

Level measurement Point level measurement – Vibrating switches

SITRANS LVL200

Overview



SITRANS LVL200 is a standard vibrating level switch for use in liquid and slurry applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 applications.

Benefits

- Proven vibrating level switch technology for liquids
- Compact insertion length of 40 mm (1.57 inch) for confined space applications
- Fault monitoring for corrosion, loss of vibration or line break to the piezo drive
- Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511
- Hygienic process connections

Application

SITRANS LVL200 is a level switch designed for industrial use in all areas of process technology and can be used with liquids and slurries. With a tuning fork insertion length of only 40 mm (1.57 inch), SITRANS LVL200 can be mounted in small pipes and applications with confined space. The LVL200 can be used to measure products with a minimum density of $> 0.5 \text{ g/cm}^3$ (0.018 lb/in^3). The LVL200 can be used in difficult conditions including turbulence, air bubbles, foam generation, buildup, or external vibration.

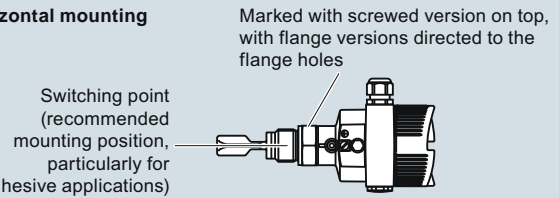
SITRANS LVL200 continuously monitors faults via frequency evaluation, providing early detection of strong corrosion or damage on the tuning fork, loss of vibration, or a line break to the piezo drive.

The tuning fork is piezoelectrically energized and vibrates at its mechanical resonance frequency of approximately 1 200 Hz. The vibration frequency changes when the tuning fork is covered by the medium. This change is detected by the integrated oscillator and converted into a switching command. The integrated electronics evaluate the level signal and output a switching signal, directly operating connected devices.

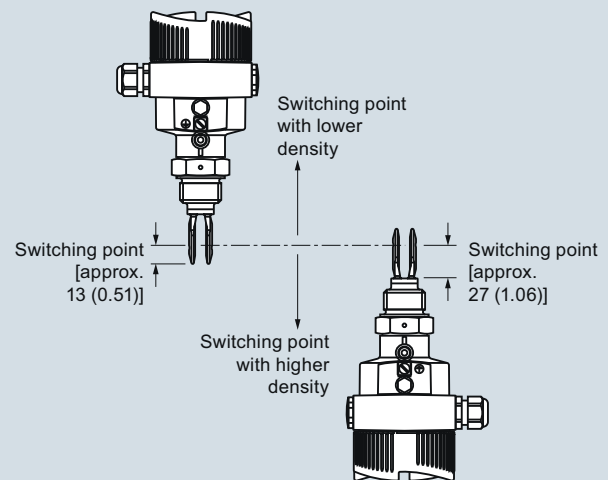
- Key Applications: For use in liquids and slurries, for level measurement, overflow, and dry run protection

Configuration

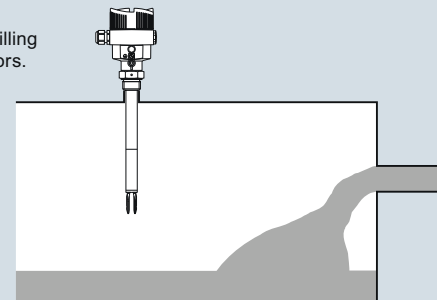
Horizontal mounting



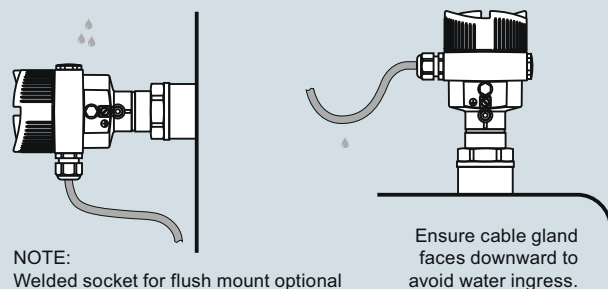
Vertical mounting



Mount away from filling openings or agitators.



Moisture protection



SITRANS LVL200 installation, dimensions in mm (inch)

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Technical specifications

Mode of operation

Measuring principle Vibrating point level switch

Input

Measured variable High and low and demand (via mode switch)

Output

Output options

- Relay output (DPDT), 2 floating SPDTs
- Contactless electronic switch
- 2 wire Namur signal output

Measuring Accuracy

Repeatability 0.1 mm (0.004 inch)
 Hysteresis Approx. 2 mm (0.08 inch) with vertical installation
 Switching delay Approx. 500 ms (on/off)
 Frequency Approx. 1 200 Hz

Rated operating conditions

Installation conditions

- Location Indoor/outdoor

Ambient conditions

- Ambient temperature -40 ... +70 °C (-40 ... +158 °F)
- Installation category III
- Pollution degree 2

Medium conditions

- Temperature
- LVL200S Standard -50 ... +150 °C (-58 ... +302 °F)
- LVL200S High temperature option -50 ... +250 °C (-58 ... +482 °F)
- LVL200E Standard: with 316L/Hastelloy -50 ... +150 °C (-58 ... +302 °F)
- LVL200E High temperature option: with 316L/Hastelloy -50 ... +250 °C (-58 ... +482 °F)
- Pressure (vessel) -1 ... 64 bar g (-14.5 ... 928 psi g)
- Density 0.7 ... 2.5 g/cm³ (0.025 ... 0.09 lb/in³); 0.5 ... 2.5 g/cm³ (0.018 ... 0.09 lb/in³) by switching over

Design

Material

- Enclosure Aluminum die-cast AISI10Mg, powder-coated, basis: Polyester stainless steel housing, electropolished 316L
- Tuning fork 316L (1.4404 or 1.4435), Hastelloy
- Extension tube [ø 21.3 mm (0.839 inch)] 316L (1.4404 or 1.4435), Hastelloy
- Process connection: threaded 316L (1.4404 or 1.4435), Hastelloy
- Process connection: flange 316L (1.4404 or 1.4435), 316L with Hastelloy, ECTFE, or PFA coating
Klingersil C-4400
- Process seal

Process connection

- Pipe thread, cylindrical (ISO 228 T1) G ¾" A, G 1" A
- Pipe thread, tapered ¾" NPT, 1" NPT, 1½" NPT
- Flanges DIN from DN 25, ANSI from 1"
- Hygienic fittings Bolting DN 40 PN 40, 1, 1½, 2, 2½" Tri-Clamp PN 10, conus DN 25 PN 40, Tuchenhagen Vari-vent DN 50 PN 10, SMS

Degree of protection

Conduit entry

Type 4X/NEMA 4X/IP66/IP67

- 1 x M20x1.5 (cable: ø5 ... 9 mm), 1 x blind stopper M20x1.5; attached 1 x M20x1.5 cable entry
- 1 x ½" NPT cable entry, 1 x blind stopper ½" NPT, 1 x ½" NPT cable entry
- 1 x M12x1; 1 x blind stopper M20x1.5

Weight

- Device weight (dependent on process fitting)
- Tube extension (extended version)

Approx. 0.8 ... 4 kg (0.18 ... 8.82 lb)
 Approx. 920 g/m (10 oz/ft)

Power supply

Supply voltage

- Relay DPDT

20 ... 253 V AC, 50/60 Hz,
 20 ... 72 V DC [at U>60 V DC
 20 ... 253 V AC, 50/60 Hz,
 20 ... 253 V DC

- Contactless

- 2 wire NAMUR

Operating voltage (characteristics according to standard) for connection to an amplifier according to NAMUR

IEC 60947-5-6, approx. 8.2 V
 Off-load voltage U₀ approx. 8.2 V
 Short-circuit current I_J approx. 8.2 mA

Power consumption

- Relay DPDT
- Contactless

1 ... 8 VA AC, approx. 1.3 W DC
 1 ... 8 VA AC, approx. 1.3 W DC
 Domestic current requirement approx. 3 mA (via load circuit)

Load current

- Min. 10 mA
- Max. 400 mA [with I > 300 mA the ambient temperature can be max. 60 °C (140 °F)]
- Max. 4 A up to 40 ms (not WHG specified)

Current consumption

- Falling characteristics ≥ 2.6 mA uncovered/≤ 0.6 mA covered
- ≤ 0.6 mA uncovered/≥ 2.6 mA covered
- Failure message ≤ 0.6 mA

Certificates and approvals

- CE, CSA
- Overfill Protection WHG and VLAREM II
- FM (Non-Incendive) Class I, Div. 2, Groups A, B, C, D
- FM (Explosion-Proof) Class I, Div. 1, Groups A, B, C, D; (Dust Ignition-Proof) Class II, III, Div. 1, Groups E, F, G1)
- IECEx d IIC T6...T2 Ga/Gb EHEDG
- ATEX II 1/2G, 2G EEx d IIC T6
- ATEX II 1G, 1/2G, 2G EEx ia IIC T6

Shipping approvals

- BR-Ex d IIC T6...T2
- FDA, 3A, Ehedge
- SIL/IEC61508 Declaration of Conformity [SIL-2 (min/max detection)]

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Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
SITRANS LVL200, Standard Compact vibrating level switch for use in liquid and slurry applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5746- A 0	SITRANS LVL200, Standard Compact vibrating level switch for use in liquid and slurry applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5746- A 0
Electronics			
Contactless electronic switch 20...250 V AC/DC	1	Conus M52, PN 40/316L Ra < 0.8 µm	A 36
Double relay (DPDT) 20 ... 72 V DC/20 ... 250 V AC NAMUR signal ¹⁾	2 4	Tri-Clamp 1", PN 16/316L Ra < 0.3 µm	A 37
Approvals		Tri-Clamp 1", PN 16/Hastelloy	A 38
Without approvals	A	Tri-Clamp 1", PN 16/316L Ra < 0.8 µm	A 40
Overfill protection (WHG)	B	Tri-Clamp 1½", PN 16/316L Ra < 0.3 µm	A 41
ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + WHG ²⁾	C	Tri-Clamp 1½", PN 16/Hastelloy	A 42
ATEX II 1/2G, 2G EEx d IIC T6 + WHG ³⁾	D	Tri-Clamp 1½", PN 16/316L Ra < 0.8 µm	A 43
ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + shipping approvals ²⁾	E	Tri-Clamp 2", PN 16/316L Ra < 0.3 µm	A 44
ATEX II 1/2G, 2G EEx d IIC T6 + shipping approvals ³⁾	F	Tri-Clamp 2", PN 16/Hastelloy	A 45
ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + ATEX II 1/2 D IP6X T ²⁾	G	Tri-Clamp 2", PN 16/316L Ra < 0.8 µm	A 46
IECEX Ex ia IIC T6 ²⁾	H	Tri-Clamp 2½", PN 10/316L Ra < 0.3 µm	A 47
Shipping approvals	K	Tri-Clamp 2½", PN 10/316L Ra < 0.8 µm	A 48
FM (IS) Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G ²⁾⁴⁾	N	Tri-Clamp 3", PN 10/316L Ra < 0.3 µm	A 50
FM (XP) Class I, Div. 1, Groups A, B, C, D; (DIP) Class II, III, Div. 1, Groups E, F, G ³⁾⁴⁾	P	Tri-Clamp 3", PN 10/316L Ra < 0.8 µm	A 51
FM (NI) Class I, Div. 2, Groups A, B, C, D ⁴⁾	Q	Bolting DN 32, PN 40 DIN11851/316L Ra < 0.3 µm	A 52
IECEX d IIC T6...T2 Ga/Gb	R	Bolting DN 32, PN 40 DIN11851/316L Ra < 0.8 µm	A 53
CSA(XP)CL I, II, III DIV 1, Groups A, B, C, D, E, F, G	S	Bolting DN 25, PN 40 DIN11851/316L Ra < 0.3 µm	A 54
CSA(NI)CL I, II, III, DIV 2, Groups A, B, C, D, E, F, G	T	Bolting DN 25, PN 40 DIN11851/316L Ra < 0.8 µm	A 55
BR-Ex d IIC T6...T2	U	Bolting DN 40, PN 40 DIN11851/316L Ra < 0.3 µm	A 56
CSA(IS)CL I, II, III DIV 1, Groups A, B, C, D, E, F, G	V	Bolting DN 40, PN 40 DIN11851/316L Ra < 0.8 µm	A 57
Process connection		Bolting DN 40, PN 40 DIN11864-1 A/316L Ra < 0.8 µm ZB3052	A 58
Thread G¾" A, PN 64/316L	A 00	Bolting DN 50, PN 25 DIN11851/316L Ra < 0.3 µm	A 60
Thread G¾" A, PN 64/316L Ra < 0.8 µm	A 01	Bolting DN 50, PN 25 DIN11851/316L Ra < 0.8 µm	A 61
Thread ¾" NPT, PN 64/316L	A 02	Bolting DN 50, PN 25 DIN11864-1 A/316L Ra < 0.8 µm ZB3052	A 62
Thread ¾" NPT, PN 64/316L Ra < 0.8 µm	A 03	Hygienic w. compr. nut F40, PN 25/316L	A 63
Thread ¾" NPT, PN 64/Monel	A 04	Hygienic w. compr. nut F40, PN 25/316L Ra < 0.3 µm	A 64
Thread G¾" A, PN 64/Hastelloy	A 05	Hygienic w. compr. nut F40, PN 25/316L Ra < 0.8 µm	A 65
Thread ¾" NPT, PN 64/Hastelloy	A 06	Varivent N50-40/316L Ra < 0.3 µm	A 66
Thread G1" A, PN 64/316L	A 07	Varivent N50-40/316L Ra < 0.8 µm	A 67
Thread G1" A, PN 64/316L ECTFE coated MB1982 ⁵⁾	A 08	Varivent N125/100/316L Ra < 0.8 µm	A 68
Thread G1" A, PN 64/316L PFA coated ⁵⁾	A 10	DRD flange, PN 40/316L ZB3007	A 70
Thread G1" A, PN 64/Monel	A 11	SMS DN 38/316L Ra < 0.8 µm ⁵⁾	A 71
Thread G1" A, PN 64 / 316L Ra<0.8µm	A 12	SMS DN 51, PN 6/316L Ra < 0.8 µm ⁵⁾	A 72
Thread G1" A, PN 64/316L Ra < 0.8 µm	A 13	Swagelok VCR screwing ZG2579, PN 64/316L	A 73
Thread 1" NPT, PN 64/316L ⁵⁾	A 14	Neumo biocontrol size 25, PN 16/316L Ra < 0.8 µm	A 74
Thread 1" NPT, PN 64/316L ECTFE coated MB1982 ⁵⁾	A 15	Neumo biocontrol size 50, PN 16/316L Ra < 0.8 µm ⁵⁾	A 75
Thread 1" NPT, PN 64/316L PFA-coated	A 16	Neumo biocontrol size 65, PN 16/316L Ra < 0.8 µm	A 76
Thread 1" NPT, PN 64/Monel	A 17	Neumo biocontrol size 80, PN 16/316L Ra < 0.8 µm	A 77
Thread 1" NPT, PN 64/316L Ra < 0.8 µm	A 18	SÜDMO DN 50, PN 10/316L Ra<0,8µm	A 78
Thread G1" A, PN 64/Hastelloy	A 20	Small flange DN 25, PN 1.5 DIN 28403/316L pol. Ra < 0.8 µm	A 80
Thread G1½" A, PN 64/316L	A 21	Small flange DN 40, PN 1.5 DIN 28403/316L pol. Ra < 0.8 µm	A 81
Thread G1½" A, PN 64/316L Ra<0,8µm	A 22	Ingold connection, PN 16/316L Ra < 0.8 µm	A 82
Thread G1½" A, PN 64/Hastelloy	A 23	Ingold connection, PN 16/Hastelloy	A 83
Thread 1" NPT, PN 64/Hastelloy	A 24	Terminal DN 33.7 PN 40 DIN11864-3-A-/316L BN2 Ra < 0.8 µm ⁵⁾	A 84
Thread 1½" NPT, PN 64/316L	A 25	Hygienic fl. DN 50 PN 16 DIN11864-2-A-/316L Ra < 0.8 µm	A 85
Thread 1½" NPT, PN 64/316L Ra<0,8µm	A 26	Flange DN 25, PN 6 Form C, DIN 2501/316L	A 86
Thread 1½" NPT, PN 64/Hastelloy	A 27	Flange DN 25, PN 6 Form C, DIN 2501/PFA ⁵⁾	A 87
Thread G2" A, PN 64/316L	A 28	Flange DN 25, PN 40 Form C, DIN 2501/316L	A 88
Thread M27x1.5, PN 64/316L	A 30	Flange DN 25, PN 40 Form C, DIN 2501/Hastelloy	B 00
Conus DN 25, PN 40/316L Ra < 0.3 µm	A 31	Flange DN 25, PN 40 Form C, DIN 2501/ECTFE ⁵⁾	B 01
Conus DN 25, PN 40/316L Ra < 0.8 µm	A 32	Flange DN 25, PN 40 Form C, DIN 2501/PFA ⁵⁾	B 02
Conus DN 25, PN 40/ECTFE (ZB3033) ⁵⁾	A 33	Flange DN 25, PN 40 Form C, DIN 2501/Enamelled	B 03
Conus M52, PN 40/316L	A 34	Flange DN 25, PN 40 Form D, DIN 2501/316L	B 04
Conus M52, PN 40/316L Ra < 0.3 µm	A 35	Flange DN 25, PN 40 Form F, DIN 2501/316L	B 05

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Flange DN 25, PN 40 Form N, DIN 2501/316L	B 06	Flange DN 100, PN 16 Form F, DIN 2501/316L	B 68
Flange DN 25, PN 40 Form N, DIN 2501/Hastelloy	B 07	Flange DN 100, PN 16 Form N, DIN 2501/316L	B 70
Flange DN 25, PN 40 Form N, DIN 2501/Monel solid	B 08	Flange DN 100, PN 40 Form C, DIN 2501/316L	B 71
Flange DN 25, PN 40 V13, DIN 2501/316L	B 10	Flange DN 100, PN 40 Form C, DIN 2501/ECTFE ⁵⁾	B 72
Flange DN 32, PN 40 Form C, DIN 2501/316L	B 11	Flange DN 100, PN 40 Form C, DIN 2501/PFA ⁵⁾	B 73
Flange DN 32, PN 40 Form C, DIN 2501/ECTFE ⁵⁾	B 12	Flange DN 100, PN 40 Form C, DIN 2501/Enamelled ⁶⁾	B 74
Flange DN 40, PN 6 Form C, DIN 2501/316L	B 13	Flange DN 100, PN 40 Form F, DIN 2501/316L	B 75
Flange DN 40, PN 6 Form C, DIN 2501/ECTFE ⁵⁾	B 14	Flange DN 100, PN 40 Form N, DIN 2501/316L	B 76
Flange DN 40, PN 40 Form C, DIN 2501/316L	B 15	Flange DN 100, PN 40 V13, DIN 2501/316L	B 77
Flange DN 40, PN 40 Form C, DIN 2501/Hastelloy	B 16	Flange DN 100, PN 64 Form E, DIN 2501/316L	B 78
Flange DN 40, PN 40 Form C, DIN 2501/ECTFE ⁵⁾	B 17	Flange DN 100, PN 100 Form E, DIN 2501/316L	B 80
Flange DN 40, PN 40 Form C, DIN 2501/PFA ⁵⁾	B 18	Flange DN 100, PN 100 Form L, DIN 2501/316L	B 81
Flange DN 40, PN 40 Form C, DIN 2501/Enamelled ⁶⁾	B 20	Flange DN 125, PN 16 Form F, DIN 2501/316L	B 82
Flange DN 40, PN 40 Form F, DIN 2501/316L	B 21	Flange DN 125, PN 40 Form C, DIN 2501/316L	B 83
Flange DN 40, PN 40 Form N, DIN 2501/316L	B 22	Flange DN 125, PN 40 Form N, DIN 2512/ 316L	B 84
Flange DN 40, PN 40 Form E, DIN 2501/316L	B 23	Flange DN 150, PN 16 Form C, DIN 2501/316L	B 85
Flange DN 40, PN 40 V13, DIN 2501/316L	B 24	Flange DN 150, PN 16 Form C, DIN 2501/Hastelloy	B 86
Flange DN 50, PN 40 Form C, DIN 2501/316L	B 25	Flange DN 150, PN 16 Form C, DIN 2501/ECTFE ⁵⁾	B 87
Flange DN 50, PN 40 Form C, DIN 2501/Hastelloy	B 26	Flange DN 150, PN 16 Form C, DIN 2501/PFA ⁵⁾	B 88
Flange DN 50, PN 40 Form C, DIN 2501/ECTFE ⁵⁾	B 27	Flange DN 150, PN 16 Form D, DIN 2501/316L	C 00
Flange DN 50, PN 40 Form C, DIN 2501/ECTFE (ZB3108) ⁵⁾	B 28	Flange DN 150, PN 40 Form C, DIN 2501/316L	C 01
Flange DN 50, PN 40 Form C, DIN 2501/PFA ⁵⁾	B 30	Flange DN 150, PN 40 Form C, DIN 2501/Hastelloy	C 02
Flange DN 50, PN 40 Form D, DIN 2501/316L	B 31	Flange DN 150, PN 40 Form F, DIN 2501/316L	C 03
Flange DN 50, PN 40 Form D, DIN 2501/Hastelloy	B 32	Flange DN 150, PN 40 Form N, DIN 2512/316L	C 04
Flange DN 50, PN 40 Form F, DIN 2501/316L	B 33	Flange DN 200, PN 10 Form C, DIN 2501/ECTFE ⁵⁾	C 05
Flange DN 50, PN 40 Form N, DIN 2501/316L	B 34	Flange DN 200, PN 16 Form C, DIN 2501/316L	C 06
Flange DN 50, PN 40 Form N, DIN 2501/Hastelloy	B 35	Flange DN 25, PN 40 Form B1, EN 1092-1/316L	C 07
Flange DN 50, PN 40 Form E, DIN 2501/316L	B 36	Flange DN 25, PN 40 Form B1, EN 1092-1/Hastelloy	C 08
Flange DN 50, PN 40 V13, DIN 2501/316L	B 37	Flange DN 25, PN 40 Form B1, EN/ 316L/ PFA ⁵⁾	C 10
Flange DN 50, PN 40 R13, DIN 2501/316L	B 38	Flange DN 25, PN 40 Form B1, EN 1092-1/Enamelled ⁶⁾	C 11
Flange DN 50, PN 64 Form F, DIN 2501/316L	B 40	Flange DN 25, PN 40 Form B2, EN 1092-1/316L	C 12
Flange DN 50, PN 64 Form N, DIN 2501/Hastelloy	B 41	Flange DN 25, PN 40 Form F, EN 1092-1/316L	C 13
Flange DN 50, PN 64 Form C, DIN 2501/316L	B 42	Flange DN 25, PN 63 Form B1, EN 1092-1/316L	C 14
Flange DN 50, PN 64 Form L, DIN 2501/316L	B 43	Flange DN 25, PN 100 Form B2, EN 1092-1/316L	C 15
Flange DN 50, PN 100 Form E, DIN 2501/316L	B 44	Flange DN 40, PN 40 Form B1, EN/ 316L	C 16
Flange DN 50, PN 100 Form L, DIN 2501/316L	B 45	Flange DN 40, PN 40 Form B1, EN 1092-1/PFA ⁵⁾	C 17
Flange DN 65, PN 40 Form C, DIN 2501/316L	B 46	Flange DN 40, PN 40 Form B2, EN/316L	C 18
Flange DN 65, PN 40 Form C, DIN 2501/Hastelloy	B 47	Flange DN 50, PN 40 Form B1, EN/316L	C 20
Flange DN 65, PN 40 Form C, DIN 2501/ECTFE ⁵⁾	B 48	Flange DN 50, PN 40 Form B1, EN 1092-1/Hastelloy	C 21
Flange DN 65, PN 40 Form C, DIN 2501/PFA ⁵⁾	B 50	Flange DN 50, PN 40 Form B1, EN 1092-1/Monel ZB2977	C 22
Flange DN 65, PN 40 Form F, DIN 2501/316L	B 51	Flange DN 50, PN 40 Form B1, EN 1092-1/ECTFE ⁵⁾	C 23
Flange DN 65, PN 64 Form E, DIN 2501/316L	B 52	Flange DN 50, PN 40 Form B1, EN/ 316L/PFA ⁵⁾	C 24
Flange DN 80, PN 40 Form C, DIN 2501/316L	B 53	Flange DN 50, PN 40 Form B1, EN 1092-1/Enamelled ⁶⁾	C 25
Flange DN 80, PN 40 Form C, DIN 2501/ Hastelloy	B 54	Flange DN 50, PN 40 Form C, EN 1092-1/316L	C 26
Flange DN 80, PN 40 Form C, DIN 2501/ECTFE ⁵⁾	B 55	Flange DN 50, PN 40 Form D, EN/316L	C 27
Flange DN 80, PN 40 Form C, DIN 2501/PFA ⁵⁾	B 56	Flange DN 50, PN 40 Form D, EN 1092-1/Hastelloy	C 28
Flange DN 80, PN 40 Form C, DIN 2501/Enamelled ⁶⁾	B 57	Flange DN 50, PN 40 Form B2, EN 1092-1/316L	C 30
Flange DN 80, PN 40 Form F, DIN 2501/316L	B 58	Flange DN 50, PN 40 Form E, EN 1092-1/316L	C 31
Flange DN 80, PN 40 Form N, DIN 2501/316L	B 60	Flange DN 80, PN 40 Form B1, EN 1092-1/316L	C 32
Flange DN 100, PN 16 Form C, DIN 2501/316L	B 62	Flange DN 80, PN 40 Form B1, EN 1092-1/Hastelloy	C 33
Flange DN 100, PN 16 Form C, DIN 2501/Hastelloy	B 63	Flange DN 80, PN 40 Form B1, EN 1092-1/ECTFE ⁵⁾	C 34
Flange DN 100, PN 16 Form C, DIN 2501/ECTFE ⁵⁾	B 64	Flange DN 80, PN 40 Form B1, EN 1092-1/Enamelled ⁶⁾	C 35
Flange DN 100, PN 16 Form C, DIN 2501/PFA ⁵⁾	B 65	Flange DN 80, PN 40 Form B2, EN 1092-1/316L	C 36
Flange DN 100, PN 16 Form C, DIN 2501/Enamelled ⁶⁾	B 66	Flange DN 100, PN 16 Form B1, EN 1092-1/316L	C 37
Flange DN 100, PN 16 Form D, DIN 2501/316L	B 67	Flange DN 100, PN 16 Form B1, EN 1092-1/Hastelloy	C 38

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Flange DN 100, PN 16 Form B1, EN 1092-1/Enamelled ⁶⁾	C 4 0	Flange 3" 150 lb RF, ANSI B16.5/316L	D 1 2
Flange DN 100, PN 40 Form B1, EN 1092-1/316L	C 4 1	Flange 3" 150 lb RF, ANSI B16.5/Hastelloy	D 1 3
Flange DN 100, PN 40 Form B1, EN 1092-1/Enamelled ⁶⁾	C 4 2	Flange 3" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 1 4
Flange DN 100, PN 40 Form C, EN 1092-1/316L	C 4 3	Flange 3" 150 lb RF, ANSI B16.5/PFA ⁵⁾	D 1 5
Flange DN 100, PN 63 Form B2, EN 1092-1/316L	C 4 4	Flange 3" 150 lb RF, ANSI B16.5/Enamelled ⁶⁾	D 1 6
Flange DN 150, PN 16 Form B1, EN 1092-1/316L	C 4 5	Flange 3" 150 lb FF, ANSI B16.5/316L	D 1 7
Flange DN 150, PN 16 Form B1, EN 1092-1/PFA ⁵⁾	C 4 6	Flange 3" 150 lb FF, ANSI B16.5/ECTFE ⁵⁾	D 1 8
Flange DN 150, PN 40 Form B1, EN 1092-1/316L	C 4 7	Flange 3" 150 lb FF, ANSI B16.5/PFA ⁵⁾	D 2 0
Flange DN 150, PN 40 Form B1, EN 1092-1/ECTFE ⁵⁾	C 4 8	Flange 3" 300 lb RF, ANSI B16.5/316L	D 2 1
Flange DN 150, PN 40 Form B2, EN 1092-1/316L	C 5 0	Flange 3" 300 lb RF, ANSI B16.5/Hastelloy	D 2 2
Flange 1" 150 lb ANSI B16.5/316L	C 5 1	Flange 3" 300 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 2 3
Flange 1" 150 lb RF, ANSI B16.5/Hastelloy	C 5 2	Flange 3" 300 lb RF, ANSI B16.5/PFA ⁵⁾	D 2 4
Flange 1" 150 lb RF, ANSI B16.5/Monel ZB2977	C 5 3	Flange 3" 300 lb RF, ANSI B16.5/Enamelled ⁶⁾	D 2 5
Flange 1" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	C 5 4	Flange 3" 600 lb RF, ANSI B16.5/316L	D 2 6
Flange 1" 150 lb RF, ANSI B16.5/PFA ⁵⁾	C 5 5	Flange 3½" 150 lb RF, ANSI B16.5/316L	D 2 7
Flange 1" 150 lb RF, ANSI B16.5/Enamelled ⁶⁾	C 5 6	Flange 3½" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 2 8
Flange 1" 300 lb RF, ANSI B16.5/316L	C 5 7	Flange 4" 150 lb RF, ANSI B16.5/316L	D 3 0
Flange 1" 300 lb RF, ANSI B16.5/ECTFE ⁵⁾	C 5 8	Flange 4" 150 lb RF, ANSI B16.5/Hastelloy	D 3 1
Flange 1" 600 lb RF, ANSI B16.5/316L	C 6 0	Flange 4" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 3 2
Flange 1½" 150 lb RF, ANSI B16.5/316L	C 6 1	Flange 4" 150 lb RF, ANSI B16.5/PFA ⁵⁾	D 3 3
Flange 1½" 150 lb RF, ANSI B16.5/Hastelloy	C 6 2	Flange 4" 150 lb RF, ANSI B16.5/Enamelled ⁶⁾	D 3 4
Flange 1½" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	C 6 3	Flange 4" 150 lb LT, ANSI B16.5/316L	D 3 5
Flange 1½" 150 lb RF, ANSI B16.5/PFA ⁵⁾	C 6 4	Flange 4" 300 lb RF, ANSI B16.5/316L	D 3 6
Flange 1½" 150 lb RF, ANSI B16.5 Enamelled ⁶⁾	C 6 5	Flange 4" 300 lb RF, ANSI B16.5/Hastelloy	D 3 7
Flange 1½" 150 lb FF, ANSI B16.5/ECTFE ⁵⁾	C 6 6	Flange 4" 300 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 3 8
Flange 1½" 300 lb RF, ANSI B16.5/316L	C 6 7	Flange 4" 300 lb RJF, ANSI B16.5/316L	D 4 0
Flange 1½" 300 lb RF, ANSI B16.5/Monel ZB2977	C 6 8	Flange 4" 300 lb LG, ANSI B16.5/316L	D 4 1
Flange 1½" 300 lb RF, ANSI B16.5/ECTFE ⁶⁾	C 7 0	Flange 4" 300 lb LT, ANSI B16.5/316L	D 4 2
Flange 1½" 600 lb RF, ANSI B16.5/316L	C 7 1	Flange 4" 600 lb RF, ANSI B16.5/316L	D 4 3
Flange 2" 150 lb RF, ANSI B16.5/316L	C 7 2	Flange 4" 600 lb RJF, ANSI B16.5/316L	D 4 4
Flange 2" 150 lb RF, ANSI B16.5/Hastelloy	C 7 3	Flange 6" 150 lb RF, ANSI B16.5/316L	D 4 5
Flange 2" 150 lb RF, ANSI B16.5/Monel ZB2977	C 7 4	Flange 6" 150 lb RF, ANSI B16.5/Hastelloy	D 4 6
Flange 2" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	C 7 5	Flange 6" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 4 7
Flange 2" 150 lb RF, ANSI B16.5/PFA ⁵⁾	C 7 6	Flange 6" 150 lb RF, ANSI B16.5/PFA ⁵⁾	D 4 8
Flange 2" 150 lb RF, ANSI B16.5/Enamelled ⁶⁾	C 7 7	Flange 6" 150 lb RJF, ANSI B16.5/316L	D 5 0
Flange 2" 150 lb FF, ANSI B16.5/316L	C 7 8	Flange 6" 300 lb RF, ANSI B16.5/316L	D 5 1
Flange 2" 150 lb FF, ANSI B16.5/ECTFE ⁵⁾	C 8 0	Flange 8" 150 lb RF, ANSI B16.5/316L	D 5 2
Flange 2" 150 lb SG (small groove), ANSI B16.5/316L	C 8 1	Flange 8" 150 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 5 3
Flange 2" 300 lb RF, ANSI B16.5/316L	C 8 2	Flange 1" BS.10 Table E/316L	D 5 4
Flange 2" 300 lb RF, ANSI B16.5/Hastelloy	C 8 3	Flange 1" BS.10 Table E/PFA ⁵⁾	D 5 5
Flange 2" 300 lb RF, ANSI B16.5/ECTFE ⁵⁾	C 8 5	Flange 1½" BS.10 Table E/316L	D 5 6
Flange 2" 300 lb RF, ANSI B16.5/PFA ⁵⁾	C 8 6	Flange 3½" BS.10 Table E/316L	D 5 7
Flange 2" 300 lb RF, ANSI B16.5 Enamelled ⁶⁾	C 8 7	Flange 4" BS.10 Table E/ECTFE ⁵⁾	D 5 8
Flange 2" 300 lb RJF, ANSI B16.5/316L	C 8 8	Flange DN 40 10K, JIS/316L	D 6 0
Flange 2" 300 lb ST, ANSI B16.5/316L	D 0 0	Flange DN 50 10K, JIS/316L	D 6 1
Flange 2" 300 lb LG (large groove), ANSI B16.5/316L	D 0 1	Flange DN 80 10K, JIS/316L	D 6 2
Flange 2" 300 lb LT, ANSI B16.5/316L	D 0 2	Flange DN 100 10K, JIS/316L	D 6 3
Flange 2" 600 lb RF, ANSI B16.5/316L	D 0 3	Adapter/Process temperature	
Flange 2" 600 lb RF, ANSI B16.5/Monel ZB2977	D 0 4	Without adapter/-50 ... +150 °C (-58 ... +302 °F)	1
Flange 2" 600 lb RF, ANSI B16.5/ECTFE ⁵⁾	D 0 5	With adapter/-50 ... +200 °C (-58 ... +392 °F) ⁷⁾	2
Flange 2" 600 lb RJF, ANSI B16.5/316L	D 0 6	With adapter/-50 ... +250 °C (-58 ... +482 °F)	3
Flange 2" 600 lb LG, ANSI B16.5/316L	D 0 7	With gas-tight leadthrough/-50 ... +150 °C (-58 ... +302 °F)	4
Flange 2" 900 lb RJF, ANSI B16.5/316L	D 0 8	With gas-tight leadthrough/-50 ... +250 °C (-58 ... +482 °F)	5
Flange 2½" 150 lb RF, ANSI B16.5/316L	D 1 0		
Flange 2½" 300 lb RF, ANSI B16.5/316L	D 1 1		

Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200

Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
SITRANS LVL200, Rigid extension Compact vibrating level switch for use in liquid applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5747-	SITRANS LVL200, Rigid extension Compact vibrating level switch for use in liquid applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5747-
Electronics		Conus DN 25 PN 40/ECTFE (ZB3033) ⁶⁾	A 3 4
Contactless electronic switch 20...250 V AC/DC	1	Conus M52 PN 40/316L	A 3 5
Double relay (DPDT) 20 ... 72 V DC/20 ... 250 V AC	2	Conus M52 PN 40/316L Ra < 0.3 µm	A 3 6
NAMUR signal ¹⁾	4	Conus M52 PN 40/316L Ra < 0.8 µm	A 3 7
Approvals		Tri-Clamp 1" PN 16/316L Ra < 0.3 µm	A 3 8
Without approvals	A	Tri-Clamp 1" PN 16/Hastelloy	A 4 0
Overfill protection (WHG)	B	Tri-Clamp 1" PN 16/316L Ra < 0.8 µm	A 4 1
ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + WHG ²⁾	C	Tri-Clamp 1½" PN 16/316L Ra < 0.3 µm	A 4 2
ATEX II 1/2G, 2G EEx d IIC T6 + WHG ³⁾⁴⁾	D	Tri-Clamp 1½" PN 16/Hastelloy	A 4 3
ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + shipping approvals ²⁾	E	Tri-Clamp 1½" PN 16/316L Ra < 0.8 µm	A 4 4
ATEX II 1/2G, 2G EEx d IIC T6 + shipping approvals ³⁾⁴⁾	F	Tri-Clamp 2" PN 16/316L Ra < 0.3 µm	A 4 5
ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + ATEX II 1/2D IP6X T ²⁾	G	Tri-Clamp 2" PN 16/Hastelloy	A 4 6
IECEX Ex ia IIC T6 ²⁾	H	Tri-Clamp 2" PN 16/316L Ra < 0.8 µm	A 4 7
Shipping approvals	K	Tri-Clamp 2½" PN 10/316L Ra < 0.3 µm	A 4 8
FM (IS) Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G ²⁾⁵⁾	N	Tri-Clamp 2½" PN 10/316L Ra < 0.8 µm	A 5 0
FM (XP) Class I, Div. 1, Groups A, B, C, D; (DIP) Class II, III, Div. 1, Groups E, F, G ³⁾⁴⁾⁵⁾	P	Tri-Clamp 3" PN 10/316L Ra < 0.3 µm	A 5 1
FM (NI) Class I, Div. 2, Groups A, B, C, D ⁵⁾	Q	Tri-Clamp 3" PN 10/316L Ra < 0.8 µm	A 5 2
IECEX d IIC T6...T2 Ga/Gb ⁴⁾	R	Bolting DN 32 PN 40 DIN11851/316L Ra < 0.3 µm	A 5 3
CSA(XP)CL I,II,III Div. 1,Groups A, B, C, D, E, F, G...T2 ⁴⁾	S	Bolting DN 32 PN 40 DIN11851/316L Ra < 0.8 µm	A 5 4
Ga/Gb	T	Bolting DN 25 PN 40 DIN11851/316L Ra < 0.3 µm	A 5 5
CSA(NI)CL I,II,III, Div. 2,Groups A, B, C, D, E, F, G	U	Bolting DN 25 PN 40 DIN11851/316L Ra < 0.8 µm	A 5 6
BR-Ex d IIC T6...T2	V	Bolting DN 25 PN 40 DIN11851/316L Ra < 0.3 µm	A 5 7
CSA(IS)CL I, II, III Div. 1, Groups A, B, C, D, E, F, G		Bolting DN 40 PN 40 DIN11851/316L Ra < 0.8 µm	A 5 8
Process connection		Bolting DN 40 PN 40 DIN11864-1 A/316L Ra < 0.8 µm ZB3052	A 6 0
Thread G¾" A, PN 64/316L	A 0 0	Bolting DN 50 PN 25 DIN11851/316L Ra < 0.3 µm	A 6 1
Thread G¾" A, PN 64/316L Ra < 0.8 µm	A 0 1	Bolting DN 50 PN 25 DIN11851/316L Ra < 0.8 µm	A 6 2
Thread ¾" NPT, PN 64/316L	A 0 2	Bolting DN 50 PN 25 DIN11864-1 A/316L Ra < 0.8 µm ZB3052	A 6 3
Thread ¾" NPT, PN 64/316L Ra < 0.8 µm	A 0 3	Hygienic w.compr.nut F40 PN 25/316L	A 6 4
Thread ¾" NPT, PN 64/Monel	A 0 4	Hygienic w.compr.nut F40 PN 25/316L Ra < 0.3 µm	A 6 5
Thread G¾" A, PN 64/Hastelloy	A 0 5	Hygienic w.compr.nut F40 PN 25/316L Ra < 0.8 µm	A 6 6
Thread ¾" NPT, PN 64/Hastelloy	A 0 6	Varivent N50-40/316L Ra < 0.3 µm	A 6 7
Thread G1" A, PN 64/316L	A 0 7	Varivent N50-40/316L Ra < 0.8 µm	A 6 8
Thread G1" A, PN 64/316L ECTFE coated MB1982 ⁶⁾	A 0 8	Varivent N125/100/316L Ra < 0.8 µm	A 7 0
Thread G1" A, PN 64/316L PFA coated ⁶⁾	A 1 0	DRD flange PN 40/316L ZB3007	A 7 1
Thread G1" A, PN 64/Monel	A 1 1	SMS DN 38/316L Ra < 0.8 µm ⁶⁾	A 7 2
Thread G1" A, PN 64/316L Ra < 0.8 µm	A 1 3	SMS DN 51 PN 6/316L Ra < 0.8 µm ⁶⁾	A 7 3
Thread 1" NPT, PN 64/316L	A 1 4	Swagelok VCR screwing ZG2579 PN 64/316L	A 7 4
Thread 1" NPT, PN 64/316L ECTFE coated MB1982 ⁶⁾	A 1 5	Neumo biocontrol size 25 PN 16/316L Ra < 0.8 µm	A 7 5
Thread 1" NPT, PN 64/316L PFA coated ⁶⁾	A 1 6	Neumo biocontrol size 50 PN 16/316L Ra < 0.8 µm	A 7 6
Thread 1" NPT, PN 64/Monel	A 1 7	Neumo biocontrol size 65 PN 16/316L Ra < 0.8 µm	A 7 7
Thread 1" NPT, PN 64/316L Ra < 0.8 µm	A 1 8	Neumo biocontrol size 80 PN 16/316L Ra < 0.8 µm	A 7 8
Thread G1" A, PN 64/Hastelloy	A 2 0	SÜDMO DN 50 PN 10/316L Ra < 0.8 µm	A 8 0
Thread G1½" A, PN 64/316L	A 2 1	Small flange DN 25 PN 1.5 DIN 28403/316L pol. Ra < 0.8 µm	A 8 1
Thread G1½" A, PN 64/316L Ra < 0.8 µm	A 2 2	Small flange DN 40 PN 1.5 DIN 28403/316L pol. Ra < 0.8 µm	A 8 2
Thread G1½" A, PN 64/Hastelloy	A 2 3	Ingold connection PN 16/316L Ra < 0.8 µm	A 8 3
Thread 1" NPT, PN 64/Hastelloy	A 2 4	Terminal DN 33.7 PN 40 DIN 11864-3-A-/316L BN2 Ra < 0.8 µm	A 8 4
Thread 1½" NPT, PN 64/316L	A 2 5	Hygienic fl. DN 50 PN 16 DIN 11864-2-A-/316L Ra < 0.8 µm	A 8 5
Thread 1½" NPT, PN 64/316L Ra < 0.8 µm	A 2 6	Flange DN 25 PN 6 Form C, DIN 2501/316L	A 8 6
Thread 1½" NPT, PN 64/Hastelloy	A 2 7	Flange DN 25 PN 6 Form C, DIN 2501/PFA ⁶⁾	A 8 7
Thread G2" A, PN 64/316L	A 2 8	Flange DN 25 PN 40 Form C, DIN 2501/316L	A 8 8
Thread M27x1.5 PN 64/316L	A 3 0	Flange DN 25 PN 40 Form C, DIN 2501/Hastelloy	B 0 0
Cyl. socket/316Ti/1.4581 ECTFE coated ZB2984 ⁶⁾	A 3 1	Flange DN 25 PN 40 Form C, DIN 2501/ECTFE ⁶⁾	B 0 1
Conus DN 25 PN 40/316L Ra < 0.3 µm	A 3 2	Flange DN 25 PN 40 Form C, DIN 2501/PFA ⁶⁾	B 0 2
Conus DN 25 PN 40/316L Ra < 0.8 µm.	A 3 3	Flange DN 25 PN 40 Form D, DIN 2501/316L	B 0 3

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Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200

Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
SITRANS LVL200, Rigid extension Compact vibrating level switch for use in liquid applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5747-	SITRANS LVL200, Rigid extension Compact vibrating level switch for use in liquid applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5747-
Flange DN 25 PN 40 Form F, DIN 2501/316L	B 04	Flange DN 100 PN 40 Form C, DIN 2501/316L	B 67
Flange DN 25 PN 40 Form N, DIN 2501/316L	B 05	Flange DN 100 PN 40 Form C, DIN 2501/ECTFE ⁶⁾	B 68
Flange DN 25 PN 40 Form N, DIN 2501/Hastelloy	B 06	Flange DN 100 PN 40 Form C, DIN 2501/PFA ⁶⁾	B 70
Flange DN 25 PN 40 Form N, DIN 2501/Monel solid	B 07	Flange DN 100 PN 40 Form C, DIN 2501/ Enamelled ⁷⁾	B 71
Flange DN 25 PN 40 V13, DIN 2501/316L	B 08	Flange DN 100 PN 40 Form F, DIN 2501/316L	B 72
Flange DN 32 PN 40 Form C, DIN 2501/316L	B 10	Flange DN 100 PN 40 Form N, DIN 2501/316L	B 73
Flange DN 32 PN 40 Form C, DIN 2501/ECTFE ⁶⁾	B 11	Flange DN 100 PN 40 V13, DIN 2501/316L	B 74
Flange DN 40 PN 6 Form C, DIN 2501/316L	B 12	Flange DN 100 PN 64 Form E, DIN 2501/316L	B 75
Flange DN 40 PN 6 Form C, DIN 2501/ECTFE ⁶⁾	B 13	Flange DN 100 PN 100 Form E, DIN 2501/316L	B 76
Flange DN 40 PN 40 Form C, DIN 2501/316L	B 14	Flange DN 100 PN 100 Form L, DIN 2501/316L	B 77
Flange DN 40 PN 40 Form C, DIN 2501/Hastelloy	B 15	Flange DN 125 PN 16 Form F, DIN 2501/316L	B 78
Flange DN 40 PN 40 Form C, DIN 2501/ECTFE ⁶⁾	B 16	Flange DN 125 PN 40 Form C, DIN 2501/316L	B 80
Flange DN 40 PN 40 Form C, DIN 2501/PFA ⁶⁾	B 17	Flange DN 125 PN 40 Form N, DIN 2512/316L	B 81
Flange DN 40 PN 40 Form C, DIN 2501/Enamelled ⁷⁾	B 18	Flange DN 150 PN 16 Form C, DIN 2501/316L	B 82
Flange DN 40 PN 40 Form F, DIN 2501/316L	B 20	Flange DN 150 PN 16 Form C, DIN 2501/Hastelloy	B 83
Flange DN 40 PN 40 Form N, DIN 2501/316L	B 21	Flange DN 150 PN 16 Form C, DIN 2501/ECTFE ⁶⁾	B 84
Flange DN 40 PN 40 Form E, DIN 2501/316L	B 22	Flange DN 150 PN 16 Form C, DIN 2501/PFA ⁶⁾	B 85
Flange DN 40 PN 40 V13, DIN 2501/316L	B 23	Flange DN 150 PN 16 Form D, DIN 2501/316L	B 86
Flange DN 50 PN 40 Form C, DIN 2501/316L	B 24	Flange DN 150 PN 40 Form C, DIN 2501/316L	B 87
Flange DN 50 PN 40 Form C, DIN 2501/Hastelloy	B 25	Flange DN 150 PN 40 Form C, DIN 2501/Hastelloy	B 88
Flange DN 50 PN 40 Form C, DIN 2501/ECTFE ⁶⁾	B 26	Flange DN 150 PN 40 Form F, DIN 2501/316L	C 00
Flange DN 50 PN 40 Form C, DIN 2501/ECTFE (ZB3108) ⁶⁾	B 27	Flange DN 150 PN 40 Form N, DIN 2512/316L	C 01
Flange DN 50 PN 40 Form C, DIN 2501/PFA ⁶⁾	B 28	Flange DN 200 PN 10 Form C, DIN 2501/ECTFE ⁶⁾	C 02
Flange DN 50 PN 40 Form D, DIN 2501/316L	B 30	Flange DN 200 PN 16 Form C, DIN 2501/316L	C 03
Flange DN 50 PN 40 Form D, DIN 2501/Hastelloy	B 31	Flange DN 25 PN 40 Form B1, EN 1092-1/316L	C 04
Flange DN 50 PN 40 Form F, DIN 2501/316L	B 32	Flange DN 25 PN 40 Form B1, EN 1092-1/Hastelloy	C 05
Flange DN 50 PN 40 Form N, DIN 2501/316L	B 33	Flange DN 25 PN 40 Form B1, EN/316L/PFA ⁶⁾	C 06
Flange DN 50 PN 40 Form N, DIN 2501/Hastelloy	B 34	Flange DN 25 PN 40 Form B1, EN 1092-1/ Enamelled ⁷⁾	C 07
Flange DN 50 PN 40 Form N, DIN 2501/Hastelloy	B 35	Flange DN 25 PN 40 Form B2, EN 1092-1/316L	C 08
Flange DN 50 PN 40 V13, DIN 2501/316L	B 36	Flange DN 25 PN 40 Form F, EN 1092-1/316L	C 10
Flange DN 50 PN 40 R13, DIN 2501/316L	B 37	Flange DN 25 PN 63 Form B1, EN 1092-1/316L	C 11
Flange DN 50 PN 64 Form F, DIN 2501/316L	B 38	Flange DN 25 PN 100 Form B2, EN 1092-1/316L	C 12
Flange DN 50 PN 64 Form N, DIN 2501/Hastelloy	B 40	Flange DN 40 PN 40 Form B1, EN/316L	C 13
Flange DN 50 PN 64 Form C, DIN 2501/316L	B 41	Flange DN 40 PN 40 Form B1, EN 1092-1/PFA ⁶⁾	C 14
Flange DN 50 PN 64 Form L, DIN 2501/316L	B 42	Flange DN 40 PN 40 Form B2, EN/316L	C 15
Flange DN 50 PN 100 Form E, DIN 2501/316L	B 43	Flange DN 50 PN 40 Form B1, EN/316L	C 16
Flange DN 50 PN 100 Form L, DIN 2501/316L	B 44	Flange DN 50 PN 40 Form B1, EN 1092-1/Hastelloy	C 17
Flange DN 65 PN 40 Form C, DIN 2501/316L	B 45	Flange DN 50 PN 40 Form B1, EN 1092-1/ Monel ZB2977	C 18
Flange DN 65 PN 40 Form C, DIN 2501/Hastelloy	B 46	Flange DN 50 PN 40 Form B1, EN 1092-1/ECTFE ⁶⁾	C 20
Flange DN 65 PN 40 Form C, DIN 2501/ECTFE ⁶⁾	B 47	Flange DN 50 PN 40 Form B1, EN/316L/PFA ⁶⁾	C 21
Flange DN 65 PN 40 Form C, DIN 2501/PFA ⁶⁾	B 48	Flange DN 50 PN 40 Form B1, EN 1092-1/ Enamelled ⁷⁾	C 22
Flange DN 65 PN 40 Form F, DIN 2501/316L	B 50	Flange DN 50 PN 40 Form C, EN 1092-1/316L	C 23
Flange DN 65 PN 64 Form E, DIN 2501/316L	B 51	Flange DN 50 PN 40 Form D, EN/316L	C 24
Flange DN 80 PN 40 Form C, DIN 2501/316L	B 52	Flange DN 50 PN 40 Form D, EN 1092-1/ Hastelloy	C 25
Flange DN 80 PN 40 Form C, DIN 2501/Hastelloy	B 53	Flange DN 50 PN 40 Form B2, EN 1092-1/316L	C 26
Flange DN 80 PN 40 Form C, DIN 2501/ECTFE ⁶⁾	B 54	Flange DN 50 PN 40 Form E, EN 1092-1/316L	C 27
Flange DN 80 PN 40 Form C, DIN 2501/PFA ⁶⁾	B 55	Flange DN 80 PN 40 Form B1, EN 1092-1/316L	C 28
Flange DN 80 PN 40 Form F, DIN 2501/316L	B 56	Flange DN 80 PN 40 Form B1, EN 1092-1/Hastelloy	C 30
Flange DN 80 PN 40 Form N, DIN 2501/316L	B 57	Flange DN 80 PN 40 Form B1, EN 1092-1/ECTFE ⁶⁾	C 31
Flange DN 80 PN 40 Form N, DIN 2501/Hastelloy	B 58	Flange DN 80 PN 40 Form B1, EN 1092-1/ Enamelled ⁷⁾	C 32
Flange DN 100 PN 16 Form C, DIN 2501/316L	B 60	Flange DN 80 PN 40 Form B2, EN 1092-1/316L	C 33
Flange DN 100 PN 16 Form C, DIN 2501/Hastelloy	B 61	Flange DN 100 PN 16 Form B1, EN 1092-1/316L	C 34
Flange DN 100 PN 16 Form C, DIN 2501/ECTFE ⁶⁾	B 62	Flange DN 100 PN 16 Form B1, EN 1092-1/ Hastelloy	C 35
Flange DN 100 PN 16 Form C, DIN 2501/PFA ⁶⁾	B 63	Flange DN 100 PN 16 Form B1, EN 1092-1/ Enamelled ⁷⁾	C 36
Flange DN 100 PN 16 Form D, DIN 2501/316L	B 64		
Flange DN 100 PN 16 Form F, DIN 2501/316L	B 65		
Flange DN 100 PN 16 Form N, DIN 2501/316L	B 66		

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Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200

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Flange DN 100 PN 40 Form B1, EN 1092-1/316L	C 37	Flange 3" 150 lb RF, ANSI B16.5/Hastelloy	D 10
Flange DN 100 PN 40 Form B1, EN 1092-1/Enamelled ⁷⁾	C 38	Flange 3" 150 lb RF, ANSI B16.5/Monel ZB2977	D 11
Flange DN 100 PN 40 Form C, EN 1092-1/316L	C 40	Flange 3" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 12
Flange DN 100 PN 63 Form B2, EN 1092-1/316L	C 41	Flange 3" 150 lb RF, ANSI B16.5/PFA ⁶⁾	D 13
Flange DN 150 PN 16 Form B1, EN 1092-1/316L	C 42	Flange 3" 150 lb RF, ANSI B16.5/Enamelled ⁷⁾	D 14
Flange DN 150 PN 16 Form B1, EN 1092-1/PFA ⁶⁾	C 43	Flange 3" 150 lb FF, ANSI B16.5/316L	D 15
Flange DN 150 PN 40 Form B1, EN 1092-1/316L	C 44	Flange 3" 150 lb FF, ANSI B16.5/ECTFE ⁶⁾	D 16
Flange DN 150 PN 40 Form B1, EN 1092-1/ECTFE ⁶⁾	C 45	Flange 3" 150 lb FF, ANSI B16.5/PFA ⁶⁾	D 17
Flange DN 150 PN 40 Form B2, EN 1092-1/316L	C 46	Flange 3" 300 lb RF, ANSI B16.5/316L	D 18
Flange 1" 150 lb ANSI B16.5/316L	C 47	Flange 3" 300 lb RF, ANSI B16.5/Hastelloy	D 20
Flange 1" 150 lb RF, ANSI B16.5/Hastelloy	C 48	Flange 3" 300 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 21
Flange 1" 150 lb RF, ANSI B16.5/Monel ZB2977	C 50	Flange 3" 300 lb RF, ANSI B16.5/PFA ⁶⁾	D 22
Flange 1" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	C 51	Flange 3" 300 lb RF, ANSI B16.5/Enamelled ⁷⁾	D 23
Flange 1" 150 lb RF, ANSI B16.5/PFA ⁶⁾	C 52	Flange 3" 600 lb RF, ANSI B16.5/316L	D 24
Flange 1" 150 lb RF, ANSI B16.5/Enamelled ⁷⁾	C 53	Flange 3½" 150 lb RF, ANSI B16.5/316L	D 25
Flange 1" 300 lb RF, ANSI B16.5/316L	C 54	Flange 3½" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 26
Flange 1" 300 lb RF, ANSI B16.5/ECTFE ⁶⁾	C 55	Flange 4" 150 lb RF, ANSI B16.5/316L	D 27
Flange 1" 600 lb RF, ANSI B16.5/316L	C 56	Flange 4" 150 lb RF, ANSI B16.5/Hastelloy	D 28
Flange 1½" 150 lb RF, ANSI B16.5/316L	C 57	Flange 4" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 30
Flange 1½" 150 lb RF, ANSI B16.5/Hastelloy	C 58	Flange 4" 150 lb RF, ANSI B16.5/PFA ⁶⁾	D 31
Flange 1½" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	C 60	Flange 4" 150 lb RF, ANSI B16.5/Enamelled ⁷⁾	D 32
Flange 1½" 150 lb RF, ANSI B16.5/PFA ⁶⁾	C 61	Flange 4" 150 lb LT, ANSI B16.5/316L	D 33
Flange 1½" 150 lb RF, ANSI B16.5 Enamelled ⁷⁾	C 62	Flange 4" 300 lb RF, ANSI B16.5/316L	D 34
Flange 1½" 150 lb FF, ANSI B16.5/ECTFE ⁶⁾	C 63	Flange 4" 300 lb RF, ANSI B16.5/Hastelloy	D 35
Flange 1½" 300 lb RF, ANSI B16.5/316L	C 64	Flange 4" 300 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 36
Flange 1½" 300 lb RF, ANSI B16.5/Monel ZB2977	C 65	Flange 4" 300 lb RJF, ANSI B16.5/316L	D 37
Flange 1½" 300 lb RF, ANSI B16.5/ECTFE ⁶⁾	C 66	Flange 4" 300 lb LG, ANSI B16.5/316L	D 38
Flange 1½" 600 lb RF, ANSI B16.5/316L	C 67	Flange 4" 300 lb LT, ANSI B16.5/316L	D 40
Flange 2" 150 lb RF, ANSI B16.5/316L	C 68	Flange 4" 600 lb RF, ANSI B16.5/316L	D 41
Flange 2" 150 lb RF, ANSI B16.5/Hastelloy	C 70	Flange 4" 600 lb RJF, ANSI B16.5/316L	D 42
Flange 2" 150 lb RF, ANSI B16.5/Monel ZB2977	C 71	Flange 5" 150 lb RF, ANSI B16.5/316L	D 43
Flange 2" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	C 72	Flange 6" 150 lb RF, ANSI B16.5/316L	D 44
Flange 2" 150 lb RF, ANSI B16.5/PFA ⁶⁾	C 73	Flange 6" 150 lb RF, ANSI B16.5/Hastelloy	D 45
Flange 2" 150 lb RF, ANSI B16.5/Enamelled ⁷⁾	C 74	Flange 6" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 46
Flange 2" 150 lb FF, ANSI B16.5/316L	C 75	Flange 6" 150 lb RF, ANSI B16.5/PFA ⁶⁾	D 47
Flange 2" 150 lb FF, ANSI B16.5/ECTFE ⁶⁾	C 76	Flange 6" 150 lb RJF, ANSI B16.5/316L	D 48
Flange 2" 150 lb SG (small groove), ANSI B16.5/316L	C 77	Flange 6" 300 lb RF, ANSI B16.5/316L	D 50
Flange 2" 300 lb RF, ANSI B16.5/316L	C 78	Flange 8" 150 lb RF, ANSI B16.5/316L	D 51
Flange 2" 300 lb RF, ANSI B16.5/Hastelloy	C 80	Flange 8" 150 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 52
Flange 2" 300 lb RF, ANSI B16.5/ECTFE ⁶⁾	C 82	Flange 1" BS.10 Table E/316L	D 53
Flange 2" 300 lb RF, ANSI B16.5/PFA ⁶⁾	C 83	Flange 1" BS.10 Table E/PFA ⁶⁾	D 54
Flange 2" 300 lb RF, ANSI B16.5 Enamelled ⁷⁾	C 84	Flange 1½" BS.10 Table E/316L	D 55
Flange 2" 300 lb RJF, ANSI B16.5/316L	C 85	Flange 3½" BS.10 Table E/316L	D 56
Flange 2" 300 lb ST, ANSI B16.5/316L	C 86	Flange 4" BS.10 Table E/ECTFE ⁶⁾	D 57
Flange 2" 300 lb LG (large groove), ANSI B16.5/316L	C 87	Flange DN 40 10K, JIS/316L	D 58
Flange 2" 300 lb LT, ANSI B16.5/316L	C 88	Flange DN 50 10K, JIS/316L	D 60
Flange 2" 600 lb RF, ANSI B16.5/316L	D 00	Flange DN 80 10K, JIS/316L	D 61
Flange 2" 600 lb RF, ANSI B16.5/Monel ZB2977	D 01	Flange DN 100 10K, JIS/316L	D 62
Flange 2" 600 lb RF, ANSI B16.5/ECTFE ⁶⁾	D 02		
Flange 2" 600 lb RJF, ANSI B16.5/316L	D 03		
Flange 2" 600 lb LG, ANSI B16.5/316L	D 04		
Flange 2" 900 lb RJF, ANSI B16.5/316L	D 05		
Flange 2½" 150 lb RF, ANSI B16.5/316L	D 06		
Flange 2½" 300 lb RF, ANSI B16.5/316L	D 07		
Flange 3" 150 lb RF, ANSI B16.5/316L	D 08		

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Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200

Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
SITRANS LVL200, Rigid extension Compact vibrating level switch for use in liquid applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5747-	SITRANS LVL200, Rigid extension Compact vibrating level switch for use in liquid applications such as overflow, high, low, and demand applications, as well as pump protection. For use in SIL-2 and hazardous applications.	7ML5747-
Adapter/Process temperature		Rigid Extension Enamelled version⁷⁾	
Without adapter/-50 ... +150 °C	1	80 ... 250 mm	F 0
With adapter/-50 ... +200 °C ⁸⁾	2	251 ... 500 mm	F 1
With adapter/-50... +250 °C	3	501 ... 750 mm	F 2
With gas-tight leadthrough/-50 ... +150 °C	4	751 ... 1 000 mm	F 3
With gas-tight leadthrough/-50 ... +250 °C	5	1 001 ... 1 250 mm	F 4
Housing/ Cable entry		1 251 ... 1 500 mm	F 5
Aluminium IP66/IP67/M20x1.5	A	Rigid Extension Hastelloy	
Aluminium IP66/IP67/½" NPT	B	80 ... 500 mm	G 0
316L stainless steel (electropolished) IP66/IP67/M20X1.5 ⁹⁾ ¹⁰⁾	C	501 ... 1 000 mm	G 1
316L stainless steel (electropolished) IP66/IP67/½" NPT ⁹⁾ ¹⁰⁾	D	1 001 ... 1 500 mm	G 2
NOTE:		1 501 ... 2 000 mm	G 3
When selecting a Rigid Extension option, extension coating must match the process connection coating and the material and surface roughness type.		2 001 ... 2 500 mm	G 4
Rigid Extension 316L		2 501 ... 3 000 mm	G 5
80 ... 500 mm	A 0	3 001 ... 3 500 mm	G 6
501 ... 1 000 mm	A 1	3 501 ... 4 000 mm	G 7
1 001 ... 1 500 mm	A 2	Rigid Extension Monel	
1 501 ... 2 000 mm	A 3	80 ... 500 mm	H 0
2 001 ... 2 500 mm	A 4	501 ... 1 000 mm	H 1
2 501 ... 3 000 mm	A 5	1 001 ... 1 500 mm	H 2
3 001 ... 3 500 mm	A 6	1 501 ... 2 000 mm	H 3
3 501 ... 4 000 mm	A 7	2 001 ... 2 500 mm	H 4
Rigid Extension ECTFE coated⁶⁾		2 501 ... 3 000 mm	H 5
80 ... 500 mm	B 0	1) Available with Adapter/Process temperature options 1, 3, 4, and 5 only	
501 ... 1 000 mm	B 1	2) Available with Electronics option 4 only	
1 001 ... 1 500 mm	B 2	3) Available with Adapter/Process temperature options 1 and 3 only	
1 501 ... 2 000 mm	B 3	4) Extension length restricted to 2 956 mm	
2 001 ... 2 500 mm	B 4	5) Available with Housing/Cable entry option B only	
2 501 ... 3 000 mm	B 5	6) Available with Adapter/Process temperature options 1 and 4 only	
Rigid Extension PFA coated⁶⁾		7) Available with Adapter/Process temperature options 1, 2, and 4 only	
80 ... 500 mm	C 0	8) Available with enamelled Process connection and Extension options only	
501 ... 1 000 mm	C 1	9) Available with Approval options A, B, C only	
1 001 ... 1 500 mm	C 2	10) Not available with SIL/IEC61508 Certificate of conformity (SIL-2 min. and max. detection)	
1 501 ... 2 000 mm	C 3		
2 001 ... 2 500 mm	C 4		
2 501 ... 3 000 mm	C 5		
Rigid Extension 316L Ra ≤ 0.8 µm			
80 ... 500 mm	D 0		
501 ... 1 000 mm	D 1		
1 001 ... 1 500 mm	D 2		
1 501 ... 2 000 mm	D 3		
2 001 ... 2 500 mm	D 4		
2 501 ... 3 000 mm	D 5		
3 001 ... 3 500 mm	D 6		
3 501 ... 4 000 mm	D 7		
Rigid Extension 316L Ra ≤ 0.3 µm			
80 ... 500 mm	E 0		
501 ... 1 000 mm	E 1		
1 001 ... 1 500 mm	E 2		
1 501 ... 2 000 mm	E 3		
2 001 ... 2 500 mm	E 4		
2 501 ... 3 000 mm	E 5		
3 001 ... 3 500 mm	E 6		
3 501 ... 4 000 mm	E 7		

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Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200

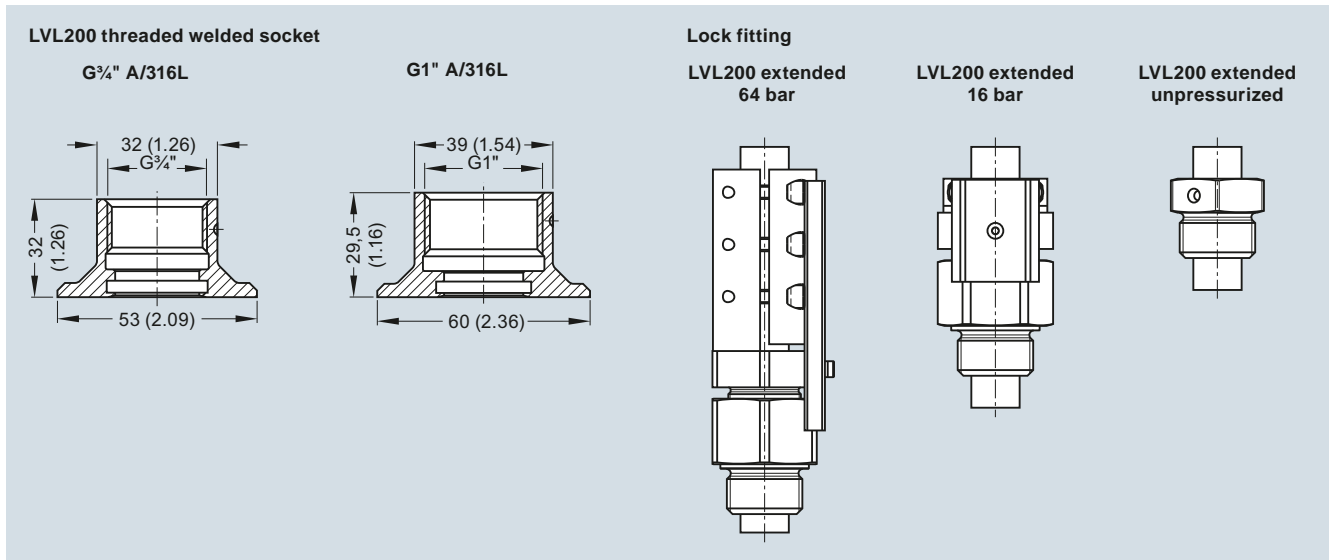
Selection and Ordering data	Order code
Further designs	
Please add "-Z" to Article No. and specify Order code(s).	
Cleaning including Certificate (oil, grease and silicone free)	W01
Enter the total insertion length in plain text description, max. 4 000 mm (157.48 inch)	Y01
Identification Label (measurement loop) stainless steel: max. 16 characters add in plain text	Y17
Identification Label (measurement loop) Foil: max. 16 characters add in plain text	Y18
Acceptance test certificate 3.1 NACE MR 0775 for material EN10204	D07
Acceptance test certificate 3.1 for instrument EN10204	C12
Acceptance test Certificate 2.2 for material EN10204	C15
Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511	C20
Additional Operating Instructions	Article No.
<u>LVL200 Extended (DPDT Relay)</u>	
• English	7ML1998-5KW01
• French	7ML1998-5KW11
• Spanish	7ML1998-5KW21
• German	7ML1998-5KW31
<u>LVL200 (Contactless electronic switch)</u>	
• English	7ML1998-5KV01
• French	7ML1998-5KV11
• Spanish	7ML1998-5KV21
• German	7ML1998-5KV31
<u>Electronics module LVL200 Relay</u>	
• English	7ML1998-5LS01
• French	7ML1998-5LS11
• Spanish	7ML1998-5LS21
• German	7ML1998-5LS31
This device is shipped with the Siemens Milltronics manual DVD containing the Operating Instructions library.	
Spare Parts and Accessories	
Electronics module SITRANS LVL200 Relay	7ML1830-1NC
Electronics module SITRANS LVL200 Contactless	7ML1930-6AA
Lock fitting, unpressurized, G1" A/316L	7ML1930-1DQ
Lock fitting, unpressurized, 1" NPT/316L	7ML1930-1DR
Lock fitting, unpressurized, G1 ... 1/2" A/316L	7ML1930-1DS
Lock fitting, unpressurized, 1 ... 1/2" NPT/316L	7ML1930-1DT
Lock fitting, -1... 16 bar, G1" A/316L	7ML1930-1DU
Lock fitting, -1... 16 bar, 1" NPT/316L	7ML1930-1DV
Lock fitting, -1... 16 bar, G1 ... 1/2" A/316L	7ML1930-1DW
Lock fitting, -1... 16 bar, 1 ... 1/2" NPT/316L	7ML1930-1DX
Lock fitting, -1... 64 bar, G1" A/316L	7ML1930-1EA
Lock fitting, -1... 64 bar, 1" NPT/316L	7ML1930-1EB
Lock fitting, -1... 64 bar, G1 ... 1/2" A/316L	7ML1930-1EC
Lock fitting, -1... 64 bar, 1 ... 1/2" NPT/316L	7ML1930-1ED

Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200

Options



SITRANS LVL200 welded socket and lock fitting, dimensions in mm (inch)

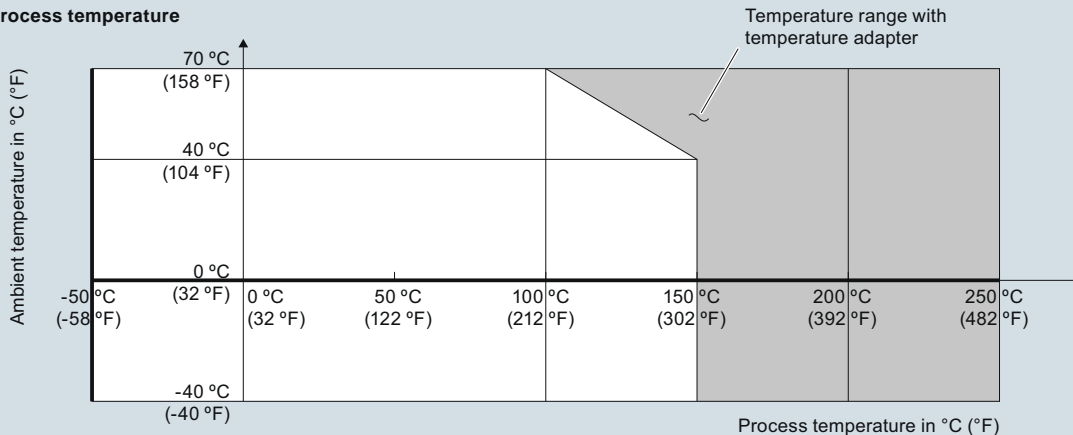
Level measurement

Point level measurement – Vibrating switches

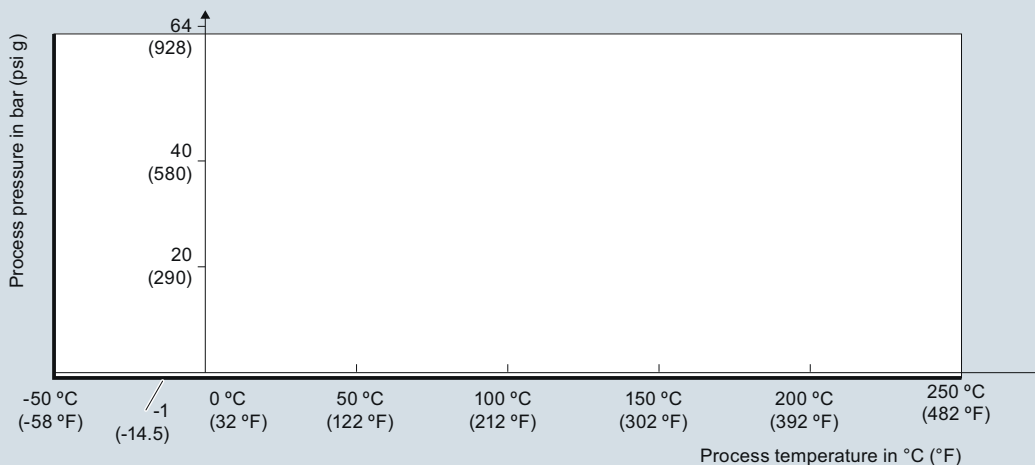
SITRANS LVL200

Characteristic curves

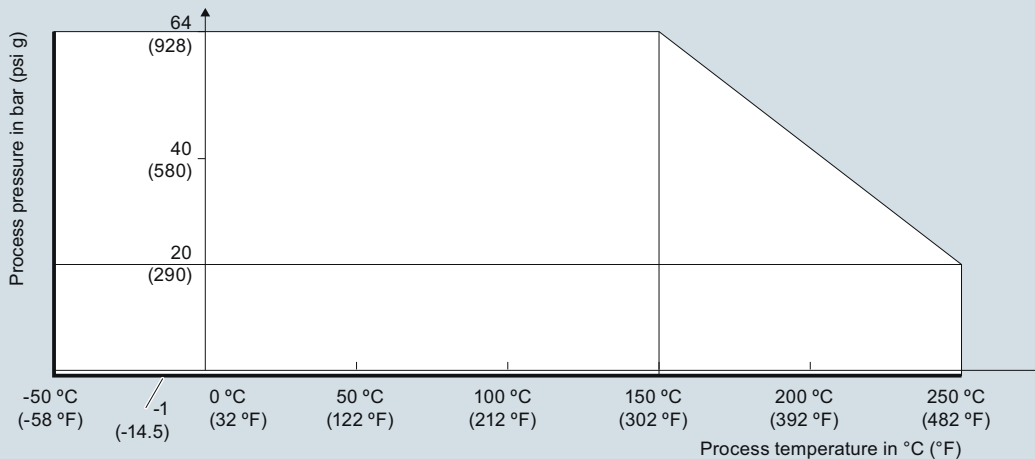
Ambient/Process temperature



Process pressure with switch position 0.7 g/cm³ (mode switch)



Process pressure with switch position 0.5 g/cm³ (mode switch)



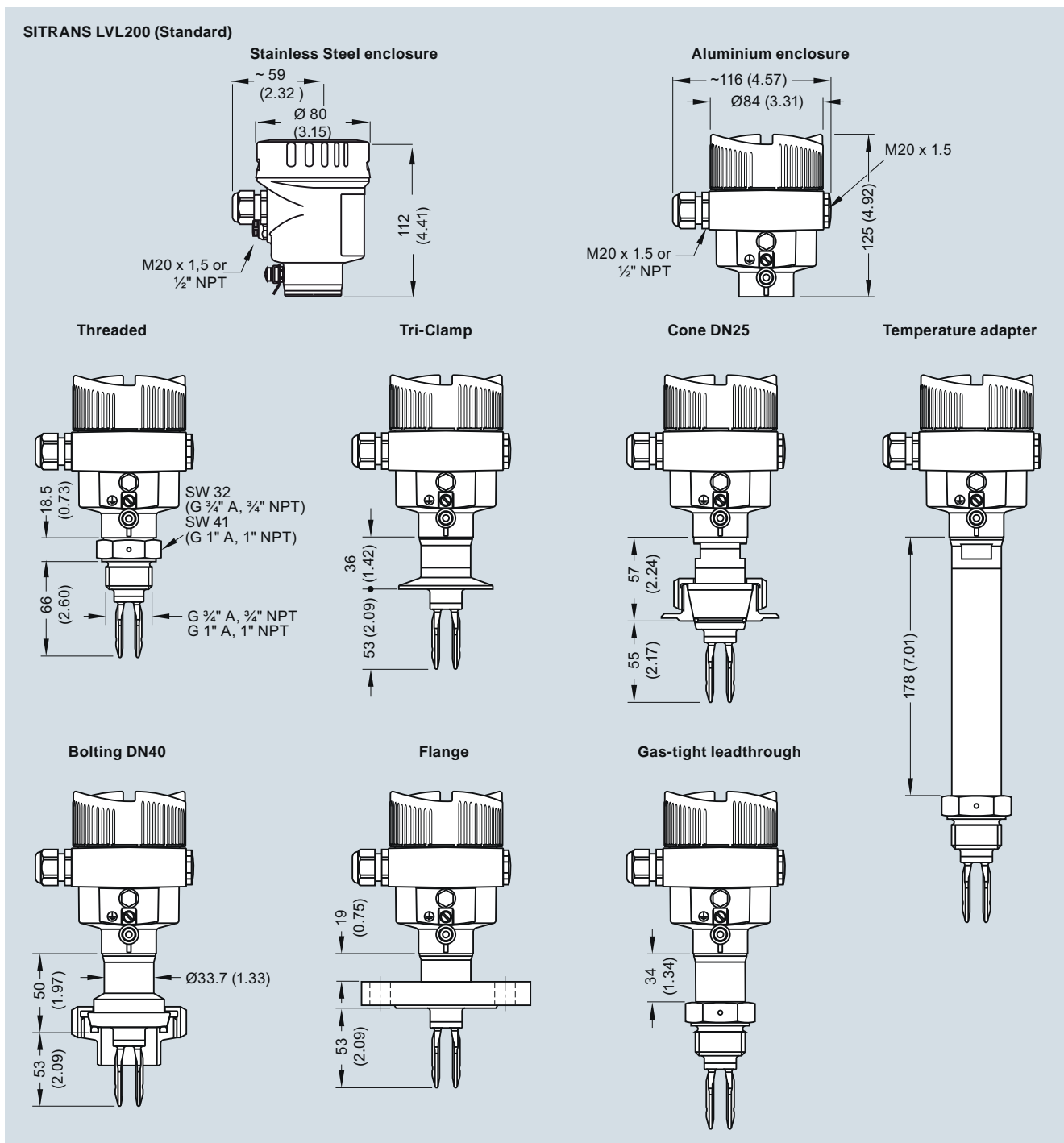
SITRANS LVL200 Process Pressure/Process Temperature/Ambient Temperature derating curves

Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200

Dimensional drawings

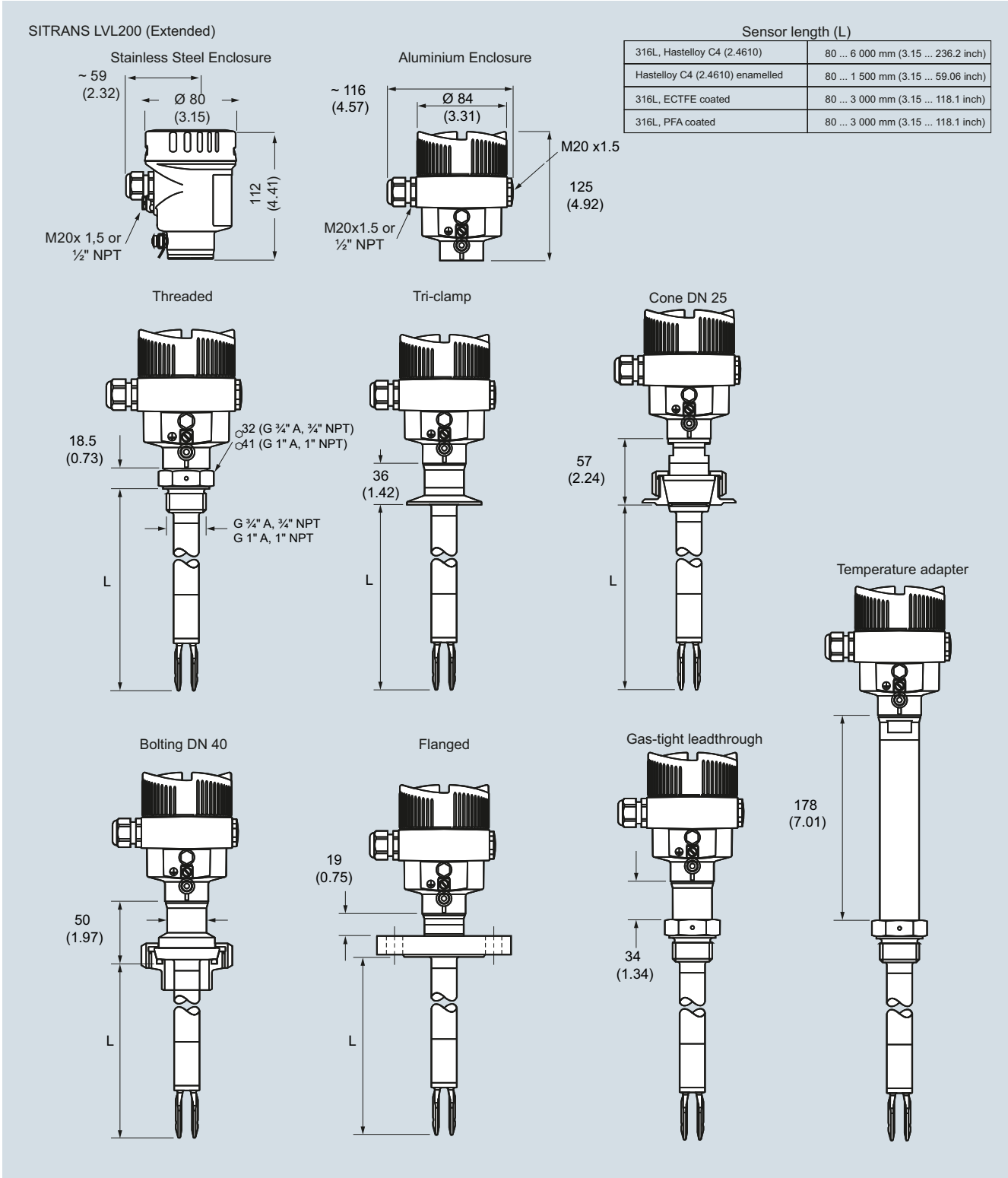


SITRANS LVL200 (Standard), dimensions in mm (inch)

Level measurement

Point level measurement – Vibrating switches

SITRANS LVL200



SITRANS LVL200 (Extended), dimensions in mm (inch)

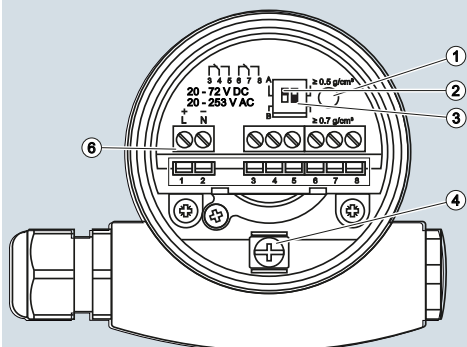
Level measurement

Point level measurement – Vibrating switches

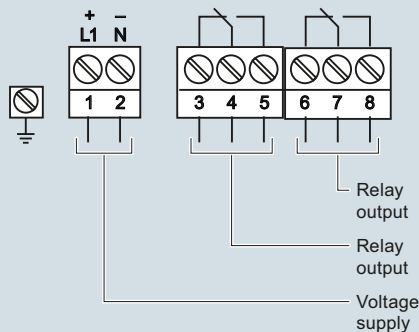
SITRANS LVL200

Schematics

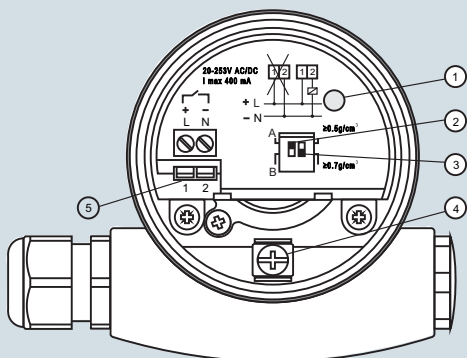
Relay (DPDT)



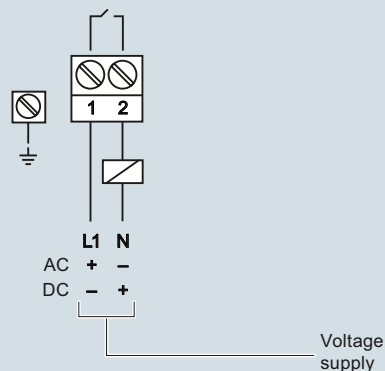
- | | |
|---|---|
| ① | Control lamp |
| ② | DIL switch for characteristics reversal |
| ③ | DIL switch for sensitivity adjustment |
| ④ | Ground terminal |
| ⑤ | Connection terminals |



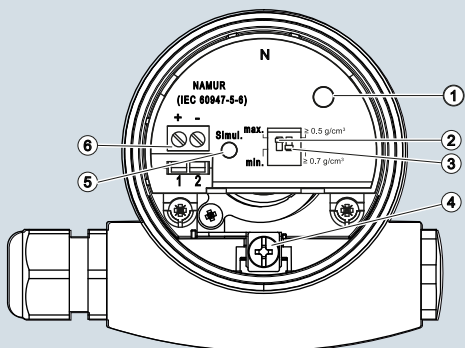
Contactless



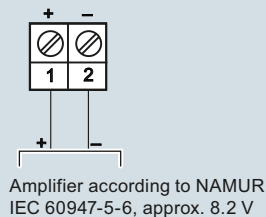
- | | |
|---|---|
| ① | Control lamp |
| ② | DIL switch for mode adjustment |
| ③ | DIL switch for switching point adaptation |
| ④ | Ground terminal |
| ⑤ | Connection terminals |



NAMUR



- | | |
|---|---|
| ① | Control lamp |
| ② | DIL switch for characteristics reversal |
| ③ | DIL switch for sensitivity adjustment |
| ④ | Ground terminal |
| ⑥ | Simulation key |
| ⑤ | Connection terminals |



SITRANS LVL200 connections