DFON

DFON-##0#.##

Overview

- Fits for all 4 ... 20 mA transmitters
- Graphical display with backlight
- Showing errors and limits by steady or flashing colors
- Fits Baumer CombiSeries (Ø80 mm FlexHousing)
- Option: Two configurable relay outputs
- Programmable by touch screen
- Easy and fully programmable with FlexProgrammer 9701
- ATEX and cULus

Technical data

Performance characteristics

Max. output error	≤ ± 0.1 % FSR , Tamb -10 ... 70 °C ≤ ± 0.2 % FSR , Tamb -30 ... -10 °C / 70 ... 80 °C
Measuring range	3.5 … 23 mA
Sampling interval	≤ 1 s
Voltage drop	< 4 V DC @ 23 °C , low bright backlight (< 40 %) < 6.5 V DC @ 23 °C , high bright backlight (> 40 %)
Temperature drift (by ambient)	0.001 % FSR/10 K , inside optimal readability temperature range 0.0015 % FSR/10 K , outside optimal readability temperature range
Power-up time	≤ 5 s
Damping	0 … 30 s , programmable

Ambient conditions

Operating temperature range	-30 … 80 °C
Optimal readability temperature range	-10 … 70 °C
Storage temperature range	-40 … 85 °C
Degree of protection (EN 60529)	IP10 , on terminals IP67 , in FlexHousing IP69K , in FlexHousing
Humidity	≤ 98 % RH , condensing
Vibration (sinusoidal) (EN 60068-2-6)	1.6 mm p-p (2 … 25 Hz), 4 g (25 … 100 Hz), 1 octave / min.

Housing

Style	FlexHousing, Ø80 mm compatible
Overall size	Refer to section "Dimensional drawings"
Material	Polycarbonate

Electrical connection

Connector	2 screw terminals for loop power signal 4 screw terminals for relays

ATEX II 1G Ex ia IIC T5

Maximum values for barrier selection, Ui	30 V DC , max.
Maximum values for barrier selection, Ii	100 mA
Maximum values for barrier selection, Pi	750 mW
Internal capacitance, Ci	< 15 nF
Internal inductance, Li	< 10 µH
Temperature class, T1 ... T5	-20 < Tamb < 60 °C Zone 0 and 20 -40 < Tamb < 65 °C Zone 1/2 and 21/22

ATEX II 1D Ex ia IIIC T100 °C Da

Maximum values for barrier selection, Ui	30 V DC , max.
Maximum values for barrier selection, Ii	100 mA
Maximum values for barrier selection, Pi	750 mW
Internal capacitance, Ci	< 15 nF
Internal inductance, Li	< 10 µH
Temperature class T100 °C	-20 < Tamb < 60 °C Zone 0 and 20 -40 < Tamb < 65 °C Zone 1/2 and 21/22

ATEX II 3 G Ex ec IIC T5

Voltage supply range	≤ 35 V DC
Current rating, In	≤ 100 mA
Temperature class, T1 ... T5	-30 < Tamb < 65 °C

Compliance and approvals

EMC	EN 61326
Safety	cULus listed, E491206
Explosion protection	ATEX II 1G Ex ia IIC T5 ATEX II 1D Ex ia IIIC T100 °C Da ATEX II 3 G Ex ec IIC T5

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Display

General information

Panel type	Graphical LCD
Display range	-9999 … 99999
Max. digit height	22 mm

Relays

Contacts	2 x solid state relays The built in relays are not activated as standard. They can be activated at purchase of CombiSeries products or by an SW activation code can be purchased later.
Max. load current	75 mA
Max. switching voltage	60 V DC
Max. on resistance	10 Ω

User configurable data

Error- / Warning-indication	Individually configurable display and backlight indication in white, green or red colour, steady or flashing light. Configurable limits over the range
Zoom on range	≥ 2 mA
Measuring unit	bar mbar Psi KPa MPa atm Kg/cm2 mH2O mmH2O 'H2O "H2O mHg mmHg "Hg K °C °F mS µS mA mV V Ohm m3/h l/h cm/s m/s m3/min l/min l/s Hz l meter m3 ton sec % cm Feet Inch Ws mm
Linearization table	2 … 30 points
User defined measuring unit	8 × 20 pixel matrix

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Display

Selectable display views

Value - small / large

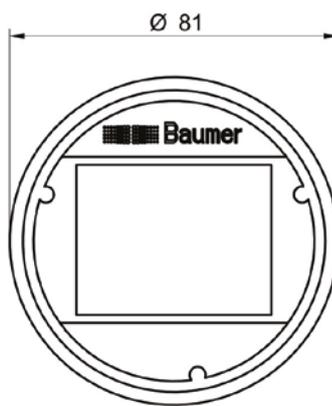Tank / bottle illustration

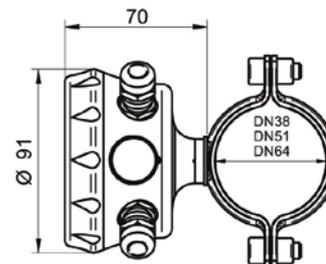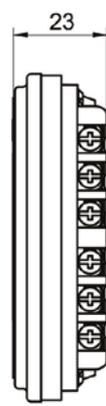Bar graph vertical / horizontal

Analog with bar graph / value

Alert status

Dimensional drawings (mm)

Housing

Ø 81

23

70

Ø 91

DN38
DN51
DN64

35,1

DFON without housing

Pipe mounting
FlexHousing with pipe bracket for Ø38, Ø51, Ø64 mm stand pipe
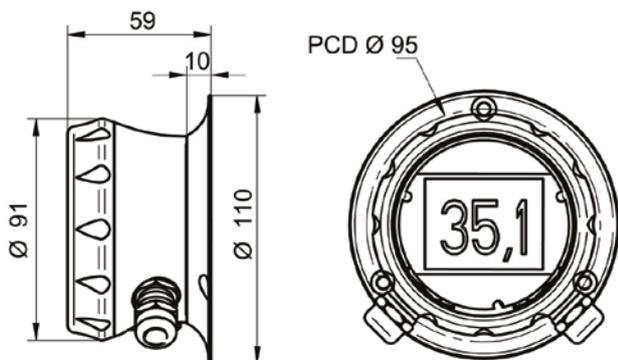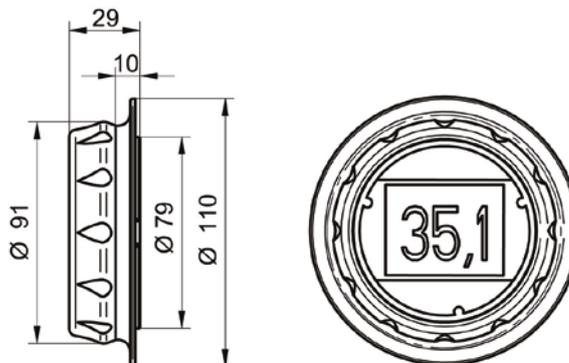
Dimensional drawings (mm)

Housing

Wall mounting
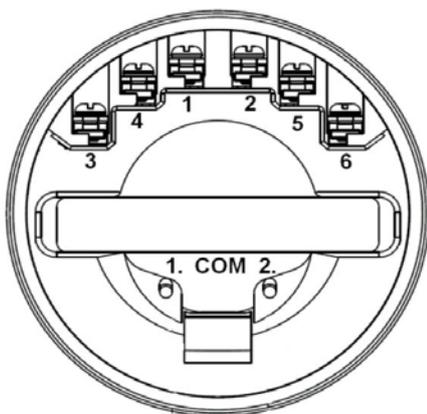FlexHousing with Ø110 mm rear flange with 3 x Ø4 mm holes for screws

Panel mounting
Ø110 mm front flange with 3 x Ø4 mm holes for screws

Electrical connection

Electrical connection	Function	Terminal assignment
	+ 4 … 20 mA	1
	- 4 … 20 mA	2
	Relay 21	3
	Relay 22	4
	Relay 11	5
	Relay 12	6

Ordering information

Ordering key - Configuration possibilities see website

	DFON	-	#	#	#	#	.	#	#
Product									
DFON	DFON								
Safety									
Standard			1						
Ex ec IIC T5 (Gas)			3						
Ex ia IIC T5 Ga or Ex ia IIIC T100°C Da (Gas or Dust)			5						
Relays									
Not activated				1					
Activated				2					
Configuration									
None					0				
Configured according to customer specification					1				

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Ordering information

Ordering key - Configuration possibilities see website

	DFON	-	#	#	#	#	.	#	#
Front ring									
Without						0			
For FlexHousing (CombiSeries)						2			
Housing									
Without							0		
FlexHousing, wall mounting							2		
FlexHousing, panel mounting							3		
FlexHousing, pipe mounting DN38							4		
FlexHousing, pipe mounting DN51							5		
FlexHousing, pipe mounting DN64							6		
Electrical connection housing									
Without								0	
1 x M16x1.5 cable gland, plastic								3	
2 x M16x1.5 cable gland, plastic								4	
1 x M16x1.5 cable gland, stainless steel								5	
2 x M16x1.5 cable gland, stainless steel								6	
1 x M20x1.5 cable gland, plastic								7	
2 x M20x1.5 cable gland, plastic								8	
1 x M20x1.5 cable gland, stainless steel								9	
2 x M20x1.5 cable gland, stainless steel								A	
2 x M12, 4 pins stainless steel (female + male) for PF20x								B	
2 x M12, 4 pins stainless steel (female + male) for 4…20 mA								C	
1 x M12 plug (male) + 1 x M16 cable gland SS for PF20x input								D	
1 x M12 plug (male) + 1 x M16 cable gland SS for 4...20 mA input								E	

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