 5 mW
Frequency range:	(868 ... 870) MHz
Channel raster :	25 kHz
Operating temperature:	(-10 ... 55) °C
Relative humidity:	95% without dewing

Instructions for the application of the approval component/system (see enclosure 1)

The lithium batteries shall be exchanged at least every four years.

Pos. 78 - 80:

SD-Adapter type FSK A 0750, AD 900-1 and FSD-AD:

no instructions for use given

Pos. 81:

Input-/output module Typ B3-MMI-UIO is for controlling the floor plan and parallel display panels or as a remotely located input/output module for querying potential-free contacts (sprinkler systems), or also for controlling non-monitored horns, lamps, relays etc. The module is either built directly in to the relevant panel or in branch cases.

The B3-MMI-UIO may only be connected to the INTEGRAL MMI-BUS.

Technical Data:

Operating voltage:	10 to 30 V
Current consumption:	14 mA
Data transmission:	MMI-BUS
electrical:	galvanically isolated RS 485
Protocol:	serial, DIN 19244-3
Distance to Subcontrol unit:	max. 1,200 m
Connection:	Floor plan, parallel indicator tableaux, flashing lights, sirens, sprinkler systems, etc.
Connection information:	64 LED outputs 2 mA 512 LED outputs per B5-BAF 8 open collector outputs, up to 100mA max. max. output voltage of +30 V 8 inputs with 8 outputs which can be interconnected as an 8x8 matrix Input voltage + 5V Input current 3.3 mA max.
Ambient temperature:	0° to +50°C
Dimensions:	160 x 105 x 20 mm

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 82:

Loopmodule BA-OI3 contains a short circuit-proof monitored output and a galvanically isolated input, with the power supply also being internally monitored on the loop circuit for undervoltage. The BA-OI3 may only be connected to the INTEGRAL loop technology.

Technical Data:

Operating voltage:	15 to 27 VDC (from the loop circuit)
Current consumption:	460 µA typ.
Signal transmission:	serial, 2 wire technology
Relay output:	bistable change-over contact 230 V/2 A, (max. 60 W)
Monitored inputs:	for potential-free contacts
Optocoupler input:	Querying potentially-charged signals or external voltages of 0-30 VDC
Connection:	Screw-type terminals, max. 1.5 mm²
Short circuit isolator:	integrated
Protection class:	IP 66 with case
Ambient temperature:	-20° to +60°C
Relative air humidity:	5 to 95% without condensation
Dimensions:	67x67x20 mm (with case 94x94x57 mm)
Case:	Polystyrol, halogen-free, grey RAL7035

Pos. 83:

Loopmodule BA-AIM can be configured as a monitored input for querying potential-free contacts or as a collectively addressable detector zone (DC technology). The monitored input can, if required, be used as a "standard extinguishing interface" in accordance with VdS directives.

The BA-AIM may only be connected to the INTEGRAL loop technology.

Instructions for the application of the approval component/system (see enclosure 1)

Technical Data:

Operating voltage:	20 to 27 VDC (from the loop circuit)
Current consumption:	without DC branch: 500 µA typically
	with DC branch: 1800 µA typically
Signal transmission:	serial, 2 wire technology
Function:	DC branch module, monitored input
Connection:	Screw clips, maximum 1.5 mm²
Short circuit isolator:	integrated
Protection class:	IP 66 with case
Ambient temperature:	-20° to +60°C
Relative air humidity:	5 to 95%, without condensation
Dimensions:	67x67x20 mm (with case 94x94x57 mm)
Case:	Polystyrol, halogen-free, grey RAL7035

Pos. 84:

Ring line module BX-AIM may be designed as surveilled input for the request of potential-free contacts or as a collective adressable detector group (direct current technology). If required, the surveilled input may be used as input for the standardised interface for extinguishing systems acc. VdS guidelines.

The module BX-AIM shall exclusively be connected to ring line technology of the systems Integral and SecuriFire.

Technical data:

Operating voltage:	10 to 29 VDC (from the ring line)
Current consumption:	without direct current branch: typ 460 µA
	with direct current branch: typ. 1800 µA
Signal transmission:	seriel, 2 conductor technology
Function:	direct current branch, surveilled input
Connection:	screw terminals, max. 1,5 mm²

Instructions for the application of the approval component/system (see enclosure 1)

Short circuit isolator:	integrated
Type of protection:	IP 66 with housing
Ambietn temperature:	-20° to +60°C
Rel. humidity:	5 to 95%, without condensation
Dimensions:	67x67x20 mm (with housing 94x94x57 mm)

Pos. 85:

Loopmodule BA-IM4 contains four inputs for the monitored and non-monitored querying of potential-free contacts. The operating mode can be set and is set separately for every input by means of software. The inputs are suitable for detecting switching states of longer than 330ms.

The BA-IM4 may only be connected to the INTEGRAL loop technology.

Technical Data:

Operating voltage:	15 to 27 VDC (from the loop circuit)
Current consumption:	460 µA typically
Signal transmission:	serial, 2 wire technology
Function:	4 inputs for monitored/non-monitored querying of potential-free contacts
Connection:	Screw clips, maximum 1.5 mm²
Short circuit isolator:	integrated
Protection class:	IP 66 with case
Ambient temperature:	-20° to +60°C
Relative air humidity:	5 to 95% without condensation
Dimensions:	67x67x20mm (with case 94x94x57mm)
Case:	Polystyrol, halogen-free, grey RAL7035

Pos. 86:

Loopmodule BA-RGW serves as a receiver unit for all wireless fire detectors for connection into INTEGRAL loop technology and comprises 3 components, the radio gateway including case, the BA-RFM radio module and 1 pc. 9V battery.

Instructions for the application of the approval component/system (see enclosure 1)

The radio module is connected to the radio gateway's circuit board and is used to communication with the radio-linked smoke detectors. Module BA-RGW is supplied with power from a loop circuit, with the 9V battery being used for the commissioning process or for ensuring the continuity of the power supply during maintenance.

The BA-RGW may only be connected to the INTEGRAL loop technology.

Technical Data:

Operating voltage:	20 to 27 VDC
Current consumption:	950 µA typically
System connection:	20 pin 2 rowed multipoint connector
Buffer battery:	9 V Lithium (operating lifetime: > 5 years)
Frequency range:	868 to 870 MHz
Transmitter power:	max. 5 mW
Detectors that can be connected:	max. 30
Range in buildings:	up to 40 metres with intervisibility
Aerial:	double integrated aerials
Protection class:	IP 54 with case
Ambient temperature:	-10° to +55°C
Relative air humidity:	5 to 95% without condensation
Dimensions:	93 x 70 x 24 mm (with case 120 x 80 x 57 mm)
Case:	Polystyrol, halogen-free, grey RAL7035

Pos. 87:

Loopmodule BA-REL4 contains 4 relays each containing a potential-free double-throw contact with a fail-safe, with the power supply also being internally monitored on the loop circuit for undervoltage.

The BA-REL4 may only be connected to the INTEGRAL loop technology.

Instructions for the application of the approval component/system (see enclosure 1)

Technical Data:

Operating voltage:	15 to 27 VDC (from the loop circuit)
Current consumption:	460 µA typ.
Signal transmission:	serial, 2 wire technology
Function:	4 potential-free relay outputs
Connection:	Screw clips, maximum 1.5 mm²
Relay output connection:	Screw clips, maximum 2.5 mm²
Length of wires:	100 m max.
Short circuit isolator:	integrated
Protection class:	IP 66 with case
Ambient temperature:	-20° to +60°C
Relative air humidity:	5 to 95% without condensation
Relay output:	bistable change-over contact 230 V / 2 A
Switching power:	60 W (230 V, 0.25A)
Switching Frequency:	3.125 Hz max.
Pulse emission:	200ms- 25 s in 100 ms intervals
Dimensions:	100 x 67 x 20 mm (HxWxD) Case: 130 x 94 x 57 mm (HxWxD)
Case:	Polystyrol, halogen-free, grey RAL7035

Pos. 88:

Loopmodule BA-IOM contains a short circuit-proof monitored output and a galvanically isolated input, with the power supply also being internally monitored on the loop circuit for undervoltage.

The BA-IOM may only be connected to the INTEGRAL loop technology.

Technical Data:

Operating voltage:	15 to 27 VDC (from the loop circuit)
Current consumption:	460 µA typ.
Signal transmission:	serial, 2 wire technology
Function:	1 short circuit resistant monitored output, 1 optocoupler input
Connection:	Screw clips, maximum 1.5 mm²
Monitored output:	Loads of 20 W to 1kW, 3 load ranges
Max.output current 1.5A short circuit resistant:	Quiescent current 1 to 15 mA via jumpers

Instructions for the application of the approval component/system (see enclosure 1)

Optocoupler input:	IN+: 0 - 30 V; input resistance: 4.9 kW VEXT: 0 - 30 V; input resistance: 10 kW max. wiring length: 1000 m each
Short circuit isolator:	integrated
Protection class:	IP 66 with case
Ambient temperature:	-20° to +60°C
Relative air humidity:	5 to 95% without condensation
Dimensions:	67x67x20 mm (with case 94x94x57 mm)
Case:	Polystyrol, halogen-free, grey RAL7035

Pos. 89:

By means of modules type SDI 82A resp. SDI 82/1 alarm contacts, which in case of an emergency alarm shall transmit an alarm as an emergency alarm and do not comprise an integrated SecuriLine® adressation, may be connected via input 1 to the SecuriLine®. Output 1 is also activated in case of an emergency alarm when switching input 1. Inputs 2 and 3 may be used as usual control inputs. A second output is provided from SDI 82/1. It is not activated in case of an emergency alarm. Alarm input 1 and control inputs 2 and 3 as well as the outputs may be programmed and connected via the system software.

The modul shall be mounted with silicon glue into housing type1094-01 of the company Kaiser.

The distance between the SDI 82x and the devices/detectors shall not exceed 0.3 m.

Technical data acc. manufacturer's specifications:

Operating voltage SecuriLine®:	(15 ... 30) V DC
Operating current SecuriLine® at 24 V constant:	500 µA
Input range low:	(0 ... 0.6) V DC
Input range high:	(1.35 ... 3.3) V DC
Output current range output 1 (open collector):	8.5mA
Output current range output 2 (open collector):	10mA
Output voltage range outputs 1, 2 (open collector):	30VDC

Pos. 90 to 92:

Triggering Devices for Key Safes:

no instructions for use given

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 93 to 95:

Batteries:

The batteries shall not be installed within gas-proof housings.

Pos. 96:

Fire brigade control panel type FBF 0740 may only be operated at the following control and indicating equipment:

- Type INTEGRAL (G 298029, G 204109)
- Type INTEGRAL C (G 200081, G 205049)
- Type INTEGRAL C1B/C1F (G 206055, G 206096)

Pos. 97:

Fire brigade control panel type FBF 2001 may only be operated at the following control and indicating equipment:

Novar

BMZ 3002 (from software version V3.01)

BMZ 8000C

BMZ 8007 (from software version 2.38)

BMZ 8008 (from software version 2.38)

G E

BMZ series FP 2000

Schrack

BMZ Integral

BMZ Integral C

BMZ Integral C1B/C1F

Instructions for the application of the approval component/system (see enclosure 1)

VSK electronics N.V

BMZ FALCONet

Notifier

BMZ NF300

BMZ NF3000

BMZ NF400

BMZ NF500

BMZ NF5000

Pos. 98:

Fire brigade control panel type FBF260 provides a parallel interface acc. DIN 14661 Annex A1 and A2. For operation of the fire brigade control panel the control and indicating equipment shall be equipped with the respective interface or the belonging connection technology. Fire brigade control panel type UGIS-FBF consists of FBF260 with cross-linking module and is the linkable version acc. VdS 2878.

Pos. 99:

Fire brigade control panel type FBF 2003 with serial interface may only be used in connection with the following control and indicating equipment:

- FireLite EcoLoop (Approval G 204084)
- VSK FALCONnet (Approval G 207044)
- INTEGRAL (Approvals G 204109, G 298029)
- INTEGRAL C (Approvals G 200081, G 205049)
- INTEGRAL C1B/C1F (Approvals G 206055, G 206096)
- detect 3400 (Approval G 208123)
- Siemens FC 2020 (Approval G 206109)
- Siemens FC 2030 (Approval G 208201)
- Siemens FC 2040 (Approval G 206110)
- Siemens FC 2060 (Approval G 208202)

Instructions for the application of the approval component/system (see enclosure 1)

- Siemens FC 722 (Approval G 209076)
- Siemens FC 724 (Approval G 209077)

The c.i.e. Firelite Ecoloop (Approval G 204084) shall be equipped with a connecting module (RS232 module, Art.-No 9024.0011) according to the manufacturer's specifications.
Furthermore, the fire brigade control panel FBF2003 with serial interface and RS232 module at an IFAM fire brigade indication panel type FAT 3000 may be used in connection with an IFAM ADP-N3H module at the following c.i.e:

- Siemens FC 2020 (Geräteanerkennung G206109

Pos. 100:

The redundant fire brigade indication panel type B3-MMI-FAT is designed for the connection to the following control and indicating equipment:

- Type INTEGRAL (G 298029, G 204109)
- Type INTEGRAL C (G 200081, G 205049)
- Type INTEGRAL C1B/C1F (G 206055, G 206096)

Current consumption B3-MMI-FAT:

Quiescent condition:	21 mA typ.
Failure Display light on:	45 mA typ.
Failure Display light off:	23 mA typ.
Alarm:	46 mA typ.

Pos. 101:

Fire brigade indication panel type FAT 3000 via redundant connecting module ADP-N3E is intended for the connection to the following control and indicating equipment :

BMZ 8000 C (G 299044)
BMZ 8000 M (G 299044)
BMZ 8007 (G 296006)
BMZ 8008 (G 296046)
BMZ INTEGRAL (G 298029, G 204109)
BMZ INTEGRAL C (G 200081, G 205049)

Instructions for the application of the approval component/system (see enclosure 1)

Furthermore, via redundance connection module ADP-N3H the fire brigade indication panel FAT 3000 is intended for the connection to the following c.i.e:

Siemens FC2020 (G 206109)
Siemens FC2030 (G 208201)
Siemens FC2040 (G 206110)
Siemens FC2060 (G 208202)
Siemens FC722 (G 209076)
Siemens FC724 (G 209077)

Current consumption:	
(quiescent condition)	60 mA / 12 V
(with LCD lightning)	110 mA / 12 V
(indication test)	150 mA / 12 V

Pos. 102:

Power supply equipment type BE-PSE12-C is intended for the use as external secondary device in automatic fire detection and fire alarm systems as well as in smoke and heat exhaust ventilation systems. The power supply may be separated from the control and indicating equipment resp. the control and indicating panel, in this case the transmission of power supply conditions shall be surveilled by means of an interface and indicated at the c.i.e. resp. the control and indicating panel.

The power supply has an integrated optical indication in access level 1 and may be equipped with an optionally available acoustical alarm device (e.g. PA100, approved acc. EN 54-3:2006). (Operation is possible without transmission of power supply conditions to a c.i.e. resp. a control and indicating panel, "stand alone operation").

In case of a use as power supply for a control and indicating equipment it shall be mounted in close proximity to the c.i.e.

The maximum connectable battery capacity is 65Ah.

The power supply is not desigend for a parallel connection.

The total discharge protection is an integrated element of the power supply.

Instructions for the application of the approval component/system (see enclosure 1)

Technical data BE-PSE12-C:

Input voltage:		230 V AC +10/-15 %
Output voltage:		(21.6 ... 28.3) V
Max. charging voltage:		28.3 V +/- 0.4 %
Output currents	ImaxB:	12 A
	ImaxA:	(8.75 ... 10.7) A (depending on the used battery capacity)
Ambient temperature:		(-5 ... 40) °C
Rel. humidity:		5 % to 95 %, without condensation
Protection class:		IP30
Dimensions housing:		608 x 464 x 213 mm (HxWxD)
Colour housing:		RAL 7035
Weight housing:		12.2 kg, without batteries

Pos. 103:

Power supply equipment type BE-PSE03-C is intended for the use as external secondary device in automatic fire detection and fire alarm systems as well as in smoke and heat exhaust ventilation systems. The power supply may be separated from the control and indicating equipment resp. the control and indicating panel, in this case the transmission of power supply conditions shall be surveilled by means of an interface and indicated at the c.i.e. resp. the control and indicating panel.

The power supply has an integrated optical indication in access level 1 and may be equipped with an optionally available acoustical alarm device (e.g. PA100, approved acc. EN 54-3:2006). (Operation is possible without transmission of power supply conditions to a c.i.e. resp. a control and indicating panel, "stand alone operation").

According to the "Muster-Leitungsanlagen-Richtlinie" (MLAR -Guidelines for prototype wiring systems), Abs. 5.2 b, in order to maintain the function the power supply may be installed within fire protection housing LW 5.2-30 M (281047).

In case of a use as power supply for a control and indicating equipment it shall be mounted in close proximity to the c.i.e.

Instructions for the application of the approval component/system (see enclosure 1)

The maximum connectable battery capacity is 26Ah.

The power supply is not desigend for a parallel connection.

The total discharge protection is an integrated element of the power supply.

Technical data BE-PSE03-C:

Input voltage:		230 V AC +10/-15 %
Output voltage:		(21.6 ... 28.3) V
Max. charging voltage:		28.3 V +/- 0.4 %
Output currents	ImaxB:	3 A
	ImaxA:	(1.7 ... 2.4) A (depending on the used battery capacity)
Ambient temperature:		(-5 ... 40) °C
Rel. humidity:		5 % to 95 %, without condensation
Protection class:		IP30
Dimensions housing:		362 x 464 x 210 mm (HxWxD)
Colour housing:		RAL 7035
Weight housing:		7.2 kg, without batteries

Pos. 104:

1. The transmission device is applicable for the following transmission path types following the "Verzeichnis für Übertragungswege"(listing of transmission pathes) VdS 2532 and the "Richtlinien für Übertragungswege" (guidelines for transmission pathes) VdS 2471:
   - A4 for the connection to a telephone dial network with analogue participant connection
   - A10 via D1/D2 data radio connection
2. The transmission protocol acc. VdS 2465 can not be used for transmission path type A4.
3. The device is not suitable for the use in intruder alarm systems acc. DIN EN 50131-1.

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 105:

1. The transmission device is applicable for the following transmission path types following the "Verzeichnis für Übertragungswege"(listing of transmission pathes) VdS 2532 and the "Richtlinien für Übertragungswege" (guidelines for transmission pathes) VdS 2471:
   - A6 for the connection to an ISDN connection
   - A7 for the connection to a X.25 fixed or dial connection
   - A10 via D1/D2 data radio connection
2. Transmission device type 3216 M shall only be used with intruder alarm systems of the company Telenot intended for this use.

Pos. 106:

1. The transmission device is applicable for the following transmission path types following the "Verzeichnis für Übertragungswege"(listing of transmission pathes) VdS 2532 and the "Richtlinien für Übertragungswege" (guidelines for transmission pathes) VdS 2471:
   - A6 for the connection to an ISDN connection
   - A7 for the connection to a X.25 fixed or dial connection
   - A10 via D1/D2 data radio connection
   - A13 for the connection to nets of record family IP (e.g. TCP, UDP)
2. Transmission module Arudan shall be installed in a way (e.g. lockable 19" housing) that access of third parties is not possible.
3. If the transmission device is used for transmission of alarm detections to IP nets an additional transmission path is neccessary. Here exclusively VdS approved transmission paths shall be used. It shall be granted that the additional transmission path is not brought up out of the main transmission path of the IP net.
4. In order to fulfil the requirements of DIN EN 54-21 a housing with LED and a power supply complying with DIN EN 54-4 shall be used.

to Certificate of Approval No. S 200081 date 01.10.2009

Instructions for the application of the approval component/system (see enclosure 1)

Pos. 107:

1. The transmission device is applicable for the following transmission path types following the "Verzeichnis für Übertragungswege"(listing of transmission pathes) VdS 2532 and the "Richtlinien für Übertragungswege" (guidelines for transmission pathes) VdS 2471:
   - A6 for the connection to an ISDN connection
   - A7 for the connection to a X.25 fixed or dial connection
   - A10 via D1/D2 data radio connection
   - A13 for the connection to nets of record family IP (e.g. TCP, UDP)
2. Transmission module Arudan shall be installed in a way (e.g. lockable 19" housing) that access of third parties is not possible.
3. If the transmission device is used for transmission of alarm detections to IP nets an additional transmission path is neccessary. Here exclusively VdS approved transmission paths shall be used. It shall be granted that the additional transmission path is not brought up out of the main transmission path of the IP net.
4. In order to fulfil the requirements of DIN EN 54-21 a housing with LED and a power supply complying with DIN EN 54-4 shall be used.