50161 / 1.0 / 2026-09-18 / AM / EN-NA

Product Information SL **FOOD**

SL Hydrostatic Level Sensor

CLEANadapt

Application / Specified usage

- Hydrostatic level measurement with superior precision and long-term stability, even in humid environments
- Ideal for hygienic dairy, brewery or beverage processes due to fully sealed design
- The Dual Diaphragm Design, with atmospheric reference measured with an un-clogable diaphragm, minimizes drift problems consistently
- The SL Next Generation is based on the previous successful SL model and is fully compatible with its predecessor

Application examples

- Reliable and consistently accurate overflow protection to prevent run-dry and overfill risks
- Particularly suitable for food & beverage applications with heavy condensation, such as outdoor applications or cooling tanks
- Measurement up to 266 °F / 130 °C medium temperature

Hygienic design / Process connection

- Full stainless steel design, product contact surfaces electropolished to conform with FDA and 3-A standards and improve clean-ability and CIP/SIP
- Complete overview of process connections: see order code

Features / Advantages

- Highly accurate: Calibrated measurement accuracy 0.2 % of URL
- Stable performance: Minimizes drift from environmental exposure (temp/humidity swings)
- Measurement cell without any contact to atmosphere, fully closed system
- The new, integrated tank linearization guarantees maximum application and process reliability through direct volume output , even for tanks with complex geometries
- Integrated field calibration with one-touch setup without tools
- Automatic connectivity with IO -Link in Flex Hybrid technology (4...20 mA and IO -Link in parallel) or HART 7 offers plug-and-play connection, easier configuration, and efficient operation.
- Protection class IP 69 K / NEMA 4X
- Special IO-Link features:
  - Process Temperature output in parallel as a second measuring value
  - Firmware updates can be made on site, no need to uninstall and ship the sensor
- Electrical connection with M12 plug-in connector

Special Features / Advantages of the Display Version

- Display orientation in 45° angle with rotatable backlit display, ensuring optimum visibility in any vertical or horizontal installation
- Illuminated head and ring with LED color signal for easy recognition of sensor status (e.g., normal, warning, error)
- The visual signals support quick reaction to avoid process errors
- Hermetically sealed for perfect protection even in harsh conditions and wash-downs
- Simple, intuitive on-site programming via capacitive touch buttons on the outside of the display

Options / Accessories

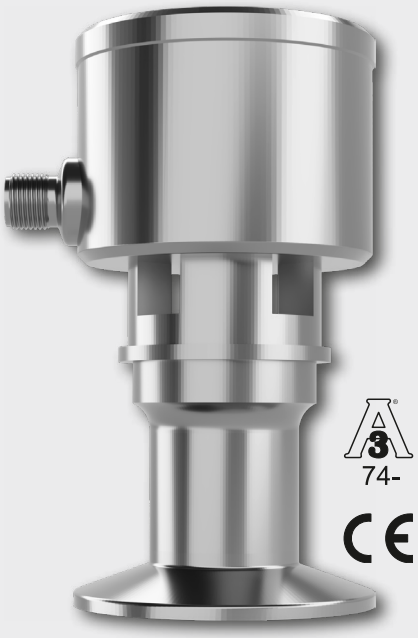
- Special pressure ranges, specific pressure calibration ex works
- Hastelloy "C" Diaphragm
- Preassembled cable for M12 plug-in connector

Communication

IO-Link 4...20 mA

HART COMMUNICATION PROTOCOL

SL

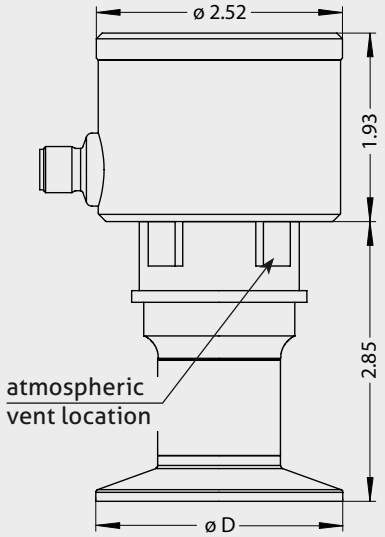


SL with Display and LED status light

Specification		
Measuring range URL [inches of w.c.]	Relative	0...140 / 0...415 / 0...830 / 0...1385
Measuring range URL [psi]	Relative	0...5 / 0...15 / 0...30 / 0...60
Measuring range URL [bar]	Relative	0...0.35 / 0...1 / 0...2 / 0...4
Measuring range	Absolute	Vacuum ranges on request
Over-range rating	Factor	2 times the URL
Process connection		see order code
Materials	Connector head Thread connection Wetted partd / diaphragm Oil filling Plastic cover display	Stainless steel AISI 316 / 1.4305, ø 2.59 in / 66 mm Stainless steel AISI 316L / 1.4404 Stainless steel AISI 316L / 1.4404, R_a < 0.64 µm / 25 µin medical white oil, FDA approval number 21CFR172.878, 21CFR178.3620, 21CFR573.680 Polycarbonate
Temperature ranges	Ambient Process Compensated CIP-/SIP-cleaning	15...120 °F / -10...50 °C -0...265 °F / -18...130 °C 0...250 °F / -18...120 °C 284 °F / 140 °C max. 60 minutes
Temperature compensation time	t_{90}	30 s/10 K
Calibrated accuracy	Incl. hysteresis, linearity, reproduceability	≤ 0.20 % of URL at stable calibration temperature
Calibration stability		within ≤ 0.2 % of URL for one year minimum
Temperature stability		±0.2 % of URL per 10°F (5.5 °C)
Response time		0.5 sec.
Electrical connection	Cable connection	M12 connector (QDR) AISI 304 / 1.4301
Approvals	Hygienic Safety / Design	3-A CE compliant UL Std C22.2611010-1 3rd ed CRN# 0F19809.5CADD2 (see fittings)
Protection class		IP 69 K / NEMA 4X (suiteable for use in wet locations at up to 100% relative humidity)
Operating voltage		18...30 V DC
Output	Analog Digital	4...20 mA IO-Link / HART 7
Max. loop resistance	Power supply 24 V DC 30 V DC	max. resistive load 500 Ω 800 Ω
Weight		approx. 1050 g

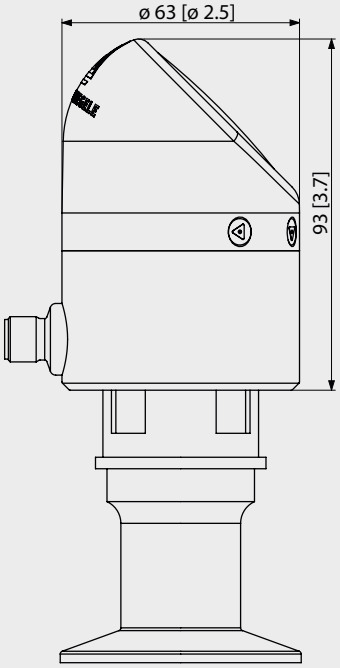
Pressure ranges									
Type	**Operation range**						**Over-range rating**		
	min. [in w.c.]	max. [in w.c.]	min. [psi]	max. [psi]	min. [bar]	max. [bar]	[in w.c.]	[psi]	[bar]
SL 1 / 5	0...30	0...140	0...1.5	0...5	0...0.1	0...0.35	280	10	0.6
SL 2 / 6	0...141	0...415	0...6	0...15	0...0.35	0...1.0	830	30	2.0
SL 3 / 7	0...416	0...830	0...16	0...30	0...1.0	0...2.0	1660	60	4.0
SL 4 / 8	0...831	0...1385	0...31	0...60	0...2.0	0...4.0	2770	100	8.0

SL | Tri-Clamp

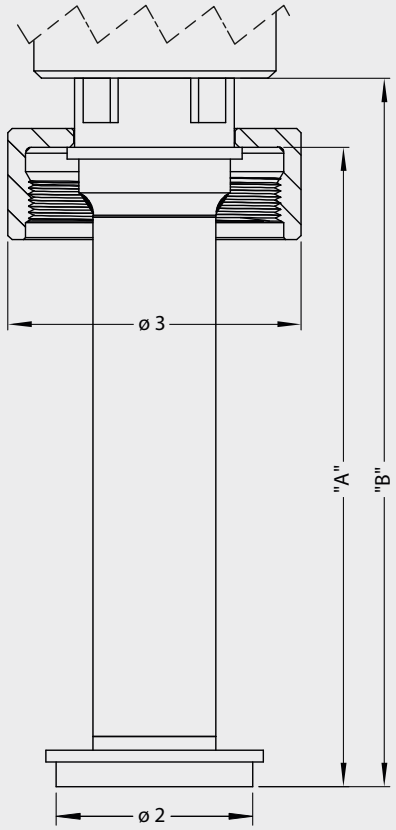


Type	Tri-Clamp size | ø D
004	1.5"
005	2"
007	3"

SL with Display

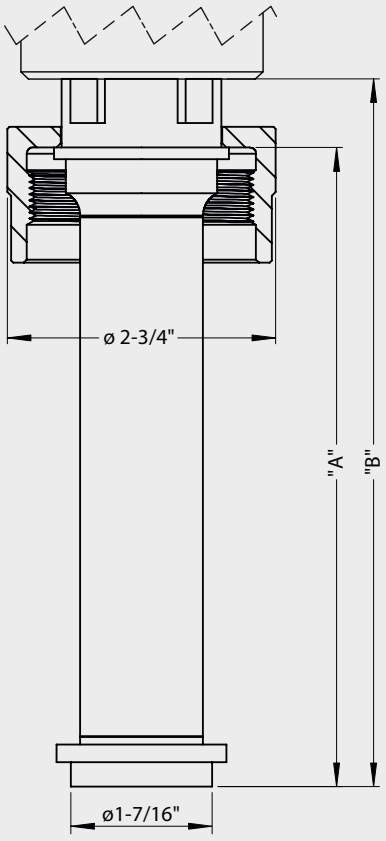


SL | Anderson Flush Mount



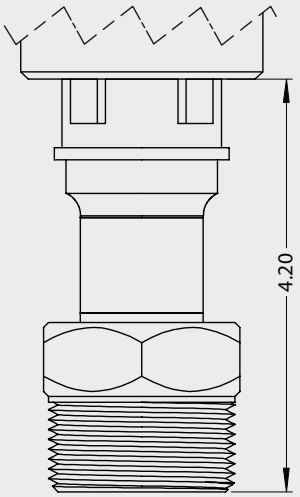
Anderson shell type	"A"	"B"
Non-insulated	2.18"	2.88"
Insulated	6.50"	7.20"

SL | Cherry Burrell



Cherry Burrell shell type	"A"	"B"
Non-insulated	2.18"	2.88"
Insulated	6.50"	7.20"

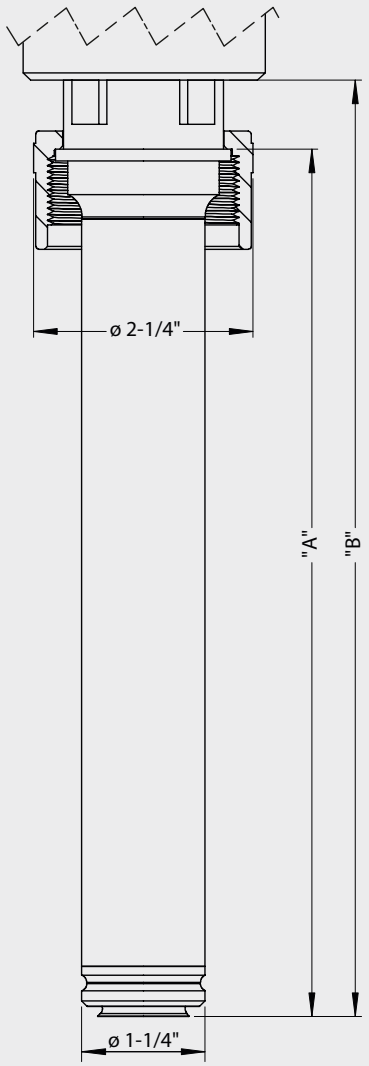
SL | 1-1/2" NPT



Mechanical connection / Installation

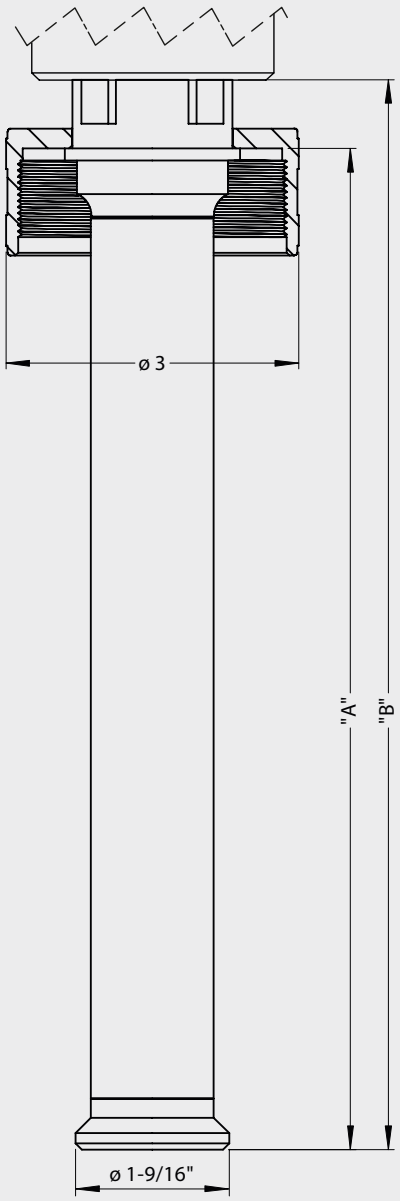
- Do not cover the four ventilation ports for the atmospheric compensation.

SL | King Gage



King shell type	"A"	"B"
Non-insulated	2.18"	2.88"
Standard	6.56"	7.26"
Long	8.81"	9.51"

SL | Tank Mate



Tank Mate shell type	"A"	"B"
Short	5.21"	5.91"
Medium	7.29"	7.99"
Long	10.18"	10.88"

SL | Continental

Continental	"A"	"B"
Non-insulated	2.15"	2.85"
Insulated	6.18"	6.88"

Note on 3-A Sanitary Standard 74-

Information on installation according to 3-A standard is available on our website:
www.anderson-negele.com/3A74.pdf

Click on the PDF icon to download the document.

PDF

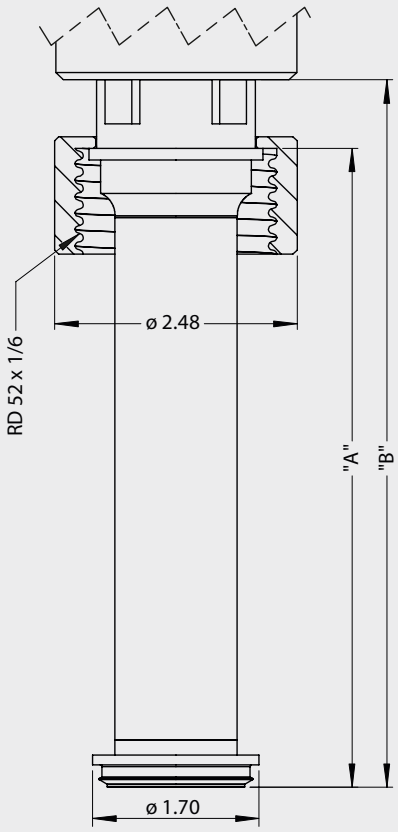
Click or Scan

Download Manual

For further setup, calibration, adjustment, and troubleshooting procedures, refer to the SL manual:
www.anderson-negele.com/us-manuals

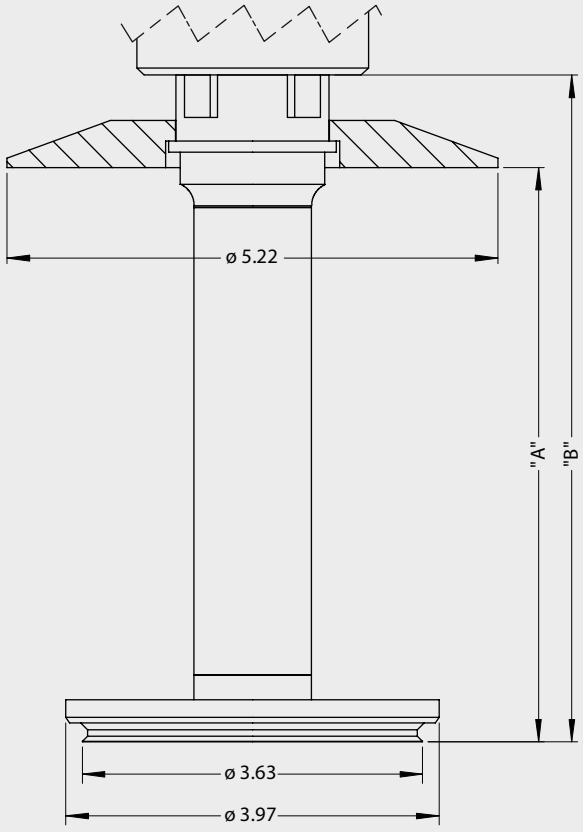
Click or Scan

SL | Endress+Hauser



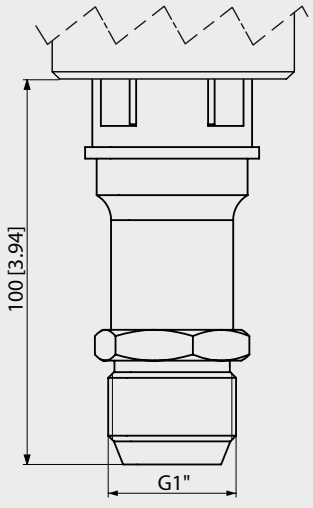
Endress+Hauser	"A"	"B"
Short (1-9/16" shell)	2.16"	2.86"
Long (6" shell)	6.53"	7.23"

SL | Rosemount



Rosemount	"A"	"B"
Short	2.11"	3.09"
Long	6.11"	7.09"

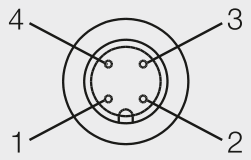
SL | G1" CLEANadapt



Connection M12 plug

Pin \ Output	IO-Link	Analog and HART
1	+ supply	+ supply
2	n/c	- supply / 4...20 mA
3	- supply	n/c
4	IO-Link	n/c

M12-plug



Electrical connection

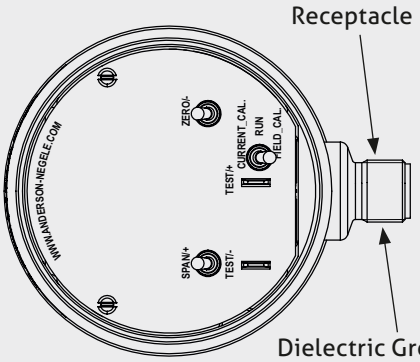
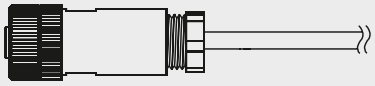


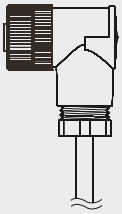
Illustration shows version without display

Field Wireable Connector
P/N: 42119B0000 (without cable)

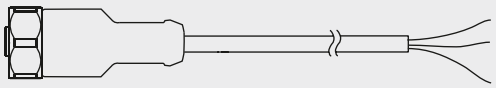


0.17-0.26" Cable
Sheath Diameter

90° Field Wireable Connector
P/N: 42119A0000 (without cable)



Molded Cordset



Loop+ (red) wire Pin 1
Loop- (black) wire Pin 2
Shield (clear or bare) wire - not connected to nut

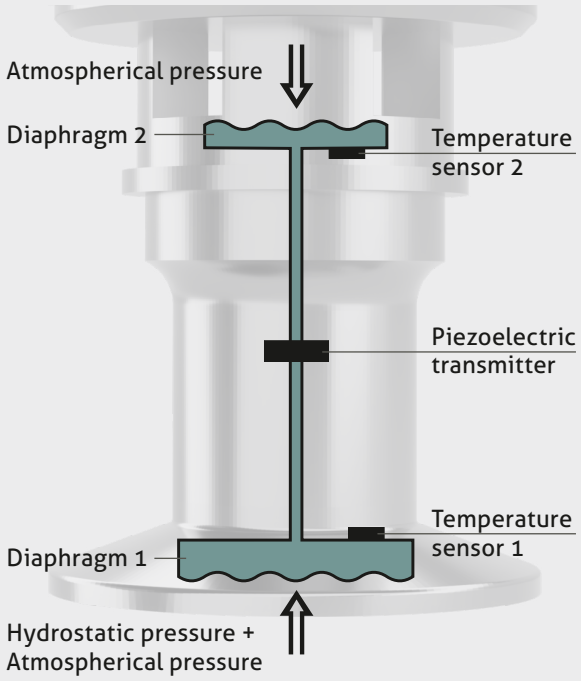
Start up

- Connect the sensor with power supply (18...30 VDC) -> see "electrical connection SL".
- The sensor is now ready for use.
- At standard factory-setting 0...100 % of the full range are equivalent to 4...20 mA of the current output.
  Example: SL 3 / 7 = 0...830" w.c. -> 0" = 4 mA; 830" = 20 mA
- In case of specific factory calibration the customized measurement range is equal to 4...20 mA of the current output.
  Example: SL 3 / 7 calibrated to 700" w.c. -> 0" = 4 mA; 700" = 20 mA
- Calibration is on-site customizable for special measurement tasks.
- Settings of ZERO (4 mA) and SPAN (20 mA) are non-interactive, having no effect on each other.

Measuring principle

A special dual-measurement system featuring two coupled diaphragms and two RTD temperature sensors has been developed for the SL.
This prevents any influence of condensation or moisture on the measurement result, as can occur with conventional hydrostatic sensors that have a simple opening for atmospheric compensation. Two temperature sensors ensure highly accurate temperature compensation, thereby reducing temperature drift to a minimum even under fluctuating process temperatures.
As a result, the measured values remain stable under all climatic conditions, and are processed via an integrated piezoelectric transmitter as an mV signal and output by the electronics as a 4...20 mA, IO-Link or HART signal.

Dual-Diaphragm measuring principle



Cleaning

- Cleaning with fluids does not effect operation
- Metal diaphragm (process and reference) mustn´t be cleaned mechanically
- In case of using pressure washers, don't point nozzle directly to electrical connection or reference diaphragm (atmospheric vent location)!
- In case of inside cleaning with pressure washers, don't point nozzle directly to the diaphragm!

Note on CE

- Applicable directives: Electromagnetic Compatibility Directive 2014/30/EU
- Compliance with the applicable EU directives is identified by the CE label on the product.
- The operating company is responsible for complying with the guidelines applicable to the entire installation.

Conventional Usage

- Not suitable for applications in explosive areas.
- Not suitable for applications in security-relevant equipments (SIL).

Reshipment

- Sensors shall be clean and must not be contaminated with dangerous media! Note the advice for cleaning!
- Use suitable transport packaging only to avoid damage of the equipment!

Transport / Storage

- No outdoor storage
- Dry and dust free
- Not exposed to corrosive media
- Protected against solar radiation
- Avoiding mechanical shock and vibration
- Storage temperature 32...104 °F / 0...40 °C
- Relative humidity max. 80 %

Disposal

- Electrical devices should not be disposed of with household trash. They must be recycled in accordance with national laws and regulations.
- Take the device directly to a specialized recycling company and do not use municipal collection points.

Accessories

Anderson Weld-In Shells for Flush Mount Level Transmitters

71060A0003	Insulated Vessel - Standard Flange - 316L
71060A0004	Uninsulated Vessel - Standard Flange - 316L
71060A0005	Insulated Vessel - Pressure Vessel Flange - 316L
71060A0006	Uninsulated Vessel - Pressure Vessel Flange - 316L
71060A0009	Insulated Vessel - H/D Press. Vessel Flange - 316L
5632900001	Stainless Steel Cap
36240S0036	O-R 2.364 ID X .070 TH SLC 70S
36240S0141	O-R 2.300 ID X .103 TH SLC 70S
56642A0002	M12xM16 CONN KIT, SL/LD Note: For SL units prior to Serial Number 2250287, replace with part number 56642A0001 M12x1/2"NPT CONN KIT.

Shell Adaptor

57200A0002	Tank Mate, uninsulated
57200A0001	Tank Mate, insulated

Sensor Calibration Adaptors

73198A0001	Anderson fitting
73198A0002	Cherry Burrell fitting
73198A0003	King Gage Fitting
73198A0004	Tank Mate

Gaskets for Flush Mount Level Transmitters

44348A0002	Anderson
44292A0001	Cherry Burrell
36240S3212	King Gage
36240S3123	Tank Mate
5658900000	Continental
36240S3341	Rosemount

Cord Sets

42117K0025	Molded w/25' cable
42117K0050	Molded w/50' cable
42117K0100	Molded w/100' cable
42117H0025	5-Conductor w/25' cable
42117H0050	5-Conductor w/50' cable
42117H0100	5-Conductor w/100' cable

Order Code

SL Assembled Sensor - Standard (316L stainless steel finished to 25 µin R_a max)

Span range

1	0-30" min to 0-140" max with Analog & Hart
2	0-140.1" to 0-415" max with Analog & Hart
3	0-415.1" to 0-830" max with Analog & Hart
4	0-830.1" to 0-1385" max with Analog & Hart
5	0-30" min to 0-140" max with Analog & IO-Link
6	0-140.1" to 0-415" max with Analog & IO-Link
7	0-415.1" to 0-830" max with Analog & IO-Link
8	0-830.1" to 0-1385" max with Analog & IO-Link

Fitting (Ⓐ: 3-A conform)

089	Anderson Flush Mount Long Ⓐ [5, 6]
088	Anderson Flush Mount Short Ⓐ [5, 6]
091	Cherry Burrell Flush Mount Long Ⓐ
090	Cherry Burrell Flush Mount Short Ⓐ
092	King Gage Flush Mount Long Ⓐ [3]
093	King Gage Flush Mount Medium Ⓐ
094	King Gage Flush Mount Short Ⓐ
097	Tank Mate Flush Mount Long Ⓐ [1, 3]
096	Tank Mate Flush Mount Medium Ⓐ [1]
095	Tank Mate Flush Mount Short Ⓐ [1]
147	Continental (long) Ⓐ
146	Continental (short) Ⓐ [3]
004	1½" Tri-Clamp Ⓐ [5]
005	2" Tri-Clamp Ⓐ [5]
007	3" Tri-Clamp Ⓐ
059	1½" NPT [3]
141	Rosemount / Foxboro Sanitary Spud - Short Ⓐ [3]
142	Rosemount / Foxboro Sanitary Spud - Long Ⓐ [3]
154	Endress+Hauser Universal Adaptor - Short Ⓐ
155	Endress+Hauser Universal Adaptor - Long Ⓐ
169	Liquid Scale Flush Mount Medium Ⓐ [2, 3, 5]
182	Fixed thread G1", hygienic CLEANadapt

Display Option

1	SS-316L Electropolished Diaphragm, No-Display Version With Stainless Steel Cap
2	Hastelloy „C" Diaphragm, No-Display Version With Stainless Steel Cap [4]
3	SS-316L Electropolished Diaphragm, Display Version
4	Hastelloy „C" Diaphragm, Display Version [4]

Mounting

0	Horizontal
1	Vertical
2	Other (specify angle from vertical or from horizontal)

Wiring

01	M12-plug / QDR & FWC w/No Cable (std.)
R0	M12-plug / QDR & 90° FWC w/No Cable
00	M12-plug / QDR w/No Cable, no FWC
05	M12-plug / QDR w/25 ft Standard Molded Cordset
10	M12-plug / QDR w/50 ft Standard Molded Cordset
20	M12-plug / QDR w/100 ft Standard Molded Cordset

Calibration *

#####	Height In Inches w.c. (to nearest tenth) **
00000	Field Calibrated

SL 1 089 1 0 01 00000

1. Requires Tank Mate Shell Adapter: 57200A0001 (insulated), 57200A0002 (uninsulated)
2. Requires Liquid Scale Shell Adaptor: 4593600000
3. Sensors with these fittings are non-cancellable/non-returnable for credit
4. N/A with King-Gage, Tank Mate, or Endress+Hauser fittings
5. CRN compliant
6. Max. working pressure 550 PSI

* Orders not accepted without calibration data or completed worksheet.
** Calibration of span is in units "inches water column".
Examples:
10850 = 1,085.0 inches
00305 = 30.5 inches
Consult factory for assistance.

Note on the Order Code "Mounting"

This specification is used to ensure correct calibration of the sensor and has no mechanical or hardware implications.

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