

Contents

Flow sensors, air flow sensors and amplifiers for Ex-applications

Ex area certification	9.3
Ex-Probes Series STS / ST – Category 1 / Category 2	1.86 - 1.95
Ex-Probes Series STS / ST – Category 1 / Category 2 with flange	1.96 - 1.99
Ex-Probes Series STSEX – Category 1 with terminal clamps	1.100
Air flow Ex-Probes Series STS – Category 1 / Category 2	1.101 - 1.103
Amplifiers Series SZA	1.104 - 1.105
Air flow sensors Compact models Series LC 518 / LC 521 – Category 3	1.106 - 1.109
Ex junction box Series GK – Category 2	1.110 - 1.112

Level Sensors for Ex-applications

Ex-opto sensors Zone 0 Series UFGSa...Ex	2.30
Ex-sensors Zone 0 up to 180 °C Series KGFTa...Ex	2.31
Ex-preamplifier Series KKa 030 Ex	2.32
Ex-amplifier Series IKMb 123 Ex	2.33
Ex-junction box Zone 1 - 21 Series GK	2.34 - 2.36

Inductive Sensors for Ex-applications

Dust / Gas-Ex compact model Zone 0/20 Series IGEX20a / IGEX20Pa	3.58 - 3.59
Dust / Gas-Ex intrinsically safe Zone 0/20 Series IGEXUa / IGEXa	3.60 - 3.61
Dust / Gas-Ex intrinsically safe Zone 0/20 Series IGEXHa	3.62
Dust / Gas-Ex intrinsically safe Zone 0/20 Series IGEXPa	3.63
Dust / Gas-Ex compact model 2/22 Series IGEX22c / IGEX22c	3.64 - 3.66
Ex-Amplifiers Series IKMb 122 Ex / IKMb 123 Ex	3.67 - 3.68

Technical alterations are reserved to us without prior announcement.

Flow Sensors

Technique & Application

Ex area

Use in hazardous areas

The Ex measurement probes of the series 400 and the Ex-amplifiers SZAb... meet the basic health and safety requirements of Directive 2014/30/EC. Electrical boundary data, permissible temperature ranges as well as installation and connection instructions are specified in the operating instructions of Ex equipment. The permissible process pressure for the safe use of this devices in Ex atmospheres is 0.8...1.1 bar. The use of the measuring probes under different process pressures is the responsibility of the user. The specifications of the device must be observed. The permissible ambient temperature range is determined for each temperature class in the technical data. If there are additional regulations for the particular design regarding the installation, they must be observed as well.

Zone classification and categories

The frequency and duration of the occurrence of a hazardous atmosphere determines the zone classification.

Zone 0 / Category 1 (Gas)

Zone 0 is an area in which a potentially explosive atmosphere in the form of a mixture of air, combustible gases, vapours or fog continuously, for longer periods or frequently exists.

Zone 1 / Category 2 (Gas)

Zone 1 is an area in which a potentially explosive atmosphere as a mixture of air, combustible gases, vapours or fog can occasionally form in normal operation.

Zone 2 / Category 3 (Gas)

Zone 2 is an area in which a potentially explosive atmosphere as a mixture of air, combustible gases, vapours or fog can occur in normal operation.

Zone 20 / Category 1 (Dust)

Zone 20 is an area in which a potentially explosive atmosphere in the form of combustible particles suspended in air continuously, for longer periods or frequently exists.

Zone 21 / Category 2 (Dust)

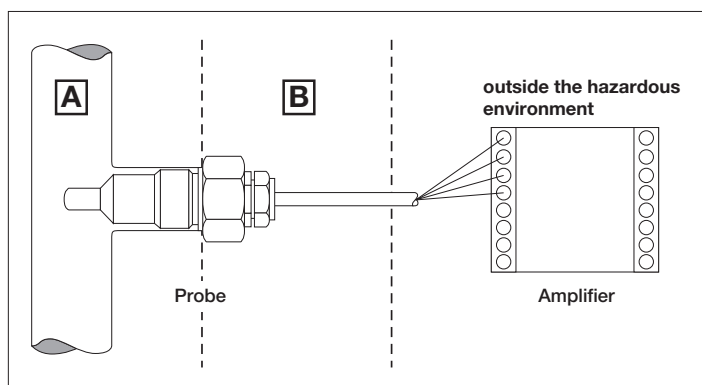
Zone 21 is an area in which a potentially explosive atmosphere in the form of combustible particles suspended in air can occasionally form in normal operation.

Zone 22 / Category 3 (Dust)

Zone 22 is an area in which a potentially explosive atmosphere in the form of combustible particles suspended in air normally does not exist or only exists for a short period in normal operation.

Ex marking

	A	B
II 1 G...	Zone 0	Zone 0
II 1/2 G...	Zone 0	Zone 1
II 2 G...	Zone 1	Zone 1
II 3 G...	Zone 2	Zone 2
II 1 D...	Zone 20	Zone 20
II 2 D...	Zone 21	Zone 21
II 3 D...	Zone 22	Zone 22



Specific conditions for use of flow sensor probes STS...

- Metallic process connection parts must be included in the local equipotential bonding.
- For equipment in the titanium housing, it must be ensured that there are no particles in the media flow that could cause an ignition hazard due to impact or friction.
- For EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the flow sensor type STS... have to be secured effectively against these dangers.
- For EPL Ga/Gb applications the medium tangent materials of the flow sensor type STS have to be resistant to the media.

- For EPL Ga/Gb applications the whole device flow sensor type STS... shall be mounted in a way that allows an installation that results in a sufficient tight joint (IP 66 or IP 67) or a flameproof joint (IEC 60079-1) in the direction of the less endangered area.

A measurement probe may only be used in dust or gas protected hazardous areas, even when there are approvals for both areas. For use in hazardous areas for dusts the maximum surface temperature of the sensor is specified. For the hazardous area for gases the ambient temperatures of the temperature classes are given. On request, EGE delivers sensors with special dimensions and special materials as well as longer connection cables.



Probes
Compact models
Amplifiers





Ex-Probe | Device category 1G, 1G/2G und 1D

Ex-Device category 1G
Installation in Zone 0 (gas)

Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

Ex-Device category 1D
Installation in Zone 20 (dust)



Design	G1/4	G1/2	G1/2	NPT1/2	G3/4
Dimensions					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length [mm]	25	31	48	40	48
Connection	plug	plug	plug	plug	plug
ID-No.	P11164	P11165	P11166	P11167	P11169
Type	STS 101 S	STS 102 S	STS 103 S	STS 104 S	STS 106 S
Ex area of use	Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20				
Certificate No.	TÜV 98 ATEX 1298 X				
Ex marking	Gas: $\text{Ex II 1 G Ex ia IIC T6...T3 Ga}$ $\text{Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb}$ Dust: $\text{Ex II 1 D Ex ia IIIC T125 °C Da}$				
Ambient temperature and medium temperature [°C]	Gas: T6: $-20 \leq T_a \leq +40$ T5: $-20 \leq T_a \leq +55$ T4: $-20 \leq T_a \leq +85$ T3: $-20 \leq T_a \leq +85$ Dust: $-20 \leq T_a \leq +85$				
Maximum values	$U_i = 13.65 \text{ V}$ / $I_i = 200 \text{ mA}$ / $P_i = 0.69 \text{ W}$ / $C_i = 0.27 \text{ nF}$ / $L_i = 1.30 \text{ }\mu\text{H}$				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	IP 67				
Connection	M12 connector				
Note:	Observe specific conditions for use in section "Technique and application" on page 1.13 for the connection to amplifier SZAb..., page 1.104-1.105				



Ex-Probe | Device category 1G, 1G/2G und 1D

Ex-Device category 1G
Installation in Zone 0 (gas)

Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

Ex-Device category 1D
Installation in Zone 20 (dust)



Design	G1/4	G1/2	G1/2	NPT1/2	G3/4
Dimensions					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length [mm]	25	31	48	40	48
Connection	fixed cable	fixed cable	fixed cable	fixed cable	fixed cable
ID-No.	P11140	P11141	P11142	P11143	P11168
Type	STS 101 K	STS 102 K	STS 103 K	STS 104 K	STS 106 K
Ex area of use	Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20				
Certificate No.	TÜV 98 ATEX 1298 X				
Ex marking	Gas: Ex II 1 G Ex ia IIC T6...T3 Ga Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T125 °C Da				
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85 Dust: -20 ≤ Ta ≤ +85				
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	IP 67				
Connection	2 m PUR-cable 4x0.25 mm ²				



Observe specific conditions for use in section "Technique and application" on page 1.13

Note: for the connection to amplifier SZAb..., page 1.104-1.105



Ex-Probe | Device category 1G, 1G/2G und 1D

Ex-Device category 1G
Installation in Zone 0 (gas)

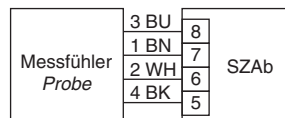
Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

Ex-Device category 1D
Installation in Zone 20 (dust)



Extended temperature range
up to 120 °C

Design	G1/4	G1/2	G1/2	NPT1/2	G3/4
Dimensions					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length [mm]	25	31	48	40	48
Connection	fixed cable	fixed cable	fixed cable	fixed cable	fixed cable
ID-No.	P11409	P11410	P11411	P11412	P11413
Type	STS 101 KH	STS 102 KH	STS 103 KH	STS 104 KH	STS 106 KH
Ex area of use	Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20				
Certificate No.	TÜV 98 ATEX 1298 X				
Ex marking	Gas: Ex II 1 G Ex ia IIC T6...T3 Ga Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T125 °C Da				
Ambient temperature [°C] and medium temperature	Gas: T6: +10 ≤ Ta ≤ +40 T5: +10 ≤ Ta ≤ +55 T4: +10 ≤ Ta ≤ +90 T3: +10 ≤ Ta ≤ +120 Dust: -20 ≤ Ta ≤ +85				
Maximum values	Ui = 13.65 V / Ii = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	IP 67				
Connection	2 m FEP-cable 4x0.25 mm ²				



Observe specific conditions for use in section "Technique and application" on page 1.13

Note: for the connection to amplifier SZAb..., page 1.104-1.105



Ex-Probe | Device category 2G and 2D

Ex-Device category 2G
Installation in Zone 1 (gas)

Ex-Device category 2D
Installation in Zone 21 (dust)



Design	G1/4	G1/2	G1/2	NPT1/2	G3/4
Dimensions					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length [mm]	25	31	48	40	48
Connection	plug	plug	plug	plug	plug
ID-No.	P11170	P11171	P11172	P11173	P11175
Type	ST 101 S	ST 102 S	ST 103 S	ST 104 S	ST 106 S
Ex area of use	Gas: Zone 1 / Dust: Zone 21				
Certificate No.	TÜV 97 ATEX 1218				
Ex marking	Gas: Ex II 2 G Ex ib IIC T6 Gb Dust: Ex II 2 D Ex ib IIIC T125 °C Db				
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85 Dust: -20 ≤ Ta ≤ +85				
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	IP 67				
Connection	M12 connector				
Note:	(probes with cable length > 2 m are available on request) for the connection to amplifier SZAb..., page 1.104-1.105				



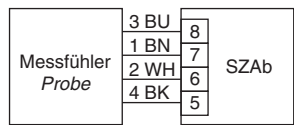
Ex-Probe | Device category 2G and 2D

Ex-Device category 2G
Installation in Zone 1 (gas)

Ex-Device category 2D
Installation in Zone 21 (dust)



Design	G1/4	G1/2	G1/2	NPT1/2	G3/4
Dimensions					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length [mm]	25	31	48	40	48
Connection	fixed cable	fixed cable	fixed cable	fixed cable	fixed cable
ID-No.	P11144	P11145	P11146	P11147	P11174
Type	ST 101 K	ST 102 K	ST 103 K	ST 104 K	ST 106 K
Ex area of use	Gas: Zone 1 / Dust: Zone 21				
Certificate No.	TÜV 97 ATEX 1218				
Ex marking	Gas: Ex II 2 G Ex ib IIC T6 Gb Dust: Ex II 2 D Ex ib IIIC T125 °C Db				
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85 Dust: -20 ≤ Ta ≤ +85				
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	IP 67				
Connection	2 m PUR-cable 4x0.25 mm ²				



(probes with cable length > 2 m are available on request)

Note: for the connection to amplifier SZAb..., page 1.104-1.105



Ex-Probe | Device category 2G and 2D

Ex-Device category 2G
Installation in Zone 1 (gas)

Ex-Device category 2D
Installation in Zone 21 (dust)

Extended temperature range
up to 120 °C



Design	G1/4	G1/2	G1/2	NPT1/2	G3/4										
Dimensions															
Detection range [cm/s]	water 1...100 / oil 3...200														
Sensor length [mm]	25	31	48	40	48										
Connection	fixed cable	fixed cable	fixed cable	fixed cable	fixed cable										
ID-No.	P11176	P11178	P11180	P11182	P11184										
Type	ST 101 KH	ST 102 KH	ST 103 KH	ST 104 KH	ST 106 KH										
Ex area of use	Gas: Zone 1 / Dust: Zone 21														
Certificate No.	TÜV 97 ATEX 1218														
Ex marking	Gas: Ex II 2 G Ex ib IIC T6 Gb Dust: Ex II 2 D Ex ib IIIC T125 °C Db														
Ambient temperature and medium temperature [°C]	Gas: T6: +10 ≤ Ta ≤ +40 T5: +10 ≤ Ta ≤ +55 T4: +10 ≤ Ta ≤ +90 T3: +10 ≤ Ta ≤ +120 Dust: -20 ≤ Ta ≤ +85														
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH														
Start-up time typ. [s]	8 (2...18)														
Reaction time typ. [s]	2 (1...13)														
Compressive strength [bar]	60														
Housing material	AISI 316 Ti • different materials on request														
Protection [EN 60529]	IP 67														
Connection	2 m FEP-cable 4x0.25 mm ²														
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="4" style="text-align: center;">Messfühler Probe</td> <td>3 BU</td> <td>8</td> <td rowspan="4" style="text-align: center;">SZAb</td> </tr> <tr> <td>1 BN</td> <td>7</td> </tr> <tr> <td>2 WH</td> <td>6</td> </tr> <tr> <td>4 BK</td> <td>5</td> </tr> </table>					Messfühler Probe	3 BU	8	SZAb	1 BN	7	2 WH	6	4 BK	5
Messfühler Probe	3 BU	8	SZAb												
	1 BN	7													
	2 WH	6													
	4 BK	5													
Note:	(probes with cable length > 2 m are available on request) for the connection to amplifier SZAb..., page 1.104-1.105														



Ex-Probe | Device category 1G, 1G/2G and 1D

Ex-Device category 1G
Installation in Zone 0 (gas)

Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

Ex-Device category 1D
Installation in Zone 20 (dust)



Design	G1/2				
Dimensions					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length L [mm]	48	48	80	110	140
Connection	fixed cable	plug	fixed cable	fixed cable	fixed cable
ID-No.	P11186	P11187	P11188	P11189	P11190
Type	STS 110 K	STS 110 S	STS 110 K-L80	STS 110 K-L110	STS 110 K-L140
Ex area of use	Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20				
Certificate No.	TÜV 98 ATEX 1298 X				
Ex marking	Gas: Ex II 1 G Ex ia IIC T6...T3 Ga Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T125 °C Da				
Ambient temperature and medium temperature [°C]	Gas: T6: $-20 \leq T_a \leq +40$ T5: $-20 \leq T_a \leq +55$ T4: $-20 \leq T_a \leq +85$ T3: $-20 \leq T_a \leq +85$ Dust: $-20 \leq T_a \leq +85$				
Maximum values	$U_i = 13.65 \text{ V}$ / $I_i = 200 \text{ mA}$ / $P_i = 0.69 \text{ W}$ / $C_i = 0.27 \text{ nF}$ / $L_i = 1.30 \text{ }\mu\text{H}$				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	IP 67				
Connection	...K: 2 m PUR-cable 4x0.25 mm ² ...S: M12 connector				
Note:	Observe specific conditions for use in section "Technique and application" on page 1.13 for the connection to amplifier SZAb..., page 1.104-1.105				



Ex-Probe | Device category 1G, 1G/2G and 1D

Ex-Device category 1G
Installation in Zone 0 (gas)

Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

Ex-Device category 1D
Installation in Zone 20 (dust)

Extended temperature range up to 120 °C



Design	G1/2				
Dimensions					
Detection range	[cm/s]	water 1...100 / oil 3...200			
Sensor length L	[mm]	48	80	110	140
Connection		fixed cable	fixed cable	fixed cable	fixed cable
ID-No.		P11414	P11415	P11416	P11417
Type		STS 110 KH	STS 110 KH-L80	STS 110 KH-L110	STS 110 KH-L140
Ex area of use		Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20			
Certificate No.		TÜV 98 ATEX 1298 X			
Ex marking		Gas: Ex II 1 G Ex ia IIC T6...T3 Ga Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T125 °C Da			
Ambient temperature and medium temperature	[°C]	Gas: T6: +10 ≤ Ta ≤ +40 T5: +10 ≤ Ta ≤ +55 T4: +10 ≤ Ta ≤ +90 T3: +10 ≤ Ta ≤ +120 Dust: -20 ≤ Ta ≤ +85			
Maximum values		Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH			
Start-up time typ.	[s]	8 (2...18)			
Reaction time typ.	[s]	2 (1...13)			
Compressive strength	[bar]	60			
Housing material		AISI 316 Ti • different materials on request			
Protection	[EN 60529]	IP 67			
Connection		2 m FEP-cable 4x0.25 mm ²			
		Observe specific conditions for use in section "Technique and application" on page 1.13			
Note:		for the connection to amplifier SZAb..., page 1.104-1.105			



Ex-Probe | Device category 2G and 2D

Ex-Device category 2G
Installation in Zone 1 (gas)

Ex-Device category 2D
Installation in Zone 21 (dust)



Design	G1/2				
Dimensions					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length L [mm]	48	48	80	110	140
Connection	fixed cable	plug	fixed cable	fixed cable	fixed cable
ID-No.	P11192	P11193	P11194	P11195	P11196
Type	ST 110 K	ST 110 S	ST 110 K-L80	ST 110 K-L110	ST 110 K-L140
Ex area of use	Gas: Zone 1 / Dust: Zone 21				
Certificate No.	TÜV 97 ATEX 1218				
Ex marking	Gas: II 2 G Ex ib IIC T6 Gb Dust: II 2 D Ex ib IIIC T125 °C Db				
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85 Dust: -20 ≤ Ta ≤ +85				
Maximum values	Ui = 13.65 V / Ii = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	cable ...K: IP 67 / plug ...S: IP 67				
Connection	...K: 2 m PUR-cable 4x0.25 mm² / ...S: M12 connector				
Note:	(probes with cable length > 2 m are available on request) for the connection to amplifier SZAb..., page 1.104-1.105				



Ex-Probe | Device category 2G and 2D

Ex-Device category 2G
Installation in Zone 1 (gas)

Ex-Device category 2D
Installation in Zone 21 (dust)

Extended temperature range
up to 120 °C



Design	G1/2													
Dimensions														
Detection range [cm/s]	water 1...100 / oil 3...200													
Sensor length L [mm]	48	80	110	140										
Connection	fixed cable	fixed cable	fixed cable	fixed cable										
ID-No.	P11198	P11200	P11201	P11202										
Type	ST 110 KH	ST 110 KH-L80	ST 110 KH-L110	ST 110 KH-L140										
Ex area of use	Gas: Zone 1 / Dust: Zone 21													
Certificate No.	TÜV 97 ATEX 1218													
Ex marking	Gas: Ex II 2 G Ex ib IIC T6 Gb Dust: Ex II 2 D Ex ib IIIC T125 °C Db													
Ambient temperature and medium temperature [°C]	Gas: T6: +10 ≤ Ta ≤ +40 T5: +10 ≤ Ta ≤ +55 T4: +10 ≤ Ta ≤ +90 T3: +10 ≤ Ta ≤ +120 Dust: -20 ≤ Ta ≤ +85													
Maximum values	U _i = 13.65 V / I _i = 200 mA / P _i = 0.69 W / C _i = 0.27 nF / L _i = 1.30 µH													
Start-up time typ. [s]	8 (2...18)													
Reaction time typ. [s]	2 (1...13)													
Compressive strength [bar]	60													
Housing material	AISI 316 Ti • different materials on request													
Protection [EN 60529]	IP 67													
Connection	2 m FEP-cable 4x0.25 mm ²													
	<table border="1" style="margin: auto;"> <tr> <td rowspan="4" style="padding: 5px;">Messfühler Probe</td> <td style="padding: 2px;">3 BU</td> <td style="padding: 2px;">8</td> <td rowspan="4" style="padding: 5px;">SZAb</td> </tr> <tr> <td style="padding: 2px;">1 BN</td> <td style="padding: 2px;">7</td> </tr> <tr> <td style="padding: 2px;">2 WH</td> <td style="padding: 2px;">6</td> </tr> <tr> <td style="padding: 2px;">4 BK</td> <td style="padding: 2px;">5</td> </tr> </table>				Messfühler Probe	3 BU	8	SZAb	1 BN	7	2 WH	6	4 BK	5
Messfühler Probe	3 BU	8	SZAb											
	1 BN	7												
	2 WH	6												
	4 BK	5												
	(probes with cable length > 2 m are available on request)													
Note:	for the connection to amplifier SZAb..., page 1.104-1.105													



Ex-Probe | Device category 1G, 1G/2G and 1D

Ex-Device category 1G
Installation in Zone 0 (gas)

Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

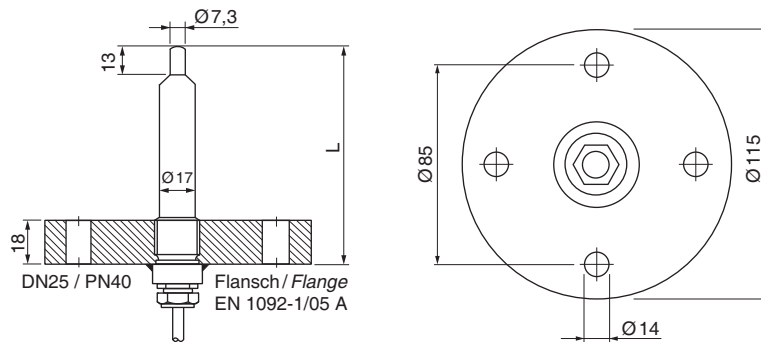
Ex-Device category 1D
Installation in Zone 20 (dust)

With welded standard flange

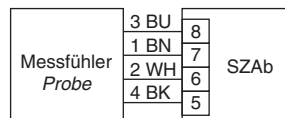


Design **DN25 / PN40 (EN 1092-1/05 A)**

Dimensions



Detection range [cm/s]	water 1...100 / oil 3...200		
Sensor length L [mm]	80	110	140
Connection	fixed cable	fixed cable	fixed cable
ID-No.	P11191	P11148	P11149
Type	STS 111 K-L80	STS 111 K-L110	STS 111 K-L140
Ex area of use	Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20		
Certificate No.	TÜV 98 ATEX 1298 X		
Ex marking	Gas: Ex II 1 G Ex ia IIC T6...T3 Ga Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T125 °C Da		
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85 Dust: -20 ≤ Ta ≤ +85		
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH		
Start-up time typ. [s]	8 (2...18)		
Reaction time typ. [s]	2 (1...13)		
Compressive strength [bar]	probe: 60 / flange: PN40		
Housing material	AISI 316 Ti • different materials on request		
Protection [EN 60529]	IP 67		
Connection	2 m PUR-cable 4x0.25 mm ²		



Observe specific conditions for use in section "Technique and application" on page 1.13

Note: for the connection to amplifier SZAb..., page 1.104-1.105



Ex-Probe | Device category 1G, 1G/2G and 1D

Ex-Device category 1G
Installation in Zone 0 (gas)

Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

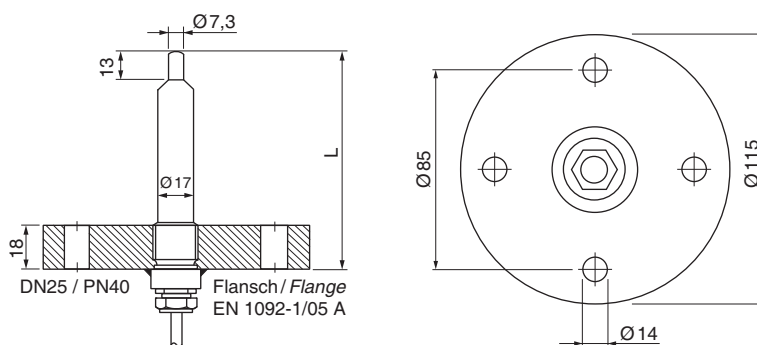
Ex-Device category 1D
Installation in Zone 20 (dust)

With welded standard flange
Extended temperature range up to 120 °C

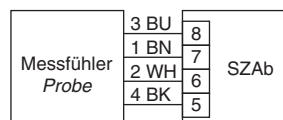


Design **DN25 / PN40 (EN 1092-1/05 A)**

Dimensions



Detection range	[cm/s]	water 1...100 / oil 3...200		
Sensor length L	[mm]	80	110	140
Connection		fixed cable	fixed cable	fixed cable
ID-No.		P11418	P11419	P11420
Type		STS 111 KH-L80	STS 111 KH-L110	STS 111 KH-L140
Ex area of use		Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20		
Certificate No.		TÜV 98 ATEX 1298 X		
Ex marking		Gas: Ex II 1 G Ex ia IIC T6...T3 Ga Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T125 °C Da		
Ambient temperature and medium temperature	[°C]	Gas: T6: +10 ≤ Ta ≤ +40 T5: +10 ≤ Ta ≤ +55 T4: +10 ≤ Ta ≤ +90 T3: +10 ≤ Ta ≤ +120 Dust: -20 ≤ Ta ≤ +85		
Maximum values		Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH		
Start-up time typ.	[s]	8 (2...18)		
Reaction time typ.	[s]	2 (1...13)		
Compressive strength	[bar]	probe: 60 / flange: PN40		
Housing material		AISI 316 Ti • different materials on request		
Protection	[EN 60529]	IP 67		
Connection		2 m FEP-cable 4x0.25 mm ²		



Observe specific conditions for use in section "Technique and application" on page 1.13

Note: for the connection to amplifier SZAb..., page 1.104-1.105



Ex-Probe | Device category 2G and 2D

Ex-Device category 2G
Installation in Zone 1 (gas)

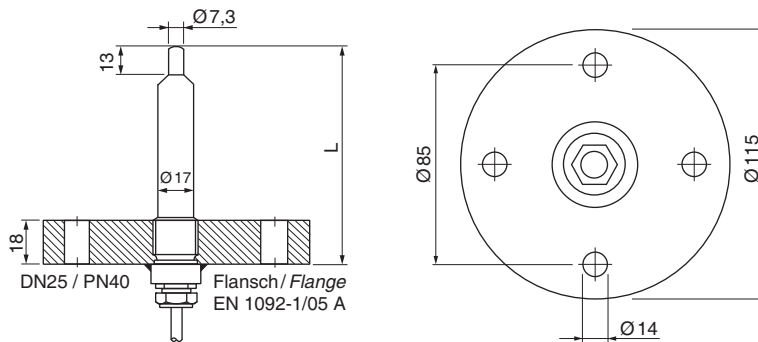
Ex-Device category 2D
Installation in Zone 21 (dust)

With welded standard flange



Design **DN25 / PN40 (EN 1092-1/05 A)**

Dimensions



Detection range	[cm/s]	water 1...100 / oil 3...200		
Sensor length L	[mm]	80	110	140
Connection		fixed cable	fixed cable	fixed cable
ID-No.		P11197	P11150	P11151
Type		ST 111 K-L80	ST 111 K-L110	ST 111 K-L140
Ex area of use		Gas: Zone 1 / Dust: Zone 21		
Certificate No.		TÜV 97 ATEX 1218		
Ex marking	Gas:	Ex II 2 G Ex ib IIC T6 Gb		
	Dust:	Ex II 2 D Ex ib IIIC T125 °C Db		
Ambient temperature and medium temperature	[°C]	Gas:	T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85	
		Dust:	-20 ≤ Ta ≤ +85	
Maximum values		Ui = 13.65 V / Ii = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH		
Start-up time typ.	[s]	8 (2...18)		
Reaction time typ.	[s]	2 (1...13)		
Compressive strength	[bar]	60		
Housing material		AISI 316 Ti • different materials on request		
Protection	[EN 60529]	IP 67		
Connection		2 m PUR-cable 4x0.25 mm²		



(probes with cable length > 2 m and different flanges are available on request)

Note: for the connection to amplifier SZAb..., page 1.104-1.105



Ex-Probe | Device category 2G and 2D

Ex-Device category 2G
Installation in Zone 1 (gas)

Ex-Device category 2D
Installation in Zone 21 (dust)

With welded standard flange

Extended temperature range up to 120 °C



Design	DN25 / PN40 (EN 1092-1/05 A)														
Dimensions															
Detection range [cm/s]	water 1...100 / oil 3...200														
Sensor length L [mm]	80	110	140												
Connection	fixed cable	fixed cable	fixed cable												
ID-No.	P11203	P11204	P11205												
Type	ST 111 KH-L80	ST 111 KH-L110	ST 111 KH-L140												
Ex area of use	Gas: Zone 1 / Dust: Zone 21														
Certificate No.	TÜV 97 ATEX 1218														
Ex marking	Gas: Ex II 2 G Ex ib IIC T6 Gb Dust: Ex II 2 D Ex ib IIIC T125 °C Db														
Ambient temperature and medium temperature [°C]	Gas: T6: +10 ≤ Ta ≤ +40 T5: +10 ≤ Ta ≤ +55 T4: +10 ≤ Ta ≤ +90 T3: +10 ≤ Ta ≤ +120 Dust: -20 ≤ Ta ≤ +85														
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH														
Start-up time typ. [s]	8 (2...18)														
Reaction time typ. [s]	2 (1...13)														
Compressive strength [bar]	60														
Housing material	AISI 316 Ti • different materials on request														
Protection [EN 60529]	IP 67														
Connection	2 m FEP-cable 4x0.25 mm ²														
	<table border="1" style="margin: auto;"> <tr> <td rowspan="5" style="padding: 5px;">Messfühler Probe</td> <td style="padding: 2px;">3 BU</td> <td style="padding: 2px;">8</td> <td rowspan="5" style="padding: 5px;">SZAb</td> </tr> <tr> <td style="padding: 2px;">1 BN</td> <td style="padding: 2px;">7</td> </tr> <tr> <td style="padding: 2px;">2 WH</td> <td style="padding: 2px;">6</td> </tr> <tr> <td style="padding: 2px;">4 BK</td> <td style="padding: 2px;">5</td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table>			Messfühler Probe	3 BU	8	SZAb	1 BN	7	2 WH	6	4 BK	5		
Messfühler Probe	3 BU	8	SZAb												
	1 BN	7													
	2 WH	6													
	4 BK	5													
	(probes with cable length > 2 m and different flanges are available on request)														
Note:	for the connection to amplifier SZAb..., page 1.104-1.105														



Ex-Probe | Device category 1G, 1G/2G and 1D

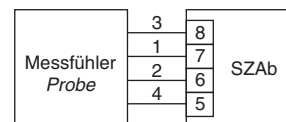
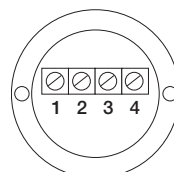
Ex-Device category 1G
Installation in Zone 0 (gas)

Ex-Device category 1G/2G
Installation in partition wall
Zone 0 / Zone 1 (gas)

Ex-Device category 1D
Installation in Zone 20 (dust)



Design	G3/4	NPT3/4
Dimensions		
Detection range [cm/s]	water 1...100 / oil 3...200	water 1...100 / oil 3...200
Sensor length [mm]	68	68
Connection	terminal clamps	terminal clamps
ID-No.	P11268	P11269
Type	STSEX 01	STSEX 02
Ex area of use	Gas: Zone 0, Partition wall Zone 0 / Zone 1 / Dust: Zone 20	
Certificate No.	TÜV 98 ATEX 1298 X	
Ex marking	Gas: Ex II 1 G Ex ia IIC T6...T3 Ga Ex II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T125 °C Da	
Umgebungstemperatur und Mediumtemperatur [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85 Dust: -20 ≤ Ta ≤ +85	
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH	
Start-up time typ. [s]	8 (2...18)	
Reaction time typ. [s]	2 (1...13)	
Cable gland [mm]	clamping range 5.5...8.5	
Housing material	AISI 316 Ti • different materials on request	
Protection [EN 60529]	IP 67	
Connection cable	2 m PVC 4x0.75 mm ² (number 1-4)	



Observe specific conditions for use in section "Technique and application" on page 1.13

Note: for the connection to amplifier SZAb..., page 1.104-1.105



Ex-Amplifiers AC/DC | Relay

Ex II (1) G [Ex ia Ga] IIC
 Ex II (1) D [Ex ia Da] IIIC

AC 230 V • AC 115 V • DC 24 V

Relay output

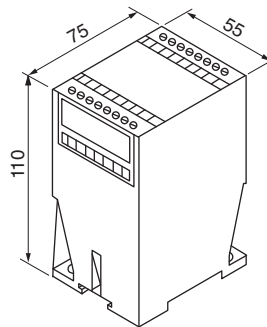
Cable break and short circuit monitoring

Turn off delay



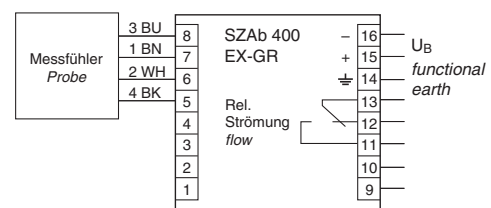
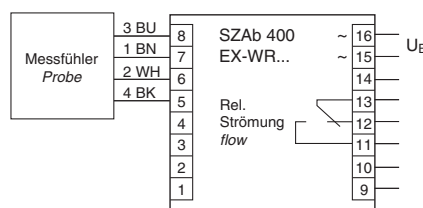
Design **SZAb 400 EX...**

Dimensions



ID-No.	P11400	P11399	P11398
Type	SZAb 400 EX-WR230	SZAb 400 EX-WR115	SZAb 400 EX-GR
Output			
Supply voltage [V]	230 AC ±10%	115 AC ±10%	24 DC ±15%
Ex marking	Gas: Ex II (1) G [Ex ia Ga] IIC		Dust: Ex II (1) D [Ex ia Da] IIIC
Certificate No.	EPS 19 ATEX 1 009		IECEx EPS 19.0001
Maximum values	U _o = 13.65 V I _o = 200 mA P _o = 683 mW IIC: C _o = 0.35 µF; L _o = 1.1 mH IIB: C _o = 1.8 µF; L _o = 6.2 mH IIA: C _o = 5.7 µF; L _o = 11.0 mH		
Turn off delay [s]	0...25		
Output	relay / change-over		
Switching voltage [V]	250 AC / 60 DC / 24 DC		
Switching current [A]	4 AC / 0.8 DC / 4 DC		
Switching power	cos φ >0,7 / L/R <200 ms		
Ambient temperature [°C]	-20 ≤ T _a ≤ +60		
Protection [EN 60529]	IP 20		
Connection	terminal screws		

Note:
 The Ex-amplifier must be mounted outside hazardous areas (gas or dust).





Ex -Amplifier DC | Analog

Ex II (1) G [Ex ia Ga] IIC
 Ex II (1) D [Ex ia Da] IIIC

DC 24 V

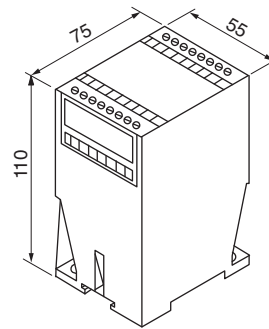
Analog output

Cable break and short circuit monitoring



Design SZAb 400 EX-GA

Dimensions



ID-No.	P11401	
Type	SZAb 400 EX-GA	
Output	 4...20 mA	
Supply voltage [V]	24 DC ±15%	
Ex marking	Gas: Ex II (1) G [Ex ia Ga] IIC	Staub: Ex II (1) D [Ex ia Da] IIIC
Certificate No.	EPS 19 ATEX 1 009	IECEx EPS 19.0001
Maximum values	U _o = 13.65 V I _o = 200 mA P _o = 683 mW IIC: C _o = 0.35 µF; L _o = 1.1 mH IIB: C _o = 1.8 µF; L _o = 6.2 mH IIA: C _o = 5.7 µF; L _o = 11.0 mH	
Output	analog, non linear	
Current output [mA]	4...20	
Load R _L [Ω]	0...500	
Ambient temperature [°C]	-20 ≤ T _a ≤ +60	
Protection [EN 60529]	IP 20	
Connection	terminal screws	

Note:
 The Ex-amplifier must be mounted outside hazardous areas (gas or dust).

