

Ex - Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STS

Gas-Ex Category 1/2

Ex II 1/2 G Ex ia IIC T6 Ga/Gb

Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T100 °C Da



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 0/1 / Dust: Zone 20				
Certificate No.	TÜV 98 ATEX 1298 X				
Ex marking	Gas:	Ex II 1/2 G Ex ia IIC T6 Ga/Gb			
	Dust:	Ex II 1 D Ex ia IIIC T100 °C Da			
Ambient temperature and medium temperature [°C]	Gas:	T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60			
	Dust:	-20 ≤ Ta ≤ +60			
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				
		(probes with cable length > 2 m are available on request)			
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88				

Ex - Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STS

Gas-Ex Category 1/2

Ex II 1/2 G Ex ia IIC T6 Ga/Gb

Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T100 °C Da



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 0/1 / Dust: Zone 20				
Certificate No.	TÜV 98 ATEX 1298 X				
Ex marking	Gas:	Ex II 1/2 G Ex ia IIC T6 Ga/Gb			
	Dust:	Ex II 1 D Ex ia IIIC T100 °C Da			
Ambient temperature [°C] and medium temperature	Gas:	T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60			
	Dust:	-20 ≤ Ta ≤ +60			
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 68				
Connection	2 m PUR-cable 4x0.25 mm ²				
	(probes with cable length > 2 m are available on request)				
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88				

Ex - Probe • Category 2 • Zone 1 - 21

Series ST

Gas-Ex Category 2

Ex II 2 G Ex ib IIC T6 Gb

Dust-Ex Category 2

Ex II 2 D Ex ib IIIC T125 °C Db



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																												
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Compressive strength [bar]	60																												
Housing material	AISI 316 Ti • different materials on request																												
Protection [EN 60529]	IP 67																												
Connection	M12 connector																												
	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px;"> <table border="1"> <tr><td>Messfühler</td><td>1 BN</td><td>d26</td></tr> <tr><td>Probe</td><td>2 WH</td><td>d28</td></tr> <tr><td></td><td>3 BU</td><td>d30</td></tr> <tr><td></td><td>4 BK</td><td>d32</td></tr> </table> <p>SEA</p> </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1"> <tr><td>Messfühler</td><td>3 BU</td><td>8</td></tr> <tr><td>Probe</td><td>1 BN</td><td>7</td></tr> <tr><td></td><td>2 WH</td><td>6</td></tr> <tr><td></td><td>4 BK</td><td>5</td></tr> </table> <p>SZA</p> </div> </div> <p>(probes with cable length > 2 m are available on request)</p>					Messfühler	1 BN	d26	Probe	2 WH	d28		3 BU	d30		4 BK	d32	Messfühler	3 BU	8	Probe	1 BN	7		2 WH	6		4 BK	5
Messfühler	1 BN	d26																											
Probe	2 WH	d28																											
	3 BU	d30																											
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Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88																												

Ex - Probe • Category 2 • Zone 1 - 21

Series ST

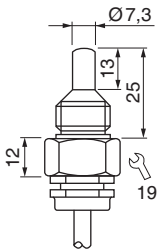
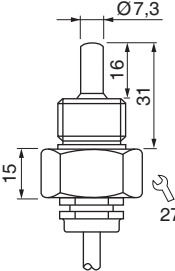
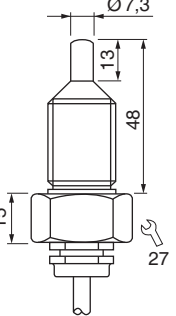
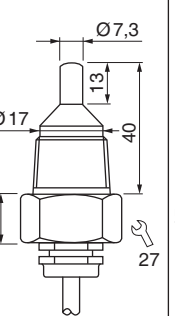
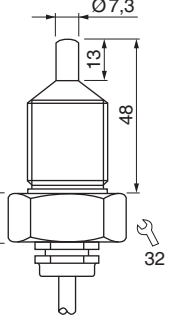

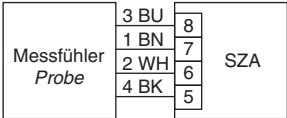
Gas-Ex Category 2

Ex II 2 G Ex ib IIC T6 Gb

Dust-Ex Category 2

Ex II 2 D Ex ib IIIC T125 °C Db



Design	G1/4	G1/2	G1/2	NPT1/2	G3/4
Dimensions					
Detection range [cm/s]	Wasser 1...100 / Öl 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 68				
Connection	2 m PUR-cable 4x0.25 mm ²				
					
	(probes with cable length > 2 m are available on request)				
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88				

Ex - Probe • Category 2 • Zone 1 - 21

Series ST

Gas-Ex Category 2

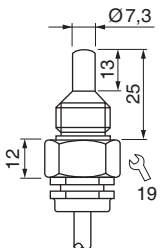
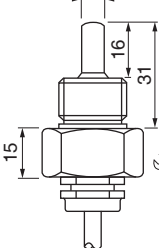
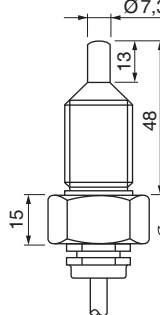
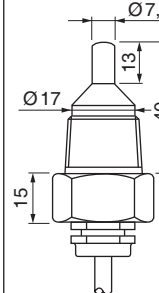
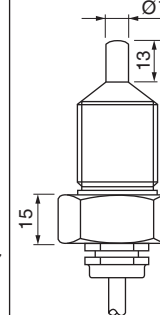
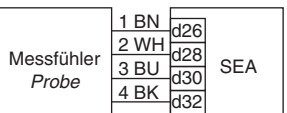
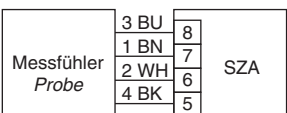
Ex II 2 G Ex ib IIC T6 Gb

Dust-Ex Category 2

Ex II 2 D Ex ib IIIC T125 °C Db



Extended temperature range

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 68				
Connection	2 m FEP-cable 4x0.25 mm ²				
					
	(probes with cable length > 2 m are available on request)				
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88				

Ex - Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STS

Gas-Ex Category 1/2

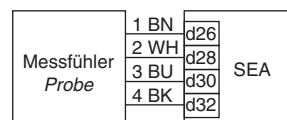
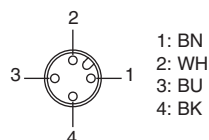
Ex II 1/2 G Ex ia IIC T6 Ga/Gb

Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T100 °C Da



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 0/1 / Dust: Zone 20				
Certificate No.	TÜV 98 ATEX 1298 X				
Ex marking	Gas: Ex II 1/2 G Ex ia IIC T6 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T100 °C Da				
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60 Dust: -20 ≤ Ta ≤ +60				
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 68 / plug...S: IP 67				
Connection	...K: 2 m PUR-cable 4x0.25 mm ² ...S: M12 connector				
	(probes with cable length > 2 m are available on request)				
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88				



Ex - Probe • Category 2 • Zone 1 - 21

Series ST

Gas-Ex Category 2

Ex II 2 G Ex ib IIC T6 Gb

Dust-Ex Category 2

Ex II 2 D Ex ib IIIC T125 °C Db



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 68 / plug ...S: IP 67				
Connection	...K: 2 m PUR-cable 4x0.25 mm² / ...S: M12 connector				
	(probes with cable length > 2 m are available on request)				
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88				

Ex - Probe • Category 2 • Zone 1 - 21

Series ST

Gas-Ex Category 2

Ex II 2 G Ex ib IIC T6 Gb

Dust-Ex Category 2

Ex II 2 D Ex ib IIIC T125 °C Db

Extended temperature range



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	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 68			
Connection	2 m FEP-cable 4x0.25 mm ²			
	(probes with cable length > 2 m are available on request)			
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88			

Ex - Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STS

Gas-Ex Category 1/2

Ex II 1/2 G Ex ia IIC T6 Ga/Gb

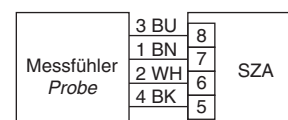
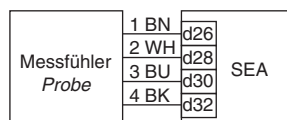
Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T100 °C Da

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 0/1 / Dust: Zone 20		
Certificate No.	TÜV 98 ATEX 1298 X		
Ex marking	Gas:	Ex II 1/2 G Ex ia IIC T6 Ga/Gb	
	Dust:	Ex II 1 D Ex ia IIIC T100 °C Da	
Ambient temperature and Medium temperature [°C]	Gas:	T6: $-20 \leq T_a \leq +40$ T5: $-20 \leq T_a \leq +55$ T4: $-20 \leq T_a \leq +60$ T3: $-20 \leq T_a \leq +60$	
	Dust:	$-20 \leq T_a \leq +60$	
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 68		
Connection	2 m PUR-cable 4x0.25 mm ²		



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

Notice for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88

Ex - Probe • Category 2 • Zone 1 - 21

Series ST

Gas-Ex Category 2

Ex II 2 G Ex ib IIC T6 Gb

Dust-Ex Category 2

Ex II 2 D Ex ib IIIC T125 °C Db

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 / 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 68		
Connection	2 m PUR-cable 4x0.25 mm ²		
Notice	(probes with cable length > 2 m and different flanges are available on request) for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88		

Ex - Probe • Category 2 • Zone 1 - 21

Series ST

Gas-Ex Category 2

Ex II 2 G Ex ib IIC T6 Gb

Dust-Ex Category 2

Ex II 2 D Ex ib IIIC T125 °C Db

With welded standard flange

Extended temperature range



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 68		
Connection	2 m FEP-cable 4x0,25 mm ²		
Notice	(probes with cable length > 2 m and different flanges are available on request) for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88		

Ex - Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STSEX

Gas-Ex Category 1/2

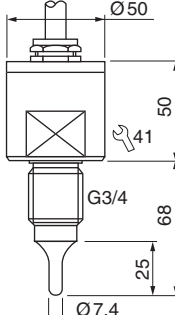
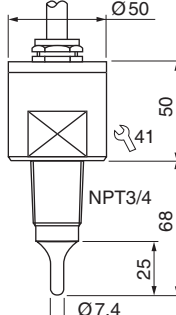
Ex II 1/2 G Ex ia IIC T6 Ga/Gb

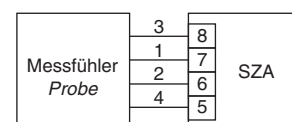
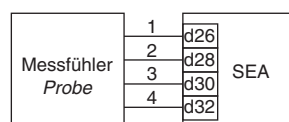
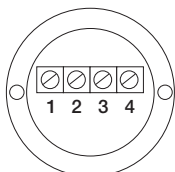
Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T100 °C Da



Terminal clamps

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
ID-No.	P11268	P11269
Type	STSEX 01	STSEX 02
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20	
Certificate No.	TÜV 98 ATEX 1298 X	
Ex marking	Gas: Ex II 1/2 G Ex ia IIC T6 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T100 °C Da	
Ambient temperature and medium temperature [°C]	Gas: T6: $-20 \leq Ta \leq +40$ T5: $-20 \leq Ta \leq +55$ T4: $-20 \leq Ta \leq +60$ T3: $-20 \leq Ta \leq +60$ Dust: $-20 \leq Ta \leq +60$	
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)	
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)	



Notice for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88

Ex - Inline-Sensor • Category 2 • Zone 1

Series SD 4 Ex / SD 9 Ex

Gas-Ex Category 2

Ex II 2G Ex ib IIC T6...T4

G1/4 thread

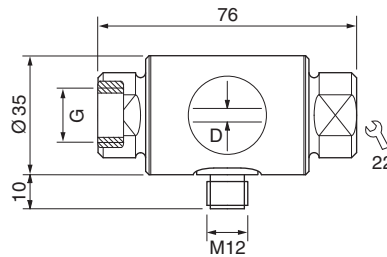
M12 thread

M16 thread

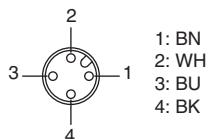


Design SD

Dimensions



Detection range [ml/min]	water 10...150 oil 25...300			water 50...900 oil 150...1800
Thread G	M12	M16	G1/4	M16
Inner diameter D	3.5	3.5	3.5	9.3
ID-No.	P11091	P11092	P11117	P11093
Type	SD 4 Ex M12	SD 4 Ex M16	SD 4 Ex G1/4	SD 9 Ex M16
Ex area of use	Gas: Zone 1			
Certificate No.	TÜV 96 ATEX 1094			
Ex marking	Gas: Ex II 2G Ex ib IIC T6...T4			
Ambient temperature [°C]	T6: -20 ≤ Ta ≤ +50 T5: -20 ≤ Ta ≤ +65 T4: -20 ≤ Ta ≤ +70			
Medium temperature [°C]	-20 ≤ Ta ≤ +70			
Maximum values	Ui = 13.6 V / Pi = 0.69 W / Ci = Li = negligibly small			
Start-up time typ. [s]	8 (2...15)			
Reaction time typ. [s]	2 (1...15)			
Compressive strength [bar]	6			
Housing material	AISI 316 Ti • different materials on request			
Protection [EN 60529]	IP 67			
Connection	M12 connector			



Accessories transition parts SDA M16-..., see page 1.95 tube fitting SV-M... on request

Ex - Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STS

Gas-Ex Category 1/2

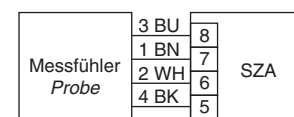
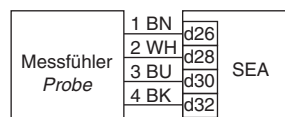
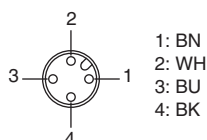
Ex II 1/2 G Ex ia IIC T4 Ga/Gb

Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T120 °C Da



Design	G1/2	
Dimensions		
Detection	[m/s]	air 2...25
Sensor length	[mm]	65
Connection		fixed cable
ID-No.		P11152
Type		STS 212 K
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20	
Certificate No.	TÜV 98 ATEX 1298 X	
Ex marking	Gas:	Ex II 1/2 G Ex ia IIC T4 Ga/Gb
	Dust:	Ex II 1 D Ex ia IIIC T120 °C Da
Ambient temperature and medium temperature	Gas:	T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60
	Dust:	-20 ≤ Ta ≤ +60
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]	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 68
Connection		2 m PUR-cable 4x0.25 mm ²
		M12 connector



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

Notice for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88

- Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STS

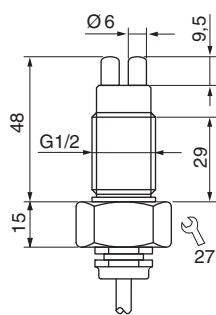
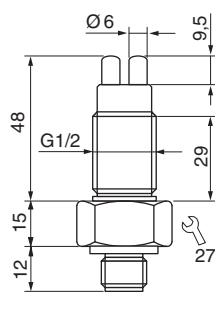



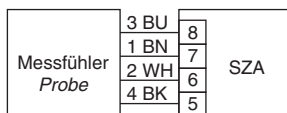
Gas-Ex Category 1/2

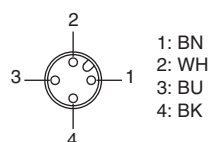
 II 1/2 G Ex ia IIC T6 Ga/Gb

Dust-Ex Category 1

 II 1 D Ex ia IIIC T105 °C Da



Design	G1/2	
Dimensions		
Detection range [m/s]	air 2...25	air 2...25
Sensor length [mm]	48	48
Connection	fixed cable	plug
ID-No.	P11153	P11207
Type	STS 215 K	STS 215 S
Ex area of use	Gas: Zone 0/1 / Dust: Zone 20	
Certificate No.	TÜV 98 ATEX 1298 X	
Ex marking	Gas:  II 1/2 G Ex ia IIC T6 Ga/Gb	Dust:  II 1 D Ex ia IIIC T105 °C Da
Ambient temperature and medium temperature [°C]	Gas:	T6: $-20 \leq Ta \leq +35$ T5: $-20 \leq Ta \leq +50$ T4: $-20 \leq Ta \leq +60$ T3: $-20 \leq Ta \leq +60$
	Dust:	$-20 \leq Ta \leq +60$
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]	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 68	IP 67
Connection	2 m PUR-cable 4x0.25 mm ²	M12 connector
		
	(probes with cable length > 2 m are available on request)	
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88	



Ex - Probe • Category 1/2 - 1 • Zone 0/1 - 20

Series STS

Gas-Ex Category 1/2

Ex II 1/2 G Ex ia IIC T6 Ga/Gb

Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T105 °C Da



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 0/1 / Dust: Zone 20	Gas: Zone 1 / Dust: Zone 21																										
Certificate No.	TÜV 98 ATEX 1298 X																											
Ex marking	Gas: Ex II 1/2 G Ex ia IIC T6 Ga/Gb	Dust: Ex II 1 D Ex ia IIIC T105 °C Da																										
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +35 T5: -20 ≤ Ta ≤ +50 T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60 Dust: -20 ≤ Ta ≤ +60	Gas: T6: +10 ≤ Ta ≤ +35 T5: +10 ≤ Ta ≤ +50 T4: +10 ≤ Ta ≤ +85 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]	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 68																											
Connection	2 m FEP-cable 4x0.25 mm ²																											
	<table border="1"> <tr><td>Messfühler</td><td>1 BN</td><td>d26</td><td rowspan="4">SEA</td></tr> <tr><td>Probe</td><td>2 WH</td><td>d28</td></tr> <tr><td></td><td>3 BU</td><td>d30</td></tr> <tr><td></td><td>4 BK</td><td>d32</td></tr> </table>	Messfühler	1 BN	d26	SEA	Probe	2 WH	d28		3 BU	d30		4 BK	d32	<table border="1"> <tr><td>Messfühler</td><td>3 BU</td><td>8</td><td rowspan="4">SZA</td></tr> <tr><td>Probe</td><td>1 BN</td><td>7</td></tr> <tr><td></td><td>2 WH</td><td>6</td></tr> <tr><td></td><td>4 BK</td><td>5</td></tr> </table>	Messfühler	3 BU	8	SZA	Probe	1 BN	7		2 WH	6		4 BK	5
Messfühler	1 BN	d26	SEA																									
Probe	2 WH	d28																										
	3 BU	d30																										
	4 BK	d32																										
Messfühler	3 BU	8	SZA																									
Probe	1 BN	7																										
	2 WH	6																										
	4 BK	5																										
	(probes with cable length > 2 m are available on request)																											
Notice	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88																											

Ex - Compact models • Category 3 • Zone 22

Series LG - Air flow controller

Dust-Ex Category 3

Ex II 3D IP65 T120 °C X

DC 24 V

PNP output

Analog output

Detection range 0.5...15 m/s



Design	M18x1	
Dimensions		
Detection range [m/s]	air 0.5...15	
Output	 PNP	 4...20 mA
ID-No.	P11311	P11312
Type	LG 518 GSP-EX22 *	LG 518 GA-EX22 *
Ex area of use	Dust: Zone 22	
Ex marking	Ex II 3D IP65 T120 °C X	Ex II 3D IP65 T120 °C X
Supply voltage [V]	24 DC ±20%	
Switching current [mA]	200	-
Load RL [Ω]	-	200...500
Current consumption [mA]	70	
Ambient temperature [°C]	-10 ≤ Ta ≤ +60	
Medium temperature [°C]	0 ≤ Ta ≤ +60	
Start-up time [s]	20...40	
Reaction time typ. [s]	2	3
Housing material	PBT / Br-Ni	
Display flow	LED	
Protection [EN 60529]	IP 65	
Connection	2 m PVC-cable 3x0.5 mm ²	
Accessories	flange Ø20 (Z01106), see page 1.94	

- Compact models • Category 3 • Zone 22

Series LNZ - Air flow controller

Dust-Ex Category 3

II 3D IP 65 T 90 °C X

AC 230 V • AC 115 V • DC 24 V

Relais output

Analog output

Detection range 0.5...30 m/s



Design	G1/2		G1/2	
Dimensions				
Detection range [m/s]	air 0.5...30		air 0.5...30	air 0.5...30
Output				
ID-No.	P11303	P11304	P11305	P11306 *
Type	LNZ 450 WR1-EX22	LNZ 450 WR2-EX22	LNZ 450 GR-EX22	LNZ 450 GA-EX22
Ex area of use	Dust: Zone 22		Dust: Zone 22	
Ex marking	II 3D IP 65 T 90 °C X		II 3D IP 65 T 90 °C X	
Supply voltage [V]	115 AC ±15%	230 AC ±15%	24 DC ±20%	24 DC ±15%
Current consumption [mA]	60	30	80	80
Current output [mA]	-		-	4...20
Load R _L [Ω]	-		-	200...500
Switching voltage [V]	250 AC / 60 DC		250 AC / 60 DC	
Switching current [A]	4 AC / 4 DC		4 AC / 4 DC	
Switching power max.	1000 VA / 60 W		1000 VA / 60 W	
Ambient temperature [°C]	-10 ≤ Ta ≤ +60		-10 ≤ Ta ≤ +60	
Medium temperature [°C]	0 ≤ Ta ≤ +60		0 ≤ Ta ≤ +60	
Start-up time typ. [s]	10...90		10...90	
Reaction time typ. [s]	2...30		2...30	
Compressive strength [bar]	30		30	
Material	housing: PBT sensor: AISI 303		housing: PBT sensor: AISI 303	
Display flow	LED-array		LED-array	
Protection [EN 60529]	IP 65		IP 65	
Connection	2 m PVC-cable 5x0.5 mm ²		2 m PVC-cable 5x0.5 mm ²	2 m PVC-cable 3x0.5 mm ²
* US LISTED				

Ex - Compact models • Category 3 • Zone 22

Serie LN - Air flow controller

Dust-Ex Category 3

Ex II 3D IP65 T90 °C X

AC 230 V • AC 115 V • DC 24 V

Relais output

Analog output

Detection range 0.5...30 m/s



Design	G1		G1	
Dimensions				
Detection range [m/s]	air 0,5...30		air 0,5...30	air 0,5...30
Output				
ID-No.	P11307	P11308	P11309	P11310 *
Type	LN 450 WR1-EX22	LN 450 WR2-EX22	LN 450 GR-EX22	LN 450 GA-EX22
Ex area of use	Dust: Zone 22		Dust: Zone 22	
Ex marking	Ex II 3D IP 65 T 90 °C X		Ex II 3D IP 65 T 90 °C X	
Supply voltage [V]	115 AC ±15%	230 AC ±15%	24 DC ±20%	24 DC ±15%
Current consumption [mA]	60	30	80	80
Current output [mA]	-		-	4...20
Load RL [Ω]	-		-	200...500
Switching voltage [V]	250 AC / 60 DC		250 AC / 60 DC	
Switching current [A]	4 AC / 4 DC		4 AC / 4 DC	
Switching power max.	1000 VA / 60 W		1000 VA / 60 W	
Ambient temperature [°C]	-10 ≤ Ta ≤ +60		-10 ≤ Ta ≤ +60	
Medium temperature [°C]	0 ≤ Ta ≤ +60		0 ≤ Ta ≤ +60	
Start-up time typ. [s]	10...90		10...90	
Reaction time typ. [s]	2...30		2...30	
Compressive strength [bar]	3		3	
Material	housing: PBT sensor: AISI 303 / Delrin		housing: PBT sensor: AISI 303 / Delrin	
Display flow	LED-array		LED-array	
Protection [EN 60529]	IP 65		IP 65	
Connection	2 m PVC-cable 5x0.5 mm ²		2 m PVC-cable 5x0.5 mm ²	2 m PVC-cable 3x0.5 mm ²
*				

- Amplifier

Series SZA

II (1) GD [Ex ia] IIC

AC 230 V • AC 115 V

DC 24 V

Relay output

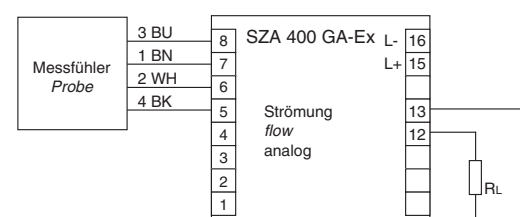
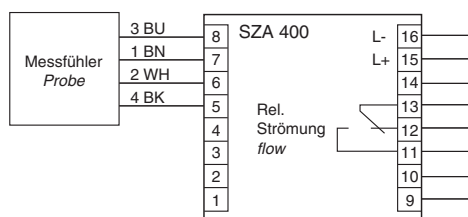
Analog output

Cable break and short circuit monitoring

Turn off delay



Ausführung	SZA 400 Ex...			SZA 400 GA-Ex
Abmessungen				
ID-No.	P10706	P10707	P10708	P11257
Type	SZA 400 Ex-230	SZA 400 Ex-115	SZA 400 Ex-24	SZA 400 GA-Ex
Output				
Supply voltage [V]	230 AC ±10%	115 AC ±10%	24 DC ±15%	24 DC ±15%
Ex marking	II (1) GD [Ex ia] IIC			II (1) GD [Ex ia] IIC
Certificate No.	TÜV 96 ATEX 1097			TÜV 02 ATEX 1821
Maximum values	U _o = 12.6 V I _o = 200 mA R _i = 68.5 Ω C _o = 170 nF L _o = 0.5 mH			U _o = 13.65 V I _o = 200 mA P _o = 690 mW C _o = 170 nF L _o = 0.5 mH
Turn off delay [s]	0...25			-
Output	relay / change-over			analog
Switching voltage [V]	250 AC / 60 DC			-
Switching current [A]	4 AC / 0.5 DC			-
Switching power	cos φ >0.7 / L/R <200 ms			-
Current output [mA]	-			4...20 DC
Load resistance R _L [Ω]	-			200...500
Ambient temperature [°C]	-20 ≤ T _a ≤ +60			
Protection [EN 60529]	terminal IP 20 / housing IP 40			
Connection	terminal screws			



Ex - Amplifier

Series SEA

Ex II (1) GD [Ex ia] IIC

DC 24 V

Relay output

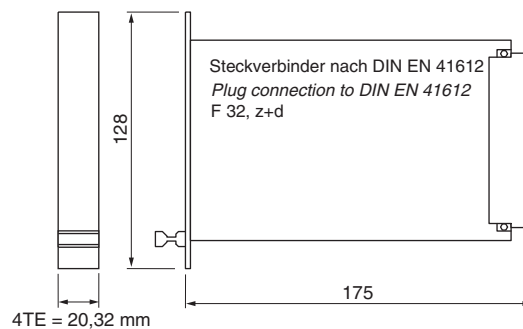
Analog output

Time delay on/off programmable

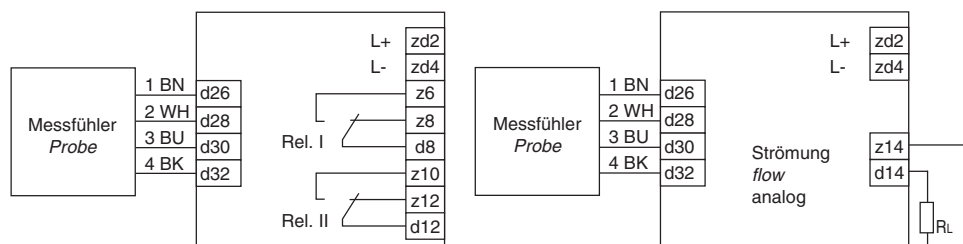


Design	SEA 400 Ex-24	SEA 401 Ex-24	SEA 405 GA-Ex
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Dimensions



ID-No.	P10705	P10709	P11253
Type	SEA 400 Ex-24	SEA 401 Ex-24	SEA 405 GA-Ex
Supply voltage [V]	24 DC ±15%		24 DC ±15%
Ex marking	Ex II (1) GD [Ex ia] IIC		Ex II (1) GD [Ex ia] IIC
Certificate No.	TÜV 97 ATEX 1182X		TÜV 01 ATEX 1678X
Maximum values	U _o = 13.65 V I _o = 200 mA R _i = 68.5 Ω P _o = 0.69 W C _o = 150 nF L _o = 0.87 mH		U _o = 13.65 V I _o = 200 mA R _i = 68.5 Ω P _o = 0.69 W C _o = 150 nF L _o = 0.87 mH
Output 1 (relay/change-over)	flow		analog 4...20 mA
Output 2 (relay/change-over)	temperature	failure	-
Load R _L [Ω]	-		200...500
Switching voltage [V]	30 AC / 36 DC		-
Switching current [A]	2		-
Switching power max.	60 VA / 50 W		-
Ambient temperature [°C]	-20 ≤ T _a ≤ +60		-20 ≤ T _a ≤ +60
Protection [EN 60529]	IP 20		IP 20



Ex - Amplifier

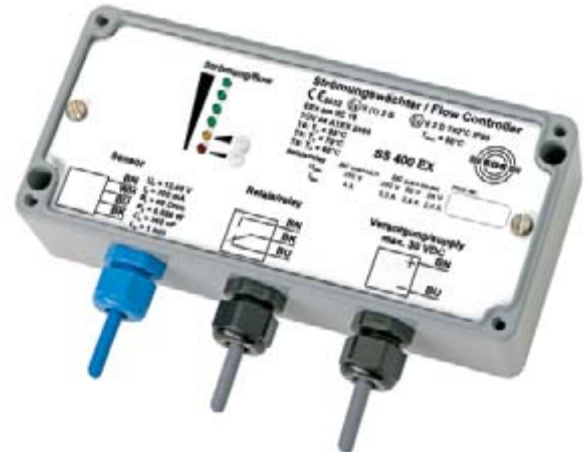
Series SS

Dust II 2D T92 °C IP65

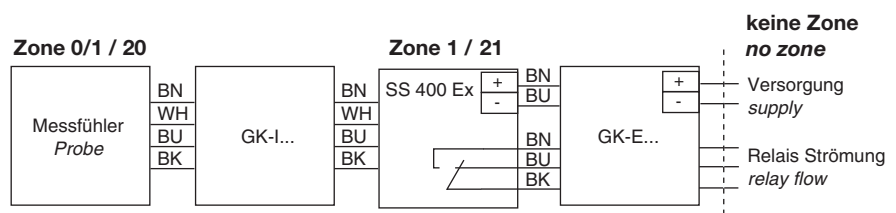
Gas II (1) 2G Ex em [ia] IIC T6

Installation in Zone 1/21

Adjustment in Zone 1/21



Design	SS 400 Ex				
Dimensions					
ID-No.	P11292				
Type	SS 400 Ex-24				
Supply voltage [V]	24 DC ±15%				
Ex marking	Gas:	II (1) 2G Ex em [ia] IIC T6			
	Dust:	II 2D T92 °C IP65			
Certificate No.	TÜV 04 ATEX 2554				
Ambient temperature [°C]	Gas:	T6: -20 ≤ Ta ≤ +60 T5: -20 ≤ Ta ≤ +70 T4: -20 ≤ Ta ≤ +85			
	Dust:	-20 ≤ Ta ≤ +60			
Maximum values	U _o = 13.65 V / I _o = 200 mA / P _o = 688 mW				
External capacitance C_o	IIC: 360 nF IIB: 1300 nF IIA: 3000 nF				
External inductance L_o	IIC: 1 mH IIB: 4.7 mH IIA: 10 mH				
Output relay	increased safety				intrinsically safe
Switching voltage [V]	250 AC	250 DC	60 DC	24 DC	Ex ib IIC 30 V
Switching current [A]	2 AC	0.3 DC	0.8 DC	2 DC	IIC: 0.1 DC IIB: 0.25 DC IIA: 0.34 DC
Switching power	cos φ ≥ 0,7 / L/R ≤ 200 ms				
Protection [EN 60529]	IP 65				
Connection	sensor: 2 m PUR-cable, blue, 4x0.25 mm ² relay/supply: 2 m PVC-cable, 3x0.5 mm ² , 2x0.5 mm ²				



Accessories housing for screw terminals series GK..., see page 1.89

Ex - Amplifier unit • Zone 1

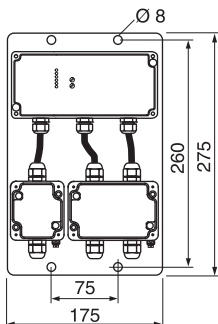
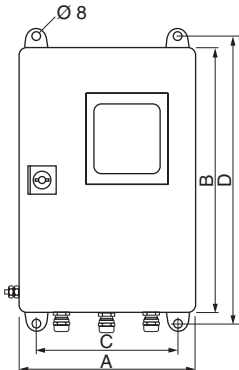
Series SSAE

Amplifier unit Dust / Gas Ex

Adjustment, display and installation in Zone 1/21

Protective housing with inspection glass



Design	Amplifier unit SSAE	Protective housing GAM
Dimensions		
ID-No.	P11302	Z01184
Type	SSAE 400	GAM 2030
Components of amplifier unit		
Amplifier	type SS 400 Ex-24	
Supply voltage [V]	24 DC ±15%	
Ex marking	Gas: Ex II (1) 2G Ex em [ia] IIC T6 Dust: Ex II 2D IP 65 T 92 °C	
Technical data	see page 1.87	
Connection box probes	type GKI 60	
Ex marking	Gas: Ex II 2G Ex ia IIC T6 Dust: Ex II 2D IP 65 T 75 °C	
Technical data	see page 1.89	
Connection box switching outputs	type GKE 100	
Ex marking	Gas: Ex II 2G Ex e II T6 Dust: Ex II 2D IP 65 T 75 °C	
Technical data	see page 1.89	
Protection [EN 60529]	IP 65	IP 66
Material	housing and mounting plate aluminium	sheet steel case, lacquered
Terminals cable diameter [mm]	4-8	4-8

Protective housing overview

Type	ID-No.	A	B	C	D
GAM 1530	Z01183	150	300	110	320
GAM 2030	Z01184	200	300	160	320
GAM 3030	Z01185	300	300	260	320
GAM 3040	Z01186	300	400	260	420

The components of the amplifier unit SSAE 400 are mounted on an aluminium plate ready for connection and can be installed without a protective housing within Zone 1/21. The supply cables must be laid in increased safety. A suitable protective housing (GAM 2030 type) can be included in the delivery as an accessory. The mounting plate is designed to fit precisely.

- Housing for screw terminals

Series GK...

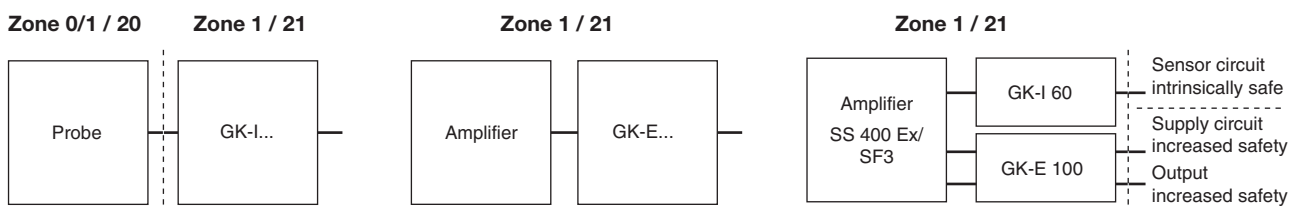
- II 2G Ex e II T6
- II 2G Ex ia IIC T6
- II 2G Ex e [ia] IIC T6
- II 2D IP65 T 75 °C



For the connection of supply and signal lines in Zone 1/21

Design	GK...				
Dimensions					
ID-No.	Z01168	Z01169	Z01170	Z01171	Z01172
Type	GK-E 60	GK-E 100	GK-I 60	GK-I 100	GK-EI 100
Amount of terminals	4	8	4	8	4 Ex e + 4 Ex ia
Dimensions [mm]	58x64	98x64	58x64	98x64	98x64
Protection	increased safety		intrinsically safe		intrinsically safe + increased safety
Ex marking	II 2G Ex e II T6 II 2D IP65 T 75 °C		II 2G Ex ia IIC T6 II 2D IP65 T 75 °C		II 2G Ex e [ia] IIC T6 II 2D IP65 T 75 °C
Certificate No.	BVS 05 ATEX E 022 X				
Ambient temperature [°C]	Gas: T4, T5, T6: $-20 \leq T_a \leq +70$ Dust: $-20 \leq T_a \leq +70$				
Rated voltage [V]	275				
Rated current [A]	2				
Cross section wires	single wire: 0.5...2.5 mm ² / multistrand: 0.5...1.5 mm ²				
Terminals cable diameter [mm]	4...8				
Housing material	aluminium				
Protection [EN 60529]	IP 65				
Connection	terminal compartment				

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



Ex - Lightning protection • Zone 0

Gas Ex II 2 (1) G Ex ia IIC T4

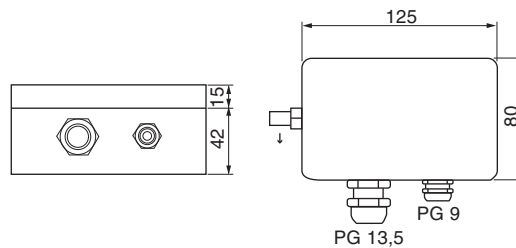
The lightning protection SBGX 01 is placed between the sensor and the amplifier.
Lightning overvoltage is discharged to earth.



Design

SBGX 01

Dimensions



ID-No.

Z01007

Type

SBGX 01

Ex marking

Ex II 2 (1) G Ex ia IIC T4

Certificate No.

TÜV 03 ATEX 2073

Ambient temperature [°C]

T4: $-20 \leq T_a \leq +120$

Maximum values

$U_i = 45 \text{ V}$

$I_i = 3.3 \text{ A}$

$P_i = 1.3 \text{ W}$

$C_i = \text{negligibly small}$

$L_i = \text{negligibly small}$

Housing material

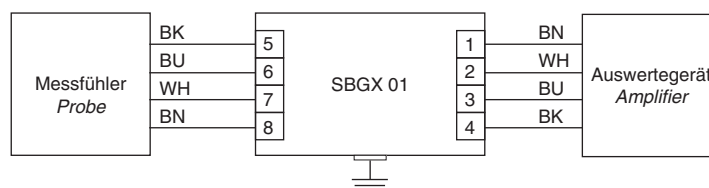
aluminium

Protection [EN 60529]

IP 67

Connection

terminal compartment



Dust - Ex Intrinsically safe • Zone 20

Series KGEX

Category 1
Dust Ex II 1D T95 °C

Proximity switches
Level controller



Design	M18x1	M30x1.5	G1	G3/4
Dimensions				
Installation flush (f) non flush (nf)				
Operating distance sn [mm]	8 nf	10 nf	-10	-5
ID-No.	P21157	P21158	P21159	P21160
Type	KGEX 018	KGEX 030	KGEX 100	KGEX 107
Ambient temperature [°C]	-25...+75			
Ex marking	II 1D T95 °C			
Certificate No.	TÜV 03 ATEX 2046			
Maximum values	Ci = negligibly small Li = negligibly small			
Only for the connection to certified intrinsically safe circuits with the following maximum values:	Ii = 80 mA Ui = 12.6 V Pi = 252 mW			
Housing material	PVDF	PTFE	PTFE	PTFE / AISI 316 Ti FPM
Protection [EN 60529]	IP 67			
Connection	2 m PVC-cable 3x0.5 mm ²			
For the connection to amplifiers EGE 903 Ex..., page 2.36				
Note	fixing nuts are part of delivery			

Dust - Compact model • Zone 22

Series **KGEX**

Category 3

Dust II 3D T80 °C

DC 24 V

PNP switching output



Design	M18x1	M30x1.5	DC PNP • G1	DC PNP • G3/4
Dimensions				
Installation flush (f) non flush (nf)				
Switching point sp [mm] (Adjustable)	5 f (1...7)	10 f (3...15)	-6	-3
Switching output				
ID-No.	P21170	P21171	P21172	P21173
Type	KGEX 018 GSP	KGEX 030 GSP	KGEX 100 GSP	KGEX 107 GSP
Ex-Marking	II 3D T 80 °C			
Supply voltage [V]	10...55 DC			
Switching current [mA]	300			
Short circuit proof	•			
Overcurrent release [mA]	800			
Reverse protection	•			
Voltage drop max. [V]	1.5			
Current consumption [mA]	4			
Switching frequency [Hz]	25	25	10	10
Ambient temperature [°C]	-25...+70			
EMC-class	A			
LED display	•			
Housing material	Br-Ni / PPO	Br-Ni / PPO	PTFE	PTFE / AISI 316 Ti FPM
Protection [EN 60529]	IP 67			
Connection	2 m PVC-cable 3x0.5 mm ²			
Note: Do not use in the presence of conductive dusts				

Ex - Sensor • Zone 0

Series **UFGS..Ex**
Opto glass-sensor

Ex II 1G Ex ia IIC T6...T4
Category 1

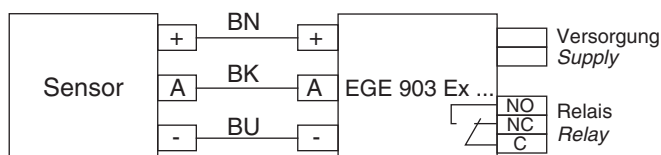
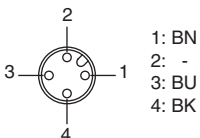
Resistant in kerosine • motor fuels

3-wire sensor, intrinsically safe



Design	G3/4									
Dimensions										
Switching point sp [mm]	-10									
ID-No.	P21183...	<p>Sensor length</p> <p>The total length L of the sensors is specified by appending "Lxxxx" to the type.</p> <p>xxxx: length in mm</p> <p>Preferred excess lengths ID-No.</p> <table border="0"> <tr> <td>120 mm: L120</td> <td>P21183012</td> </tr> <tr> <td>200 mm: L200</td> <td>P21183020</td> </tr> <tr> <td>400 mm: L400</td> <td>P21183040</td> </tr> <tr> <td>1000 mm: L1000</td> <td>P21183100</td> </tr> </table>	120 mm: L120	P21183012	200 mm: L200	P21183020	400 mm: L400	P21183040	1000 mm: L1000	P21183100
120 mm: L120	P21183012									
200 mm: L200	P21183020									
400 mm: L400	P21183040									
1000 mm: L1000	P21183100									
Type-sensor length L [mm]	UFGS 075 Ex-Lxxxx									
Ex marking	II 1G Ex ia IIC T6...T4									
Certificate no.	TÜV 01 ATEX 1662									
Ambient temperature for temperature classes [°C]	T6: 75 T5: 90 T4: 100									
Max. power Pi [mW]	252									
Housing material	AISI 316 Ti / glass									
Sealing material	FFKM (Kalrez)									
Tightening torque [Nm]	100									
Ambient temperature [°C]	-25...+70									
Protection [EN 60529]	IP 67									
Compressive strength [bar]	16									
Connection	M12 connector									

For the connection to amplifiers EGE 903 Ex..., page 2.36



Accessories Plug M12, SBW-DC or SBG-DC

- Sensor • Zone 0

Series URFG..Ex
Opto glass-sensor

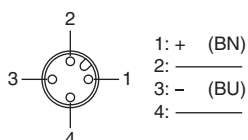
II 1G Ex ia IIC T6...T4
Category 1

Resistant in kerosine • motor fuels

2-wire sensor, intrinsically safe



Design	G3/4	
Dimensions		
Switching point sp [mm]	-10	
ID-No.	P21185...	
Type-sensor length L [mm]	URFG 075 Ex-Lxxxx	Sensor length
Ex marking	II 1G Ex ia IIC T6	The total length L of the sensors is specified by appending "Lxxxx" to the type.
Certificate no.	TÜV 00 ATEX 1632	xxxx: length in mm
Ambient temperatur for temperature classes [°C]	T6: 70 T5: 80 T4: 100	Preferred excess lengths
Maximum values	Ii = 154 mA Ui = 23.1 V Pi = 890 mW	ID-No.
Housing material	AISI 316 Ti / glass	120 mm: L120
Sealing material	FFKM (Kalrez)	200 mm: L200
Tightening torque [Nm]	100	400 mm: L400
Ambient temperature [°C]	-25...+70	1000 mm: L1000
Protection [EN 60529]	IP 67	
Compressive strength [bar]	16	
Connection	M12 connector	
For the connection to amplifiers SF3, page 2.37		
Accessories	Plug M12, SBW-DC or SBG-DC	



Level Sensors



Ex - Sensor • Zone 0 - 1

Series TF...Ex
Thermal level sensor
For fuel tanks and fuel trucks

Ex II 1G Ex ia IIC T4
Ex II 2G Ex ia IIC T4
Category 1, Category 2

2-wire sensor, intrinsically safe



Design	G3/4 fixed fitting length		G3/4 adjustable fitting length	
Dimensions				
Switching point sp [mm]	10 immersed			
Type	TFGS 026 Ex-L200	TFGS 126 Ex-L200	TFKS 026 Ex-L400	TFKS 126 Ex-L400
ID-No.	P21191	P21194	P21192	P21195
Fitting length L [mm]	210	210	410 (variable)	410 (variable)
Zone	0	1	0	1
Ex marking	II 1G Ex ia IIC T4	II 2G Ex ia IIC T4	II 1G Ex ia IIC T4	II 2G Ex ia IIC T4
Certificate No.	TÜV 07 ATEX 553745			
Maximum values	li = 154 mA Ui = 23.1 V Pi = 890 mW Ci ≤ 100 nF Li ≤ 0.8 µH			
Nominal resistance [Ω]	160			
Reaction time [s]	approx. 2			
Start-up time [s]	40			
Ambient temperature [°C]	-20...+80			
Function indicator	at the amplifier			
Housing material	AISI 316 Ti	AISI 316 Ti	AISI 316 Ti	AISI 316 Ti
Pipe material	AISI 316 Ti	Aluminium	AISI 316 Ti	Aluminium
Sealing material	PVDF, FPM			
Protection [EN 60529]	IP 68			
Connection	M12 connector			
Sensors for the connection to amplifiers SF3, page 2.37				
Accessories	Plug M12, SBW-DC or SBG-DC			

Ex - Sensor • Zone 0

Series KEAC

Ex ia IIC T6...T4
Category 1

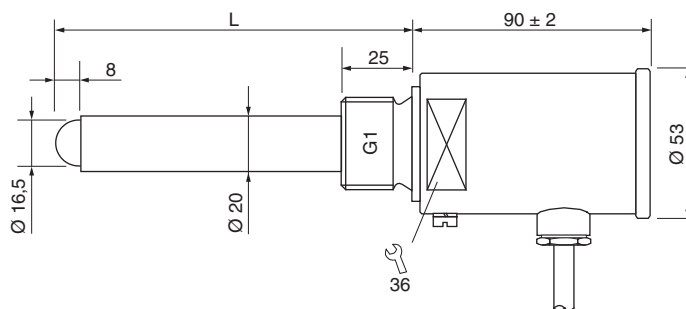
Medium up to 120 °C
Sensor length up to 1 m



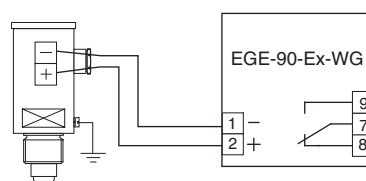
Design G1

Dimensions

Sensitivity adjustable



Switching point sp [mm]	-8	-8	-8	-8	-8
ID-No.	P21086	P21087	P21088	P21089	P21090
Type-sensor length L [mm]	KEAC-L80	KEAC-L200	KEAC-L400	KEAC-L600	KEAC-L1000
Ex marking	Ex ia IIC T6...T4				
Certificate no.	TÜV 96 ATEX 1095				
Ambient temperature for temperature classes [°C]	T6: 80 T5: 95 T4: 120				
Max. power Pi [mW]	50				
Housing material	AISI 316 Ti / PTFE				
Sealing material	FPM				
Force thread [Nm]	100				
Sensitivity	adjustable with pot				
Ambient temperature [°C]	housing: -25...+75 / sensor tip: -40...+120				
Protection [EN 60529]	IP 67				
Compressive strength [bar]	30				
Connection	terminal screws				



Note different materials on request

Ex - Sensor • Zone 0 • with Ex-Preamplifier

Series KGFT
up to 200 °C

Ex ia T6...T3

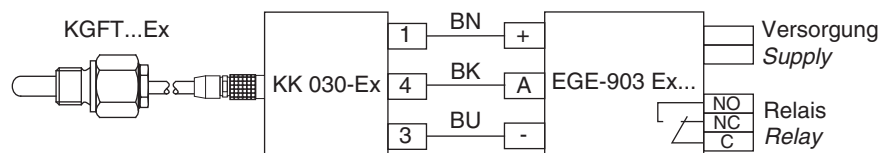
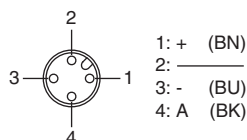
Ex II (1) 2G Ex ia IIC T6...T4

Category 1



Design	G1/4	G1/2	KK 030 Ex
Dimensions			
Switching point sp [mm]	-8	-8	-
Sensitivity adjustable	-	-	•
ID-No.	P21149	P21150	P21144
Type	KGFT 125 Ex	KGFT 150 Ex	KK 030 Ex
Ex marking	Ex ia IIC T6...T3		II (1) 2G Ex ia IIC T6...T4
Certificate No.	TÜV 01 ATEX 1670		TÜV 01 ATEX 1671
Ambient temperatures for temperature classes [°C]	T6: 80 T5: 95 T4: 130 T3: 195		T6: 75 T5: 90 T4: 120
Max. power Pi [mW]	110		252
Housing material	AISI 316 Ti/PEEK		AISI 316 Ti
Sealing material	PTFE		-
Torque [Nm]	50	100	50
Ambient temperatur [°C]	-35...+200		-25...+60
Protection [EN 60529]	IP 68		IP 54
LEM-connection	IP 54		-
Compressive strength [bar]	30		-
LED display	-		•
Connection	2 m PTFE-cable plug system LEM 01		LEM 01 / M12 connector

The KK 030 Ex ex-preamplifier is operated in zone 1. It is connected between the KGFT...Ex ex-sensors and the EGE 903 ex-amplifier (see page 2.36).



Note required amplifier EGE 903..., connecting cable SLG 3..., SLW 3..., see page 2.41

- Amplifiers

Series EGE 90 Ex

Dust and gas

Cable break and short circuit monitoring

Connection of 2-lead sensors



Design	EGE 90 Ex...				
Dimensions					
ID-No.	P30340	P30341	P31035	P30342	P31036
Type	EGE 90 Ex1-230	EGE 90 Ex1-115	EGE 90 Ex1-24	EGE 90 Ex-WG 230	EGE 90 Ex-WG 24
Supply voltage [V]	230 AC +15/-10%	115 AC +15/-10%	24 DC ±15%	230 AC +15/-10%	24 DC ±15%
Certificate no.	TÜV 97 ATEX 1148				
Ex marking	II (1) GD [Ex ia] IIC				
Maximum values	U _o = 12.6 V I _o = 15.9 mA P _o = 50 mW C _o = 1.15 µF L _o = 120 mH				
Output	relay / change over				
Switching voltage max. [V]	250 AC / 24 DC				
Switching current max. [A]	4 AC / 4 DC				
Switching power	cos φ >0.7 / L/R <200 ms				
Ambient temperature [°C]	-20...+60				
Protection [EN 60529]	IP 20				
Connection	terminal screws				
Note:	The amplifier EGE 90 EX1 is suited for connection of NAMUR sensors.				

Ex - Amplifiers

Series EGE 903 Ex

Dust and gas

Cable break and short circuit monitoring

Connection of 3-lead sensors



Design	EGE 903 Ex...		
Dimensions			
ID-No.	P21141	P21142	P21143
Type	EGE 903 Ex-230	EGE 903 Ex-115	EGE 903 Ex-24
Supply voltage [V]	230 AC +10/-15%	115 AC +10/-15%	24 DC ±15%
Certificate no.		TÜV 01 ATEX 1663	
Ex marking		II (1) GD [Ex ia] IIC	
Maximum values		$U_o = 12.6 \text{ V}$ $I_o = 80 \text{ mA}$ $P_o = 252 \text{ mW}$ $C_o = 270 \text{ nF}$ $L_o = 5.4 \text{ mH}$	
Output		relay / change over	
Switching voltage max. [V]		250 AC / 24 DC	
Switching current max. [A]		4 AC / 4 DC	
Switching power		$\cos \varphi > 0.7 / L/R < 200 \text{ ms}$	
Ambient temperature [°C]		-20...+60	
Protection [EN 60529]		IP 20	
Connection		terminal screws	

Ex - Amplifier • Zone 1

Series SF3

Gas Ex II (1) 2G Ex em [ia/ib] IIC T6

Installation in Zone 1
Increased safety

For the connection of 160 Ω Thermo-sensors
For the connection of Opto-level sensors



Design	SF3				
Dimensions					
ID-No.	P21174				
Type	SF3				
Supply voltage [V]	24 DC +15/-10%				
Ex marking	II (1) 2G Ex em [ia/ib] IIC T6				
Certificate no.	TÜV 04 ATEX 2447				
Ambient temperature for temperature classes [°C]	T6: 35 T5: 50 T4: 85				
Maximum values	$U_o = 23.1 \text{ V}$ $I_o = 154 \text{ mA}$ $P_o = 890 \text{ mW}$ $C_o = 86 \text{ nF}$ $L_o = 0.4 \text{ mH}$				
Connectable sensors	Opto-level sensors (URF...) / Level sensors ($R_f = 160 \Omega$)				
Output relay	increased safety			intrinsically safe	
Switching voltage [V]	250 AC	250 DC	60 DC	24 DC	Ex ib IIC 30 V
Switching current [A]	2 AC	0.3 DC	0.8 DC	2 DC	IIC: 0.1 DC IIB: 0.25 DC IIA: 0.34 DC
Switching power	$\cos \varphi \geq 0.7 / L/R \leq 200 \text{ ms}$				
Ambient temperature [°C]	-20...+60				
Protection [EN 60529]	IP 54				
Housing material	PA, Aluminium				
Connection	sensor: tabs size 6.3-0.8 (DIN 46244)			relay/supply: 2 m PVC-cable 0.5 mm ²	

Ex - housing for amplifier • Zone 1/21

System GAM

Dust Ex II 2D IP 66 T 65 °C

Gas Ex II (1) 2G Ex em [ia/ib] II CT6

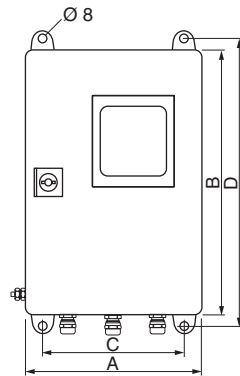
For installation of amplifiers
within Zone 1/21



Design

GAM...

Dimensions

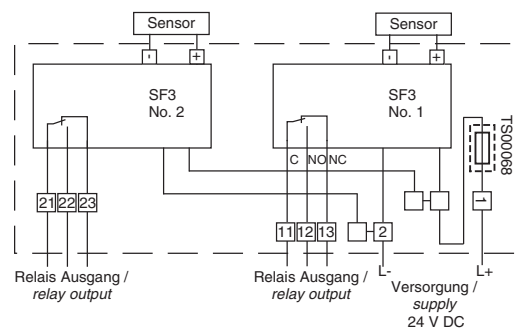


Type	ID-No.	A	B	C	D	Amount of SF3
GAM-SF1530	P21175	150	300	110	320	1
GAM-SF2030	P21176	200	300	160	320	2
GAM-SF3030	P21177	300	300	260	320	4
GAM-SF3040-5	P21178	300	400	260	420	5
GAM-SF3040	P21179	300	400	260	420	6

ID-No.	P21175	P21176	P21177	P21178	P21179
Type	GAM-SF1530	GAM-SF2030	GAM-SF3030	GAM-SF3040-5	GAM-SF3040
Housing dimensions [mm]	150x300x120	200x300x120	300x300x120	300x400x120	300x400x120
Number of amplifiers	1	2	4	5	6
Ex marking	II (1) 2G Ex em [ia/ib] IIC T6 / II 2D IP 66 T 65 °C				
Certificate no.	TÜV 04 ATEX 2555 X				
Ambient temperature for temperature classes [°C]	T6: 27 T5: 42 T4: 60				
Electrical connection	connection terminals 2.5 mm ²				
Relay output	connection terminals 1.5 mm ²				
Power supply	sensor: tabs nominal size 6.3 - 0.8 mm (DIN 46244)				
Sensor connection	4...8				
Cable diameter [mm]	-20...+60				
Ambient temperature [°C]	sheet steel case, lacquered				
Housing material	IP 66				
Protection [EN 60529]					

Example:

Schematic for the installation of two amplifiers in a GAM-SF2030 housing.



Dust- Ex Compact model • Zone 20

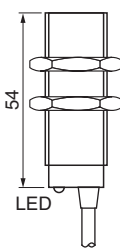
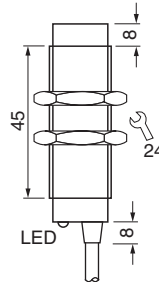
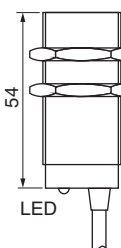
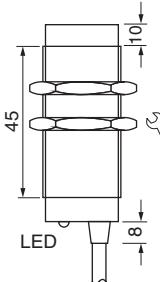




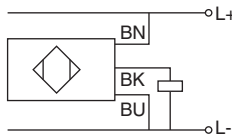
Series IGEX20 - Proximity switches

Category 1

Dust Ex Zone 20

Direct connection to DC 24 V
PNP switching output



Design	DC PNP • M18x1		DC PNP • M30x1.5	
Dimensions				
Installation flush (f) non flush (nf)				
Operating distance [mm]	5 f	8 nf	10 f	15 nf
Switching output PNP				
ID-No.	P31178	P31179	P31180	P31181
Type	IGEX20 05 GSP	IGEX20 08 GSP	IGEX20 10 GSP	IGEX20 15 GSP
Ex marking	II 1D Ex ma IIIC T 80 °C Da IP 67			
Certificate No.	TÜV 05 ATEX 2845 X			
Supply voltage [V]	10...30 DC			
Switching current [mA]	100			
Short circuit proof	•			
Reverse protection	•			
Voltage drop max. [V]	2			
Residual current [mA]	-			
Current consumption [mA]	7			
Switching frequency [Hz]	200			
Ambient temperature [°C]	-20...+70			
EMC-class	A			
Protection [EN 60529]	IP 67			
LED display	•			
Housing material	Br-Ni / PA			
Connection	2 m PVC-cable 3x0.5 mm ²			
				
Accessories	housing for screw terminals series GK...			

Series IGEX - Proximity switches

Category 1

Dust Ex Zone 20

Gas Ex Zone 0

NAMUR (EN 60947-5-6)



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.	P31196	P31197	P31198	P31199	P31200	P31201
Type	IGEXU 02	IGEXU 04	IGEXU 05	IGEXU 08	IGEXU 10	IGEXU 15
Ambient temperature [°C]	-25...+60 (Zone 0) -25...+75 (Zone 1 / 2 / 20 / 22)					
Ex marking	Ex-Sensors for higher ambient temperatures on request II 1D Ex ma IIIC T100 °C Da IP 67 / II 1G Ex ia IIC T6 Ga					
Certificate No.	TÜV 03 ATEX 2036					
Ambient temperatures for temperature classes [°C]	T6 : 75 T5 : 90					
Maximum values	Ci = 22.0 nF Li = 3.0 mH Ii = 15.9 mA Ui = 12.6 V Pi = 50.0 mW					
Only for the connection to certified intrinsically safe circuits with the following maximum values						
Housing material	Br-Ni / PA					
Protection [EN 60529]	IP 67					
Connection	M12 connector					
For the connection to amplifiers EGE 90 Ex1...						
Accessories	connecting cable SLG 3-2 (Z01076), plug-lock type PL-M12 (Z01182), page 3.61					

Series IGEX - Proximity switches

Category 1

Dust Ex Zone 20

Gas Ex Zone 0

NAMUR (EN 60947-5-6)



Design	M12x1		M18x1		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
ID-NO.	P31151	P31152	P31153	P31154	P31155	P31156
Type	IGEX 02	IGEX 04	IGEX 05	IGEX 08	IGEX 10	IGEX 15
Ambient temperature [°C]	-25...+60 (Zone 0) -25...+75 (Zone 1 / 2 / 20 / 22) Ex-sensors for higher ambient temperatures on request					
Ex marking	II 1D Ex ma IIIC T100°C Da IP67 / II 1G Ex ia IIC T6 Ga					
Certificate No.	TÜV 03 ATEX 2036					
Ambient temperatures for temperature classes [°C]	T6 : 75 T5 : 90					
Maximum values	Ci = 22.0 nF Li = 3.0 mH Ii = 15.9 mA Ui = 12.6 V Pi = 50.0 mW					
Only for the connection to certified intrinsically safe circuits with the following maximum values:						
Housing material	Br-Ni / PA					
Protection [EN 60529]	IP 67					
Connection	2 m PVC-cable 2x0.5 mm ²					
For the connection to amplifiers EGE 90 Ex1...						

Dust - Compact model • Zone 22

Series IGEX22 - Proximity switches

Category 3

Dust Zone 22

DC 24 V

PNP switching output



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.	P31187	P31188	P31189	P31190	P31191	P31192
Type	IGEX22 02 GSPU	IGEX22 04 GSPU	IGEX22 05 GSPU	IGEX22 08 GSPU	IGEX22 10 GSPU	IGEX22 15 GSPU
Ex marking	II 3D Ex mc IIIC T 80 °C Dc IP 67 X					
Supply voltage [V]	10...30 DC					
Switching current [mA]	200					
Short circuit proof	•					
Overcurrent release [mA]	250					
Reverse protection	•					
Voltage drop max. [V]	2					
Residual current [mA]	-					
Current consumption [mA]	7					
Switching frequency [Hz]	500					
Ambient temperature [°C]	-25...+70					
EMC-class	A					
Protection [EN 60529]	IP 67					
LED display	•					
Housing material	Br-Ni / PBT					
Connection	M12 connector					
Note: Do not use in the presence of conductive dusts						
Accessories	connection cable SLG 3-2 (Z01076), plug-lock type PL-M12 (Z01182), page 3.61					

Dust - Compact model • Zone 22

Series IGEX22 - Proximity switches

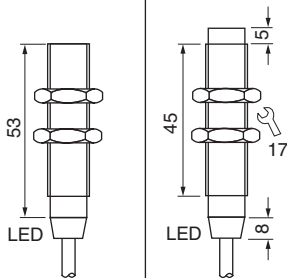
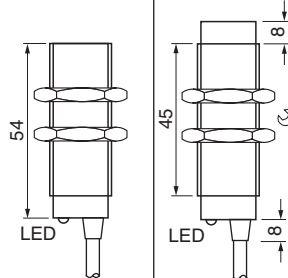
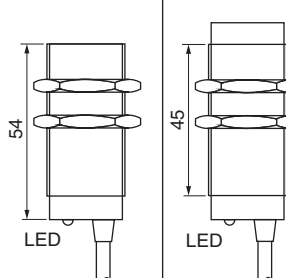



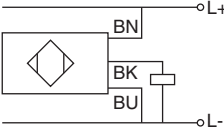
Category 3

Dust Zone 22

DC 24 V

PNP switching output



Design	DC PNP • M12x1		DC PNP • M18x1		DC PNP • M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)	f		nf		nf	
Operating distance [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
Output PNP						
ID-No.	P31165	P31166	P31167	P31168	P31169	P31170
Type	IGEX22 02 GSP	IGEX22 04 GSP	IGEX22 05 GSP	IGEX22 08 GSP	IGEX22 10 GSP	IGEX22 15 GSP
Ex marking	II 3D Ex mc IIIC T 80°C Dc IP 67 X					
Supply voltage [V]	10...30 DC					
Switching current [mA]	200					
Short circuit proof	•					
Overcurrent release [mA]	250					
Reverse protection	•					
Voltage drop max. [V]	2					
Residual current [mA]	-					
Current consumption [mA]	7					
Switching frequency [Hz]	500					
Ambient temperature [°C]	-25...+70					
EMC-class	A					
Protection [EN 60529]	IP 67					
LED display	•					
Housing material	Br-Ni / PBT					
Connection	2 m PVC-cable 3x0.34 mm ²					
Note: Do not use in the presence of conductive dusts						

Dust - Ex Compact model • Zone 22

Series IGVEX22 - Proximity switches

Stainless steel

Category 3

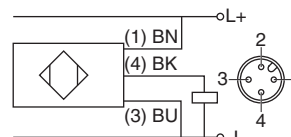
Dust Ex Zone 22

DC 24 V

PNP switching output



Design	DC PNP • M12x1	DC PNP • M18x1	DC PNP • M30x1,5
Dimensions			
Operating distance [mm]	2	5	10
Switching output PNP			
ID-No.	P31285	P31286	P31287
Type	IGVEX22 02 GSPU	IGVEX22 05 GSPU	IGVEX22 10 GSPU
Ex marking	II 3D Ex mc IIIC T 95 °C Dc IP 67 X		
Supply voltage [V]	10...30 DC		
Switching current [mA]	200		
Short circuit proof	•		
Reverse protection	•		
Voltage drop max. [V]	1,5		
Current consumption [mA]	12		
Switching frequency [Hz]	180		
Ambient temperature [°C]	-25...+70		
EMC class	A		
Protection [EN 60529]	IP 67		
LED display	•		
Housing material	AISI 316 L		
Connection	M12 connector		



Accessories connection cable SLG 3-2 (Z01076), plug-lock type PL-M12 (Z01182), page 3.61

Dust - Compact model • Zone 20

Series IDEX20 - Proximity switches

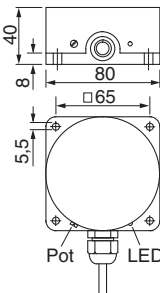
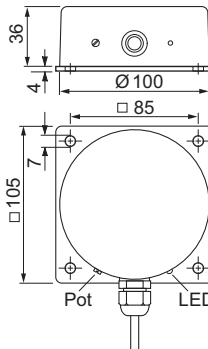
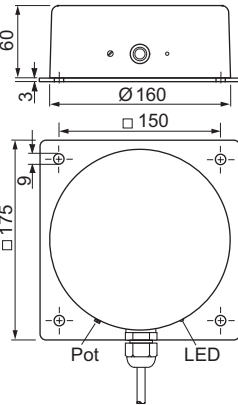



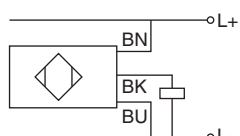
Category 1

Dust Zone 20

DC 24 V

PNP switching output



Design	DC PNP • Ø80 mm	DC PNP • Ø100 mm	DC PNP • Ø160 mm
Dimensions			
Installation non flush (nf)	Pot LED	Pot LED	Pot LED
Operating distance [mm] (Adjustable range)	55 nf (10...80)	70 nf (10...110)	120 nf (20...150)
Switching output PNP			
ID-No.	P31182	P31183	P31184
Type	IDEX20 080 GSP	IDEX20 100 GSP	IDEX20 160 GSP
Ex marking	II 1D Ex ma IIIC T 80 °C Da IP 67		
Certificate No.	TÜV 05 ATEX 2845 X		
Supply voltage [V]	10...30 DC		
Switching current [mA]	100		
Short circuit proof	•		
Reverse protection	•		
Voltage drop max. [V]	2		
Residual current [mA]	-		
Current consumption [mA]	7		
Switching frequency [Hz]	20		
Ambient temperature [°C]	-25...+70		
EMC-class	A		
Protection [EN 60529]	IP 67		
LED display	•		
Housing material	PA	PA / Aluminium	PA / Aluminium
Connection	2 m PVC-cable 3x0.5 mm ²		
			
Accessories	housing for screw terminals series GK...		

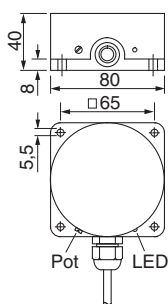
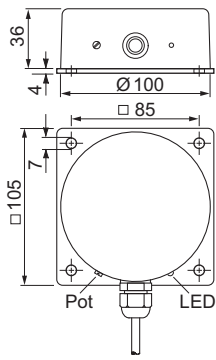
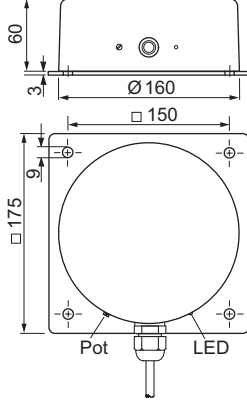
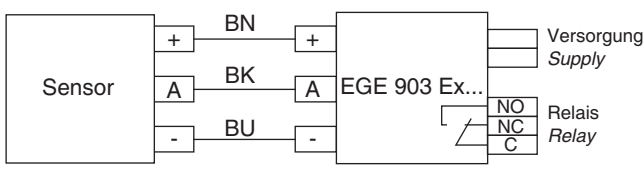
Series IDEX - Proximity switches

Category 1

Dust Ex Zone 20

Gas Ex Zone 0



Design	Ø 80 mm	Ø 100 mm	Ø 160 mm
Dimensions			
Installation non flush (nf)	Pot LED	Pot LED	Pot LED
Operating distance [mm] (Adjustable range)	55 nf (10...70)	70 nf (10...100)	120 nf (20...150)
ID-No.	P31157	P31158	P31159
Type	IDEX 080	IDEX 100	IDEX 160
Ambient temperature [°C]	-25...+75		
Ex marking	Ex-Sensors for higher ambient temperatures on request II 1D Ex ma IIIC T100 °C Da IP67 / II 1G Ex ia IIC T6 Ga		
Certificate No.	TÜV 03 ATEX 2037		
Ambient temperatures for temperature classes [°C]	T6 : 75 T5 : 90		
Maximum values	Ci = 120 nF Li = negligibly small Ii = 80 mA Ui = 12.6 V Pi = 252 mW		
Only for the connection to certified intrinsically safe circuits with the following maximum values:			
Housing material	PA / Aluminium		
Protection [EN 60529]	IP 67		
Connection	2 m PVC-cable 3x0.5 mm ²		
For the connection to amplifiers EGE 903 Ex...			

Dust - Compact model • Zone 22

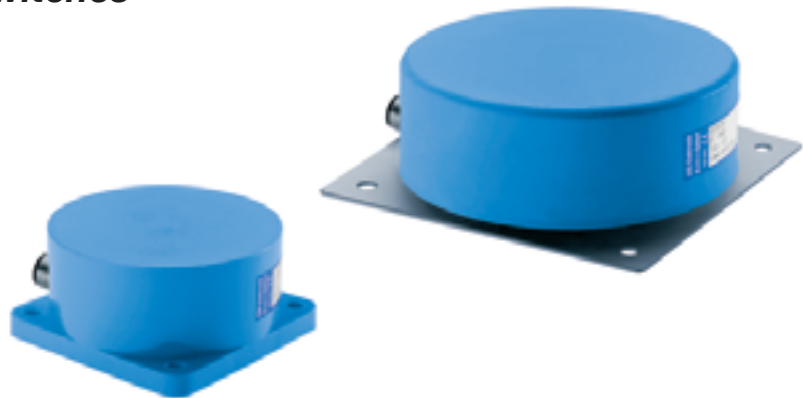
Series IDEX22 - Proximity switches

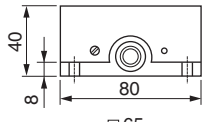
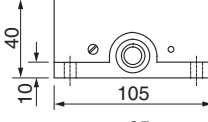
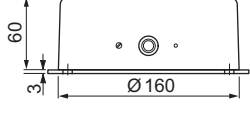
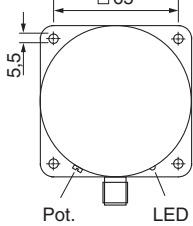
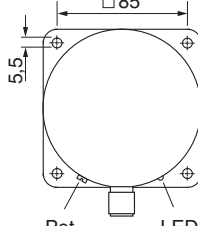
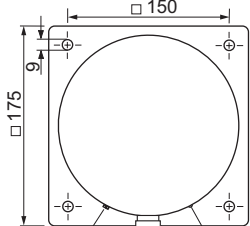



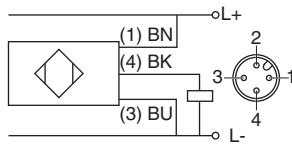
Category 3

Dust Zone 22

DC 24 V

PNP switching output



Design	DC PNP • Ø80 mm	DC PNP • Ø105 mm	DC PNP • Ø160 mm
Dimensions			
Installation non flush (nf)			
Operating distance [mm] (Adjustable range)	55 nf (10...80)	100 nf (10...110)	120 nf (20...150)
Switching output PNP			
ID-No.	P31329	P31330	P31331
Type	IDEX22 080 GSPU	IDEX22 105 GSPU	IDEX22 160 GSPU
Ex marking	II 3D Ex mc IIIC T 80 °C Dc IP 67 X		
Supply voltage [V]	10...30 DC		
Switching current [mA]	200		
Short circuit proof	•		
Overcurrent release [mA]	450		
Reverse protection	•		
Voltage drop max. [V]	2		
Residual current [mA]	-		
Current consumption [mA]	7		
Switching frequency [Hz]	20		
Ambient temperature [°C]	-20...+70		
EMC-class	A		
Protection [EN 60529]	IP 67		
LED display	•		
Housing material	PBT	PBT	PBT / Aluminium
Connection	M12 connector	M12 connector	M12 connector
Note: Do not use in the presence of conductive dusts			

- Amplifiers

Series EGE 90 Ex

Dust

Gas

Cable break and short circuit monitoring

Connection to 2-lead intrinsically safe sensors



Design	EGE 90 Ex...		
Dimensions			
ID-No.	P30340	P30341	P31035
Type	EGE 90 Ex1-230	EGE 90 Ex1-115	EGE 90 Ex1-24
Supply voltage [V]	230 AC +15/-10%	115 AC +15/-10%	24 DC ±15%
Certificate No.	TÜV 97 ATEX 1148		
Ex marking	II (1)D [Ex ia Da] IIIC / II (1)G [Ex ia Ga] IIC		
Maximum values	$U_o = 12.6 \text{ V}$ $I_o = 15.9 \text{ mA}$ $P_o = 50 \text{ mW}$ $C_o = 1.15 \text{ } \mu\text{F}$ $L_o = 120 \text{ mH}$		
Output	relay / change-over		
Switching voltage max. [V]	250 AC / 24 DC		
Switching current max. [A]	4 AC / 4 DC		
Switching power	$\cos \varphi > 0,7 / L/R < 200 \text{ ms}$		
Ambient temperature [°C]	-20...+60		
Protection [EN 60529]	IP 20		
Connection	terminal screws		
Notes:	<p>The installation of the amplifier has to be executed outside of the hazardous area.</p> <p>The amplifier is also suited for connection of NAMUR sensors.</p>		

Ex - Amplifiers

Series EGE 903 Ex

Dust

Gas

Cable break and short circuit monitoring

Connection to 3-lead sensors

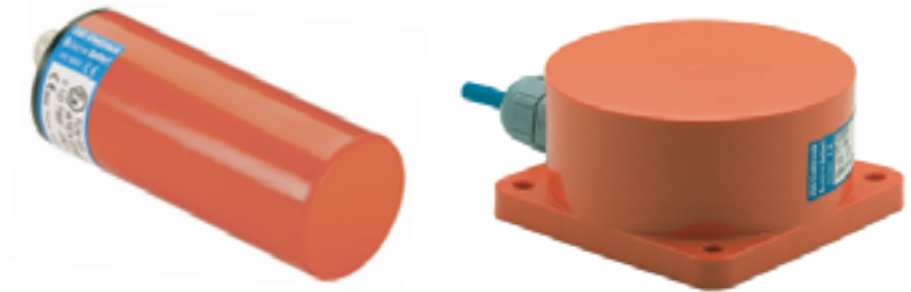


Design	EGE 903 Ex...		
Dimensions			
ID-No.	P21141	P21142	P21143
Type	EGE 903 Ex-230	EGE 903 Ex-115	EGE 903 Ex-24
Supply voltage [V]	230 AC +15/-10%	115 AC +15/-10%	24 VDC ±15%
Certificate no.	TÜV 01 ATEX 1663		
Ex marking	II (1)D [Ex ia Da] IIIC / II (1)G [Ex ia Ga] IIC		
Maximum values	$U_o = 12.6\text{ V}$ $I_o = 80\text{ mA}$ $P_o = 252\text{ mW}$ $C_o = 270\text{ nF}$ $L_o = 5.4\text{ mH}$		
Output	relay / change-over		
Switching voltage max. [V]	250 AC / 24 DC		
Switching current max. [A]	4 AC / 4 DC		
Switching power	$\cos \varphi > 0,7 / L/R < 200\text{ ms}$		
Ambient temperature [°C]	-20...+60		
Protection [EN 60529]	IP 20		
Connection	terminal screws		
Notes:	<p>The installation of the amplifier has to be executed outside of the hazardous area.</p>		

Dust - Intrinsically safe • Zone 20

Series KDEX - proximity switches

Category 1 Dust Zone 20



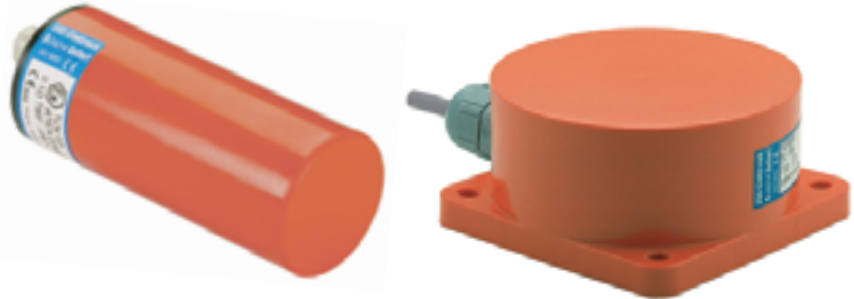
Design	Ø20 mm	Ø34 mm	Ø80 mm
Dimensions			
Installation non flush (nf)			
Operating distance [mm] (Adjustable range)	10 nf (1...15)	20 nf (1...30)	55 nf (10...70)
ID-No.	P41313	P41314	P41311
Type	KDEX 020	KDEX 034	KDEX 080
Ambient temperature [°C]		-25...+75	
Ex marking	II 1D Ex ia IIIC T95°C Da IP67		
Certificate No.	TÜV 03 ATEX 2046		
Maximum values		Ci = negligibly small Li = negligibly small Ii = 80 mA Ui = 12.6 V Pi = 252 mW	
Only for the connection to certified intrinsically safe circuits with the following maximum values:			
Housing material		PBT	
Protection [EN 60529]		IP 67	
Connection	M12 connector		2 m PVC-cable 3x0.5 mm ²
For the connection to amplifiers EGE 903 Ex...			

Dust - Ex Compact model • Zone 22

Series KDEX - proximity switches

Category 3
Dust Ex Zone 22

DC 24 V
PNP switching output



Design	Ø20 mm	Ø34 mm	Ø80 mm
Dimensions			
Installation non flush (nf)			
Operating distance [mm] (Adjustable range)	10 nf (1...15)	20 nf (1...30)	55 nf (1...70)
Switching output			
ID-No.	P41315	P41316	P41317
Type	KDEX 020 GSP	KDEX 034 GSP	KDEX 080 GSP
Ex marking	II 3D Ex mc IIIC T 80 °C Dc IP 67		
Supply voltage [V]	10...55 DC		
Switching current [mA]	400		
Short circuit proof	•		
Overcurrent release [mA]	800		
Reverse protection	•		
Voltage drop max. [V]	1.5		
Residual current [mA]	0.2		
Current consumption [mA]	4		
Switching frequency [Hz]	25		
Ambient temperature [°C]	-25...+70		
EMC-class	A		
Protection [EN 60529]	IP 67		
LED display	•		
Housing material	PBT		
Connection	M12 connector		2 m PVC-cable 3x0.5 mm ²
Note: Do not use in the presence of conductive dusts			
Accessories	connection cable SLG 3-2 (Z01076), plug-lock type PL-M12 (Z01182)		

- Amplifiers

Series EGE 903 Ex

Dust

Gas

Cable break and short circuit monitoring

Connection to 3-lead sensors



Design	EGE 903 Ex...		
Dimensions			
ID-No.	P21141	P21142	P21143
Type	EGE 903 Ex-230	EGE 903 Ex-115	EGE 903 Ex-24
Supply voltage [V]	230 AC +15/-10%	115 AC +15/-10%	24 VDC ±15%
Certificate no.	TÜV 01 ATEX 1663		
Ex marking	Dust: II (1) D [Ex ia Da] IIIC / Gas: II (1) G [Ex ia Ga] IIC		
Maximum values	$U_o = 12.6 \text{ V}$ $I_o = 80 \text{ mA}$ $P_o = 252 \text{ mW}$ $C_o = 270 \text{ nF}$ $L_o = 5.4 \text{ mH}$		
Output	relay / change-over		
Switching voltage max. [V]	250 AC / 24 DC		
Switching current max. [A]	4 AC / 4 DC		
Switching power	$\cos \varphi > 0,7 / L/R < 200 \text{ ms}$		
Ambient temperature [°C]	-20...+60		
Protection [EN 60529]	IP 20		
Connection	terminal screws		
Notes:	<p>The installation of the amplifier has to be executed outside of the hazardous area.</p>		