

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

Series STS

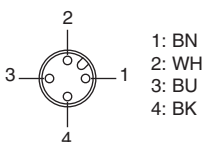
Ex - Device category 1G
Installation in Zone 0 (gas)

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: 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	M12 connector				



Observe specific conditions for use in section "Technique and application" on page 1.11

Note: for the connection to amplifier SZAb..., page 1.93-1.94

- Probe • Device category 1G, 1G/2G and 1D

Series STS

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

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

-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: II 1 G Ex ia IIC T6...T3 Ga II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: 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	2 m PUR-cable 4x0.25 mm ²				

Messfühler Probe	3 BU	8	SZAb
	1 BN	7	
	2 WH	6	
	4 BK	5	

Observe specific conditions for use in section "Technique and application" on page 1.11

Note: for the connection to amplifier SZAb..., page 1.93-1.94

- Probe • Device category 2G and 2D

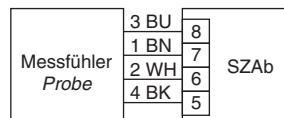
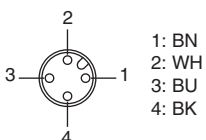
Series ST

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

- 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: 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: $-20 \leq Ta \leq +40$ T5: $-20 \leq Ta \leq +55$ T4: $-20 \leq Ta \leq +85$ T3: $-20 \leq Ta \leq +85$ Dust: $-20 \leq Ta \leq +85$				
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				



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

Note: for the connection to amplifier SZAb..., page 1.93-1.94

- Probe • Device category 2G and 2D

Series ST

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

-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: II 2 G Ex ib IIC T6 Gb Dust: II 2 D Ex ib IIIC T125 °C Db				
Ambient temperature [°C] and medium temperature	Gas: T6: $-20 \leq Ta \leq +40$ T5: $-20 \leq Ta \leq +55$ T4: $-20 \leq Ta \leq +85$ T3: $-20 \leq Ta \leq +85$ Dust: $-20 \leq Ta \leq +85$				
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	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 1.93-1.94

Ex - Probe • Device category 2G and 2D

Series ST

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				

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 1.93-1.94

- Probe • Device category 1G, 1G/2G and 1D

Series STS

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

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

-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: II 1 G Ex ia IIC T6...T3 Ga II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: 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	...K: 2 m PUR-cable 4x0.25 mm ² ...S: M12 connector				
		Messfühler Probe			SZAb
Note:	Observe specific conditions for use in section "Technique and application" on page 1.11 for the connection to amplifier SZAb..., page 1.93-1.94				

Ex - Probe • Device category 2G and 2D

Series ST

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: 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]	cable ...K: IP 67 / plug ...S: IP 67														
Connection	...K: 2 m PUR-cable 4x0.25 mm ² / ...S: M12 connector														
		<table border="1"> <tr> <td rowspan="4">Messfühler Probe</td> <td>3 BU</td> <td>8</td> <td rowspan="4">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 1.93-1.94														

- Probe • Device category 2G and 2D

Series ST

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

-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:	II 2 G Ex ib IIC T6 Gb		
	Dust:	II 2 D Ex ib IIIC T125 °C Db		
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 / 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			
Note:	(probes with cable length > 2 m are available on request) for the connection to amplifier SZAb..., page 1.93-1.94			

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

Series STS

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	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		

Messfühler Probe	3 BU	8	SZAb
	1 BN	7	
	2 WH	6	
	4 BK	5	

Observe specific conditions for use in section "Technique and application" on page 1.11

Note: for the connection to amplifier SZAb..., page 1.93-1.94

- Probe • Device category 2G and 2D

Series ST

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

-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:	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: $-20 \leq T_a \leq +40$ 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	2 m PUR-cable 4x0.25 mm ²		
Note:	(probes with cable length > 2 m and different flanges are available on request) for the connection to amplifier SZAb..., page 1.93-1.94		

Ex - Probe • Device category 2G and 2D

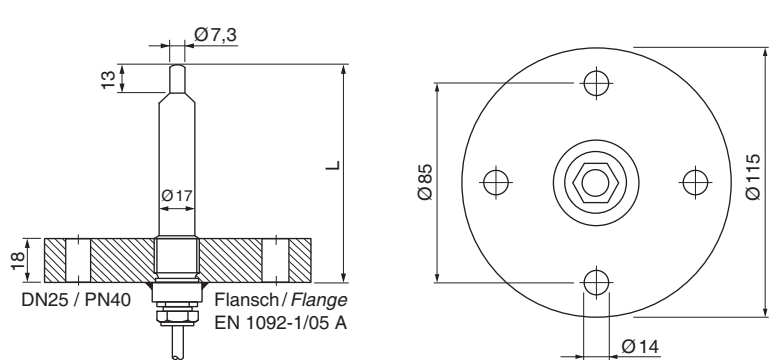
Series ST

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														
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Messfühler Probe	3 BU	8	SZAb												
	1 BN	7													
	2 WH	6													
	4 BK	5													
Note:	(probes with cable length > 2 m and different flanges are available on request) for the connection to amplifier SZAb..., page 1.93-1.94														

- Probe • Device category 1G, 1G/2G and 1D

Series STSEX

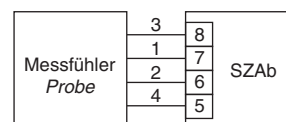
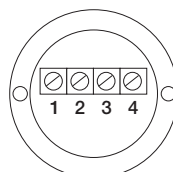
-Device category 1G
Installation in Zone 0 (gas)

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

-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: II 1 G Ex ia IIC T6...T3 Ga II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: II 1 D Ex ia IIIC T125 °C Da	
Umgebungstemperatur [°C] und Mediumtemperatur	Gas: T6: $-20 \leq Ta \leq +40$ T5: $-20 \leq Ta \leq +55$ T4: $-20 \leq Ta \leq +85$ T3: $-20 \leq Ta \leq +85$ Dust: $-20 \leq Ta \leq +85$	
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)	
Terminal clamps [mm]	cable diameter 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 1.11

Note: for the connection to amplifier SZAb..., page 1.93-1.94

- Probe • Device category 1G, 1G/2G and 1D

Series STS

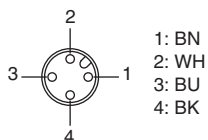
-Device category 1G
Installation in Zone 0 (gas)

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

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



Design	G1/2	
Dimensions		
Detection range [m/s]	air 2...25	air 2...25
Sensor length [mm]	65	65
Connection	fixed cable	plug
ID-No.	P11152	P11206
Type	STS 212 K	STS 212 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: II 1 G Ex ia IIC T4...T3 Ga II 1/2 G Ex ia IIC T4...T3 Ga/Gb Dust: II 1 D Ex ia IIIC T145 °C Da	
Ambient temperature and medium temperature [°C]	Gas: T4: $-20 \leq T_a \leq +70$ T3: $-20 \leq T_a \leq +85$ Dust: $-20 \leq T_a \leq +85$	
Maximum values	$U_i = 13.65 \text{ V}$ / $I_i = 200 \text{ mA}$ / $P_i = 0.69 \text{ W}$ / $C_i = 0.27 \text{ nF}$ / $L_i = 1.30 \mu\text{H}$	
Start-up time typ. [s]	10...40	
Reaction time typ. [s]	5 (2...30)	
Compressive strength [bar]	10	
Housing material	AISI 316 Ti • different materials on request	
Protection [EN 60529]	IP 67	
Connection	2 m PUR-cable 4x0.25 mm ²	M12 connector



Observe specific conditions for use in section "Technique and application" on page 1.11

Note: for the connection to amplifier SZAb..., page 1.93-1.94

- Probe • Device category 1G, 1G/2G and 1D

Series STS

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

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

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



Design	G1/2	
Dimensions		
Detection range [m/s]	air 2...25	
Sensor length [mm]	48	
Connection	fixed cable	plug
ID-No.	P11153	P11207
Type	STS 215 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: II 1 G Ex ia IIC T6...T3 Ga II 1/2 G Ex ia IIC T6...T3 Ga/Gb Dust: II 1 D Ex ia IIIC T130 °C Da	
Ambient temperature and medium temperature [°C]	Gas: T6: $-20 \leq T_a \leq +35$ T5: $-20 \leq T_a \leq +50$ 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 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]	5...20	
Reaction time typ. [s]	3 (2...30)	
Compressive strength [bar]	10	
Housing material	AISI 316 Ti • different materials on request	
Protection [EN 60529]	IP 67	
Connection	2 m PUR-cable 4x0.25 mm ²	M12 connector
	<p>1: BN 2: WH 3: BU 4: BK</p>	<p>Messfühler Probe</p> <p>3 BU 8 1 BN 7 2 WH 6 4 BK 5</p> <p>SZAb</p>
Note:	Observe specific conditions for use in section "Technique and application" on page 1.11 for the connection to amplifier SZAb..., page 1.93-1.94	

Air Flow Sensors



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

Series STS

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

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

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



Extended temperature range

Design	G1/2	
Dimensions		
Detection range [m/s]	air 2...25	
Sensor length [mm]	48	
Connection	fixed cable	
ID-No.	P11212	
Type	STS 215 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 T130 °C Da	
Ambient temperature and medium temperature [°C]	Gas: T6: - 20 ≤ Ta ≤ +35 T5: - 20 ≤ Ta ≤ +50 T4: - 20 ≤ Ta ≤ +85 T3: - 20 ≤ 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]	5...20	
Reaction time typ. [s]	3 (2...30)	
Compressive strength [bar]	10	
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 1.11

Note: for the connection to amplifier SZAb..., page 1.93-1.94

Ex - Amplifiers AC/DC • Relay

Series SZAb

II (1) G [Ex ia Ga] IIC
 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: II (1) G [Ex ia Ga] IIC		Dust: 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 ≤ Ta ≤ +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

Series SZAb

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 $\pm 15\%$	
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 \leq T _a \leq +60	
Protection [EN 60529]	IP 20	
Connection	terminal screws	
Note:	The Ex-amplifier must be mounted outside hazardous areas (gas or dust).	

Gas- $\text{\textcircled{Ex}}$ Intrinsically safe • Zone 0

Series UFGSa
Opto glass-sensor

Gas-Ex Category 1
Ex ia IIC T6 Ga

Resistant in kerosine • motor fuels

3-wire sensor, intrinsically safe



Design	G3/4			
Dimensions				
Switching point sp [mm]	-10			
ID-No.	P21239	P21240	P21241	P21242
Type	UFGSa 075 Ex-L120	UFGSa 075 Ex-L200	UFGSa 075 Ex-L400	UFGSa 075 Ex-L1000
Sensor length [mm]	120	200	400	1000
Ex area of use	Gas: Zone 0			
Certificate No.	EPS 18 ATEX 1 097 X		IECEX EPS 18.0054X	
Ex marking	Gas: $\text{\textcircled{Ex}}$ II 1G Ex ia IIC T6 Ga		Ex ia IIC T6 Ga	
Ambient temperature [°C]	Gas Zone 0: T6: $-20 \leq T_a \leq +60$ T5: $-20 \leq T_a \leq +60$ T4: $-20 \leq T_a \leq +60$ T3: $-20 \leq T_a \leq +60$		Gas Zone 1: T6: $-25 \leq T_a \leq +70$ T5: $-25 \leq T_a \leq +75$ T4: $-25 \leq T_a \leq +75$ T3: $-25 \leq T_a \leq +75$	
Maximum values	$U_i = 12.6 \text{ V}$ / $I_i = 80 \text{ mA}$ / $P_i = 252 \text{ mW}$ / $C_i = 0.24 \text{ nF}$ / $L_i = 1.3 \mu\text{H}$			
Housing material	AISI 316 Ti / glass			
Sealing material	FFKM (Kalrez)			
Tightening torque [Nm]	100			
Sensitivity	constant for alle detecable media			
Protection [EN 60529]	IP 67			
Compressive strength [bar]	16			
Connection	M12 connector			
Sensors for the connection to amplifiers IKMb 123 Ex-...				
Accessories	plug M12, SBG-DC (Z01060) or SBW-DC (Z00038)			

Ex - Amplifiers

Series IKMb 122 Ex

Gas [Ex ia Ga] IIC

Dust [Ex ia Da] IIIC

Cable break and short circuit monitoring

Connection to intrinsically safe 2-lead sensors

Output function programmable



Design	IKMb 122 Ex...		
Dimensions			
ID-No.	P31418	P31420	P31419
Type	IKMb 122 Ex-24	IKMb 122 Ex-115	IKMb 122 Ex-230
Output	 relay / change over		
Ex area of use	outside of the hazardous areas (gas or dust)		
Certificate No.	EPS 17 ATEX 1 091		IECEX EPS 17.0047
Ex marking	Gas: $\text{Ex II (1)G [Ex ia Ga] IIC}$ Dust: $\text{Ex II (1)D [Ex ia Da] IIIC}$	Gas: [Ex ia Ga] IIC Dust: [Ex ia Da] IIIC	
Ambient temperature [°C]	-20 ≤ Ta ≤ +60		
Maximum values	U _o = 9.6 V / I _o = 10.1 mA / P _o = 24.2 mW / C _o = 0.84 μF / L _o = 5.00 mH		
Rated voltage [V]	30 DC	127 AC	253 AC
Supply voltage [V]	24 DC ±10%	115 AC ±10%	230 AC ±10%
Switching voltage max. [V]	250 AC / 60 DC / 24 DC		
Switching current max. [A]	4 AC / 0,8 DC / 4 DC		
Switching power	cos φ > 0,7 / L/R ≤ 200 ms / L/R ≤ 200 ms		
LED display	power: green / switching output: yellow / cable break: red		
Protection [EN 60529]	IP 20		
Connection	terminal screws		

Ex - Amplifiers

Series IKMb 123 Ex

Gas [Ex ia Ga] IIC

Dust [Ex ia Da] IIIC

Cable break and short circuit monitoring

Connection to intrinsically safe 3-lead sensors

Output function programmable



Design	IKMb 123 Ex...		
Dimensions			
ID-No.	P31451	P31453	P31452
Type	IKMb 123 Ex-24	IKMb 123 Ex-115	IKMb 123 Ex-230
Output	 relay / change over		
Ex area of use	outside of the hazardous areas (gas or dust)		
Certificate No.	EPS 17 ATEX 1 091	IECEX EPS 17.0047	
Ex marking	Gas: $\text{Ex II (1)G [Ex ia Ga] IIC}$ Dust: $\text{Ex II (1)D [Ex ia Da] IIIC}$	Gas: [Ex ia Ga] IIC Dust: [Ex ia Da] IIIC	
Ambient temperature [°C]	$-20 \leq T_a \leq +60$		
Maximum values	$U_0 = 9.6 \text{ V} / I_0 = 50.5 \text{ mA} / P_0 = 121.3 \text{ mW} / C_0 = 0.68 \mu\text{F} / L_0 = 5.00 \text{ mH}$		
Rated voltage [V]	30 DC	127 AC	253 AC
Supply voltage [V]	24 DC $\pm 10\%$	115 AC $\pm 10\%$	230 AC $\pm 10\%$
Switching voltage max. [V]	250 AC / 60 DC / 24 DC		
Switching current max. [A]	4 AC / 0,8 DC / 4 DC		
Switching power	$\cos \varphi > 0,7 / L/R \leq 200 \text{ ms} / L/R \leq 200 \text{ ms}$		
LED display	power: green / switching output: yellow / cable break: red		
Protection [EN 60529]	IP 20		
Connection	terminal screws		

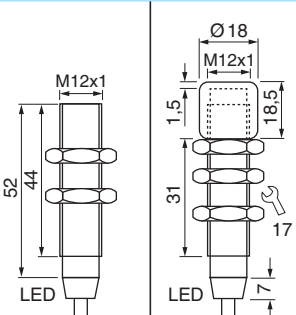
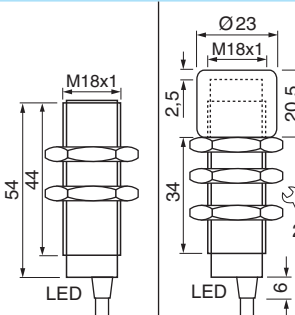
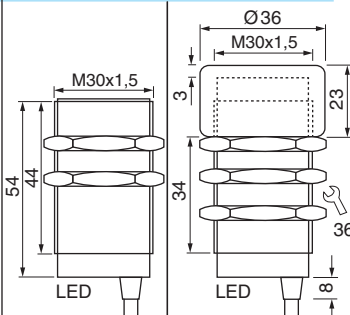

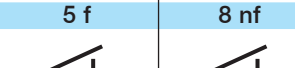



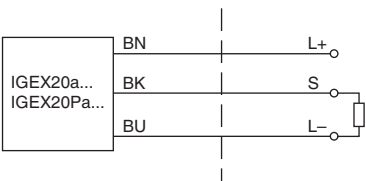
Dust / Gas- Compact model • Zone 0/20

Series IGEX20a - Proximity switches

Gas-Ex Category 1
Ex ma IIC T6 Ga

Dust-Ex Category 1
Ex ma IIIC T90°C Da



Design	DC PNP • M12x1		DC PNP • M18x1		DC PNP • M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)	f, nf		f, nf		f, nf	
Operating distance [mm]	2 f, 4 nf		5 f, 8 nf		10 f, 15 nf	
Switching output PNP						
ID-No.	P31379, P31380		P31381, P31382		P31383, P31384	
Type	IGEX20a 02 GSP, IGEX20a 04 GSP		IGEX20a 05 GSP, IGEX20a 08 GSP		IGEX20a 10 GSP, IGEX20a 15 GSP	
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20/21					
Certificate No.	EPS 17 ATEX 1 117 X			IECEX EPS 17.0059X		
Ex marking	Gas:  II 1G Ex ma IIC T6 Ga Dust:  II 1D Ex ma IIIC T90°C Da			Ex ma IIC T6 Ga Ex ma IIIC T90°C Da		
Ambient temperature [°C]	Gas Zone 0: T6: -20 ≤ Ta ≤ +60* T5: -20 ≤ Ta ≤ +60* T4: -20 ≤ Ta ≤ +60* T3: -20 ≤ Ta ≤ +60*		Gas Zone 1: T6: -20 ≤ Ta ≤ +60* T5: -20 ≤ Ta ≤ +60* T4: -20 ≤ Ta ≤ +60* T3: -20 ≤ Ta ≤ +60*		Dust Zone 20: -20 ≤ Ta ≤ +60* Dust Zone 21: -20 ≤ Ta ≤ +60*	
* +55 for type M12x1						
Supply voltage [V]	24 DC ±10%					
Switching current [mA]	50					
Rated voltage [V]	27 DC					
Rated current [mA]	50					
LED display	red		yellow		yellow	
Impact protection cap	•		•		•	
Housing material	AISI 316 Ti/PPSU/LCP/POM			Br-Ni / PA / POM		
Protection [EN 60529]	IP 67					
Connection	2 m PUR-cable 3x0.34 mm ²					
Note	<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <p>explosionsgefährdeter Bereich (Gas oder Staub) <i>hazardous area (gas or dust)</i></p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>nicht explosionsgefährdeter Bereich <i>non hazardous area</i></p> </div> </div>					

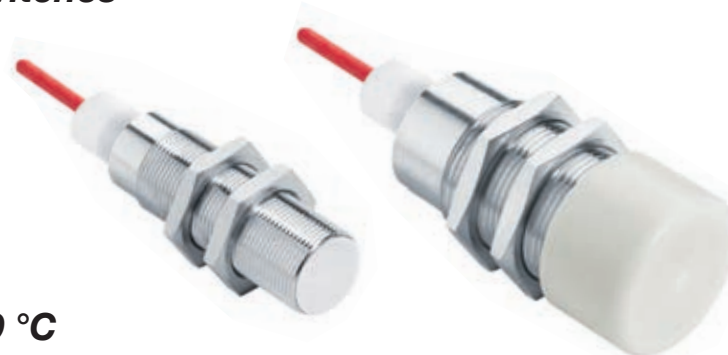
Dust / Gas - Compact model • Zone 0/20

Series IGEX20Pa - Proximity switches

Gas-Ex Category 1
Ex ma IIC T6 Ga

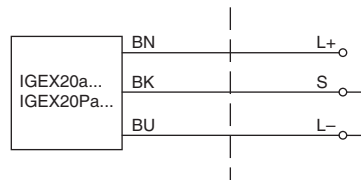
Dust-Ex Category 1
Ex ma IIIC T90°C Da

Ambient temperature up to -60 °C



Design	DC PNP • M12x1		DC PNP • M18x1		DC PNP • M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)	LED	LED	LED	LED	LED	LED
Operating distance [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
Switching output PNP						
ID-No.	P31385	P31386	P31387	P31388	P31389	P31390
Type	IGEX20Pa 02 GSP	IGEX20Pa 04 GSP	IGEX20Pa 05 GSP	IGEX20Pa 08 GSP	IGEX20Pa 10 GSP	IGEX20Pa 15 GSP
Ex area of use	Gas: Zone 0/1 / Staub: Zone 20/21					
Certificate No.	EPS 17 ATEX 1 117 X			IECEX EPS 17.0059X		
Ex marking	Gas: II 1G Ex ma IIC T6 Ga Dust: II 1D Ex ma IIIC T90°C Da			Ex ma IIC T6 Ga Ex ma IIIC T90°C Da		
Ambient temperature [°C]	Gas Zone 0: T6: -20 ≤ Ta ≤ +60* T5: -20 ≤ Ta ≤ +60* T4: -20 ≤ Ta ≤ +60* T3: -20 ≤ Ta ≤ +60*		Gas Zone 1: T6: -60 ≤ Ta ≤ +60* T5: -60 ≤ Ta ≤ +60* T4: -60 ≤ Ta ≤ +60* T3: -60 ≤ Ta ≤ +60*		Dust Zone 20: -20 ≤ Ta ≤ +60* Dust Zone 21: -60 ≤ Ta ≤ +60*	
* +55 for type M12x1						
Supply voltage [V]	24 DC ±10%					
Switching current [mA]	50					
Rated voltage [V]	27 DC					
Rated current [mA]	50					
LED display	yellow	yellow	yellow	yellow	yellow	yellow
Impact protection cap		•		•		•
Housing material	AISI 316 Ti / PTFE / PVDF / POM					
Protection [EN 60529]	IP 68 (3 bar)					
Connection	2 m FEP-cable 3x0.34 mm ²					
Note	proximity switches with cable length > 2 m are available on request					

explosionsgefährdeter Bereich (Gas oder Staub)
hazardous area (gas or dust)



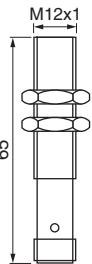
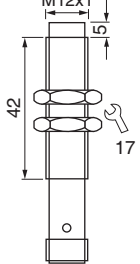
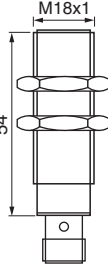
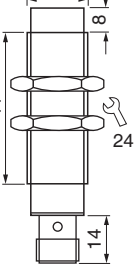
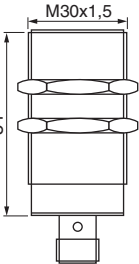
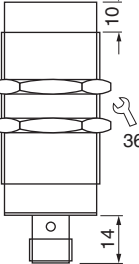
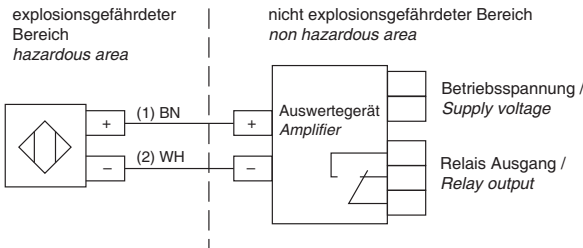
nicht explosionsgefährdeter Bereich
non hazardous area

Series IGEXUa - Proximity switches

Gas-Ex Category 1
Ex ia IIC T6 Ga

Dust-Ex Category 1
Ex ia IIIC T80°C Da



Design	M12x1		M18x1		M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)						
Operating distance [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
ID-No.	P31412	P31413	P31414	P31415	P31416	P31417
Type	IGEXUa 02	IGEXUa 04	IGEXUa 05	IGEXUa 08	IGEXUa 10	IGEXUa 15
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20/21					
Certification No.	EPS 17 ATEX 1 173 X			IECEX EPS 17.0087X		
Ex marking	Gas: Ex II 1G Ex ia IIC T6 Ga Dust: Ex II 1D Ex ia IIIC T80°C Da			Gas: Ex ia IIC T6 Ga Dust: Ex ia IIIC T80°C Da		
Ambient temperature [°C] and medium temperature	Gas Zone 0: T6: $-20 \leq T_a \leq +60$ T5: $-20 \leq T_a \leq +60$ T4: $-20 \leq T_a \leq +60$ T3: $-20 \leq T_a \leq +60$		Gas Zone 1: T6: $-25 \leq T_a \leq +75$ T5: $-25 \leq T_a \leq +75$ T4: $-25 \leq T_a \leq +75$ T3: $-25 \leq T_a \leq +75$		Dust Zone 20: $-25 \leq T_a \leq +75$	
Maximum values	U _i = 12.6 V / I _i = 15.9 mA / P _i = 50 mW / C _i = 66.2 nF / L _i = 1.2 mH					
Housing material	Br-Ni / PA					
Protection [EN 60529]	IP 67					
Connection	M12 connector					
For the connection to amplifiers IKMb 122 Ex..., page 3.67	 <p>explosionsgefährdeter Bereich hazardous area nicht explosionsgefährdeter Bereich non hazardous area</p> <p>(1) BN + (2) WH - Auswertegerät Amplifier</p> <p>Betriebsspannung / Supply voltage</p> <p>Relais Ausgang / Relay output</p>					

Series IGEXa - Proximity switches

Gas-Ex Category 1
Ex ia IIC T6 Ga

Dust-Ex Category 1
Ex ia IIIC T80°C Da



Design	M12x1		M18x1		M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)						
Operating distance [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
ID-No.	P31445	P31446	P31447	P31448	P31449	P31450
Type	IGEXa 02	IGEXa 04	IGEXa 05	IGEXa 08	IGEXa 10	IGEXa 15
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20/21					
Certification No.	EPS 17 ATEX 1 173 X			IECEX EPS 17.0087X		
Ex marking	Gas: II 1G Ex ia IIC T6 Ga Dust: II 1D Ex ia IIIC T80°C Da			Gas: Ex ia IIC T6 Ga Dust: Ex ia IIIC T80°C Da		
Ambient temperature [°C] and medium temperature	Gas Zone 0: T6: $-20 \leq Ta \leq +60$ T5: $-20 \leq Ta \leq +60$ T4: $-20 \leq Ta \leq +60$ T3: $-20 \leq Ta \leq +60$		Gas Zone 1: T6: $-25 \leq Ta \leq +75$ T5: $-25 \leq Ta \leq +75$ T4: $-25 \leq Ta \leq +75$ T3: $-25 \leq Ta \leq +75$		Dust Zone 20: $-25 \leq Ta \leq +75$	
Maximum values	Ui = 12.6 V / li = 15.9 mA / Pi = 50 mW / Ci = 66.2 nF / Li = 1.2 mH					
Housing material	Br-Ni / PA					
Protection [EN 60529]	IP 67					
Connection	2 m PVC-cable 2x0.5 m ²					
For the connection to amplifiers IKMb 122 Ex..., page 3.67						
Note	proximity switches with cable length > 2 m are available on request					

Series IGEXHa - Proximity switches

Gas-Ex Category 1
Ex ia IIC T6 Ga

Dust-Ex Category 1
Ex ia IIIC T145°C Da



High temperature sensors +140 °C
IP 69 Resistant to high pressure cleaning

Design	M12x1		M18x1		M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)						
Operating distance [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
ID-No.	P31400	P31401	P31402	P31403	P31404	P31405
Type	IGEXHa 02	IGEXHa 04	IGEXHa 05	IGEXHa 08	IGEXHa 10	IGEXHa 15
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20/21					
Certificate No.	EPS 17 ATEX 1 173 X			IECEX EPS 17.0087X		
Ex marking	Gas: Ex II 1G Ex ia IIC T6 Ga Dust: Ex II 1D Ex ia IIIC T145°C Da			Gas: Ex ia IIC T6 Ga Dust: Ex ia IIIC T145°C Da		
Ambient temperature [°C] and medium temperature	Gas Zone 0: T6: $-20 \leq T_a \leq +60$ T5: $-20 \leq T_a \leq +60$ T4: $-20 \leq T_a \leq +60$ T3: $-20 \leq T_a \leq +60$		Gas Zone 1: T6: $-25 \leq T_a \leq +75$ T5: $-25 \leq T_a \leq +90$ T4: $-25 \leq T_a \leq +125$ T3: $-25 \leq T_a \leq +140$		Dust Zone 20: $-25 \leq T_a \leq +140$	
Maxium values	$U_i = 12.6 \text{ V}$ / $I_i = 15.9 \text{ mA}$ / $P_i = 50 \text{ mW}$ / $C_i = 66.2 \text{ nF}$ / $L_i = 1.2 \text{ mH}$					
Housing material	AISI 316 Ti / PEEK					
Protection [EN 60529]	IP 68 (3 bar), IP 69					
Connection	2 m FEP-cable 2x0.34 mm ²					
Sensors for the connection to amplifiers IKMb 122 Ex..., page 3.67						
Note	proximity switches with cable length > 2 m are available on request					

Series IGEXPa - Proximity switches

Gas-Ex Category 1
Ex ia IIC T6 Ga

Dust-Ex Category 1
Ex ia IIIC T65°C Da

POLAR-Sensors -60 °C
IP 69 Resistant to high pressure cleaning



Design	M12x1		M18x1		M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)	17		24		36	
Operating distance [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
ID-No.	P31406	P31407	P31408	P31409	P31410	P31411
Type	IGEXPa 02	IGEXPa 04	IGEXPa 05	IGEXPa 08	IGEXPa 10	IGEXPa 15
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20/21					
Certificate No.	EPS 17 ATEX 1 173 X			IECEX EPS 17.0087X		
Ex marking	Gas: II 1G Ex ia IIC T6 Ga Dust: II 1D Ex ia IIIC T65°C Da			Gas: Ex ia IIC T6 Ga Dust: Ex ia IIIC T65°C Da		
Ambient temperature [°C] and medium temperature	Gas Zone 0: T6: -20 ≤ Ta ≤ +60 T5: -20 ≤ Ta ≤ +60 T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60		Gas Zone 1: T6: -60 ≤ Ta ≤ +60 T5: -60 ≤ Ta ≤ +60 T4: -60 ≤ Ta ≤ +60 T3: -60 ≤ Ta ≤ +60		Dust Zone 20: -60 ≤ Ta ≤ +60 Dust Zone 21: -60 ≤ Ta ≤ +60	
Maximum values	Ui = 12.6 V / li = 15.9 mA / Pi = 50 mW / Ci = 66.2 nF / Li = 1.2 mH					
Housing material	AISI 316 Ti / PTFE / PVDF					
Protection [EN 60529]	IP 68 (3 bar), IP 69					
Connection	2 m FEP-cable 2x0.34 mm ²					
Sensors for the connection to amplifiers IKMb 122 Ex..., page 3.67						
Note	proximity switches with cable length > 2 m are available on request					

Dust / Gas- Ex Compact model • Zone 2/22

Series IGEX22c - Proximity switches

Gas-Ex Category 3
Ex ec IIC T6 Gc

Dust-Ex Category 3
Ex tc IIIC T70°C Dc



Design	DC PNP • M12x1		DC PNP • M18x1		DC PNP • M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)						
Operating distance [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
Switching output PNP						
ID-No.	P31391	P31392	P31393	P31394	P31395	P31396
Type	IGEX22c 02 GSP	IGEX22c 04 GSP	IGEX22c 05 GSP	IGEX22c 08 GSP	IGEX22c 10 GSP	IGEX22c 15 GSP
Ex area of use	Gas: Zone 2 / Dust: Zone 22					
Certificate No.	IECEx EPS 17.0042X					
Conformity No.	EGE 18.0020 X					
Ex marking	Gas: $\text{Ex II 3G Ex ec IIC T6 Gc}$ Dust: $\text{Ex II 3D Ex tc IIIC T70°C Dc}$			Gas: Ex ec IIC T6 Gc Dust: $\text{Ex tc IIIC T70°C Dc}$		
Ambient temperature [°C] and medium temperature	Gas Zone 2:		T6: $-20 \leq T_a \leq +60$ T5: $-20 \leq T_a \leq +60$ T4: $-20 \leq T_a \leq +60$ T3: $-20 \leq T_a \leq +60$			
	Dust Zone 22:		$-20 \leq T_a \leq +60$			
Rated voltage [V]	30 DC					
Supply voltage [V]	24 DC $\pm 10\%$					
Switching current [mA]	100					
Switching frequency [Hz]	300					
LED display	red	red	yellow	yellow	yellow	yellow
Impact protection cap	•		•		•	
Housing material	AISI 316 Ti/PPSU/LCP/POM			Br-Ni / PA / POM		
Protection [EN 60529]	IP 67					
Connection	2 m PUR-cable 3x0.34 mm ²					
Note	proximity switches with cable length > 2 m are available on request					

Dust / Gas - Compact model • Zone 2/22

Series IGVEX22c - Proximity switches

Gas-Ex Category 3
Ex ec IIC T6 Gc

Dust-Ex Category 3
Ex tc IIIC T75°C Dc

One piece stainless steel housing



Design	DC PNP • M12x1	DC PNP • M18x1	DC PNP • M30x1.5
Dimensions			
Operating distance [mm]	2	5	10
Switching output PNP			
ID-No.	P31397	P31398	P31399
Type	IGVEX22c 02 GSP	IGVEX22c 05 GSP	IGVEX22c 10 GSP
Ex area of use	Gas: Zone 2 / Dust: Zone 22		
Certificate No.	IECEx EPS 17.0042X		
Conformity No.	EGE 18.0020 X		
Ex marking	Gas: II 3G Ex ec IIC T6 Gc Dust: II 3D Ex tc IIIC T75°C Dc	Gas: Ex ec IIC T6 Gc Dust: Ex tc IIIC T75°C Dc	
Ambient temperature and medium temperature [°C]	Gas Zone 2: T6: $-5 \leq T_a \leq +60$ T5: $-5 \leq T_a \leq +60$ T4: $-5 \leq T_a \leq +60$ T3: $-5 \leq T_a \leq +60$ Dust Zone 22: $-5 \leq T_a \leq +60$	Gas Zone 2: T6: $-10 \leq T_a \leq +60$ T5: $-10 \leq T_a \leq +60$ T4: $-10 \leq T_a \leq +60$ T3: $-10 \leq T_a \leq +60$ Dust Zone 22: $-10 \leq T_a \leq +60$	Gas Zone 2: T6: $-20 \leq T_a \leq +60$ T5: $-20 \leq T_a \leq +60$ T4: $-20 \leq T_a \leq +60$ T3: $-20 \leq T_a \leq +60$ Dust Zone 22: $-20 \leq T_a \leq +60$
Rated voltage [V]	30 DC		
Supply voltage [V]	24 DC $\pm 10\%$		
Switching current [mA]	100		
Switching frequency [Hz]	180		
LED display	red	yellow	yellow
Housing material	AISI 316 L / PPSU	AISI 316 L / PA	AISI 316 L / PA
Protection [EN 60529]	IP 67		
Connection	2 m PUR-cable 3x0.34 mm ²		
Note	proximity switches with cable length > 2 m are available on request		

Dust / Gas- Ex Compact model • Zone 2/22

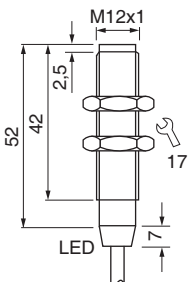
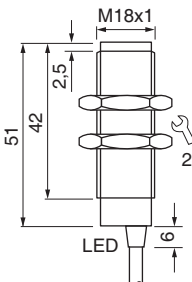
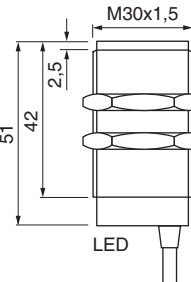



Series IGVE22c - Proximity switches

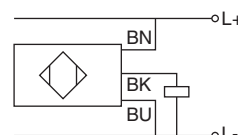
Gas-Ex Category 3
Ex ec IIC T6 Gc

Dust-Ex Category 3
Ex tc IIIC T75°C Dc

One piece stainless steel housing
Silicone cable



Design	DC PNP • M12x1	DC PNP • M18x1	DC PNP • M30x1.5
Dimensions			
Operating distance [mm]	2	5	10
Switching output PNP			
ID-No.	P31421	P31422	P31423
Type	IGVE22c 02 GSP-K	IGVE22c 05 GSP-K	IGVE22c 10 GSP-K
Ex area of use	Gas: Zone 2 / Dust: Zone 22		
Certificate No.	IECEX EPS 17.0042X		
Conformity No.	EGE 18.0020 X		
Ex marking	Gas: Ex II 3G Ex ec IIC T6 Gc Dust: Ex II 3D Ex tc IIIC T75°C Dc	Gas: Ex ec IIC T6 Gc Dust: Ex tc IIIC T75°C Dc	
Ambient temperature [°C] and medium temperature	Gas Zone 2:	T6: $-20 \leq T_a \leq +60$ T5: $-20 \leq T_a \leq +60$ T4: $-20 \leq T_a \leq +60$ T3: $-20 \leq T_a \leq +60$	
	Dust Zone 22:	$-20 \leq T_a \leq +60$	
Rated voltage [V]	30 DC		
Supply voltage [V]	24 DC $\pm 10\%$		
Switching current [mA]	100		
Switching frequency [Hz]	180		
LED display	red	yellow	yellow
Housing material	AISI 316 L / PPSU	AISI 316 L / PA	AISI 316 L / PA
Protection [EN 60529]	IP 67		
Connection	2 m silicone-cable 3x0.34 mm ²		



Note proximity switches with cable length > 2 m are available on request

- Amplifiers

Series IKMb 122 Ex

Gas [Ex ia Ga] IIC

Dust [Ex ia Da] IIIC

Cable break and
short circuit monitoring

Connection to intrinsically safe
2-lead sensors

Output function programmable



Design	IKMb 122 Ex...		
Dimensions			
ID-No.	P31418	P31420	P31419
Type	IKMb 122 Ex-24	IKMb 122 Ex-115	IKMb 122 Ex-230
Output	 relay / change over		
Ex area of use	outside of the hazardous areas (gas or dust)		
Certificate No.	EPS 17 ATEX 1 091	IECEX EPS 17.0047	
Ex marking	Gas: [Ex ia Ga] IIC Dust: [Ex ia Da] IIIC	Gas: [Ex ia Ga] IIC Dust: [Ex ia Da] IIIC	
Ambient temperature [°C]	-20 ≤ Ta ≤ +60		
Maximum values	U _o = 9.6 V / I _o = 10.1 mA / P _o = 24.2 mW / C _o = 0.84 μF / L _o = 5.00 mH		
Rated voltage [V]	30 DC	127 AC	253 AC
Supply voltage [V]	24 DC ±10%	115 AC ±10%	230 AC ±10%
Switching voltage max. [V]	250 AC / 60 DC / 24 DC		
Switching current max. [A]	4 AC / 0,8 DC / 4 DC		
Switching power	cos φ > 0,7 / L/R ≤ 200 ms / L/R ≤ 200 ms		
LED display	power: green / switching output: yellow / cable break: red		
Protection [EN 60529]	IP 20		
Connection	terminal screws		
	explosionsgefährdeter Bereich hazardous area	nichtexplosionsgefährdeter Bereich non hazardous area	
			L1 / + Betriebsspannung N / - Supply voltage Relais Ausgang / Relay output

Ex - Amplifiers

Series IKMb 123 Ex

Gas [Ex ia Ga] IIC

Dust [Ex ia Da] IIIC

Cable break and short circuit monitoring

Connection to intrinsically safe 3-lead sensors

Output function programmable



Design	IKMb 123 Ex...		
Dimensions			
ID-No.	P31451	P31453	P31452
Type	IKMb 123 Ex-24	IKMb 123 Ex-115	IKMb 123 Ex-230
Output	 relay / change over		
Ex area of use	outside of the hazardous areas (gas or dust)		
Certificate No.	EPS 17 ATEX 1 091	IECEX EPS 17.0047	
Ex marking	Gas: $\text{Ex II (1)G [Ex ia Ga] IIC}$ Dust: $\text{Ex II (1)D [Ex ia Da] IIIC}$	Gas: [Ex ia Ga] IIC Dust: [Ex ia Da] IIIC	
Ambient temperature [°C]	$-20 \leq T_a \leq +60$		
Maximum values	$U_0 = 9.6 \text{ V} / I_0 = 50.5 \text{ mA} / P_0 = 121.3 \text{ mW} / C_0 = 0.68 \mu\text{F} / L_0 = 5.00 \text{ mH}$		
Rated voltage [V]	30 DC	127 AC	253 AC
Supply voltage [V]	24 DC $\pm 10\%$	115 AC $\pm 10\%$	230 AC $\pm 10\%$
Switching voltage max. [V]	250 AC / 60 DC / 24 DC		
Switching current max. [A]	4 AC / 0,8 DC / 4 DC		
Switching power	$\cos \varphi > 0,7 / L/R \leq 200 \text{ ms} / L/R \leq 200 \text{ ms}$		
LED display	power: green / switching output: yellow / cable break: red		
Protection [EN 60529]	IP 20		
Connection	terminal screws		

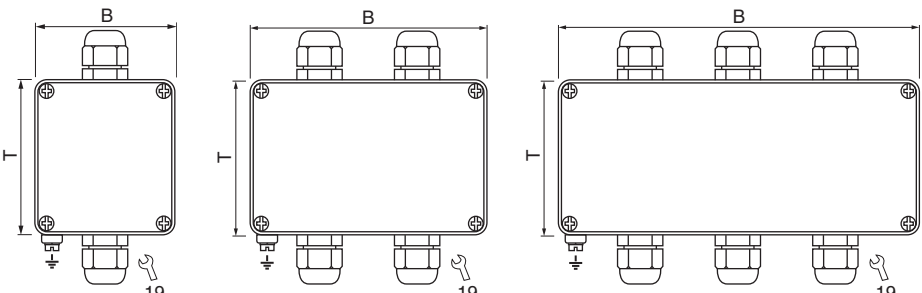


- Junction box • Device category 2G and 2D

Series GK...

For the connection of supply and signal lines in explosion-hazardous areas of zone 1 and zone 21

Connection type screw terminals



Design	GK E...		
Dimensions			
ID-No.	Z01219	Z01227	Z01239
Type	GK E 060 S K	GK E 080 S K	GK E 100 S K
Amount of terminals	4	2 x 4	3 x 4
Dimensions (BxTxH) [mm]	58x64x36	98x64x36	150x64x36
Type of protection	Gas: increased safety		
Ex marking	Dust: protection through enclosure Gas:  II 2G Ex eb IIC T6 Gb Dust:  II 2D Ex tb IIIC T75°C Db		
Certificate No.	TÜV 16 ATEX 152979 X		
Ambient temperature [°C]	Gas: T3, T4, T5, T6: $-20 \leq T_a \leq +70$ Dust: $-20 \leq T_a \leq +70$		
Voltage [V]	$U_m \leq 275$		
Current [A]	$I_m \leq 2$		
Connection type	screw terminals		
Rated cross-section	„e+t“ single wire: 0.50...2.5 mm ² / flexible: 0.50...1.5 mm ² flexible: 0.50...1.5 mm ² (with wire end ferrule)		
Clamping range of cable gland [mm]	5.0...8.0		
Material	housing: aluminium powder coated / cable gland: PA/CR		
Protection [EN 60529]	IP 65		
Connection	terminal compartment		

Notes:

The Ex-junction box type GK E... is designed for the connection of non-intrinsically safe circuits in explosion-hazardous areas of category 2. Outside of the housing, the lines must be installed permanently; further provisions must be observed if required.

Additional housings, additional clamps and metal cable glands are available on request.

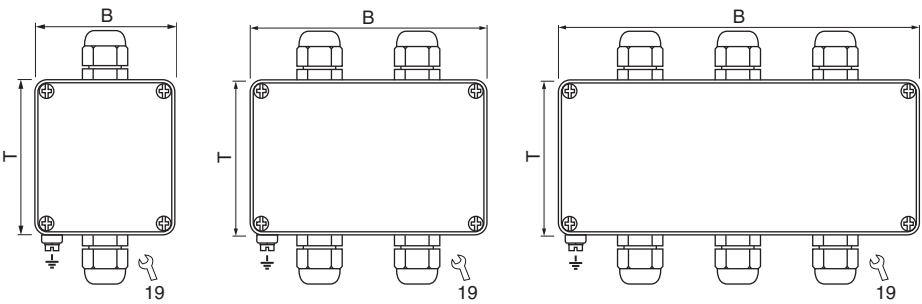


- Junction box • Device category 2G and 2D

Series GK...

For the connection of supply and signal lines in explosion-hazardous areas of zone 1 and zone 21

Connection type screw terminals



Design	GK I...		
Dimensions			
ID-No.	Z01221	Z01229	Z01241
Type	GK I 060 S K	GK I 080 S K	GK I 100 S K
Amount of terminals	4	2 x 4	3 x 4
Dimensions (BxTxH) [mm]	58x64x36	98x64x36	150x64x36
Type of protection	Gas: intrinsic safety		
Ex marking	Dust: intrinsic safety		
	Gas:  II 2G Ex ib/ia IIC T6 Gb		
	Dust:  II 2D Ex ib/ia IIIC T75 °C Db		
Certificate No.	TÜV 16 ATEX 152979 X		
Ambient temperature [°C]	Gas: T3, T4, T5, T6: $-20 \leq T_a \leq +70$		
	Dust: $-20 \leq T_a \leq +70$		
Voltage [V]	Ui 90		
Current [A]	Ii 2.0		
Connection type	screw terminals		
Rated cross-section	„I“ single wire: 0.33...4.0 mm ² / flexible: 0.33...2.5 mm ² flexible: 0.33...1.5 mm ² (with wire end ferrule)		
Clamping range of cable gland [mm]	5.0...8.0		
Material	housing: aluminium powder coated / cable gland: PA/CR		
Protection [EN 60529]	IP 65		
Connection	terminal compartment		

Notes:

The Ex-junction box type GK I... is designed for the connection of intrinsically safe circuits in explosion-hazardous areas of category 2. Outside of the housing, the lines must be installed permanently; further provisions must be observed if required.

Additional housings, additional clamps and metal cable glands are available on request.

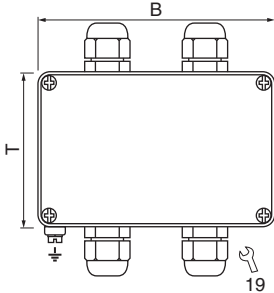
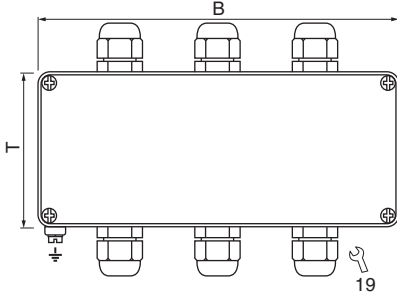

- Junction box • Device category 2G and 2D

Series GK...

For the connection of supply and signal lines in explosion-hazardous areas of zone 1 and zone 21

Connection type screw terminals



Design	GK EI...		
Dimensions			
ID-No.	Z01231	Z01243	Z01245
Type	GK EI 080 S K	GK EEI 100 S K	GK EII 100 S K
Amount of terminals	4 / 4	4 + 4 / 4	4 / 4 + 4
Dimensions (BxTxH) [mm]	98x64x36	150x64x36	150x64x36
Type of protection	Gas: increased safety / intrinsic safety Dust: protection through enclosure / intrinsic safety		
Ex marking	Gas: II 2G Ex eb ib/ia IIC T6 Gb Dust:  II 2D Ex tb ib/ia IIIC T75°C Db		
Certificate No.	TÜV 16 ATEX 152979 X		
Ambient temperature [°C]	Gas: T3, T4, T5, T6: $-20 \leq T_a \leq +70$ Dust: $-20 \leq T_a \leq +70$		
Voltage [V]	$U_m \leq 275$ / U_i 90		
Current [A]	$I_m \leq 2$ / I_i 2.0		
Connection type	screw terminals		
Rated cross-section	„i“ single wire: 0.33...4.0 mm ² / flexible: 0.33...2.5 mm ² flexible: 0.33...1.5 mm ² (with wire end ferrule) „e+t“ single wire: 0.50...2.5 mm ² / flexible: 0.50...1.5 mm ² flexible: 0.50...1.5 mm ² (with wire end ferrule)		
Clamping range of cable gland [mm]	5.0...8.0		
Material	housing: aluminium powder coated / cable gland: PA/CR		
Protection [EN 60529]	IP 65		
Connection	terminal compartment		

Notes:

The Ex-junction box type GK... is designed for the connection of intrinsically safe and/or non-intrinsically safe circuits in explosion-hazardous areas of category 2. Outside of the housing, the lines must be installed permanently; further provisions must be observed if required.

Additional housings, additional clamps and metal cable glands are available on request.

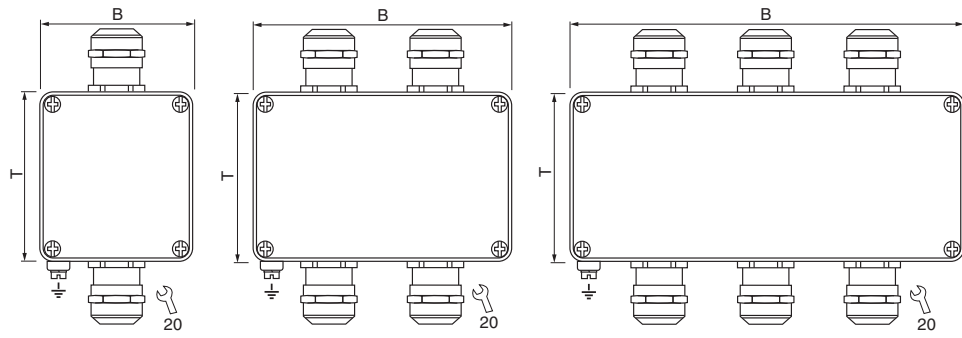


- Junction box • Device category 2G and 2D

Series GK...

For the connection of supply and signal lines in explosion hazardous areas of zone 1 and zone 21

Clamp fastening



Design	GK E...		
Dimensions			
ID-No.	Z01222	Z01232	Z01246
Type	GK E 060 K M	GK E 080 K M	GK E 100 K M
Number of clamps	4	2 x 4	3 x 4
Dimensions (BxTxH) [mm]	58x64x36	98x64x36	150x64x36
Ignition protection type	Gas: increased safety		
Ex marking	Dust: protection through enclosure		
	Gas:  II 2G Ex eb IIC T6 Gb		
Certificate No.	Dust:  II 2D Ex tb IIIC T80°C Db		
	TÜV 16 ATEX 152979 X		
Ambient temperature [°C]	Gas: T3, T4, T5, T6: $-20 \leq T_a \leq +75$		
Voltage [V]	Dust: $-20 \leq T_a \leq +75$		
	$U_m \leq 275$		
Current [A]	$I_m \leq 2$		
Type of terminal	terminal with no screws		
Rated cross-section	„e+t“ single wire: 0.20...2.5 mm ² / flexible: 0.20...2.5 mm ²		
Clamping range of cable gland [mm]	flexible: 0.20...2.5 mm ² (with wire end ferrule)		
	5.0...10.0		
Material	2.0...6.0 (with reduction insert RDE 16)		
	housing: aluminium powder coated / cable gland: Br-Ni / PA / EPDM		
Protection [EN 60529]	IP 65		
Connection	terminal compartment		

Note:

The Ex-junction box type GK E... is designed for the connection of non-intrinsically safe circuits in explosion-hazardous areas of zone 1 and zone 21. Outside of the housing, the lines must be installed permanently; further provisions must be observed if required.

Additional housings, additional terminals and plastic cable glands are available on request.

Accessories	reduction insert RDE 16 (part of delivery)
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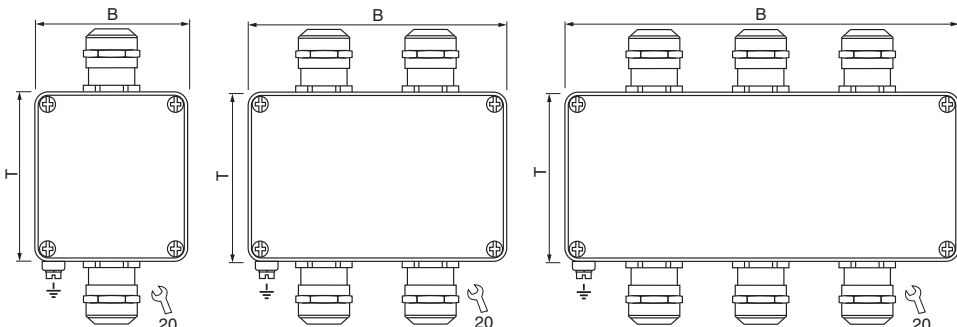
- Junction box • Device category 2G and 2D

Series GK...

For the connection of supply and signal lines in explosion hazardous areas of zone 1 and zone 21

Clamp fastening



Design	GK I...		
Dimensions			
ID-No.	Z01224	Z01234	Z01248
Type	GK I 060 K M	GK I 080 K M	GK I 100 K M
Number of clamps	4	2 x 4	3 x 4
Dimensions (BxTxH) [mm]	58x64x36	98x64x36	150x64x36
Ignition protection type	Gas:	intrinsic safety	
Ex marking	Dust:	intrinsic safety	
	Gas:	⊕ II 2G Ex ib/ia IIC T6 Gb	
	Dust:	⊕ II 2D Ex ib/ia IIIC T80°C Db	
Certificate No.	TÜV 16 ATEX 152979 X		
Ambient temperature [°C]	Gas:	T3, T4, T5, T6: $-20 \leq T_a \leq +75$	
	Dust:	$-20 \leq T_a \leq +75$	
Voltage [V]	U _i = 90		
Current [A]	I _i = 2.0		
Type of terminal	terminal with no screws		
Rated cross-section	„i“	single wire: 0.08...2.5 mm ² / flexible: 0.08...2.5 mm ² flexible: 0.08...2.5 mm ² (with wire end ferrule)	
Clamping range of cable gland [mm]	5.0...10.0 2.0...6.0 (with reduction insert RDE 16)		
Material	housing: aluminium powder coated / cable gland: Br-Ni / PA / EPDM		
Protection [EN 60529]	IP 65		
Connection	terminal compartment		

Note:

The Ex-junction box type GK I... is designed for the connection of intrinsically safe circuits in explosion-hazardous areas of zone 1 and zone 21. Outside of the housing, the lines must be installed permanently; further provisions must be observed if required.

Additional housings, additional terminals and plastic cable glands are available on request.

Accessories	reduction insert RDE 16 (part of delivery)
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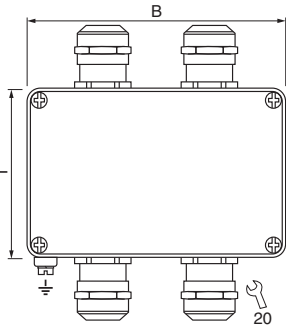
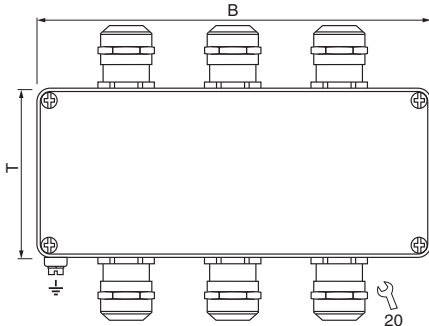


- Junction box • Device category 2G and 2D

Series GK...

For the connection of supply and signal lines in explosion hazardous areas of zone 1 and zone 21

Clamp fastening



Design	GK EI...	GK EEI...	GK EII...
Dimensions			
ID-No.	Z01236	Z01250	Z01252
Type	GK EI 080 K M	GK EEI 100 K M	GK EII 100 K M
Number of clamps	4 / 4	4 + 4 / 4	4 / 4 + 4
Dimensions (BxTxH) [mm]	98x64x36	150x64x36	150x64x36
Ignition protection type	Gas: increased safety / intrinsic safety Dust: protection through enclosure / intrinsic safety		
Ex marking	Gas:  II 2G Ex eb ib/ia IIC T6 Gb Dust:  II 2D Ex tb ib/ia IIIC T80°C Db		
Certificate No.	TÜV 16 ATEX 152979 X		
Ambient temperature [°C]	Gas: T3, T4, T5, T6: $-20 \leq T_a \leq +75$ Dust: $-20 \leq T_a \leq +75$		
Voltage [V]	$U_m \leq 275 / U_i = 90$		
Current [A]	$I_m \leq 2 / I_i = 2.0$		
Type of terminal	terminal with no screws		
Rated cross-section	„i“ single wire: 0.08...2.5 mm ² / flexible: 0.08...2.5 mm ² flexible: 0.08...2.5 mm ² (with wire end ferrule) „e+t“ single wire: 0.20...2.5 mm ² / flexible: 0.20...2.5 mm ² flexible: 0.20...2.5 mm ² (with wire end ferrule)		
Clamping range of cable gland [mm]	5.0...10.0 2.0...6.0 (with reduction insert RDE 16)		
Material	housing: aluminium powder coated / cable gland: Br-Ni / PA / EPDM		
Protection [EN 60529]	IP 65		
Connection	terminal compartment		

Note:

The Ex-junction box type GK... is designed for the connection of intrinsically safe and / or non-intrinsically safe circuits in explosion-hazardous areas of zone 1 and zone 21. Outside of the housing, the lines must be installed permanently; further provisions must be observed if required.

Additional housings, additional terminals and plastic cable glands are available on request.

Zubehör	Reduziereinsatz RDE 16 (im Lieferumfang enthalten)
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