

## 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
<b>Dimensions</b>					
<b>Detection range</b> [cm/s]	water 1...100 / oil 3...200				
<b>Sensor length</b> [mm]	25	31	48	40	48
<b>Connection</b>	plug	plug	plug	plug	plug
<b>ID-No.</b>	P11164	P11165	P11166	P11167	P11169
<b>Type</b>	STS 101 S	STS 102 S	STS 103 S	STS 104 S	STS 106 S
<b>Ex area of use</b>	Gas: Zone 0/1 / Dust: Zone 20				
<b>Certificate No.</b>	TÜV 98 ATEX 1298 X				
<b>Ex marking</b>	Gas: Ex II 1/2 G Ex ia IIC T6 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T100 °C Da				
<b>Ambient temperature and medium temperature</b> [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60 Dust: -20 ≤ Ta ≤ +60				
<b>Maximum values</b>	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 μH				
<b>Start-up time typ.</b> [s]	8 (2...18)				
<b>Reaction time typ.</b> [s]	2 (1...13)				
<b>Compressive strength</b> [bar]	60				
<b>Housing material</b>	AISI 316 Ti • different materials on request				
<b>Protection</b> [EN 60529]	IP 67				
<b>Connection</b>	M12 connector				
	(probes with cable length > 2 m are available on request)				
<b>Notice</b>	for the connection to amplifiers SZA..., SEA..., SS 400, see page 1.85 - 1.88				

## $\text{Ex}$ - Probe • Category 1/2 - 1 • Zone 0/1 - 20

### Series STS

#### Gas-Ex Category 1/2

$\text{Ex}$  II 1/2 G Ex ia IIC T6 Ga/Gb

#### Dust-Ex Category 1

$\text{Ex}$  II 1 D Ex ia IIIC T100 °C Da



Design	G1/4	G1/2	G1/2	NPT1/2	G3/4
<b>Dimensions</b>					
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: $\text{Ex}$ II 1/2 G Ex ia IIC T6 Ga/Gb Dust: $\text{Ex}$ II 1 D Ex ia IIIC T100 °C Da				
Ambient temperature [°C] and medium temperature	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	$U_i = 13.65 \text{ V}$ / $I_i = 200 \text{ mA}$ / $P_i = 0.69 \text{ W}$ / $C_i = 0.27 \text{ nF}$ / $L_i = 1.30 \mu\text{H}$				
Start-up time typ. [s]	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 <sup>2</sup>				
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
<b>Dimensions</b>					
Detection range [cm/s]	water 1...100 / oil 3...200				
Sensor length [mm]	25	31	48	40	48
Connection	plug	plug	plug	plug	plug
ID-No.	P11170	P11171	P11172	P11173	P11175
Type	ST 101 S	ST 102 S	ST 103 S	ST 104 S	ST 106 S
Ex area of use	Gas: Zone 1 / Dust: Zone 21				
Certificate No.	TÜV 97 ATEX 1218				
Ex marking	Gas: Ex II 2 G Ex ib IIC T6 Gb Dust: Ex II 2 D Ex ib IIIC T125 °C Db				
Ambient temperature and medium temperature [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +85 T3: -20 ≤ Ta ≤ +85 Dust: -20 ≤ Ta ≤ +85				
Maximum values	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH				
Start-up time typ. [s]	8 (2...18)				
Reaction time typ. [s]	2 (1...13)				
Compressive strength [bar]	60				
Housing material	AISI 316 Ti • different materials on request				
Protection [EN 60529]	IP 67				
Connection	M12 connector				
<b>Notice</b>	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
<b>Dimensions</b>					
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 <sup>2</sup>				
	(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

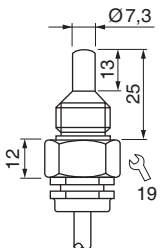
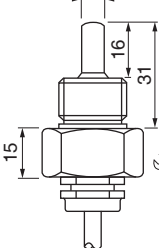
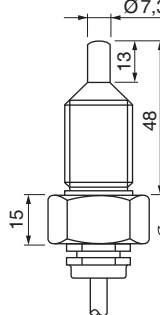
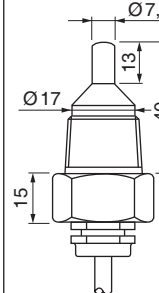
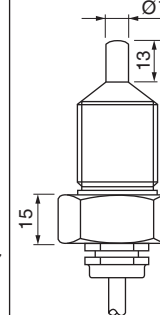
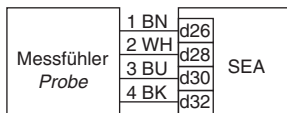

Ex II 2 G Ex ib IIC T6 Gb

#### 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 <sup>2</sup>				
					
	(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				
<b>Dimensions</b>					
<b>Detection range</b> [cm/s]	water 1...100 / oil 3...200				
<b>Sensor length L</b> [mm]	48	48	80	110	140
<b>Connection</b>	fixed cable	plug	fixed cable	fixed cable	fixed cable
<b>ID-No.</b>	<b>P11186</b>	<b>P11187</b>	<b>P11188</b>	<b>P11189</b>	<b>P11190</b>
<b>Type</b>	STS 110 K	STS 110 S	STS 110 K-L80	STS 110 K-L110	STS 110 K-L140
<b>Ex area of use</b>	Gas: Zone 0/1 / Dust: Zone 20				
<b>Certificate No.</b>	TÜV 98 ATEX 1298 X				
<b>Ex marking</b>	Gas: Ex II 1/2 G Ex ia IIC T6 Ga/Gb Dust: Ex II 1 D Ex ia IIIC T100 °C Da				
<b>Ambient temperature and medium temperature</b> [°C]	Gas: T6: -20 ≤ Ta ≤ +40 T5: -20 ≤ Ta ≤ +55 T4: -20 ≤ Ta ≤ +60 T3: -20 ≤ Ta ≤ +60 Dust: -20 ≤ Ta ≤ +60				
<b>Maximum values</b>	Ui = 13.65 V / li = 200 mA / Pi = 0.69 W / Ci = 0.27 nF / Li = 1.30 µH				
<b>Start-up time typ.</b> [s]	8 (2...18)				
<b>Reaction time typ.</b> [s]	2 (1...13)				
<b>Compressive strength</b> [bar]	60				
<b>Housing material</b>	AISI 316 Ti • different materials on request				
<b>Protection</b> [EN 60529]	cable ...K: IP 68 / plug...S: IP 67				
<b>Connection</b>	...K: 2 m PUR-cable 4x0.25 mm <sup>2</sup> ...S: M12 connector				
	(probes with cable length > 2 m are available on request)				
<b>Notice</b>	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 [°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 68			
Connection	2 m FEP-cable 4x0.25 mm <sup>2</sup>			
	(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

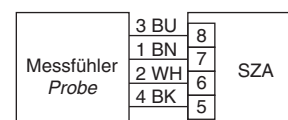
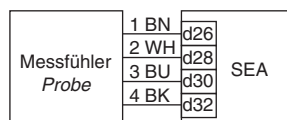
#### Dust-Ex Category 1

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 <sup>2</sup>		



(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 <sup>2</sup>		
	(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

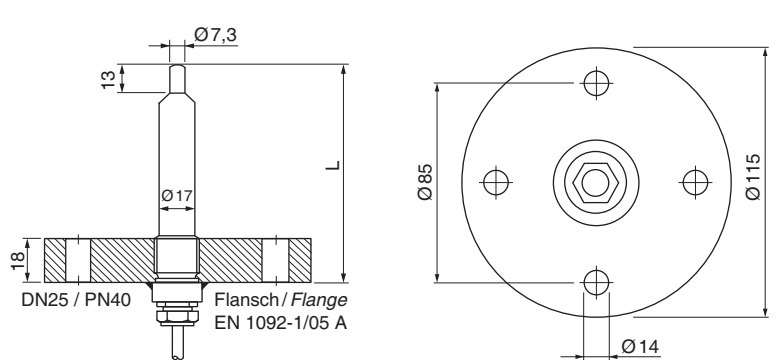
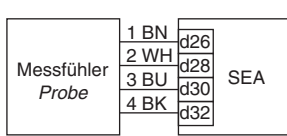
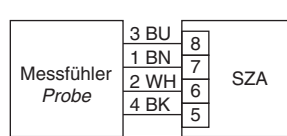
#### Dust-Ex Category 2

**Ex** II 2 D Ex ib IIIC T125 °C Db

With welded standard flange

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:	<b>Ex</b> II 2 G Ex ib IIC T6 Gb	
	Dust:	<b>Ex</b> 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 <sup>2</sup>		
			
	(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		

## $\text{Ex}$ - Probe • Category 1/2 - 1 • Zone 0/1 - 20

### Series STSEX

#### Gas-Ex Category 1/2

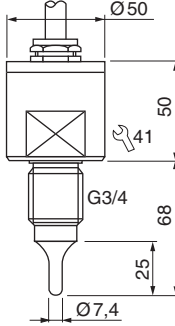
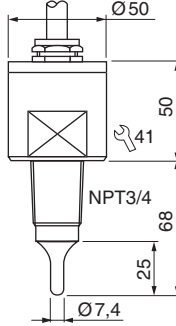
$\text{Ex}$  II 1/2 G Ex ia IIC T6 Ga/Gb

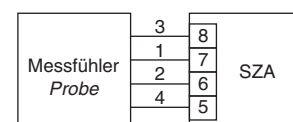
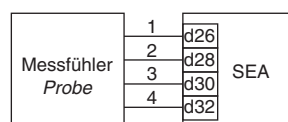
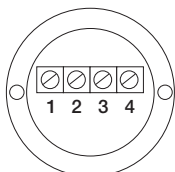
#### Dust-Ex Category 1

$\text{Ex}$  II 1 D Ex ia IIIC T100 °C Da

#### Terminal clamps



Design	G3/4	NPT3/4
<b>Dimensions</b>		
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: $\text{Ex}$ II 1/2 G Ex ia IIC T6 Ga/Gb Dust: $\text{Ex}$ 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	U <sub>i</sub> = 13.65 V / I <sub>i</sub> = 200 mA / P <sub>i</sub> = 0.69 W / C <sub>i</sub> = 0.27 nF / L <sub>i</sub> = 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 <sup>2</sup> (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

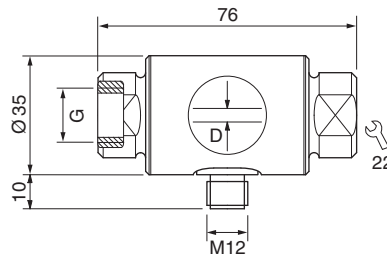
M12 thread

M16 thread

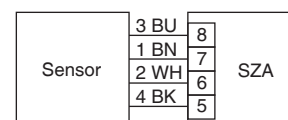
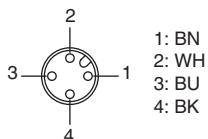


### Design SD

#### Dimensions



Detection range [ml/min]	water 10...150 oil 25...300		water 50...900 oil 150...1800
Thread G	M12	M16	G1/4
Inner diameter D	3.5	3.5	9.3
ID-No.	P11091	P11092	P11117
Type	SD 4 Ex M12	SD 4 Ex M16	SD 4 Ex G1/4
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

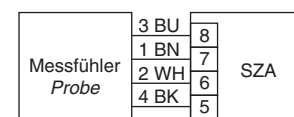
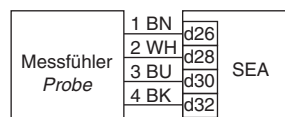
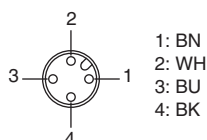
Ex II 1/2 G Ex ia IIC T4 Ga/Gb

#### 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		IP 67
		2 m PUR-cable 4x0.25 mm <sup>2</sup>
		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																				
Sensor length	[mm]	48																				
Connection		fixed cable																				
ID-No.		P11153																				
Type		STS 215 K																				
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	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																				
Connection		2 m PUR-cable 4x0.25 mm <sup>2</sup>																				
		IP 67																				
		M12 connector																				
		<table border="1"> <tr> <td rowspan="4">Messfühler Probe</td> <td>1 BN</td> <td>d26</td> <td rowspan="4">SEA</td> </tr> <tr> <td>2 WH</td> <td>d28</td> </tr> <tr> <td>3 BU</td> <td>d30</td> </tr> <tr> <td>4 BK</td> <td>d32</td> </tr> </table> <table border="1"> <tr> <td rowspan="4">Messfühler Probe</td> <td>3 BU</td> <td>8</td> <td rowspan="4">SZA</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	1 BN	d26	SEA	2 WH	d28	3 BU	d30	4 BK	d32	Messfühler Probe	3 BU	8	SZA	1 BN	7	2 WH	6	4 BK	5
Messfühler Probe	1 BN	d26		SEA																		
	2 WH	d28																				
	3 BU	d30																				
	4 BK	d32																				
Messfühler Probe	3 BU	8	SZA																			
	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 - Probe • Category 1/2 - 1 • Zone 0/1 - 20

### Series STS

#### Gas-Ex Category 1/2

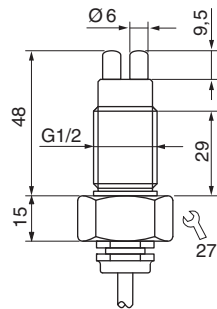
Ex II 1/2 G Ex ia IIC T6 Ga/Gb

#### Dust-Ex Category 1

Ex II 1 D Ex ia IIIC T105 °C Da



### Extended temperature range

<b>Design</b>	<b>G1/2</b>																											
<b>Dimensions</b>																												
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 <sup>2</sup>																											
	<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



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

## Series LNZ - Air flow controller

**Dust-Ex Category 3**

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

## Ex - Amplifier

### Series SZA

Ex II (1) GD [Ex ia] IIC

AC 230 V • AC 115 V

DC 24 V

Relay output

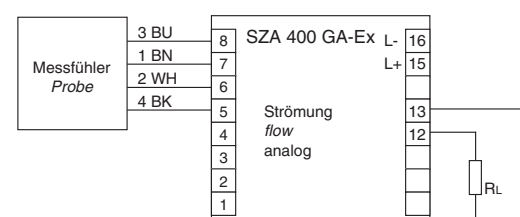
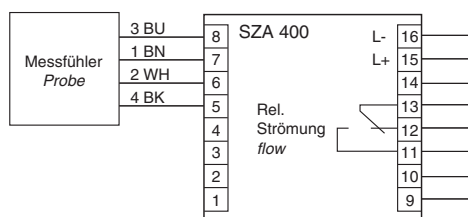
Analog output

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	Ex II (1) GD [Ex ia] IIC			Ex II (1) GD [Ex ia] IIC
Certificate No.	TÜV 96 ATEX 1097			TÜV 02 ATEX 1821
Maximum values	U <sub>o</sub> = 12.6 V I <sub>o</sub> = 200 mA R <sub>i</sub> = 68.5 Ω C <sub>o</sub> = 170 nF L <sub>o</sub> = 0.5 mH			U <sub>o</sub> = 13.65 V I <sub>o</sub> = 200 mA P <sub>o</sub> = 690 mW C <sub>o</sub> = 170 nF L <sub>o</sub> = 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 <sub>L</sub> [Ω]	-			200...500
Ambient temperature [°C]	-20 ≤ T <sub>a</sub> ≤ +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

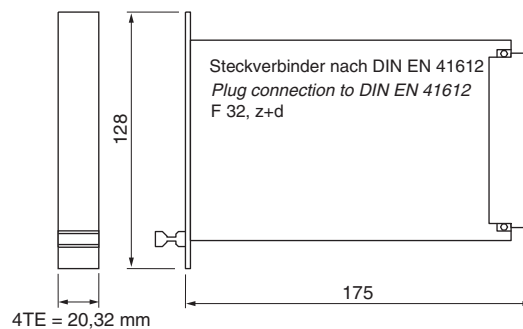
Analog output

Time delay on/off programmable

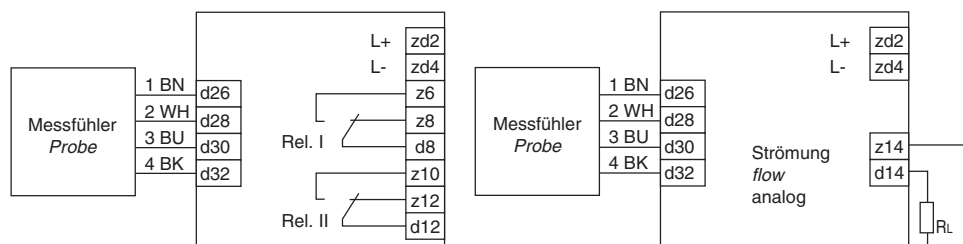


Design	SEA 400 Ex-24	SEA 401 Ex-24	SEA 405 GA-Ex
--------	---------------	---------------	---------------

#### Dimensions



ID-No.	P10705	P10709	P11253
Type	SEA 400 Ex-24	SEA 401 Ex-24	SEA 405 GA-Ex
Supply voltage [V]	24 DC $\pm 15\%$		24 DC $\pm 15\%$
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 <sub>o</sub> = 13.65 V I <sub>o</sub> = 200 mA R <sub>i</sub> = 68.5 $\Omega$ P <sub>o</sub> = 0.69 W C <sub>o</sub> = 150 nF L <sub>o</sub> = 0.87 mH		U <sub>o</sub> = 13.65 V I <sub>o</sub> = 200 mA R <sub>i</sub> = 68.5 $\Omega$ P <sub>o</sub> = 0.69 W C <sub>o</sub> = 150 nF L <sub>o</sub> = 0.87 mH
Output 1 (relay/change-over)	flow		analog 4...20 mA
Output 2 (relay/change-over)	temperature	failure	-
Load R <sub>L</sub> [ $\Omega$ ]	-		200...500
Switching voltage [V]	30 AC / 36 DC		-
Switching current [A]	2		-
Switching power max.	60 VA / 50 W		-
Ambient temperature [°C]	-20 $\leq$ T <sub>a</sub> $\leq$ +60		-20 $\leq$ T <sub>a</sub> $\leq$ +60
Protection [EN 60529]	IP 20		IP 20





## Dust - Compact model • Zone 22

**Series KGEX**  
**Capacitive sensors**

**Category 3**  
**Dust II 3D T80 °C**

**DC 24 V**  
**PNP switching output**



Design	M18x1	M30x1.5	DC PNP • G1	DC PNP • G3/4
<b>Dimensions</b>				
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 <sup>2</sup>			
Note: Do not use in the presence of conductive dusts				

## Ex - Sensor • Zone 0

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

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

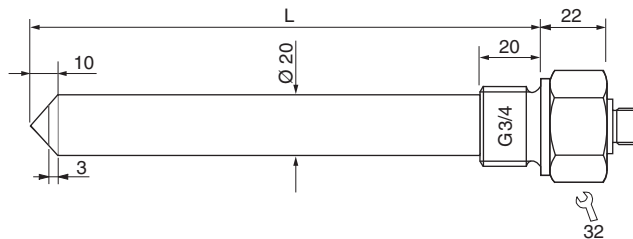
Resistant in kerosine • motor fuels

3-wire sensor, intrinsically safe



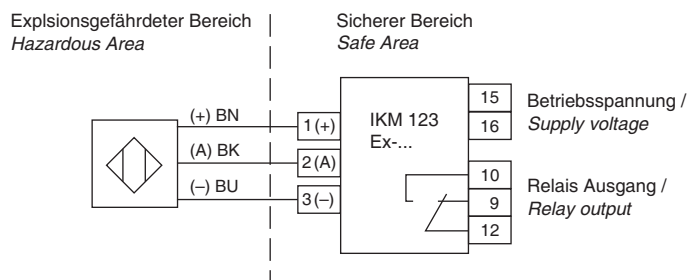
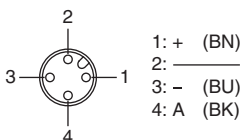
### Design G3/4

#### Dimensions



Switching point sp [mm]	-10	
ID-No.	P21183...	<b>Sensor length</b> The total length L of the sensors is specified by appending "Lxxxx" to the type.  xxxx: length in mm  <b>Preferred excess lengths ID-No.</b> 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 IKM 123 Ex-..., page 2.40



### Accessories plug M12, SBG-DC (Z01060) oder SBW-DC (Z00038)

## Ex - Sensor • Zone 0

**Series KEAC**  
**Capacitive sensors**

**Category 1**  
**Ex ia IIC T6...T4**

**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				
For the connection to amplifiers IKM 122 Ex-..., page 2.39					
Note	different materials on request				

## Ex - Sensor • Zone 0 • with Ex-Preamplifier

**Series KGFT**  
**Capacitive sensors**  
**up to 200 °C**

### Category 1

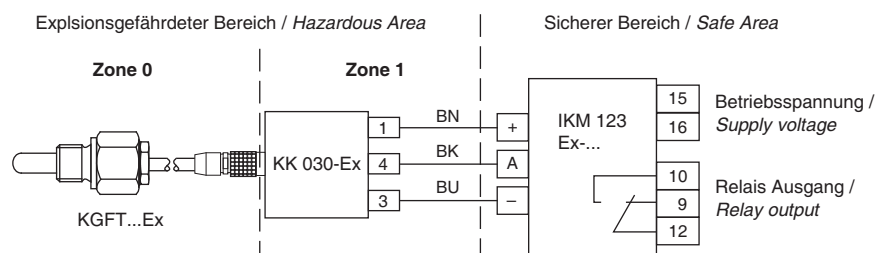
Ex ia T6...T3

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



Design	G1/4	G1/2	KK 030 Ex
Dimensions			
Switching point sp [mm]	-8	-8	-
Sensitivity adjustable	-	-	•
ID-No.	<b>P21149</b>	<b>P21150</b>	<b>P21144</b>
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 temperature [°C]	-35...+200		-25...+60
Protection [EN 60529]	Sensor: IP 68 / LEM-connection: IP 54		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 IKM 123 Ex.. ex-amplifier (see page 2.40).



### Accessories

required amplifier IKM 123 Ex-..., see page 2.40 / connecting cable SLG 3..., SLW 3..., see page 2.45

## - Amplifiers

### Series IKM 122 Ex

Gas II (1) G [Ex ia Ga] IIC

Dust II (1) D [Ex ia Da] IIIC

**Cable break and short circuit monitoring**

**Connection to intrinsically safe 2-lead sensors**

**Output function programmable**



Design	IKM 122 Ex...	
Dimensions		
ID-No.	P31332	P31333
Type	IKM 122 Ex-230	IKM 122 Ex-24
Output	 relay / change over	
Ex area of use	outside of the hazardous areas (gas or dust)	
Certificate No.	TÜV 11 ATEX 556280	
Ex marking	Gas:  II (1) G [Ex ia Ga] IIC	Dust:  II (1) D [Ex ia Da] IIIC
Ambient temperature [°C]	-20 ≤ Ta ≤ +60	
Maximum values	U <sub>o</sub> = 9.6 V / I <sub>o</sub> = 10.1 mA / P <sub>o</sub> = 24.2 mW / C <sub>o</sub> = 0.84 µF / L <sub>o</sub> = 5.00 mH	
Supply voltage [V]	230 AC ±10%	24 DC ±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	
Protection [EN 60529]	IP 40	
Connection	terminal screws	

## Ex - Amplifiers

### Series IKM 123 Ex

Gas  $\text{Ex II (1) G [Ex ia Ga] IIC}$

Dust  $\text{Ex II (1) D [Ex ia Da] IIIC}$

Cable break and short circuit monitoring

Connection to intrinsically safe 3-lead sensors

Output function programmable



Design	IKM 122 Ex...	
Dimensions		
ID-No.	P31335	P31336
Type	IKM 123 Ex-230	IKM 123 Ex-24
Output	 relay / change over	
Ex area of use	outside of the hazardous areas (gas or dust)	
Certificate No.	TÜV 11 ATEX 556280	
Ex marking	Gas: $\text{Ex II (1) G [Ex ia Ga] IIC}$ Dust: $\text{Ex II (1) D [Ex ia Da] IIIC}$	
Ambient temperature [°C]	$-20 \leq T_a \leq +60$	
Maximum values	$U_0 = 9.6 \text{ V} / I_0 = 50.5 \text{ mA} / P_0 = 121.3 \text{ mW} / C_0 = 0.68 \mu\text{F} / L_0 = 5.00 \text{ mH}$	
Supply voltage [V]	230 AC $\pm 10\%$	24 DC $\pm 10\%$
Switching voltage max [V]	250 AC / 60 DC / 24 DC	
Switching current max. [A]	4 AC / 0.8 DC / 4 DC	
Switching power	$\cos \varphi > 0.7 / L/R \leq 200 \text{ ms} / L/R \leq 200 \text{ ms}$	
Protection [EN 60529]	IP 40	
Connection	terminal screws	



## Dust- $\text{Ex}$ Compact model • Zone 20

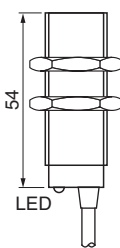
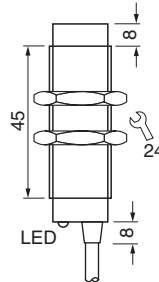
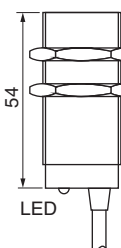
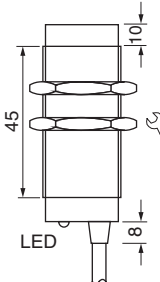




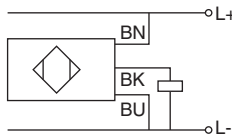
### Series IGEX20 - Proximity switches

#### Category 1

#### Dust $\text{Ex}$ 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 <sup>2</sup>			
				
Accessories	housing for screw terminals series GK...			

### Series IGEX - Proximity switches

#### Category 1

Dust  $\text{Ex}$  Zone 20

Gas  $\text{Ex}$  Zone 0

NAMUR (EN 60947-5-6)



Design	M12x1		M18x1		M30x1.5	
<b>Dimensions</b>						
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...						
<b>Accessories</b>	connecting cable SLG 3-2 (Z01076), plug-lock type PL-M12 (Z01182), page 3.61					

### Series IGEX - Proximity switches

#### Category 1

Dust  $\text{Ex}$  Zone 20

Gas  $\text{Ex}$  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.	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 <sup>2</sup>					
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	
<b>Dimensions</b>						
Installation flush (f) non flush (nf)	LED		LED		LED	
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

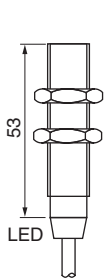
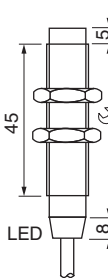
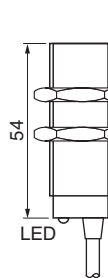






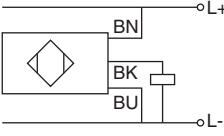
#### Category 3

#### Dust Zone 22

#### DC 24 V

#### PNP switching output



Design	DC PNP • M12x1		DC PNP • M18x1		DC PNP • M30x1.5	
<b>Dimensions</b>						
Installation flush (f) non flush (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 <sup>2</sup>					
Note: Do not use in the presence of conductive dusts						

## Dust - Compact model • Zone 22

### Series IGVEX22 - Proximity switches

Stainless steel

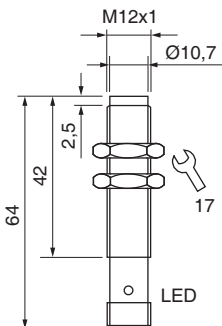
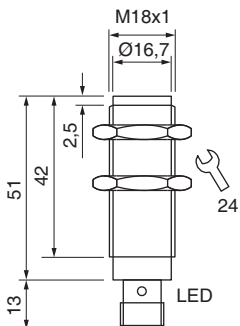
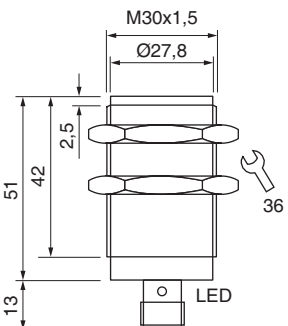



Category 3

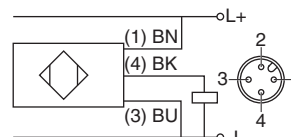
Dust  Zone 22

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

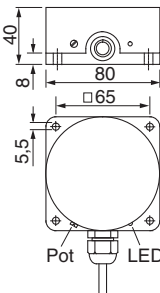
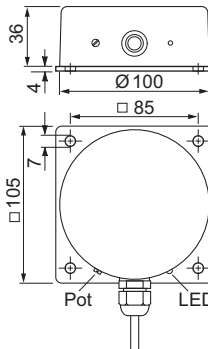
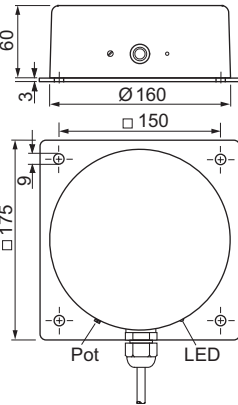









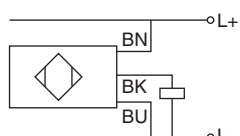
#### Category 1

#### 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 	 Pot 	 Pot 
Operating distance [mm] (Adjustable range)	55 nf (10...80)	70 nf (10...110)	120 nf (20...150)
Switching output PNP			
ID-No.	<b>P31182</b>	<b>P31183</b>	<b>P31184</b>
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 <sup>2</sup>		
			
Accessories	housing for screw terminals series GK...		



### Series IDEX - Proximity switches

#### Category 1

Dust  $\text{Ex}$  Zone 20

Gas  $\text{Ex}$  Zone 0



Design	Ø80 mm	Ø100 mm	Ø160 mm
Dimensions			
Installation non flush (nf)			
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 <sup>2</sup>		
For the connection to amplifiers EGE 903 Ex...			

## Dust- Compact model • Zone 22

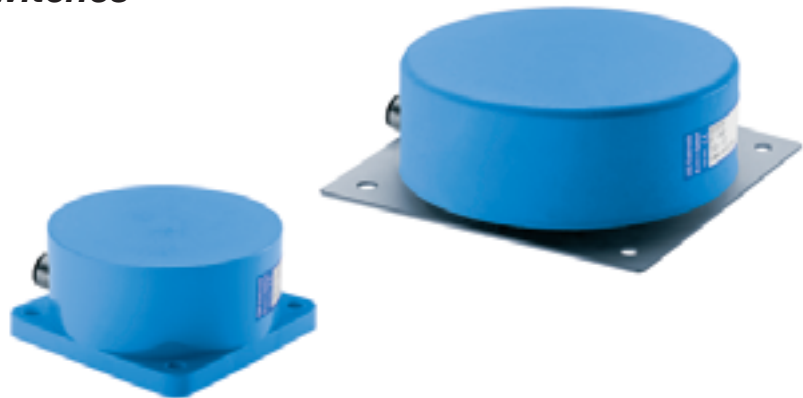
### Series IDEX22 - Proximity switches

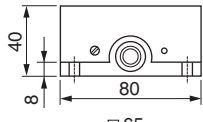
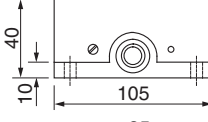
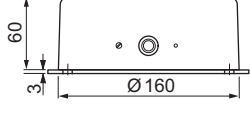
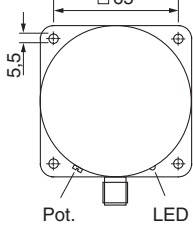
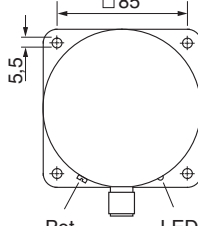
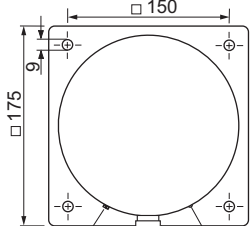



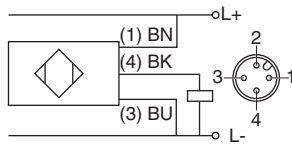
#### Category 3

#### 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>		