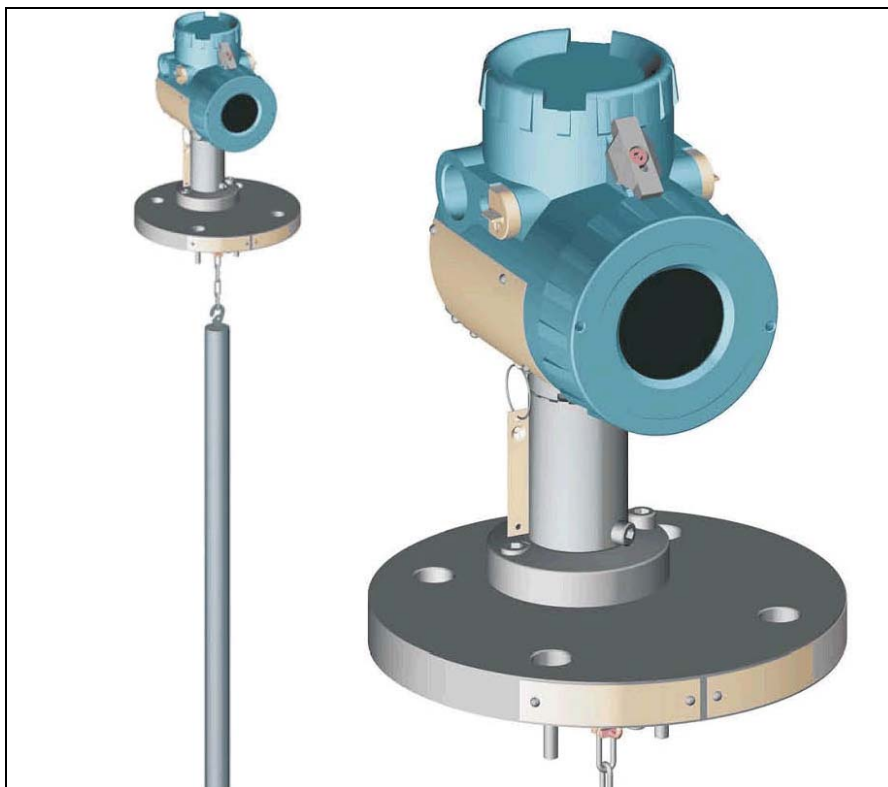


Transmitters for Liquid Level, Interface and Density

Intelligent Buoyancy Transmitter

Type: 244 LVP



Technical Information

01/2010

International Headquarters:

Intra-Automation GmbH
Otto-Hahn-Str. 20
41515 Grevenbroich
GERMANY
☎ +49-(0)2181-75665-0
☎ +49-(0)2181-64492
✉ info@intra-automation.de

🌐 www.intra-automation.com

Sales Office for the Benelux:

B.V. Intra-Automation HTP
PO Box 10
4731 AA Oudenbosch
THE NETHERLANDS
☎ +31-(0)165-322201
☎ +31-(0)165-322970
✉ info@intra-automation.nl

Intra-Automation GmbH
Otto-Hahn-Str. 20
41515 Grevenbroich

Technical Information 244LVP
Rev. 0
01/2010
Subject to technical alteration.

Description

The intelligent transmitter is designed to perform measurements for liquid level, interface or density of liquids. The measurement is based on the Archimedes buoyancy principle and thus extremely robust and durable. Measuring values can be transferred analogue and digital. Digital communication facilities complete operation and configuration via PC or control system. Despite extreme temperatures, high process pressure and corrosive liquids, the 244LD measures with consistent reliability and precision. For installations in contact with explosive atmospheres up to Zone 0, certificates are available.

Eigenschaften

◆	Communication HART (4...20 mA)
◆	Conventional operation with local keys
◆	Easy adaption to the measuring point without calibration at the workshop.
◆	Backdocumentation of measuring point
◆	Continuous self-diagnostics
◆	Configurable safety value
◆	Software lock against unauthorized operation
◆	Simulation of analogue output for loop-check
◆	Local display in %, mA or physical units
◆	Signal noise suppression by Smart Smoothing
◆	Linear or customized characteristic
◆	Process temperature from -50 °C to +120 °C
◆	Static pressure up to 40 bar
◆	Micro sintermetal sensor technology

Technical Data

Input/Output:

Measuring ranges	0...50 mm to 0...3 m upper and lower range value continuously adjustable
Standard lengths or Displacer (104DE)	350...3000 mm (14..120 inch), further lengths on request
Weight of Displacer	max. 25 N
Measuring span	2...20 N continuous adjustable (to 1 N on request)
Span ratio turn down	1:1...1:10 (1:20 on request)
Accuracy	0,2 % - increased accuracy with customized adjustment
Transfer function	linear or customized with up to 32 setpoints
Configuration	
- with local push buttons and LCD	
- Digital (see communication)	
Local display	LCD, 5 digits configurable in %, mA or phys. Units
Load	

$$R_{Bmax} = \frac{U_s - 12V}{23mA}$$

(U_s = supply voltage)

Communication HART

Connection	Two-wire system
Supply voltage U _s	12...42 V DC, V _{SS} < 1 %
Current sink	max. 23 mA
Signal range	4..20 mA
Operating range	3,8...21 mA
Digitale Communication	HART-Protocol, 1200 Baud
Hand terminal	HHT 991
PC Software	PC20 / PC50
Hardware	HART Modem MOD991 für PC
min. load	250 Ohm
Failure Handling	
Substitute value	Last value or safety value
Safety value	3,6...23 mA

Operating conditions

Process temperature	-50 °C...+120 °C
Pressure rating	
- acc. DIN	PN40
- acc. ANSI	Class 150, 300
Ambient temperature:	
- without indicator	-40 °C...+85 °C
- with indicator	-40 °C...+70 °C
Relative humidity	up to 100 %
Condensation	permitted
Transportation / Storage temperature	-50 °C...+85 °C
Protection	IP66 (nach DIN EN 60 529)

Ordering informationen

Model code

Code	Description	
244LVP	Intelligent Buoyancy Transmitter for level, interface and density	
	Flange material (process wetted)	
S	1.4404 / 1.4435 (316L)	
	Sensor material (process wetted)	
S	1.4404 / 1.4435 (316L)	
N	1.4404 / 1.4435 (316L) with HC diaphragm	
	Flange size	
5	DN50	
8	DN80	
2	2"	
3	3"	
	Flange pressure rating & contact face	
	Pressure rating	Contact face
C1	PN40 (PN16 bis PN40)	C (a)
E1	PN250 (PN16 bis PN40)	E (a)
N1	PN160 (PN16 bis PN40)	N (a)
R1	ANSI Class 150	RF (b)
R2	ANSI Class 300	RF (c)
S1	ANSI Class 150	SF (b)
S2	ANSI Class 300	SF (c)
J1	ANSI Class 150	RJF (b)
J2	ANSI Class 300	RJF (c)
	Version	
B	Base	
	Cable entry	
M	M20x1,5 without cable gland	
N	½-14 NPT without cable gland	
	Communication	
H	HART	
	Electrical Classification	
0B4	ATEX intrinsic safe	Zone 0 – IIB T4
0C4		Zone 0 – IIC T4
1C4		Zone 1 – IIC T4
1C6		Zone 1 – IIC T6
2C4		Zone 2 – IIC T4
2B6		Zone 2 – IIB T6
D1B	ATEX explosion proof – Zone 1 IIB T6	
D1C	ATEX explosion proof – Zone 1 IIC T6	
NFM	FM Nonincendive (d)	
FDZ	FM Explosion proof (d)	
GAA	RUS Intrinsically safe (d)	
CDZ	CSA Explosion proof (d)	
FAA	FM Intrinsically safe	
CAA	CSA Intrinsically safe	
ZZZ	without	

Options: next page

Optionen	
T	Customized Configuration
TAG No. Labelling	
S	Stamped with weather resistant colour
L	Stainless steel label fixed with wire
f	Stainless steel label fixed on amplifier
Nationale Certificates	
V	Overfill protection acc. to WHG Environmental Pollution (d)
Certifikates	
1	EN 10204-2.1 (DIN 50 049-2.1) Certificate of Compliance
2	EN 10204-2.3 (DIN 50 049-2.3) Specific Test Report (Calibration)
3	EN 10204-3.1.B (DIN 50 049-3.1.B) Inspection certificate of process wetted material
4	PED 97/23/EC additional unit verification, acc. to module F/G
6	Comply with NACE Standard MR-01-75 (with wafer body material S and torque tube material I or C)
9	EN 10204-3.1.B (DIN 50 049-3.1.B) Inspection Certificate of Process Wetted Material with Copy of Original individual Material Certificate.

(a) only with flange size 5 oder 8

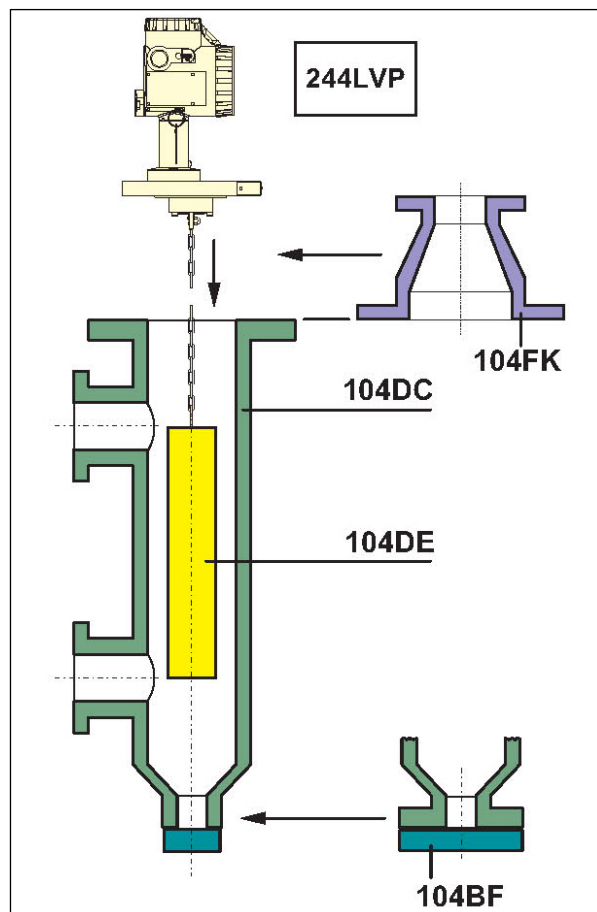
(b)) only with flange size 2 oder 3

(c) only with flange size 3

(d) pending

(e) only with sensor material N

Overview Accessories



For displacer element 104DE, displacer chamber 104DC, flange combination 104FK, cover flange kit 104CF and blind flange kit 104BF see 104XX.

Besides the products covered by this brochure, Intra-Automation GmbH also manufactures other high-quality and high precision instruments for industrial measurement tasks. For more information, please contact us (contact details on the backside of this brochure).

Flow measurement



Itabar®-Flow Sensor



IntraSonic IS210 Ultrasonic Flow Meter

Level measurement



ITA-mag. Level Gauge



MAGLINK Level Indicator

Other Measurement Tasks:



DigiFlow Flow and Level Computers



IntraCon Digital Controllers



IntraDigit Digital Indicators / Meters



INTRA-AUTOMATION

MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL



TÜVRheinland®
CERT
ISO 9001

International Headquarters:

Intra-Automation GmbH
Otto-Hahn-Str. 20
41515 Grevenbroich
GERMANY

☎ +49 – (0) 21 81 / 7 56 65-0

☎ +49 – (0) 21 81 / 6 44 92

✉ info@intra-automation.de

🌐 www.intra-automation.com

Sales Office for the BENELUX:

B.V. Intra-Automation HTP
PO Box 10
4731 AA Oudenbosch
THE NETHERLANDS

☎ +31 – (0)165 – 32 22 01

☎ +31 – (0)165 – 32 29 70

✉ info@intra-automation.nl