

DFON

Loop powered graphical display

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	$\leq \pm 0.1\%$ FSR, Tamb -10 ... 70 °C $\leq \pm 0.2\%$ FSR, Tamb -30 ... -10 °C / 70 ... 80 °C
Measuring range	3.5 ... 23 mA
Sampling interval	≤ 1 s
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	≤ 15 s

Ambient conditions

Optimal readability temperature range	-10 ... 70 °C
Operating temperature range	-30 ... 80 °C
Storage temperature range	-40 ... 85 °C
Degree of protection (EN 60529)	IP10, on terminals IP67, in FlexHousing IP69K, in FlexHousing
Humidity	$\leq 98\%$ 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

General information

Panel type	FSTN Graphical LCD
Display range	-9999 ... 99999
Max. digit height	22 mm
Connector	2 screw terminals for loop power signal 4 screw terminals for relays

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
Damping	0 ... 30 s, programmable
Linearization table	2 ... 30 points

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Technical data

User configurable data

Measuring unit	bar
	mbar
	Psi
	KPa
	MPa
	atm
	Kg/cm ²
	mH ₂ O
	mmH ₂ O
	"H ₂ O
	"H ₂ O
	mHg
	mmHg
	"Hg
	K
	°C
	°F
	mS
	µS
	mA
	mV
	V
	Ohm
	m ³ /h
	l/h
	cm/s
	m/s
	m ³ /min
	l/min
	l/s
	Hz
	l
	meter
	m ³
	ton
	sec
	%
	cm
	Feet
	Inch

User configurable data

User defined measuring unit	8 × 20 pixel matrix
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ATEX II 1G Ex ia IIC T5

Maximum values for barrier selection, Ui	30 V DC , max.
Maximum values for barrier selection, li	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, li	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 3G Ex nA 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

Selectable display views



Value - small / large



Tank / bottle illustration



Bar graph vertical / horizontal

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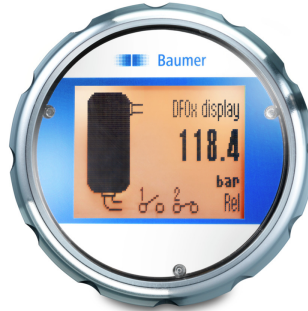
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Technical data

Selectable display views



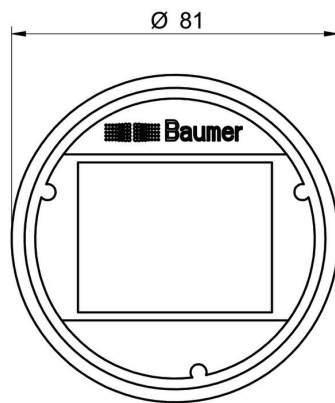
Analog with bar graph / value



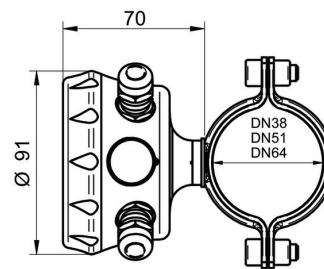
Alert status

Dimensional drawings (mm)

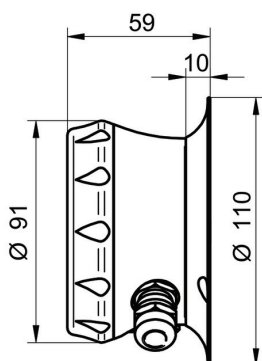
Housing



DFON without housing



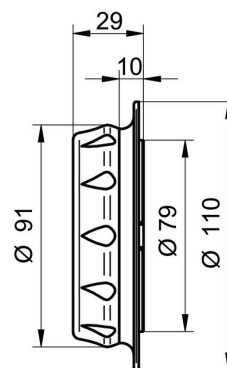
Pipe mounting
FlexHousing with pipe bracket for Ø38, Ø51, Ø64 mm stand pipe



PCD Ø 95



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



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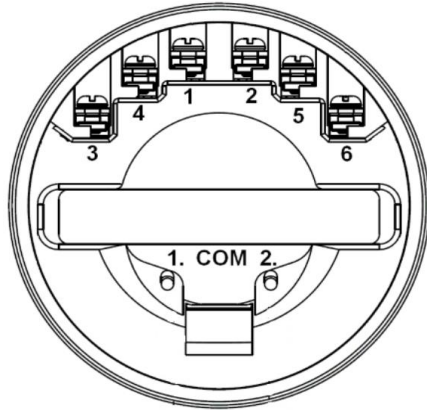
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Electrical connection

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								
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	
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

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Ordering information

Ordering key - Configuration possibilities see website

	DFON	-	#	#	#	#	.	#	#
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