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TITANUS Aspiring Smoke Detectors LSN



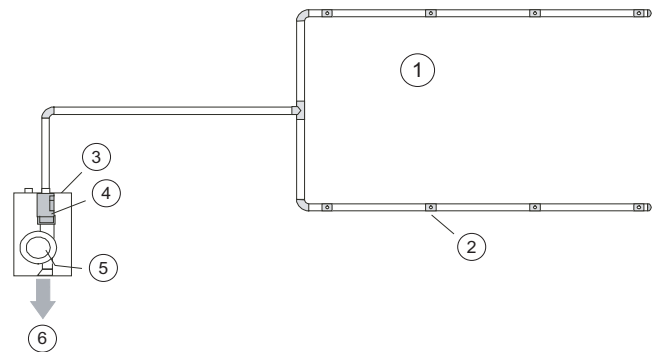
- High deceptive alarm security with intelligent signal processing *LOGIC-SENS*
- Innovative airflow monitoring including single-hole monitoring detects obstruction and breakage
- Initial set-up made easy by automatic initialization
- Easy diagnosis through flash code on the Detector Module or by using the *DIAG* Diagnostic Software
- Simple implementation of the pipe system planning through patented Aspiration Reducing Film Sheets

The TITANUS Aspiring Smoke Detectors are active fire detection systems that are connected directly to the Local SecurityNetwork LSN for early fire detection in area and equipment monitoring, as well as for the monitoring of air conditioning units or ducts.

Their resistance to contamination, the temperature compensation of the sensor signals and initialization in relation to air pressure ensure reliable operation even under difficult environmental conditions.

The two TITANUS models *PRO-SENS*® and TITANUS *TOP-SENS*® have the newest detection technology. They can be equipped with one or two Detector Modules.

System Overview



Pos.	Description
1	Pipe system/air intake
2	Air sampling openings
3	Housing
4	Detector Module incl. airflow sensor
5	Aspiration unit
6	Air outlet

Functions

The aspiration unit takes air samples from the monitoring area through a pipe system with defined air sampling borings and passes the samples to the Detector Module.

Depending on the response sensitivity of the used Detector Module, the TITANUS Aspirating Smoke Detector triggers an alarm when the appropriate light obscuration is reached. This alarm is displayed via the alarm LED on the unit and is forwarded to a fire panel.

An airflow sensor checks the connected pipe system for breakage and obstruction.

Intelligent signal processing *LOGIC-SENS* makes a comparison of the measured smoke level with known disturbance variables and decides between alarm and deception. The alarm thresholds as well as the display and forwarding of faults can be altered with various delay times.

Each Detector Module is monitored for contamination, signal malfunction and removal. Malfunctions and certain device statuses are displayed using various LED flash codes on the Detector Module's electronics PCB.

A fault message is reset via the connected fire detection control unit. The integrated interfaces (NSB 100 LSN/ NBK 100 LSN) ensure that the alarm and fault messages on the unit are reset simultaneously with the detector line.

There are three different Detector Modules available for the TITANUS *PRO-SENS*® and the TITANUS *TOP-SENS*®. These modules have different response sensitivities:

Detector Module <i>PRO-SENS</i> ® / <i>TOP-SENS</i> ®	Max. sensitivity (light obscuration)	Levels for selection
DM-TP-80 / DM-TT-80	0.8 %/m	2
DM-TP-25/DM-TT-25	0.25 %/m	4
DM-TP-05/DM-TT-05	0.05 %/m	4

In the TITANUS *PRO-SENS*® TP-2 A and the TITANUS *TOP-SENS*® TT-2 two Detector Modules are built in. Two air sampling pipe systems can be connected to monitor two areas. When monitoring only one area with two pipe systems, dual-detector dependency may be implemented.

Model variants *PRO-SENS*® and *TOP-SENS*®

The TITANUS *PRO-SENS*® is the cost-effective Aspirating Smoke Detector for universal use with LED displays for operation, malfunction, and alarm (two alarm indications on the *PRO-SENS*® TP-2 A).

The TITANUS *TOP-SENS*® offers differentiated alarm indications (info, pre, and main alarm) as well as a smoke level display in 10 levels (with the *TOP-SENS*® TT-2 all alarm and smoke level displays are doubled).

Region	Certification	
Germany	VdS	G 204082 PRO SENS / TOP SENS
Europe	CE	TITANUS TP-1 A/-2 A TITANUS TT-1/-2
Czech Republic	EZÚ	1050209 TITANUS PROSENS, TITANUS TOPSENS
Hungary	TMT	TMT-29/6/2004 TITANUS TOPSENS/ PROSENS
Russia	GOST	POCC DE.C313B06300

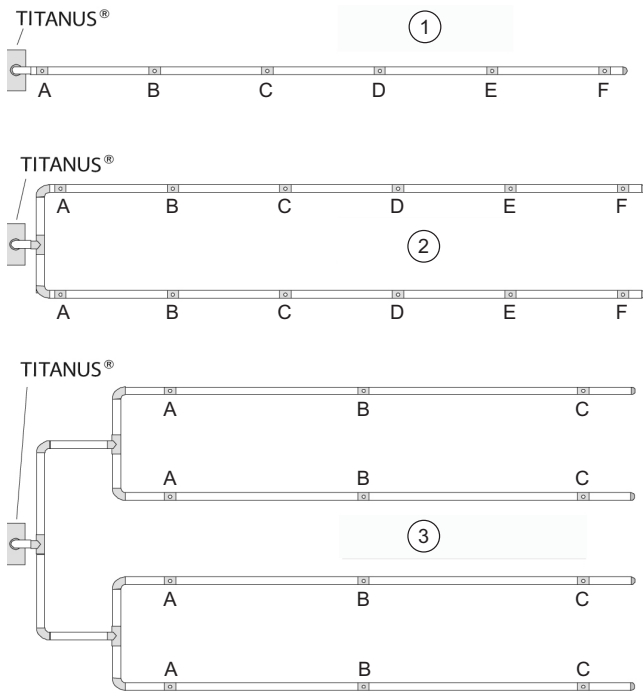
Installation/Configuration Notes

- Can be connected directly to the Local SecurityNetwork through integrated interfaces
- In the TITANUS *PRO-SENS*® an external detector alarm display can be connected. For the TITANUS *TOP-SENS*® the connection of the external detector alarm display is not possible!
- In planning, a distinction is made between area monitoring and equipment monitoring.
- PVC pipes and halogen-free aspiration pipes can be used.
- For equipment monitoring, halogen-free pipes should be used.
- The air sampling pipe system should be arranged such that any fires can be detected at the initial stage.
- The pipe system including air sampling openings must always be symmetrical in design ($\pm 10\%$ deviation).
- If structural issues make it impossible to maintain this symmetry, the following conditions apply:
 - The number of air sampling openings and the length of the shortest and longest pipe branch within the pipe system must not exceed a quantity ratio of 01:02.
 - The distance between neighboring air sampling openings on the aspiration pipe must be even (max. deviation $\pm 20\%$).
 - The diameters of the air sampling openings are determined separately for each pipe branch. The diameters depend on the total number of air sampling openings in the pipe branch in question.
- Greater distances between the aspirating smoke detector and aspiration pipe are specified for pipes with a 40 mm diameter.
- Depending on the geometrics of the area, the I-, U- or double U-pipe system is utilized.

Note Take notice when planning that the fans of the TITANUS devices produce a noise level of 45 dB(A).

Certifications and Approvals

VdS approval number: **G 204 082**



Pos.	Designation
1	I-pipe system
2	U-pipe system
3	Double U-pipe system

- For a faster detection, it is best to select several short branches rather than a few long branches (U and double-U pipe systems preferable).
- Bends are preferable to angles in the event of directional changes.
- In order to increase transport speed in critical application areas, the fan voltage can be increased from 6.9 V to 9 V.

Specifying the sensitivity

- The response sensitivity at the individual detection points (air sampling openings) S_{DP} depends on:
 - the used Detector Module
 - the selected sensitivity level $S_{TITANUS}$ on the Detector Module
 - the number of all planned detection points in the system per Detector Module $N_{proj. DP}$
- The sensitivity of the individual detection point S_{DP} is calculated from: $S_{DP} = S_{TITANUS} \times N_{proj. DP}$
- The Detector Modules have the following selectable sensitivity levels $S_{TITANUS}$ (specification in % light obscuration/m):

Detector Module Type DM-TP-05 Type DM-TT-05	Detector Module Type DM-TP-25 Type DM-TT-25	Detector Module Type DM-TP-80 Type DM-TT-80
0.4 %/m	2 %/m	not occupied
0.2 %/m	1 %/m	not occupied
0.1 %/m	0.5 %/m	1.6 %/m
0.05 %/m	0.25 %/m	0.8 %/m

- The planning always occurs according to the instructions for point-type smoke detectors.
- Here it must be ensured that the sensitivity of the individual detection point S_{DP} achieves at least a value of ≤ 3.5 %/m light obscuration.
- When monitoring several areas with a smoke aspiration system, the total sensitivity of the air sampling openings within a closed area must amount to ≤ 3.5 %/m light obscuration. If this value is not reached, it is recommended that a higher sensitivity be set.
- Depending on the course of the fire and environmental conditions, the actual response sensitivity is generally higher than the calculated sensitivity S_{DP} of a detection point since it can be assumed that several air sampling openings will always be filled with smoke (collective effect).

Planning limitations

- Minimum pipe length between two air sampling openings: 0.1 m
- Maximum pipe length between two air sampling openings: 12 m
- Maximum monitoring area per air sampling opening:
 - 120 m² for the DM-TP-05 and DM-TP-25 Detector Modules
 - 60 m² for the DM-TP-80 Detector Module
- Maximum of 24 air sampling openings per pipe system
- Max. pipe length / max. total monitoring area per pipe system (doubled when two Detector Modules are used):
 - 180 m / 2880 m²** (VdS-compliant)
 - With single-hole monitoring: **140 m / 1680 m²**

Aspiration pipe planning

Aspiration pipe systems are constructed according to planning specifications with the common pipe components as well as components for special applications, e. g. Water Separator or Detonation Safety Barrier.

All borings for the smoke aspiration systems are made to a diameter of 10 mm and the exact aspiration openings are implemented by means of the patented Aspiration Reducing Film Sheets. For each aspiration hole a Aspiration Reducing Film Sheet with corresponding punch diameter and Marking Tape must be provided.

Note

For applications in areas where a blowing-out system is necessary (e. g. low-temperature areas or where high levels of dust accumulate), special suction reducers with plastic clips are available as separate items.

Standard planning in line with VdS

	I-pipe system	U-pipe system	Double U-pipe system
Min. distance RAS - 1st SO ¹⁾	4 m	4 m	4 m
Max. distance RAS - 1st SO	20 m	20 m	20 m
Max. branch length			
- fan voltage 6.9 V	60 m	60 m	30 m
- fan voltage 9 V	80 m	70 m	40 m
Max. total pipe length ²⁾			
- fan voltage 6.9	80 m	140 m	140 m
- fan voltage 9 V	100 m	160 m	180 m
Min. distance between 2 SO	4 m	4 m	4 m
Max. distance between 2 SO	12 m	12 m	12 m
Max. no. of SO ²⁾	16	18	24

1) SO = air sampling opening

2) Per pipe system, that is with the TITANUS

PRO·SENS® TP-2 A and TITANUS TOP·SENS® TT-2 doubling of the values

- The air sampling openings are named in alphabetical order. The one closest to the Aspirating Smoke Detector is termed "A". The cross section of the air sampling openings is increasing with increasing distance to the detector.

I-pipe system

Ø in mm	Number of air sampling openings							
	2	3	4	5	6	7	8	9
A	6.0	5.0	4.2	3.8	3.2	3.0	2.5	2.5
B	6.8	5.2	4.4	3.8	3.2	3.0	2.5	2.5
C	-	5.2	4.6	4.0	3.6	3.0	3.0	2.5
D	-	-	4.6	4.0	3.6	3.4	3.0	3.0
E	-	-	-	4.4	4.0	3.4	3.4	3.0
F	-	-	-	-	4.0	3.8	3.4	3.4
G	-	-	-	-	-	3.8	3.8	3.4
H	-	-	-	-	-	-	3.8	3.8
I	-	-	-	-	-	-	-	3.8
J	-	-	-	-	-	-	-	-
K	-	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-	-
M	-	-	-	-	-	-	-	-
N	-	-	-	-	-	-	-	-
O	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	-	-

I-pipe system (continued)

Ø in mm	Number of air sampling openings						
	10	11	12	13	14	15	16
A	2.0	2.0	2.0	2.0	2.0	2.0	2.0
B	2.0	2.0	2.0	2.0	2.0	2.0	2.0

I-pipe system (continued)

C	2.5	2.0	2.0	2.0	2.0	2.0	2.0
D	2.5	2.5	2.5	2.0	2.0	2.0	2.0
E	3.0	2.5	2.5	2.5	2.5	2.5	2.5
F	3.0	3.0	2.5	2.5	2.5	2.5	2.5
G	3.4	3.0	3.0	2.5	2.5	2.5	2.5
H	3.4	3.4	3.0	3.0	2.5	2.5	2.5
I	3.6	3.4	3.0	3.0	3.0	3.0	3.0
J	3.6	3.6	3.4	3.0	3.0	3.0	3.0
K	-	3.6	3.4	3.4	3.0	3.0	3.0
L	-	-	3.4	3.4	3.4	3.0	3.0
M	-	-	-	3.4	3.4	3.4	3.4
N	-	-	-	-	3.4	3.4	3.4
O	-	-	-	-	-	3.4	3.4
P	-	-	-	-	-	-	3.4

A-P = designation of the air sampling openings

U-pipe system

Ø in mm	Number of air sampling openings per pipe system								
	2	4	6	8	10	12	14	16	18
A	5.2	3.6	3.4	3.2	2.5	2.5	2.0	2.0	2.0
B	-	4.0	3.4	3.2	3.0	2.5	2.0	2.0	2.0
C	-	-	3.6	3.4	3.0	2.5	2.5	2.0	2.0
D	-	-	-	3.4	3.2	3.0	2.5	2.5	2.0
E	-	-	-	-	3.2	3.0	3.0	2.5	2.5
F	-	-	-	-	-	3.2	3.0	3.0	2.5
G	-	-	-	-	-	-	3.2	3.0	2.5
H	-	-	-	-	-	-	-	3.0	3.0
I	-	-	-	-	-	-	-	-	3.0

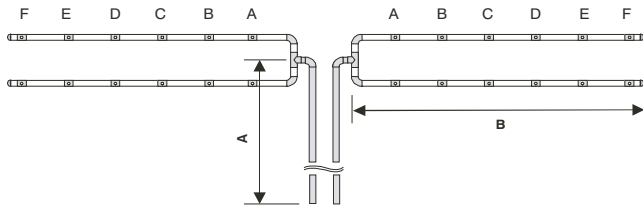
A-I = designation of the air sampling openings

Double U-pipe system

Ø in mm	Number of air sampling openings per pipe system					
	4	8	12	16	20	24
A	4.0	3.0	2.5	2.0	2.0	2.0
B	-	3.4	3.0	2.5	2.0	2.0
C	-	-	3.0	3.0	2.5	2.0
D	-	-	-	3.0	2.5	2.5
E	-	-	-	-	3.0	2.5
F	-	-	-	-	-	3.0

A-F = designation of the air sampling openings

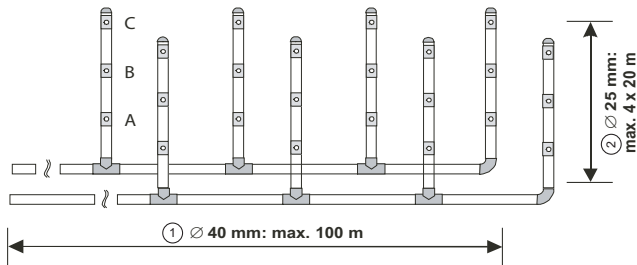
Planning with long pipe feed lines



- Pipes with a diameter of 40 mm are used for the planning. These also apply for the previous mentioned pipe configurations.
- The following limitations apply to a pipe system for area monitoring:

Pipe diameter	25 mm	40 mm
Max. length A		
- fan voltage 6.9 V	20 m	60 m
- fan voltage 9 V	20 m	60 m
Max. length B		
- fan voltage 6.9 V	60 m	60 m
- fan voltage 9 V	80 m	80 m

Planning for high-rise warehouses



Pos. Designation

- Basic pipe
- Branches

- A basic pipe can be installed for high-rise warehouse planning, from which the stub-like aspiration pipes are routed.
- The following limits apply:
 - Max. pipe length 180 m (4 x 20 m branches + 100 m basic pipe)
 - Max. basic pipe length 100 m, basic pipe diameter 40 mm

Simplified Planning

- Simplified planning is used for equipment protection and in smaller premises. The benefit of this type of planning are the standard diameters of the air sampling openings.

	I-pipe system	U-pipe system	Double U-pipe system
Min. distance RAS - 1st SO ¹⁾	2 m	2 m	2 m
Max. distance RAS - 1st SO	20 m	20 m	20 m
Max. branch length	20 m	20 m	20 m
Max. total pipe length ²⁾ 25 mm Ø	40 m	60 m	100 m
Min. distance between 2 SO (d)	0.1m	0.1m	0.1m
Max. distance between 2 SO (d)	4 m	4 m	4 m
Max. no. of SO ²⁾	18	18	20

1) SO = air sampling opening

2) Per pipe system, that is with the TITANUS

PRO·SENS® TP-2 A and TITANUS TOP·SENS® TT-2 doubling of the values

I-pipe system

Ø in mm	Number of air sampling openings (SO)								
	2	3	4	5	6	7	8	9	10
All SO	6.0	5.0	4.4	4.0	3.6	3.4	3.2	3.0	3.0

I-pipe system (continued)

Ø in mm	Number of air sampling openings (SO) per pipe system							
	11	12	13	14	15	16	17	18
All SO	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5

U-pipe system

Ø in mm	Number of air sampling openings (SO) per pipe system								
	2	4	6	8	10	12	14	16	18
All SO	6.0	4.4	3.6	3.2	3.0	3.0	2.5	2.5	2.5

Double U-pipe system

Ø in mm	Number of air sampling openings (SO) per pipe system				
	2	8	12	16	20
All SO	4.0	3.4	3.0	2.5	2.0

Planning with single-hole monitoring

	I-pipe system	U-pipe system	Double U-pipe system
Min. distance RAS - 1st SO ¹⁾	4 m	4 m	4 m
Max. distance RAS - 1st SO	20 m	20 m	20 m
Max. branch length			
- fan voltage 6.9 V	40 m	40 m	20 m
- fan voltage 9 V	60 m	50 m	30 m
Max. total pipe length ²⁾			
- fan voltage 6.9 V	60 m	100 m	100 m
- fan voltage 9 V	80 m	120 m	140 m
Min. distance between 2 SO	4 m	4 m	4 m

	I-pipe system	U-pipe system	Double U-pipe system
Max. distance between 2 SO	12 m	12 m	12 m
Max. no. of SO ²⁾	10	14	12

1) SO = air sampling opening

2) Per pipe system, that is with the TITANUS

PRO·SENS® TP-2 A and TITANUS TOP·SENS® TT-2 doubling of the values

- The activation threshold for the airflow monitoring system is set using a DIP switch on the Detector Module.

I-pipe system

Ø in mm	Number of air sampling openings								
	2	3	4	5	6	7	8	9	10
A	6.0	5.0	4.2	3.8	3.2	3.0	2.5	2.5	2.0
B	6.8	5.2	4.4	3.8	3.2	3.0	2.5	2.5	2.0
C	-	5.2	4.6	4.0	3.6	3.0	3.0	2.5	2.5
D			4.6	4.0	3.6	3.4	3.0	3.0	2.5
E				4.4	4.0	3.4	3.4	3.0	3.0
F					4.0	3.8	3.4	3.4	3.0
G						3.8	3.8	3.4	3.4
H							3.8	3.8	3.4
I								3.8	3.6
J									3.6

A-J = designation of the air sampling opening

Activation thresholds of the I-pipe system

Setting level	Number of air sampling openings								
	2	3	4	5	6	7	8	9	10
1*	III	III	II	I	I	-	-	-	-
2*	O	O	III	III	II	I	I	-	-
3*	O	O	O	O	III	III	II	I	I
4*	O	O	O	O	O	O	III	II	I
5*	O	O	O	O	O	O	O	O	II

* Number of obstructed openings that are detected at level X
- not possible / O not practical

- Example for setting the activation thresholds: if it is detected that 3 air sampling openings of a total of 8 are obstructed, set the airflow monitoring switch to level II.

U-pipe system

Ø in mm	Number of air sampling openings per pipe system						
	2	4	6	8	10	12	14
A	5.2	3.6	3.4	3.2	2.5	2.5	2.0
B	-	4.0	3.4	3.2	3.0	2.5	2.5

U-pipe system

C	-	-	3.6	3.4	3.0	2.5	2.5
D	-	-	-	3.4	3.2	3.0	2.5
E	-	-	-	-	3.2	3.0	3.0
F	-	-	-	-	-	3.2	3.0
G	-	-	-	-	-	-	3.2

A-G = designation of air sampling openings

Activation thresholds of the U-pipe system

Setting level	Number of air sampling openings per pipe system						
	2	4	6	8	10	12	14
1*	III	II	I	-	-	-	-
2*	O	III	II	I	-	-	-
3*	O	O	III	II	I	-	-
4*	O	O	O	III	II	I	-
5*	O	O	O	O	III	II	I
6*	O	O	O	O	O	III	II
7*	O	O	O	O	O	O	III

* Number of obstructed openings that are detected at level X
- not possible / O not practical

Double U-pipe system

Ø in mm	Number of air sampling openings per pipe system		
	4	8	12
A	4.0	3.0	2.5
B	-	3.4	3.0
C	-	-	3.0

A-C = designation of the air sampling openings

Activation thresholds of double U-pipe system

Setting level	Number of air sampling openings per pipe system		
	4	8	12
1*	I	-	-
2*	II	I	-
3*	O	II	I
4*	O	III	II
5*	O	O	III
6*	O	O	III

* Number of obstructed openings that are detected at level X
- not possible / O not practical

Planning for forced airflow

- The TITANUS smoke aspiration systems can be used in low-speed units (flow speed max. 10 m/s).

- The pipe system is installed in the exhaust duct as far away as possible from sound dampers, air baffles and bends. The distance from such "obstacles" should be at least three times the smallest duct diameter.
- If it is absolutely necessary to mount the pipe system directly behind air baffles, sound dampers or bends, the high-speed areas must be monitored
- The pipe entries into the duct as well as the part of the pipe system outside the duct must be airtight.
- An air return must be provided to allow for the different pressure areas in the Aspirating Smoke Detector and air sampling pipe system.
- The distance between the air return and the intake must be at least 2 m. The open end of the return should be sloped at a 45° angle.
- If the distance of 2 m cannot be maintained, the pipes must be offset so that a pressure drop is achieved between intake and exhaust through the different speed areas.
- The air sampling openings must be arranged counter to the airflow.
- The pipe end is constructed with an end cap without boring.
- The diameters of the air sampling openings are chosen depending on the number of detection points, as in the case of the "simplified planning".
- The following limit values apply regarding the distance of the air sampling openings to each other and to the duct wall:

	Duct cross-section ≤ 0.5 m ²	Duct cross-section > 0.5 m ²
Distance SO - wall	100 to 200 mm	200 to 300 mm
Distances between SOs	100 mm	150 mm

SO = air sampling opening

Parts Included

Type of device	Qty	Components
TITANUS full model <i>PRO-SENS</i> [®] TP-1 A full model with DM-TP-80 Detector Module	1	Full model comprising a TITANUS <i>PRO-SENS</i> [®] TP-1 A basic unit plus DM-TP-80 Detector Module
TITANUS basic unit <i>PRO-SENS</i> [®] TP-1 A	1	TITANUS <i>PRO-SENS</i> [®] TP-1 A basic unit, for connecting a pipe system
TITANUS basic unit <i>PRO-SENS</i> [®] TP-2 A	1	TITANUS <i>PRO-SENS</i> [®] TP-2 A basic unit for connecting two pipe systems or for one pipe system with dual-detector dependency
TITANUS basic unit <i>TOP-SENS</i> [®] TT-1	1	TITANUS <i>TOP-SENS</i> [®] TT-1 basic unit for connecting a pipe system
TITANUS basic unit <i>TOP-SENS</i> [®] TT-2	1	TITANUS <i>TOP-SENS</i> [®] TT-2 basic unit for connecting two pipe systems or for one pipe system with dual-detector dependency

Note One or two Detector Modules must be ordered separately for the basic units (see table):

For type of device	Qty	Required Detector Modules
TITANUS basic unit <i>PRO-SENS</i> [®] TP-1 A	1	Either DM-TP-80, DM-TP-25 or DM-TP-05
TITANUS basic unit <i>PRO-SENS</i> [®] TP-2 A	2	DM-TP-80, DM-TP-25 and/or DM-TP-05
TITANUS basic unit <i>TOP-SENS</i> [®] TT-1	1	Either DM-TT-80, DM-TT-25 or DM-TT-05
TITANUS basic unit <i>TOP-SENS</i> [®] TT-2	2	DM-TT-80, DM-TT-25 and/or DM-TT-05

Technical Specifications

TITANUS *PRO-SENS*[®] TP-1 A / *PRO-SENS*[®] TP-2 A

Electrical

Operating voltage	24 V DC (14 - 30 V DC)
Starting current (at 24 V)	300 mA / 320 mA
Current consumption (at 24 V)	
• In standby, fan voltage 6.9 V	230 mA / 260 mA
• In standby, fan voltage 9 V	280 mA / 320 mA
• On alarm, fan voltage 6.9 V	240 mA / 310 mA
• On alarm, fan voltage 9 V	300 mA / 370 mA
Contact load of alarm and fault relays	1 A, 30 V DC
Breaking capacity	Max. 24 W

Mechanics

Displays on the device	
• In operation	Green LED
• Malfunction	Yellow LED
• Alarm	1 red LED / 2 red LEDs
Conical duct connections for Ø 25 mm	
• Aspiration pipe	1 pipe / 2 pipes
• Air return	1 pipe
Cable bushings	5 x M 20 and 2 x M 25
Dimensions (H x W x D)	292 x 200 x 113 mm
Housing material	Plastic (ABS)
Housing color	Papyrus white, RAL 9018
Weight	1.5 kg / 1.6 kg

Environmental conditions

Protection class as per EN 60529	IP 20
Permissible temperature range	
• TITANUS <i>PRO-SENS</i> [®]	0 °C - +50 °C
• Pipe system	-20 °C - +60 °C
Permissible relative humidity (non-condensing)	10 - 95 %

Special features

Acoustic power level	45 dB(A)
Response sensitivity (max. light obscuration)	
• Detector Module DM-TP-80	0.8 %/m
• Detector Module DM-TP-25	0.25 %/m
• Detector Module DM-TP-05	0.05 %/m
Service life of the fan (12 V)	43,500 hrs at 24 °C

TITANUS TOP-SENS® TT-1 / TOP-SENS® TT-2**Electrical**

Operating voltage	24 V DC (14 - 30 V DC)
Starting current (at 24 V)	300 mA / 330 mA
Current consumption (at 24 V)	
• In standby, fan voltage 6.9 V	230 mA / 275 mA
• In standby, fan voltage 9 V	300 mA / 340 mA
• On alarm, fan voltage 6.9 V	300 mA / 350 mA
• On alarm, fan voltage 9 V	360 mA / 430 mA
Contact load of alarm and fault relays	1 A, 30 V DC
Breaking capacity	Max. 24 W

Mechanics

Displays on the device	
• In operation	Green LED
• Malfunction	Yellow LED
• Level display	1 x / 2 x smoke level display, each with 10 segments (1 - 10)
• Alarm	1 x 3 / 2 x 3 red LEDs Info alarm Pre-alarm Main alarm
Conical duct connections for Ø 25 mm	
• Aspiration pipe	1 pipe / 2 pipes
• Air return	1 pipe
Cable bushings	5 x M 20 and 2 x M 25
Dimensions (H x W x D)	292 x 200 x 113 mm
Weight	Approx. 1.5 kg / 1.6 kg
Housing material	Plastic (ABS)
Housing color	Papyrus white, RAL 9018
Environmental conditions	
Protection class as per EN 60529	IP 20
Permissible temperature range	
• TITANUS TOP-SENS®	0 °C - +50 °C
• Pipe system	-20 °C - +60 °C
Permissible relative humidity (non-condensing)	10 - 95 %

Special features

Acoustic power level	45 dB(A)
Response sensitivity (max. light obscuration)	
• Detector Module DM-TT-80	0.8 %/m
• Detector Module DM-TT-25	0.25 %/m
• Detector Module DM-TT-05	0.05 %/m
Service life of the fan (12 V)	43,500 hrs at 24 °C

Ordering Information

TITANUS PRO SENS TP-1 A Complete Device for connecting one pipe system, incl. a DM-TP-80 Detector Module	TITANUS TP-1Acompl
TITANUS PRO SENS TP-1 A Basic Device without Detector Module, for connecting one pipe system	TITANUS TP-1Abasic
TITANUS PRO SENS TP-2 A Basic Device without Detector Modules, for connecting two pipe systems or for one pipe system with dual-detector dependency (cross-zoning not possible!)	TITANUS TP-2Abasic
DM-TP-80 Detector Module for TITANUS Basic Devices <i>PRO-SENS</i> ® TP-1 A and TP-2 A, with max. sensitivity of 0.8 %/m light obscuration	TITANUS DM-TP-80
DM-TP-25 Detector Module for TITANUS Basic Devices <i>PRO-SENS</i> ® TP-1 A and TP-2 A, with max. sensitivity of 0.25 %/m light obscuration	TITANUS DM-TP-25
DM-TP-05 Detector Module for TITANUS Basic Devices <i>PRO-SENS</i> ® TP-1 A and TP-2 A, with max. sensitivity of 0.05 %/m light obscuration	TITANUS DM-TP-05
TITANUS TOP SENS TT-1 Basic Device without Detector Module, for connecting one pipe system	TITANUS TT-1 basic
TITANUS TOP SENS TT-2 Basic Device without Detector Modules, for connecting two pipe systems or for one pipe system with dual-detector dependency (cross-zoning not possible!)	TITANUS TT-2 basic
DM-TT-80 Detector Module for Aspirating Smoke Detectors Series FAS-420 and TITANUS Basic Devices <i>TOP-SENS</i> ® TT-1/TT-2, with max. sensitivity of 0.8 %/m light obscuration	TITANUS DM-TT-80
DM-TT-25 Detector Module for Aspirating Smoke Detectors Series FAS-420 and TITANUS Basic Devices <i>TOP-SENS</i> ® TT-1/TT-2, with max. sensitivity of 0.25 %/m light obscuration	TITANUS DM-TT-25

Ordering Information

DM-TT-05 Detector Module **TITANUS DM-TT-05**
 for Aspirating Smoke Detectors Series
 FAS-420 and TITANUS Basic Devices
TOP-SENS® TT-1/TT-2, with max. sensitivity of
 0.05 %/m light obscuration

Accessories

MT-1 Device Mounting **TITANUS MT-1 mount**

FAS-ASD-DIAG Diagnostic Software **FAS-ASD-DIAG**
 The FAS-ASD-DIAG Diagnostic Software enables reading out all stored device data and gives advices to remove failures.
 Including connection cable for USB interface and diagnosis tool with an infrared interface.

Test Pipe **RAS test pipe**

Test Adapter **RAS test adapter**

AF-BR Marking Tapes for Aspiration Reducing Film Sheets **TITANUS AF-BR**
 Price per piece, DU 10 pieces

AF-2.0 Aspiration Reducing Film Sheets 2.0 mm **TITANUS AF-2.0**
 Price per piece, DU 10 pieces

AF-2.5 Aspiration Reducing Film Sheets 2.5 mm **TITANUS AF-2.5**
 Price per piece, DU 10 pieces

AF-3.0 Aspiration Reducing Film Sheets, 3.0 mm **TITANUS AF-3.0**
 Price per piece, DU 10 pieces

AF-3.2 Aspiration Reducing Film Sheets, 3.2 mm **TITANUS AF-3.2**
 Price per piece, DU 10 pieces

AF-3.4 Aspiration Reducing Film Sheets, 3.4 mm **TITANUS AF-3.4**
 Price per piece, DU 10 pieces

AF-3.6 Aspiration Reducing Film Sheets, 3.6 mm **TITANUS AF-3.6**
 Price per piece, DU 10 pieces

AF-3.8 Aspiration Reducing Film Sheets, 3.8 mm **TITANUS AF-3.8**
 Price per piece, DU 10 pieces

AF-4.0 Aspiration Reducing Film Sheets, 4.0 mm **TITANUS AF-4.0**
 Price per piece, DU 10 pieces

AF-4.2 Aspiration Reducing Film Sheets, 4.2 mm **TITANUS AF-4.2**
 Price per piece, DU 10 pieces

AF-4.4 Aspiration Reducing Film Sheets, 4.4 mm **TITANUS AF-4.4**
 Price per piece, DU 10 pieces

AF-4.6 Aspiration Reducing Film Sheets, 4.6 mm **TITANUS AF-4.6**
 Price per piece, DU 10 pieces

Ordering Information

AF-5.0 Aspiration Reducing Film Sheets, 5.0 mm **TITANUS AF-5.0**
 Price per piece, DU 10 pieces

AF-5.2 Aspiration Reducing Film Sheets, 5.2 mm **TITANUS AF-5.2**
 Price per piece, DU 10 pieces

AF-5.6 Aspiration Reducing Film Sheets, 5.6 mm **TITANUS AF-5.6**
 Price per piece, DU 10 pieces

AF-6.0 Aspiration Reducing Film Sheets, 6.0 mm **TITANUS AF-6.0**
 Price per piece, DU 10 pieces

AF-6.8 Aspiration Reducing Film Sheets, 6.8 mm **TITANUS AF-6.8**
 Price per piece, DU 10 pieces

AF-7.0 Aspiration Reducing Film Sheets, 7.0 mm **TITANUS AF-7.0**
 Price per piece, DU 10 pieces

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