

## Explosion Proof Equipment General Overview\*

Equipment for explosion-hazardous areas must meet especially strict demands.

We place a growing range of equipment for various applications at your disposal.

This is a short overview of the currently available equipment.



### Equipment

Application	Zone	1	21	2	22
Pressure measurement		ME49		ME49 ME61	ME61
Differential pressure measurement		DA03 DS21	DA03	DA03 DS21 DE38 DE44 DE45 DE46	DA03 DS21 DE38 DE44 DE45 DE46
Level measurement		NK10		NK10	NK10
Temperature measurement		TW85 TW89	TW85 TW89		

\* Please note that for every application construction regulations must be complied to. Please note that not every device alternative is suitable for every application also. This overview serves as a start only.

On the following pages you can find a short summary for every device. For further information see our documentation on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## ME49 Pressure Transmitter for Explosion-Hazardous Areas

### Application

This pressure transmitter with ceramic gauge head is suitable for measurement of positive and negative pressure in explosion-hazardous areas. This series' instruments are used to measure ranges from 0..40 mbar to 0..400 mbar, 0..0.6 bar to 0..40 bar as well as -1..0 bar to -1..+15 bar. Overpressure safety depends on the given measuring range.

The ME49 is approved to zones 1 and 2 if it is connected to an intrinsically safe certified circuit.



 II 2 G EEx ib IIC T6

For further information on this equipment see data sheet DB\_GB\_ME49 on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## ME61 Pressure Transmitter

### Application

The ME61 pressure transmitter measures positive and negative pressure in ranges of 0..1.6 bar to 0..400 bar and -1..0 bar to -1..24 bar. Overpressure safety depends on the given measuring range.

### Variants

- **Pressure Transmitter ME61#####BH9R###**

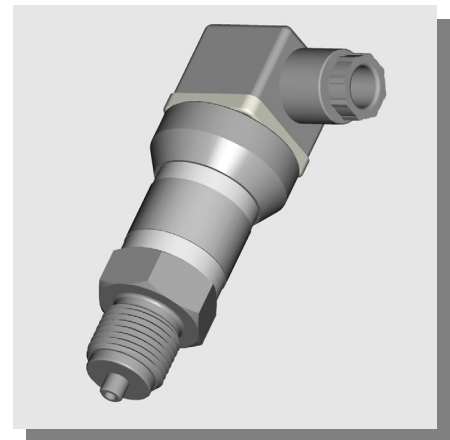
The pressure transmitter ME61 is suitable as „electrical equipment for use in explosion-hazardous areas (flammable gas)“ zone 2.

 II 3 G EEx nA IIC T4

- **Pressure Transmitter ME61#####BH9S###**

The pressure transmitter ME61 is suitable as „electrical equipment for use in explosion-hazardous areas (flammable dust)“ zone 22 - dry dust.

 II 3 D IP65 T125°C



For further information on this equipment see data sheets DB\_GB\_ME61\_R and DB\_GB\_ME61\_S on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## DA03 Differential Pressure Gauge / Differential Pressure Gauge and Switch

### Application

The DA03 serves as an indicator for differential pressure of ranges 0..40 mbar to 0..25 bar and -40..60 mbar to -150..250 mbar as well as -1..0.6 bar to -1..5 bar. The maximum allowable operating pressure of 40 or 100 bar is free to choose. Follow mounting instructions in accordance to application.

### Variants

- **Differential Pressure Gauge without Switching Contacts (Non-electrical Device)**

**DA03#####0A**

Explosion-hazardous areas zone 1 and 2, as well as 21 and 22, endangerment by gases and dry dusts.

⊕ II 2 GD c 95°C IP65

- **Differential Pressure Gauge with Built-in Contacts DA03#####1B**

Simple electrical equipment per EN50020 para. 5.4 for usage in explosion-hazardous areas zone 1 and 2.

⊕ II 2 G c 95°C IP65

- **Differential Pressure Gauge with Built-in Inductive Proximity Switch DA03#####1C**

Explosion-hazardous areas zone 1 and 2, as well as 21 and 22, endangerment by gases and dry dusts.

⊕ II 2 GD c 95°C IP65

EC-type approval of inductive proximity switch

**PTB 99 ATEX 2219X** ⊕ II 2 G EEx ia IIC T6 and **Zelm 03 ATEX 0128 X** ⊕ II 1 D Ex ia D 20T..°C

- **Differential Pressure Gauge with Built-in Capacitive Electrical Position Transducer (KINAX 3W2) DA03#####2D**

Explosion-hazardous areas zone 1 and 2, endangerment by gases.

⊕ II 2 G c 95°C IP65

EC-type approval of built-in capacitive electrical position transducer **PTB 97 ATEX 2271**

**KINAX 3W2 708...**

⊕ II 2 G EEx ia IIC T6



For further information on this equipment see data sheet DB\_GB\_DA03\_ATEX on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## DS21 Differential Pressure Switch

### Application

This type series' instruments are used as flow-operation safety device in heat carrier oil plants acc. to DIN 32 727 and hot water plants acc. to VdTÜV data sheet flow 100. The DS21 measures differential pressure in ranges of 0..400 mbar to 0..6 bar. The max. static operating pressure depends on the given measuring range. Follow mounting instructions in accordance to application. This type series' instruments are type-examination tested per directives 94/9/EC, 97/23/EC and per directives of the German Lloyd.

### Variants

- **Differential Pressure Switch with Built-in Microswitches**  
**DS21#####I**

Zone 1 and 2 - hazardous gases

⊕ II 2 G EEx ib c IIC T6

- **Differential Pressure Switch with Built-in Microswitches**  
**DS21#####F**

Zone 22 - hazardous dry dust

⊕ II 3 D c T70°C IP65

For further information on this equipment see data sheet DB\_GB\_DS21\_I\_F on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## DE38 Digital Differential Pressure Transmitter / Switch

### Application

The DE38 serves as display and limit detector of differential pressure of neutral gases and fluids. It is used to measure differential pressure in ranges of 0..400 mbar to 0..6 bar under a static operating pressure up to 16 bar.

### Variants

- **Digital Differential Pressure Transmitter / Switch DE38#####KR###**

This series' instruments are suitable as „electrical equipment for use in explosion-hazardous areas (flammable gas)“ zone 2.

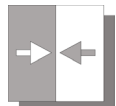
⊕ II 3 G c EEx nA IIC T4

- **Digital Differential Pressure Transmitter / Switch DE38#####KS###**

This series' instruments are suitable as „electrical equipment for use in explosion-hazardous areas (flammable dust)“ zone 22 - dry dust.

⊕ II 3 D c IP65 T125°C

For further information on this equipment see data sheets DB\_BA\_GB\_DE38\_R and DB\_BA\_GB\_DE38\_S on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## DE44 Digital 2-Channel Differential Pressure Switch / Transmitter

### Application

The DE44 serves as display and limit detector of 2 differential, negative or positive pressures of gases. It serves as a switch and transmits optionally an output signal. The 2 channels measure pressure in ranges of 0..4 mbar to 0..100 mbar and -2.5..+2.5 mbar to -60..+60 mbar. The max. static operating pressure depends on the given measuring range.

### Variants

- **Digital 2-Channel Differential Pressure Switch / Transmitter DE44#####KR###**

The 2-Channel Differential Pressure Switch / Transmitter DE44 is suitable as „electrical equipment for use in explosion-hazardous areas (flammable gas)“, zone 2.

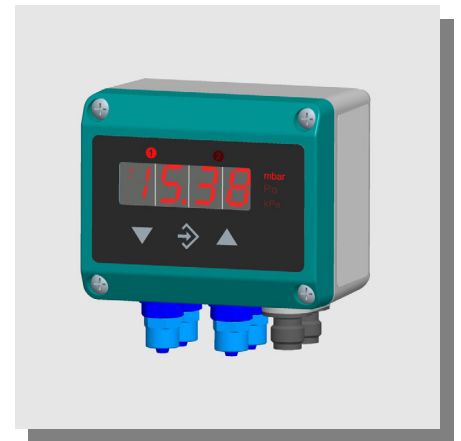
 II 3 G EEx nA IIC T4

- **Digital 2-Channel Differential Pressure Switch / Transmitter DE44#####KS###**

2-Channel Differential Pressure Switch / Transmitter DE44 is suitable as „electrical equipment for use in explosion-hazardous areas (flammable dust)“, zone 22, dry dust.

 II 3 D IP65 T125°C

For further information on this equipment see data sheets DB\_BA\_GB\_DE44\_R DB\_BA\_GB\_DE44\_S on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## DE45 Digital Differential Pressure Switch / Transmitter

### Application

The DE45 is a multi-function pressure instrument that combines a digital readout, dual limit detection switches, and optional transmitter output. It measures positive, negative or differential pressure of gases in ranges of 0..4 mbar to 0..100 mbar and -2.5..+2.5 mbar to -60..+60mbar. The max. static operating pressure depends on the given measuring range.

### Variants

- **Digital Differential Pressure Switch / Transmitter DE45#####KR###**

The differential pressure switch / transmitter DE45 is suitable as „electrical equipment for use in explosion-hazardous areas (flammable gases)“, zone 2.

 II 3 G EEx nA IIC T4

- **Digital Differential Pressure Switch / Transmitter DE45#####KS###**

The differential pressure switch / transmitter DE45 is suitable as „electrical equipment for use in explosion-hazardous areas (flammable dust)“, zone 22, dry dust.

 II 3 D IP65 T125°C

For further information on this equipment see data sheets DB\_BA\_GB\_DE45\_R and DB\_BA\_GB\_DE45\_S on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## DE46 Digital Differential Pressure Switch / Transmitter

### Application

The DE46 is a multi-function differential pressure switch with an optional transmitter signal output. It is suitable for accurate measurement of low positive / negative gauge pressure or differential pressure of air and gases in ranges of 0..25 Pa to 0..1000 Pa as well as -12.5..+12.5 Pa to -125..+125 Pa under a static operating pressure of up to 0.7 bar.

### Variants

- **Digital Differential Pressure Switch / Transmitter DE46##00###NR###**

The differential pressure switch / transmitter DE46 is suitable as „electrical equipment for use in explosion-hazardous areas“, zone 2.

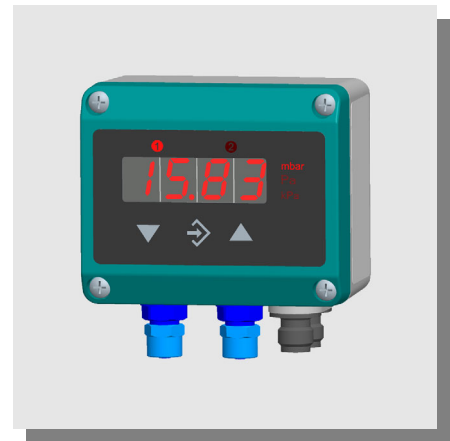
 II 3 G EEx nA IIC T4

- **Digital Differential Pressure Switch / Transmitter DE46##00###NS###**

The differential pressure switch / transmitter DE46 is suitable as „electrical equipment for use in explosion-hazardous areas“, zone 22 - dry dust.

 II 3 D IP65 T125°C

For further information on this equipment see data sheets DB\_BA\_GB\_DE46\_R and DB\_BA\_GB\_DE46\_R on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## NK10 Level Limiter

### Application

The level limiter NK10 is applied into heat and process engineering plants to ensure that the lowest permissible level is not fallen below. The instrument meets the requirements of DIN 4574 as a limiter. This series' instruments are structural tested acc. to DIN 32728 and have received the DIN registration number / prototype test mark of DIN CERTCO Gesellschaft für Konformitätsbewertung (company for validation of conformity).

### Variants

- **Level Limiter NK10#####I**

Zone 1 and 2 - hazardous gases

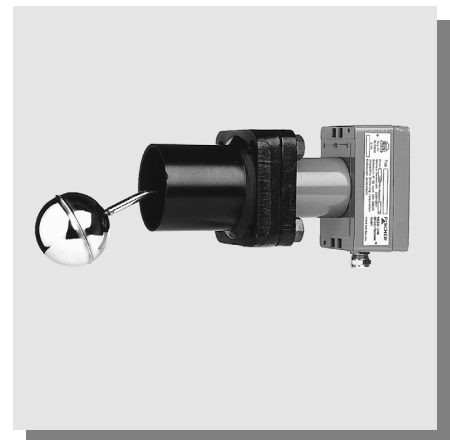
 II 2 G EEx ib c IIC T6

- **Level Limiter NK10#####F**

Zone 22 - hazardous dry dust

 II 3 D c T80°C IP55

For further information on this equipment see data sheet DB\_GB\_NK10\_I\_F on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.



## TW85 / TW89 Resistance Thermometers

### Application

TW8 type series' resistance thermometers are applied as intrinsically safe equipment to measure temperature in fluids and gases as well as in dusts.

### Variants

- **Resistance Thermometer TW85 with or without Integrated Transmitter TW85#**

These resistance thermometers meet demands of equipment-group II categories 1/2G and 1/2D and/or 2G and 2D. They are suitable for usage in explosion-hazardous areas zone 1 (gas) and zone 21 (dust). The protective sleeve may extend into zone 0 resp. 20 if the wall thickness is  $\geq 1$ mm (separation of zones).

 II 1/2 G EEx ia IIC T6  
II 1/2 D IP65 Tx °C

- **Resistance Thermometer TW89#**

These resistance thermometers meet demands of equipment-group II, category 2G and 2D. They are suitable for usage in explosion-hazardous areas zone 1 (gas) and zone 21 (dust).

 II 2 G EEx ia IIC T6  
II 2 D IP65 Tx °C

For further information on this equipment see data sheets DB\_GB\_TW85 and DB\_GB\_TW89 on [www.fischermesstechnik.de](http://www.fischermesstechnik.de). Feel free to contact us - we'll gladly give advice.

