

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
	Ws
	mm

User configurable data

User defined measuring unit 8 × 20 pixel matrix

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 ec IIC T5

Voltage supply range ≤ 35 V DC

Current rating, In ≤ 100 mA

Temperature class, T1 ... T5 -30 < Tamb < 65 °C

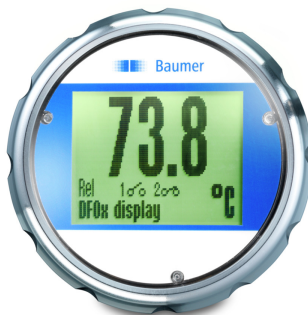
Compliance and approvals

EMC EN 61326

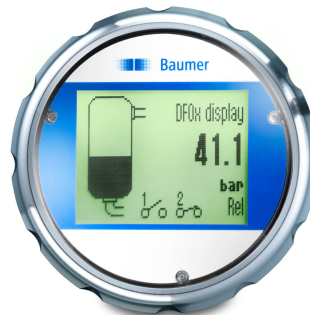
Safety cULus listed, E491206

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

Selectable display views



Value - small / large



Tank / bottle illustration



Bar graph vertical / horizontal

DFON

Loop powered graphical display

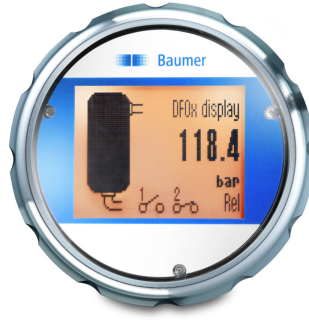
DFON-##0#.##

Technical data

Selectable display views



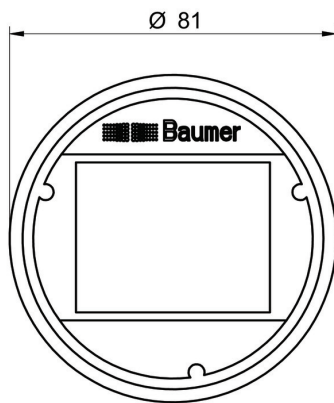
Analog with bar graph / value



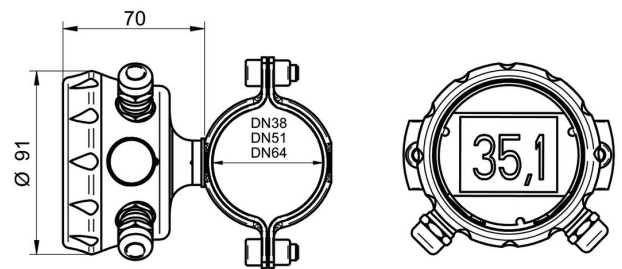
Alert status

Dimensional drawings (mm)

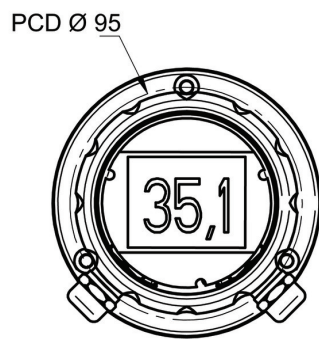
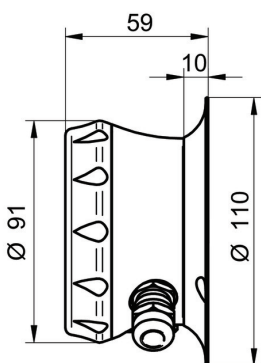
Housing



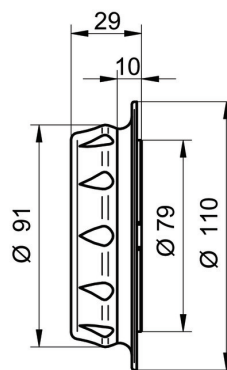
DFON without housing



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



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



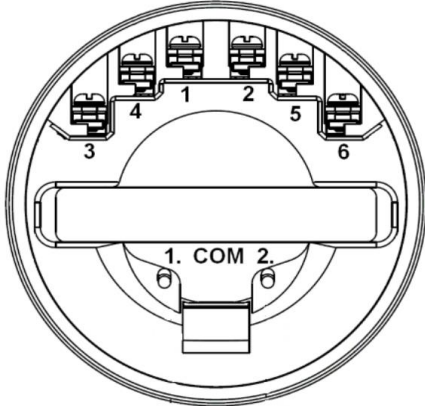
Panel mounting
Ø110 mm front flange with 3 x Ø4 mm holes for screws

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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