Main features

- Graphical display with backlight
- Showing errors and limits by steady or flashing colours
- Fits Baumer *CombiSeries*™ (Ø80 mm FlexHousing)
- Hygienic design
- Option: Two configurable relay outputs
- Programmable by touch screen
- Easy and fully programmable with FlexProgrammer 9701
- ATEX

Applications

- Remote display fits for all 4 - 20 mA transmitter
- Wall mounting, panel mounting and pipe mounting

Technical Data

Input

Measuring range	3.5…23 mA (normal working range 4...20 mA)
Connections	2 screw terminals for loop power, signal 4 screw terminals for relay outputs
Accuracy	≤ ±0.1% of input span within -10...70 °C ≤ ±0.2% of input span within -30...-10 °C / 70...80 °C
Loop voltage drop	Two levels depending on chosen backlight brightness @ 20 mA : - Low bright backlight (<40%) : Max. 4V @23 °C - High bright backlight (>40%) : Max. 6.5V @23 °C
Sample time	≤ 1 second. Typical 0.3 second
Start-up time	≤ 5 second

User-configurable data

Measuring range	4...20 mA
Error/warning indication	Individually configurable display and backlight indication in white, green or red colour, steady or flashing light. Configurable limits between 3.5 and 23 mA
Zoom on range	Minimum 2 mA of input span
Damping	0...30 seconds
Linearization table	2 to 30 points
Measuring unit (standard selectable)	°C, °F, K bar, mbar, kPa, MPa, psi, kg/cm2, mmHg, mH2O, atm, "Hg, mHg, "H2O, %, l/h, Ton, m3, m3/h, Hz, mS, mV, V, ohm, Hz, sec, %, mA, or user defined (programmable with FlexProgrammer)
User defined unit	8 x 20 pixels matrix
Dec. point position	xxxxx, xxxx.x, xxx.xx, xx.xxx, x.xxxx, .xxxxx, AUTO

Relay

Contacts	2 solid state relays
Voltage	60 Vp
Load Current	75 mA
Max On resistance	10 Ohm The built in relays are not activated as standard. They can be activated at purchase or SW activation code can be purchased later.

Display

Type	FSTN Graphically LCD
Measuring range	-9999...99999
Digit height	Max. 22 mm

EMC data

Immunity	EN 61326
Emission	EN 61326
EMC immunity Influence	≤ ±1% of input FS

Communication

FlexProgrammer 2-way communication for configuration.

Test conditions

Operating temperature	23°C ± 2 °C

Technical Data

Environmental conditions

Optimal readability	-10...70 °C
Operating temperature	-30...80 °C
Storage temperature	-40...85 °C
Humidity	max. 98% RH, condensing
Vibrations	IEC60068-2-6, test FC 25...100 Hz, 4.0g DNV high vibration strain, class B 1.6mm, 2...25 Hz
Mechanical tolerances	ISO 2768-m

Mechanical data

|	
Dimensions	See dimensional drawing
Material	Polycarbonate plastic
Enclosure	ø 80 mm housing and front ring stainless steel, AISI 304
Protection class	IP 10 on terminals IP 67 in ø 80 mm housing
Weight	100 g - display alone 170 g - display incl. front ring 475 g - display in ø 80 mm housing for wall mounting

Other data

Temperature drift	≤ 0,001%/10K (inside optimal readability temperature range) ≤ 0,0015%/10K (outside optimal readability temperature range)
Power up time	≤ 15 sec.

Disposal of product and packing

According to national laws or by returning to Baumer.

ATEX Gas ia and for ATEX Dust ia

Approval Gas Zone 0/1		Ⓔⓧ II 1 G, Ex ia IIC T5 Ga
Dust Zone 20/21		Ⓔⓧ II 1 D, Ex ia IIIC T100°C Da
Voltage drop	U_{Disp}	4.5 ... 6.5 VDC
Temperature class	T1...T5	Zone 0 and 20 -20 ... 60 °C Zone 1/2 and 21/22 -30 ... 65 °C
Internal inductivity	L_i	<10 µH
Internal capacity	C_i	<15 nF
Barrier data	U_i I_i P_i	<30 VDC <0.1 A <0.75 W

ATEX Gas nA

Approval Gas Zone 2		Ⓔⓧ II 3 G, Ex nA II T5
Voltage drop	U_{Disp}	4.5 ... 6.5 VDC
Temperature class	T1...T5	$-30 < T_{amb} < 65$ °C
Internal inductivity	L_i	<10 µH
Internal capacity	C_i	<15 nF
Maximum voltage	U_{max}	<35 VDC
Maximum current	I_{max}	<0.1 A

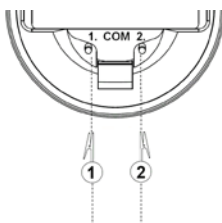### Electrical connections
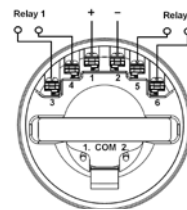
Terminal 1 - Supply +
Terminal 2 - Supply –

Terminal 3 - Relay 1
Terminal 4 - Relay 1

Terminal 5 - Relay 2
Terminal 6 - Relay 2

Programming

Connect the FlexProgrammer to the *CombiView*, DFON as per below.

It is not necessary to disconnect the power to the *CombiView*, DFON display

The FlexProgrammer 9701 is a dedicated tool to Configure all Baumer configurable products.

FlexProgrammer, No. : 9701.0001

The FlexProgrammer interface unit will be delivered complete including
- CD with FlexProgram software
- Product drivers (DTM-files)
- cables

The *CombiView*, DFON can also be programmed by the touch bottoms on the display. Please see "Operating instructions for *CombiView*, DFON".
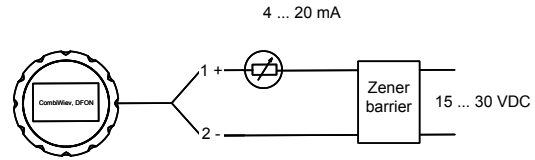
Electrical connections
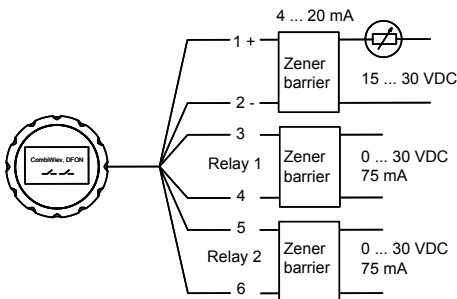
ATEX Gas ia and for ATEX Dust ia

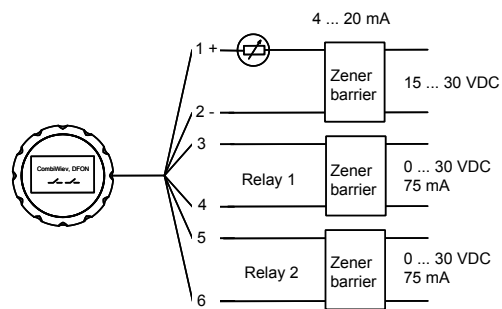Display in the zone, transmitter outside the zone
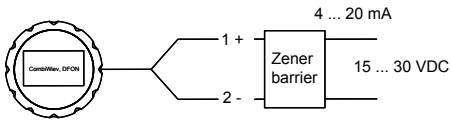
Display and transmitter in the zone

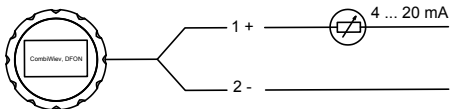Display in the zone/transmitter outside the zone
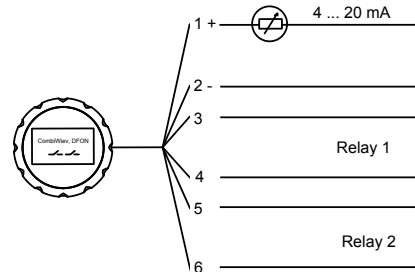

Display and transmitter in the zone

ATEX Gas nA

Display without relay output

Display with relay output

Selectable views

Value
Small / Large

Analog
w. Bar graph / Value

Bar graph
Vertical / horizontal

Tank illustration
Tank / Bottle

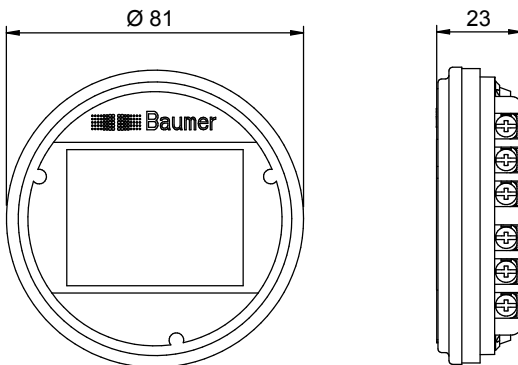## Visual alert

Status ok

Alert status

Drawings / Dimensions in mm

Ø 81   23

Mounting for stand alone instrument

Wall mounting, DFON-xxx.22.x

FlexHousing with Ø115 mm rear flange with 3 x Ø4 mm holes for screws

59   10

PCO Ø 95

35,1

Ø 91   Ø 100
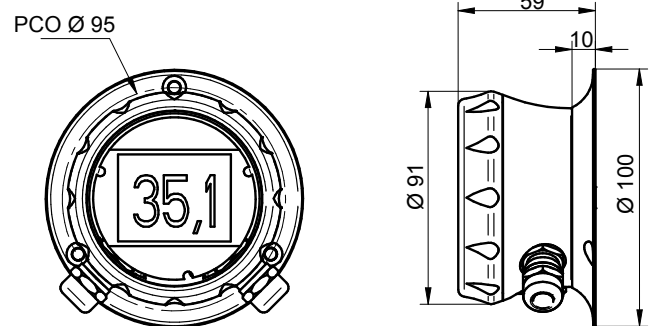
Panel mounting, DFON-xxx.23.x

Ø115 mm front flange with 3 x Ø4 mm holes for screws

29   10

35,1

Ø 91   Ø 79   Ø 110
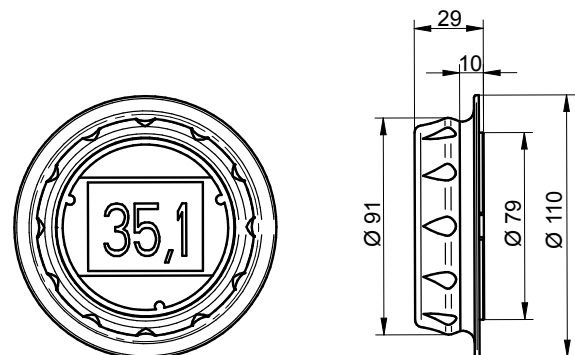
Pipe mounting, DFON-xxx.24.x /... 2.5.x /...26.x

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

70

35,1

Ø 91   DN38 DN51 DN64
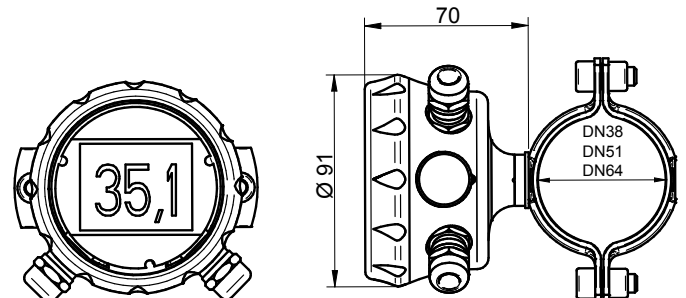
Ordering details

	DFON	–				.		

Model

CombiView	DFON								

Safety

Standard		1							
EX II 3G, Ex nA II T5		3							
EX II 1 G Ex ia IIC T5 Ga or EX II 1D Ex ia IIIC T100°C Da		5							

Relays

Not activated			1						
Activated			2						

Configuration

None				0					
Configured according to customer specification				1					

Front ring

None					0				
Front ring for Ø80 mm SS housing (FlexBar + CombiTemp 814)					1				
Front ring for SS FlexHousing (CombiSeries)					2				
						.			

Housing

None							0		
FlexHousing wall mounting							2		
FlexHousing panel mounting							3		
FlexHousing tube mounting	DN38						4		
FlexHousing tube mounting	DN51						5		
FlexHousing tube mounting	DN64						6		

Electrical connection on housing

None								0	
1 x M16 plastic cable gland								3	
2 x M16 plastic cable gland								4	
1 x M16 stainless steel cable gland								5	
2 x M16 stainless steel cable gland								6	

Accessories, Software for relays

Activation code for relays (for instruments with not activated relays)	DFO-SW