

FLOAT LEVEL SENSOR

The label *Trafag Industrial Components* extends the Trafag brand name to instruments manufactured by qualified partner companies. *Trafag Industrial Components* complement the genuine Trafag product range to offer customers a complete portfolio from one single source.

The principle of operation is of potentiometric type, based on the gradual shutdown of a chain of resistors and reed contacts, placed inside the guiding rod, by a magnetic float. An analogue output signal is provided with a measuring resolution of 5, 10 or 20mm.

Applications

- Water treatment
- Machine tools
- Mobile hydraulics
- Food & Beverages
- Chemical & Pharmaceutical



Features

- Measuring resolution 5, 10, 20 mm
- Analogue output 4 ... 20 mA, 0 ... 5 or 0 ... 10 VDC
- Optional temperature sensor PT1000
- Minimum degree of protection IP65

Reference

- EN61326-1

09/2024

Data sheet H20040e

Standard parameters			
Type	TFCO	TFCS	TFCP / D / V
Floats	Spansil - Butadiene - Acrylonitrile Copolymer	Stainless steel AISI316	PVDF - PP - PVC
Ambient temperature	-30 ... + 55°C	-30 ... +55°C	-30 ... +55°C
Media temperature	Up to 105°C, optional 120°C	Up to 105°C, optional 150°C	Up to 130°C (PVDF) Up to 90°C (PP) Up to 60°C (PVC)
Working pressure ¹	20 bar max	50 bar max	6 bar (PVDF or PVC) max 3 bar (PP) max

¹ Depend of type of float.

Ordering code

		TFC	X	XX	XXX	XX	XXXX	XXX	XX	X	XX	
1. Float and Stem Material¹	Brass and Spansil	O	PVDF	D								
	AISI316 L	S	PVC	V								
	PP	P										
2. Measuring resolution²	05 mm										05	
	10 mm										10	
	20 mm										20	
3. Floats²⁻⁵	<i>Float material</i>	<i>Type</i>	<i>Dimension (in mm)</i>		<i>Float material</i>	<i>Type</i>	<i>Dimension (in mm)</i>					
	Spansil	TFCO	Ø 30x20	B20	PVDF	TFCP	Ø 49x53	F49				
			Ø 20x28	B28	PP	TFCP	Ø 49x53	P49				
			Ø 30x45	B45	PVC	TFCP	Ø 49x53	V49				
			Ø 44x50	B44								
	AISI316 L	TFCS	Ø 30x32	S29	Special float ⁶			Z99				
			Ø 52x68	S52								
			Ø 52	S53								
			Ø 100	S10								
4. Output signal	4 ... 20 mA	TA	0 ... 5 VDC								TW	
	0 ... 10 VDC	TV										
5. Stem length⁵	"L0" max 2000 mm										XXXX	
6. Process connection³	Outside, G 1" m	G25	Flange type DIN (to specify dimension for ex. 2")								DN1	
	Outside, 1" NPT m	N25	Flange type ANSI (to specify dimension for ex. DN40 PN16)								DN2	
	Outside, G 1 1/2" m	G40	Flange 6 holes on Ø60 mm in brass								FOH	
	Outside, 1 1/2" NPT m	N40	Flange 6 holes on Ø60 mm in SS								FSH	
	Outside, G 2" m	G50	Special process connection ⁷								X99	
	Outside, 2" NPT m	N50										
7. Electrical connection⁴	Housing	W1	Cable gland brass including 3 m SILICON cable								P2	
	DIN43650 A	S1	Special electrical connection ⁸								C9	
	Cable gland brass including 3 m PVC cable	P1										
8. Temperature class²	Standard	L	High (only TFCS) ¹¹								H	
	Medium (only TFCS and TFCO)	M										
9. Options	PT1000 EN60751 IEC751 Class A	PT	Other options ⁹								ZZ	
	Shipbuilding version – EUOMR ¹⁰	MR										

¹⁾ See table Materials

²⁾ See table Floats

³⁾ See table Process connections

⁴⁾ See table Electrical Connections

⁵⁾ See table Dimensions

⁶⁾ For other floats, please contact factory

⁷⁾ For other process connections, please contact factory

⁸⁾ For other electrical connections, please contact factory

⁹⁾ For other options, please contact factory.

¹⁰⁾ Not available with Brass and spansil/PVC/PP/PVDF

¹¹⁾ In combination with cooling tower

Order example

- TFC - S - 20 - S29 - TA - XXX - G25 - W1 - L
- TFC - S - 20 - S52 - TA - XXX - G50 - W1 - L
- TFC - O - 20 - B20 - TA - XXX - G25 - S1 - L
- TFC - O - 20 - B45 - TA - XXX - G25 - W1 - L
- TFC - P - O5 - V49 - TA - XXX - G50 - P1 - L

Material

Tab. 1				
Type	Stem	Float	Process connection	Flange
TFCO xx B xx	Brass	Spansil	Brass	Brass
TFCS xx S xx	AISI316	AISI316	AISI316	AISI316
TFCD x F xx	PVDF	PVDF	PVDF	PVDF
TFCP x P xx	PP	PP	PP	PP
TFCV x V xx	PVC	PVC	PVC	PVC

Floats TFCO

Tab. 2				
				
Code	B20	B28	B45	B44
Material	Spansil	Spansil	Spansil	Spansil
Dimension (mm)	Ø30x20	Ø20x28	Ø30x45	Ø44x50
Specific gravity (kg/dm ³)	0,4	0,4	0,35	0,45
Measuring Resolution (mm)	5 - 10	5 - 10	5 - 10 - 20	5 - 10 - 20
Max. Pressure (bar)	20	20	20	20
Media temperature standard code "L"	105°C	105°C	105°C	105°C
Media temperature medium code "M"	120°C	120°C	120°C	120°C

Floats TFCS

Tab. 2							
							
Code	S29	S32	S40	S41	S52	S53	S10
Material	AISI316	AISI 316	AISI 316	AISI 316	AISI316	AISI316	AISI316
Dimension (mm)	Ø30x32	Ø30x32	Ø40x52	Ø41x35	Ø52x68	Ø52	Ø100
Specific gravity (kg/dm ³)	0,75	0,55	0,78	0,82	0,65	0,7	0,6
Measuring Resolution (mm)	5	5	20	10	5	10 - 20	10 - 20
Max. Pressure (bar)	30	10	15	10	50	40	15
Media temperature standard code "L"	105°C	105°C	105°C	105°C	105°C	105°C	105°C
Media temperature high code "M"	150°C	150°C	150°C	150°C	150°C	150°C	150°C

Floats TFCP / D / V

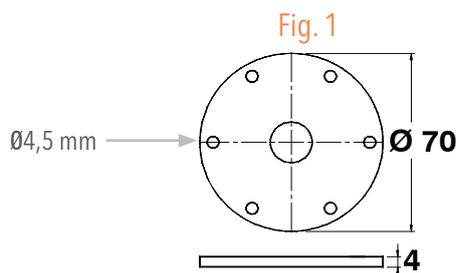
Tab. 2

			
Code	F49	P49	V49
Material	PVDF	PP	PVC
Dimension (mm)	Ø49x53	Ø49x53	Ø49x53
Specific gravity (kg/dm³)	0,8	0,45	0,7
Measuring Resolution (mm)	5	10	20
Max. Pressure (bar)	6	3	6
Media temperature standard code "L"	130°C	90°C	60°C

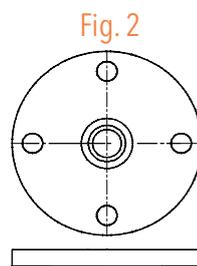
Process connection

Tab. 3

Code	Type Process Connection	TFCO				TFC S						TFCP / D / V			
		B20	B28	B45	B44	S29	S32	S40	S41	S52	S53	S10	F49	P49	V49
G25	G 1" m, mounting from outside	✓	✓	✓		✓	✓								
N25	1" NPT m, mounting from outside		✓												
G40	G 1 1/2" m, mounting from outside	✓	✓	✓	✓	✓	✓	✓	✓						
N40	1 1/2" NPT m, mounting from outside	✓	✓	✓		✓	✓	✓	✓						
G50	G 2" m	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
N50	2" NPT m	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DN1	Flange type DIN				✓			✓	✓	✓	✓	✓	✓	✓	✓
DN2	Flange type ANSI				✓			✓	✓	✓	✓	✓	✓	✓	✓
FOH	Flange 6 hole on Ø60mm in brass	✓	✓	✓											
FSH	Flange 6 hole on Ø60mm in SS					✓	✓								



FOH - FSH
6 holes on Ø60 mm



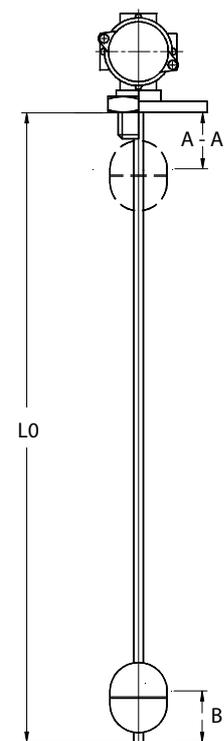
DN = DIN - ANSI Flanges

Flanges available

DIN type	ANSI type
DN25 PN6 or PN16 or PN40	1" ANSI 150# RF or 300# RF or 600# RF
DN50 PN6 or PN16 or PN40	2" ANSI 150# RF or 300# RF or 600# RF
DN80 PN6 or PN16 or PN40	3" ANSI 150# RF or 300# RF or 600# RF
DN125 PN6 or PN16 or PN40	4" ANSI 150# RF or 300# RF or 600# RF

Electrical Connection

Code	W1	S1	P1/P2
Dimension (mm)			
IP Rating	IP65	IP65	IP68
Max No of wires	3 + 2 for PT	3	3 + 2 for PT
Material	Die Cast Aluminium	Plastic (Polyamide + Fiber glass)	Cable gland brass Cable PVC (max 105°C) or SILICON (max 150°C)
Ambient temperature	-30 ... +55°C	-30 ... +55°C	-30 ... +55°C



A= Flanged connection
A1 = Threaded connection
L0 = max length 2000 mm

Dimension (mm)

Code	TFCO				TFCS							TFCP / D / V		
	B20	B28	B45	B44	S29	S32	S40	S41	S52	S53	S10	F49	P49	V49
A	10	15	25	25	15	15	15	10	35	25	50	25	25	25
A1	25	30	40	45	35	35	35	30	55	45	-	45	45	45
B	15	20	30	30	25	25	45	30	40	30	60	30	30	30

Wiring

Code	TA	TW	TV
Output signal	4 ... 20 mA	0 ... 5 VDC	0 ... 10 VDC
Wiring			
Power supply	18 ... 36 VDC	18 ... 30 VDC	18 ... 30 VDC
Max load	500 Ω	500 Ω	500 Ω

Additional information

Documents	Data sheet	H20040	www.trafag.com/H20040
	Instructions	H21040	www.trafag.com/H21040

Modification

Index	Date	Description
a	08/2017	New Datasheet
b	02/2018	Page 2: Floats Point 3 _ Create new code "Z99" for not standard floats Page 2: Process connection Point 6 _ Create new code "X99" for not standard process connection Page 2: Electrical connection Point 7 _ Create new code "C9" for not standard electrical connection Page 2: Options Point 9 _ Create new code "ZZ" for not standard options
c	03/2018	New Version
d	08/2019	Delete inside process connection
e	10/2022	Page 3: float TFCS add S32 - S40 - S41; Page 4: Floats TFCP: Update "Measuring Resolution (mm)" from "5" to "5-10-20" for each float process connection: update S32 - S40 - S41 Page 5: dimensions: update S32 - S40 - S41