Product Data Sheet
November 2018
00813-0100-4130, Rev EF

Rosemount™ 2130 Level Switch

Vibrating Fork

- Designed for operation in process temperatures of –94 to 500 °F (–70 to 260 °C)
- Electronic self-checking and condition monitoring – ‘Heartbeat’ LED gives status and instrument health information
- Increased safety, SIL2-certified to IEC 61508 as required by IEC 61511
- Adjustable switching delay for turbulent or splashing applications
- “Fast drip” fork design giving quicker response time especially with viscous liquids
- General area, explosion-proof/flameproof, and intrinsically safe options

Overview of the Rosemount 2130

Measurement principle

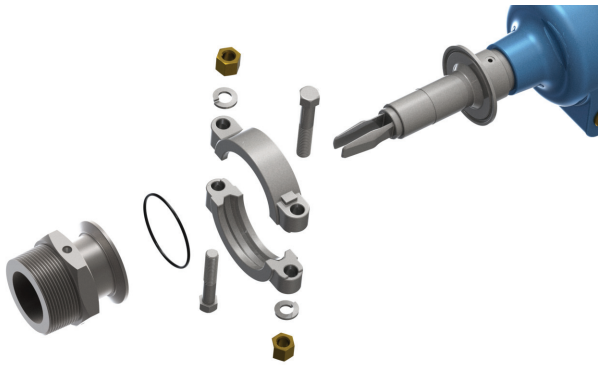
The Rosemount 2130 is designed using the principle of a tuning fork. A piezo-electric crystal oscillates the forks at their natural frequency. Changes to this frequency are continuously monitored. The frequency of the vibrating fork sensor changes depending on the medium in which it is immersed. The denser the liquid, the lower the frequency.

When used as a low level alarm, the liquid in the tank or pipe drains down past the fork, causing a change of natural frequency that is detected by the electronics and switches the output state.

When the Rosemount 2130 is used as a high-level alarm, the liquid rises in the tank or pipe, making contact with the fork which then causes the output state to switch.

Key features and benefits:

- It is virtually unaffected by turbulence, foam, vibration, solids content, coating products, and liquid properties.
- The mid-range temperature Rosemount 2130 is designed for operation in process temperatures from –40 to 356 °F (–40 to 180 °C).
- The high-temperature Rosemount 2130 is designed for operation in process temperatures from –94 to 500 °F (–70 to 260 °C). It has a stainless steel thermal tube to move the electronics away from the process.
- Electronic self-checking and condition monitoring. The 'heartbeat' LED gives status and health information on the Rosemount 2130.
- The adjustable switching delay prevents false switching in turbulent or splashing applications.
- The 'fast drip' fork design gives quicker response time when mounted horizontally, especially with viscous liquids.
- It offers rapid wet-to-dry time for highly responsive switching.
- The fork shape is optimized for hand polishing to meet hygienic requirements.
- No moving parts or crevices for virtually no maintenance.



The Quick Release kit is a new optional set of accessories. It makes inspection, proof-testing, and servicing easier than ever. See Table 2 on page Wireless-8 for accessories.

There is a variety of plug-in electronics options, each having an adjustable mode and switching delay. See "Electrical" on page 11.

'Fast drip' forks

Contents

Superior diagnostics

- Built-in diagnostics continuously check electronic and mechanical health
- Fork conditions detected including internal and external damage, coated or blocked, and extreme corrosion
- Ideal for critical alarm duties

Fit and forget

- Once installed, the Rosemount 2130 is ready to go. It needs no calibration and requires minimum installation.
- The 'heartbeat' LED gives an instant visual indication that the unit is operational.
- Functional testing of the instrument and system is easy with a magnetic test point.
- You can install, and forget it.

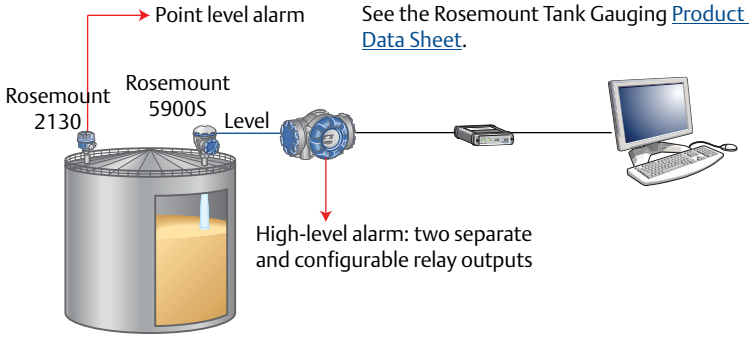
Extended high- and low-temperature performance

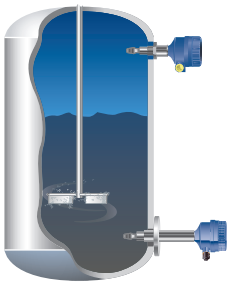
The high-temperature Rosemount 2130 enables standardization of Rosemount vibrating fork switches across a wide range of process environments, and is ideally suited for harsh conditions where high reliability is essential.

Applications

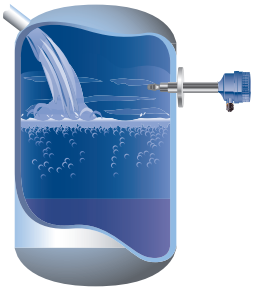
- Overfill protection
- High- and low-level alarms
- Pump control or limit detection
- Run dry or pump protection
- Hygienic applications
- High-temperature applications
- Wireless applications

In tank gauging systems, a Rosemount 2130 high-level alarm switch can be used as an alternative to a second radar level gauge. See the Rosemount Tank Gauging Product Data Sheet.

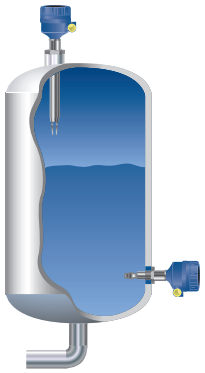




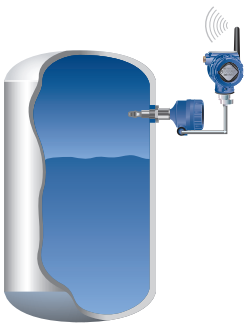
High- and low-level alarm



High-temperature applications



Pump control/limit detection



Wireless applications using a Rosemount 702 Wireless Discrete Transmitter

Ordering information

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See page 9 for more information on material selection.

Table 1. Rosemount 2130 Ordering Information

The starred options (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Model	Product description		
2130	Enhanced Vibrating Fork Liquid Level Switch		
Output			
L	Direct load switching (mains 2-wire) 20 to 264 Vac, 50/60 Hz, 20 to 60 Vdc, self-checking		★
P	PNP/PLC low voltage (3-wire) 20 to 60 Vdc, Self-checking		★
D	Relay (DPCO), 20 to 264 Vac, 50/60 Hz, 20 to 60 Vdc, self-checking **(Fault and Alarm Relays version is available by selecting D and adding "R2264" to the end of the model number.)**		★
N	NAMUR, 8 Vdc, self-checking		★
M	8/16 mA, self-checking		★
Housing material			
A	Aluminum		★
S	Stainless steel		★
Conduit entry/cable threads		**Product certifications**	
9	3/4-in. ANPT	NA, E5, E6, G5, G6, I1, I2, I3, I5, I6, I7	★
2	M20	NA, E1, E2, E3, E7, I1, I2, I3, I5, I6, I7	★
Operating temperature			
M	Mid-range: –40 °F (–40 °C) ... 356 °F (180 °C)		★
E	High: –94 °F (–70 °C) ... 500 °F (260 °C)		★
Materials of construction: process connection / fork[1]			
S	316/316L stainless steel (1.4401/1.4404)		★
F[2][3][4]	ECTFE Copolymer, coated 316/316L stainless steel (1.4401/1.4404)		★
H[5]	Alloy C (UNS N10002), alloy C-276 (UNS N10276), solid		
Process connection size[6]			
9	3/4 -in. / 19 mm		★
1	1 -in. / 25 mm (DN25)		★
2	2 -in. / 50 mm (DN50)		★
5	1 1/2 -in. / 40 mm (DN40)		★
3	3 -in. / 80 mm (DN80)		★
4	4 -in. / 100 mm (DN100)		★
7	2 1/2 -in. / 65 mm (DN65)		★
Process connection rating[6]			
AA	ASME B16.5 Class 150 flange		★
AB	ASME B16.5 Class 300 flange		★
AC	ASME B16.5 Class 600 flange		★
DA	EN1092-1 PN 10/16 flange		★
DB	EN1092-1 PN 25/40 flange		★
DC	EN1092-1 PN 63 flange		★

Table 1. Rosemount 2130 Ordering Information

The starred options (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

DD	EN1092-1 PN 100 flange			★
NN	For use with non-flange process connection type			★
Process connection type[6]				
R	Raised face (RF) flange			★
B	BSPT (R) thread			★
G	BSPP (G) thread			★
N	NPT thread			★
P	BSPP (G) O-ring			★
C	Tri-clover clamp			★
Fork length				
			Process connection	
A	Standard length 1.7-in. (44 mm)		All except flanged models	★
H[3]	Standard length flange 4.0-in. (102 mm)		All flanged models	★
E[7]	Extended, customer-specified length in tenths of inches		All except connection 1-NN-P	★
M[7]	Extended, customer-specified length in millimeters		All except connection 1-NN-P	★
Specific extended fork length				
0000	Factory default length (only if Fork Length A or H is selected)			★
XXXX[7]	Specific customer-specified length in tenths of inches, or millimeters (XXX.X inches or XXXX mm)			★
Surface finish			**Process connection**	
1	Standard surface finish		All	★
2[8][9]	Hand-polished (Ra < 0.4 µm)		P or C	★
Product certifications				
		Output	**Conduit entry/cable threads**	
NA[10]	No Hazardous Locations Certifications	All models	All models	★
G5[11]	FM Ordinary Locations (unclassified, safe area)	All models	3/4-in. ANPT models only	★
G6[12][13]	CSA Ordinary Locations (unclassified, safe area)	All models	3/4-in. ANPT models only	★
E1	ATEX Flameproof	All models	M20 models only	★
E2	INMETRO Flameproof	All except Fault Relays	M20 models only	★
E3	NEPSI Explosion-proof	All models	M20 models only	★
E5[11]	FM Explosion-proof	All models	3/4-in. ANPT models only	★
E6[12][13]	CSA Explosion-proof	All models	3/4-in. ANPT models only	★
E7	IECEx Explosion-proof	All models	M20 models only	★
EM	Technical Regulation Customs Union (EAC) Flameproof	All models	All models	★
I1	ATEX Intrinsic Safety	NAMUR or 8/16 mA	All models	★
I2	INMETRO Intrinsic Safety	NAMUR or 8/16 mA	All models	★
I3	NEPSI Intrinsic Safety	NAMUR or 8/16 mA	All models	★
I5	FM Intrinsic Safety	NAMUR or 8/16 mA	All models	★
I6[13]	CSA Intrinsic Safety	NAMUR or 8/16 mA	All models	★
I7	IECEx Intrinsic Safety	NAMUR or 8/16 mA	All models	★
IM	Technical Regulation Customs Union (EAC) Intrinsic Safety	NAMUR or 8/16 mA	All models	★
Typical Model Number: 2130 L A 2 E S 9 NN B A 0000 1 NA				

Table 1. Rosemount 2130 Ordering Information

The starred options (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Options (include with the selected model number)

Calibration data certification		
Q4	Certificate of functional test	★
Material traceability certification[2][3]		
Q8	Material traceability certification per EN 10204 3.1	★
Material certification[2][3]		
Q15	NACE MR0175 / ISO 15156	★
Q25	NACE MR0103	★
Safety certifications[14]		
QS	Prior-use certificate of FMEDA Data	★
QT	Safety certificate to IEC61508	★
Special procedures[15]		
P1	Hydrostatic testing with certificate	★
Low liquid density range		
LD	Low density liquids – minimum density is 31.2 lb/ft^3 (500 kg/m^3)	★
Example of options included with the model number: 2130 L A 2 E S 9 NN B A 0000 1 NA Q8		

1. Flanges are dual certified 316 and 316L Stainless Steel (1.4401 and 1.4404).
2. Only available for wetted parts.
3. Option is not available for hand polished wet side as standard.
4. Only available for a flanged Rosemount 2130; the Operating Temperature code M must be selected (mid-range) and the process temperature must be below 302 °F (150 °C).
5. Only available for BSPT and NPT threaded process connection codes 9-NN-B, 9-NN-N, 1-NN-B, and 1-NN-N as standard, other upon request.
6. Other process connections available upon request.
7. Example Fork Length code E1181 is 118.1 inches. Code M4000 is 4000 millimeters. See "Extended lengths" on page 9 for minimum and maximum extended lengths.
8. Not available with Material of Construction Process / Fork option code H.
9. Hand-polished for hygienic connections to better than 0.4 µm Ra such that there are no pits, folds, crevices or cracks discernible to the naked eye (i.e. no features larger than 75 micrometers based on resolving 1/60 degree at a distance of 250 mm).
10. Includes the Technical Regulation Customs Union (EAC) ordinary location mark.
11. See "Product certifications" on page -12. E5 includes G5 requirements. G5 is for use in unclassified, safe area locations only.
12. See "Product certifications" on page -12. E6 includes G6 requirements. G6 is for use in unclassified, safe area locations only.
13. The requirements of CRN are met when a Rosemount 2130 CSA approved vibrating fork level switch (with Product Certifications code G6, E6, or I6) is configured with stainless steel wetted parts and either NPT threaded or ASME B16.5 2-in. to 4-in. flanged process connections.
14. Not available for Direct Load switching electronics.
15. Option limited to units with extended lengths up to 59.1-in. (1500 mm). Option is not available for ECTFE coating.

Safety Integrity Level (SIL) certification option

- The Rosemount 2130 is SIL2-certified.

The Rosemount 2130 has been independently certified to IEC 61508 as required by IEC 61511. Certification was conducted by Exida. If required, add **"QT"** to the end of the model number. For example, 2130 L A 2 E S 9 NN B A 0000 1 NA Q8 **QT**
(Note that you can have one or more OPTIONS codes at the end of the model number.)

- Visit the Rosemount 2130 web page for additional information.

Overfill approval option

- The Rosemount 2130 has been TÜV-tested and approved for overfill protection according to the German DIBt/WHG regulations. This option is not selectable in the ordering information table. If required, add "**R2259**" to the end of the model number. For example, 2130 L A 2 E S 9 NN B A 0000 1 NA Q8 **R2259**
  (Note that you can have one or more OPTIONS codes added at the end of the model number.)

Spare parts and accessories

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See page 9 for more information on material selection.

Table 2. Rosemount 2130 Spare Parts and Accessories

The starred options (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Spares and accessories [1][2]		
02100-1000-0001	Seal for 1-in. BSPP (G1A), material: non-asbestos BS7531 grade X carbon fiber with rubber binder	★
02100-1040-0001	Seal for 3/4-in. BSPP (G3/4A), material: non-asbestos BS7531 grade X carbon fiber with rubber binder	★
02100-1010-0001	Hygienic adaptor boss 1-in. BSPP, material: 316 SS fitting. FPM/FKM 'O' ring	★
02100-1020-0001	2-in. (51 mm) Tri Clamp kit (vessel fitting, clamp ring, and seal), material: 316 SST NBR Nitrile	★
02100-1030-0001	Telescopic test magnet	★
02130-7000-0001[3]	Replacement cassette: Direct load switching (Red)	★
02130-7000-0002[4]	Replacement cassette: PNP/PLC low voltage (Yellow)	★
02130-7000-0003[5]	Replacement cassette: NAMUR current switching (Light Blue)	★
02130-7000-0004[6]	Replacement cassette: DPCO relay (Dark Green)	★
02130-7000-0005[7]	Replacement cassette: Direct load switching, low density range selection (Red)	★
02130-7000-0006[8]	Replacement cassette: PNP/PLC low voltage, low density range selection (Yellow)	★
02130-7000-0007[9]	Replacement cassette: NAMUR current switching, low density range selection (Light Blue)	★
02130-7000-0008[10]	Replacement cassette: DPCO Relay, low density range selection (Dark Green)	★
02130-7000-0009[11]	Replacement cassette: 8/16 mA, (Dark Blue)	★
02130-7000-0010[12]	Replacement cassette: 8/16 mA, low density range selection (Dark Blue)	★
02130-7000-0011[13]	Replacement cassette: fault and alarm relays (2 x SPCO) (Light Green)	★
02130-7000-0012[14]	Same as replacement cassette 02130-7000-011 but with low density range selection	★
02100-1060-0001[15]	Quick Release kit (contains 2-in. Tri Clamp, seal, and quick release device for 2-in. NPT process connection)	

1. Intrinsically Safe (IS) approved cassettes can only be replaced with the same type of IS cassette. Non-IS cassette types can be interchanged with other non-IS cassettes, but the new label must be fitted and the original part number transferred to the new label.
2. When ordering a replacement cassette, check the Product Certification section in Table 1 on page Wireless-4 for availability conditions.
3. Available for units with Direct Load electronics (Output code L). Not available for units with Options code LD is included in the model number.
4. Available for units with PNP/PLC electronics (Output code P). Not available for units with Options code LD is included in the model number.
5. Available for units with NAMUR electronics (Output code N). Not available for units with Options code LD is included in the model number.
6. Available for units with DCPO Relay electronics (Output code D). Not available for units with Options code LD is included in the model number.
7. Available for units with Direct Load electronics (Output code L) and Options code LD included in the model number.
8. Available for units with PNP/PLC electronics (Output code P) and Options code LD included in the model number.
9. Available for units with NAMUR electronics (Output code N) and Options code LD included in the model number.
10. Available for units with DCPO Relay electronics (Output code D) and Options code LD included in the model number.
11. Available for units with 8/16 mA electronics (Output code M). Not available for units with Options code LD is included in the model number.
12. Available for units with 8/16 mA electronics (Output code M) and Options code LD included in the model number.
13. Available for units with Fault and Alarm Relay electronics (Option code F) only. Not available for units with Options code LD is included in the model number.
14. Available for units with Fault and Alarm Relay electronics (Option code F) and Options code LD included in the model number.
15. The Quick Release kit is a set of accessories requiring a Rosemount 2130 with the 2-in. Tri Clamp option and an existing 2-in. NPT process connection on the vessel. For additional information, see Rosemount 2120 Quick Release kit – Quick Start Guide.

Specifications

General

Product

Rosemount 2130 Level Switch

Measuring principle

Vibrating Fork

Applications

Most liquids including coating liquids, aerated liquids, and slurries

Mechanical

Housing / Enclosure

Table 3. Housing/Enclosure Specification

Housing code	A-2	A-9	S-2	S-9
Housing material	Aluminum alloy ASTM B85 A360.0		316C12 Stainless steel	
Rotational	No	No	No	No
Housing paint	Polyurethane paint		Not applicable	
LED window	None		None	
Conduit entry	M20	3/4-in. ANPT	M20	3/4-in. ANPT
Ingress protection	IP66/67 to EN60529, NEMA® 4X		IP66/67 to EN60529, NEMA 4X	

Connections

Threaded, Tri Clamp, and flanged process connections. See Table 1 on page Wireless-4 for a complete list.

Extended lengths

Table 4. Minimum Extended Lengths

Process connection	Minimum extended length
3/4–in. threaded	3.8 in. (95 mm)
1–in. threaded	3.7 in. (94 mm)
Flanged	3.5 in. (89 mm)
Tri Clamp	4.1 in. (105 mm)

The maximum extended length is 157.5 in. (4000 mm) except for the ECTFE co-polymer coating and polished process connection options which have a maximum length of 59.1 in. (1500 mm) and 39.4 in. (1000 mm) respectively.

Material selection

Emerson™ provides a variety of Rosemount product with various product options and configurations including materials of construction that can be expected to perform well in a wide range of applications. The Rosemount product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser's sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options and components for the particular application.

Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration or materials of construction selected.

Process connection materials

316/316L Stainless Steel (1.4401/1.4404 dual certified)

Alloy C (UNS N10002) and Alloy C-276 (UNS N10276) – available for flanged, and BSPT and NPT threaded process connections (3/4-in. and 1-in. BSPT (R), and 3/4-in. and 1-in. NPT)

ECTFE co-polymer coated 316/316L Stainless Steel (1.4401/1.4404 dual certified) – only available for a flanged 2130

Hand-polished to better than 0.4 µm option for hygienic connections

Gasket material for 3/4-in. and 1-in. BSPP (G) is non-asbestos BS7531

Grade X carbon fiber with rubber binder

Functional

Maximum operating altitude

6562 ft. (2000 m)

Maximum operating pressure

The final rating depends on the type of process connection.

- Threaded connection: see Figure 3 for operating pressures.
- Tri Clamp connection: 435 psig (30 bar g)
- Flanged Connection: see Figure 3 or Table 1 (whichever gives the lowest pressure).

Figure 1. Process Pressure

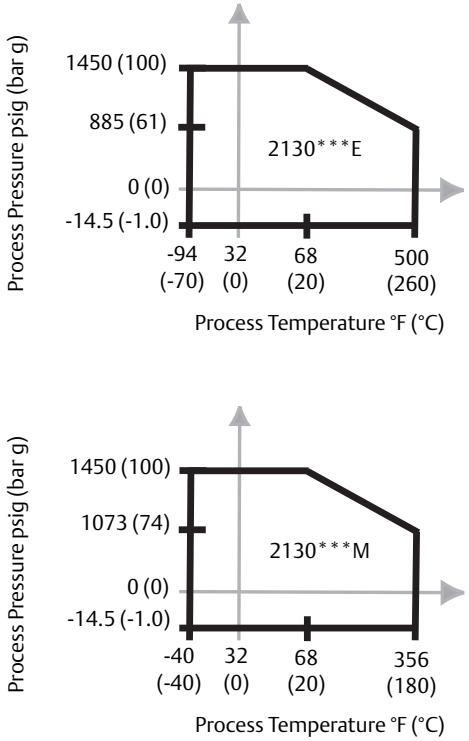


Figure 2. Operating Temperatures

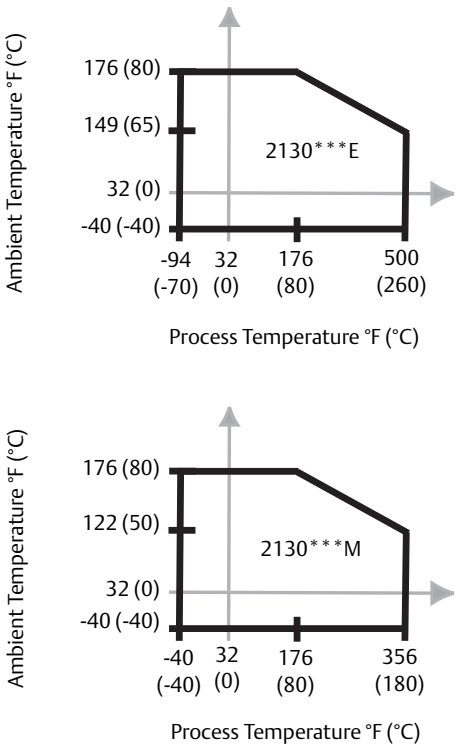


Table 5. Maximum flange pressure rating

Standard	Class/Rating	Stainless steel flanges
ASME B16.5	Class 150	275 psig (1)
ASME B16.5	Class 300	720 psig (1)
ASME B16.5	Class 600	1,440 psig (1)
EN1092-1	PN 10/16	16 barg (2)
EN1092-1	PN 25/40	40 barg (2)
EN1092-1	PN 63	63 barg (2)
EN1092-1	PN 100	100 barg (2)

1. At 100 °F (38 °C), the pressure rating decreases with an increasing process temperature.
2. At 122 °F (50 °C), the pressure rating decreases with an increasing process temperature.

Minimum and maximum operating temperatures

- See Figure 2 for operating temperatures.

The ambient temperature for a 8/16 mA cassette is limited to 158 °F (70 °C) in dust applications.

Performance

Hysteresis (water)

- 0.1 in. (2.5 mm)

Switching point (water)

0.5 in. (13 mm) from tip of fork (if vertical installation) or from edge of fork (if horizontal installation) – this will vary with different liquid densities

Liquid density requirement

Minimum standard density is 37.5 lb/ft3 (600 kg/m3).

Minimum density is 31.2 lb/ft3 (500 kg/m3) when ordered with the Low Density Range option.

Liquid viscosity range

Up to 10000 cP (centiPoise) when operating in the Normal mode.

Up to 1000 cP (centiPoise) when operating in Self-check mode.

Solids content and coating

The maximum recommended diameter of solid particles in the liquid is 0.2 in. (5 mm) when used in normal mode only.

For coating products, avoid bridging of forks.

Switching delay

There is a user-selectable 0.3-, 1-, 3-, 10-, 30-second delay for dry-to-wet and wet-to-dry switching.

CIP (Clean In Place) and SIP (Steam In Place) cleaning

Withstands cleaning routines up to 275 °F (135 °C).

NACE

NACE compliance to MR0175 / ISO 15156 or MR0103, depending on the option code selected for the model number.

Operating modes

Table 6. Operating Modes

Fault conditions detected	Normal mode	Self-check mode
PCB Control Circuit Corruption	Yes	Yes
External Damage to Fork	No	Yes
Internal Damage to Sensor	No	Yes
Excessive Corrosion	No	Yes
Over-temperature	No	Yes

Electrical

Switching mode

- User-selectable switching mode (Dry = on or Wet = on)

Protection

Polarity insensitive

- On Direct Load and Relay electronics

Over-current protection

- On Direct Load and PNP/PLC electronics

Short-circuit protection

- On Direct Load and PNP/PLC electronics

Load-missing protection

- On Direct Load and PNP/PLC electronics

Surge protection (to IEC61326)

- Available on all versions of the Rosemount 2130

Magnetic test point

A magnetic test point is located on the side of the housing, allowing a functional test of the Rosemount 2130 and a system connected to it. By holding a magnet to the target, the output changes state for as long as the magnet is held there.

Terminal connection (wire diameter)

Minimum 26 AWG and maximum 14 AWG (0.13 to 2.5 mm^2). Note national regulations.

Conduit plugs/cable gland

Conduit entries for explosion-proof areas are shipped with one Exd plug (loose in bag) and two dust caps fitted. Use suitably rated cable glands. Unused conduit entries must be sealed with a suitably rated blanking plug. Local codes and regulations must be complied with.

Grounding

The Rosemount 2130 should always be grounded, either through the terminals or using the external ground connection provided.

Product certifications

European directive information

The EC declaration of conformity for all applicable European directives for this product can be found at Emerson.com/Rosemount.

NAMUR approval

NAMUR NE95 type test report is available upon request.
Complies with NAMUR NE21.

Overfill approval

Certificate number: Z-65.11-519.

TÜV-tested and approved for overfill protection according to the German DIBt/WHG regulations.

Certified under safety devices for tanks and piping related to water pollution control.

Marine approvals

ABS American Bureau of Shipping

GL Germanischer Lloyd (excludes Alarm and Fault relays)

SRS Russian Maritime Registered Shipping (RMRS)

Drinking water approval

Rosemount Measurement Ltd., Slough, UK confirms that the wetted parts of the Rosemount type 2130 vibrating level switches are suitable and approved for use in potable water. The wetted parts of the vibrating level switches executed in: Stainless steel (option code S) and Alloy C / Alloy C-276 (option code H) with Flanged (option code R), NPT thread (option code N), BSPT(R) thread (option code B) or Tri Clamp (option code C) process connections, are in accordance with the requirements of DVGW*- Worksheet W270.The materials used are classified as toxicologically and microbiologically safe.

Ordinary location certification for FM

G5 Project ID: 3021776
The switch has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by FM, a nationally recognized testing laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

Ordinary location certification for CSA

G6 Certificate number: 06 CSA 1805769
The switch has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by CSA, a nationally recognized testing laboratory as accredited by the Standards Council of Canada (SCC). Single process seal.

Safety Integrity Level (SIL) certification

The Rosemount 2130 is SIL2-certified, it has been independently certified to IEC 61508 as required by IEC 61511. Certification was conducted by Exida.
If required, add "QT" to the end of the model code.
For example, 2130 L A 2 E S 9 NN B A 0000 1 NA Q8 QT.

Canadian Registration Number

CRN 0F04227.2C

Note
The requirements of CRN are met when a Rosemount 2130 CSA-approved (G6, E6, or I6 codes) vibrating fork level switch is configured with 316/316L stainless steel (1.4401/1.4404) wetted parts and either NPT threaded or 2-in. to 8-in. ASME B16.5 flanged process connections.

Hazardous locations certifications

North American approvals

Factory Mutual (FM) explosion-proof approval

E5 Project ID: 3012658
Explosion-proof for Class I, Div. 1, Groups A, B, C, and D
Temperature class: T6 (T_{amb} –50 to +75 °C)
Enclosure: Type 4X

Factory Mutual (FM)
intrinsically safe approval and non-incendive approvals

I5 Project ID: 3011456
Intrinsically safe for Class I, Div. 1, Groups A, B, C, and D
Class I, Zone 0, AEx ia IIC
Non-incendive for Class I, Div. 2, Groups A, B, C, and D
Class I, Zone 2, IIC
Temperature code: T5 (Tamb –40 to 80 °C, Tproc < 80 °C)
Control drawing: 71097/1154 (with NAMUR electronics)
Control drawing: 71097/1314 (with 8/16 mA electronics)

Note
A certified isolating amplifier or barrier must be used for intrinsic safety.

Canadian approvals

Canadian Standards Association (CSA) explosion-proof

E6 Project ID: 1786345
Explosion-proof for Class I, Div. 1, Groups A, B, C, and D
Temperature class: T6 (T_{amb} –50 to +75 °C)
Enclosure: Type 4X
Single Seal

Canadian Standards Association (CSA) intrinsically safe and non-incendive approvals

I6 Certificate number: 06 CSA 1786345
Intrinsically safe for Class I, Div. 1, Groups A, B, C, and D
Class 1, Zone 0, Ex ia IIC
Non-incendive for Class I, Div. 2, Groups A, B, C, and D
Temperature code: T5 (T_{amb} –50 to +80 °C, Tproc < 80 °C)
Control drawing: 71097/1179 (with NAMUR electronics)
Control drawing: 71097/1315 (with 8/16 mA electronics)
Single Seal

Note
A certified isolating amplifier or barrier must be used for intrinsic safety.

European approvals

ATEX flameproof and dustproof approval

E1 Certificate: Sira 05ATEX1129X
Flameproof and dustproof:
ATEX Marking II 1/2 G D
Ex db IIC T6…T2 Ga/Gb
Ex tb IIIC T85 °C…T265 °C Db

ATEX intrinsically safe approval

I1 Certificate: Sira 05ATEX2130X
Intrinsic safety for gas and dust atmospheres:
ATEX Marking II 1 GD
Ex ia IIC T5…T2 Ga
Ex ia IIIC T85 °C…T265 °C Da

Note
A certified isolating amplifier or barrier must be used for intrinsic safety.

International approvals

INMETRO flameproof and dustproof approval

E2 Certificate number: UL-BR 18.0284X
Flameproof and dustproof:
Ex db IIC T6…T2 Ga/Gb, Ex tb IIIC T85°C…T265°C Db

INMETRO intrinsically safe approval

I2 Certificate number: UL-BR 18.0441X
Intrinsically safe for gas and dust atmospheres:
Ex ia IIC T5…T2 Ga, Ex ia IIIC T85°C…T265°C Da

Note
A certified isolating amplifier or barrier must be used for intrinsic safety.

National Supervision and Inspection Centre for Explosion Protection and Safety Instrumentation (NEPSI) flameproof and dustproof approval

E3 Certificate number: GYJ101373
Flameproof and dustproof:
Ex d IIC T6 to T2
DIP A21 T_A (T85°C to 265°C) IP6X

National Supervision and Inspection Centre for Explosion Protection and Safety Instrumentation (NEPSI) intrinsically safe approval

I3 Certificate number: GYJ101372X (NAMUR electronics)
Intrinsic safety:
Ex ia IIC T5 to T2

Note
A certified isolating amplifier or barrier must be used for intrinsic safety.

International Electrotechnical Commission (IEC) flameproof and dustproof approval

E7 Certificate: IECEx SIR 06.0051X
Flameproof and dustproof:
Ex db IIC T6…T2 Ga/Gb
Ex tb IIIC T85 °C…T265 °C Db

International Electrotechnical Commission (IEC) intrinsically safe approval

I7 Certificate: IECEx SIR 06.0070X
Intrinsically safe for gas and dust atmospheres:
Ex ia IIC T5…T2 Ga
Ex ia IIIC T85 °C…T265 °C Da

Note
A certified isolating amplifier or barrier must be used for intrinsic safety.

Note
A certified isolating amplifier or barrier must be used for intrinsic safety.

Technical Regulation Customs Union (EAC) approvals

EM Certificate: RU C-GB.AB72.B.01385

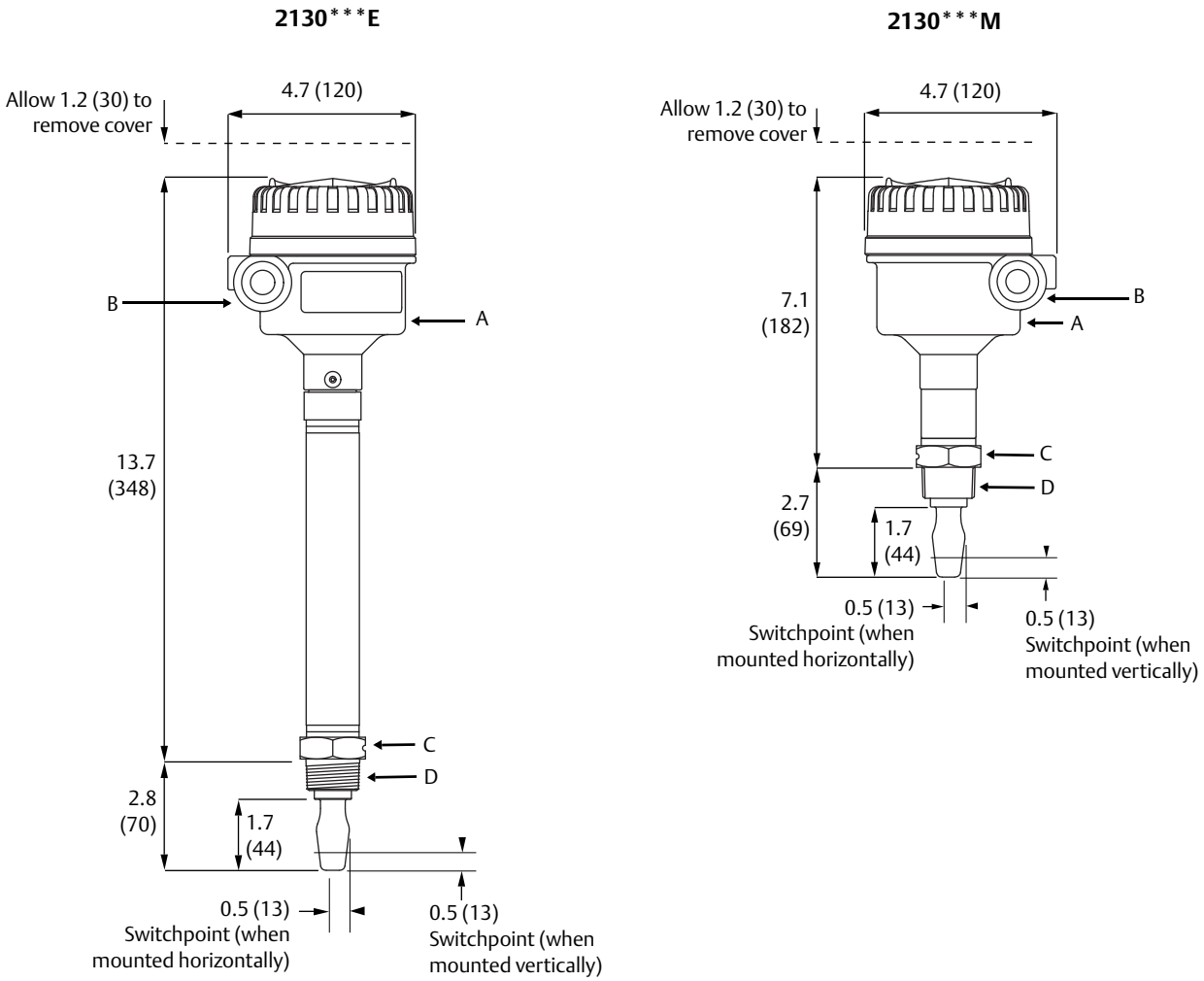
Flameproof:
1Exd IIC T6…T2 X
Ta (See table in the certificate.)

IM Certificate: RU C-GB.AB72.B.01385

Intrinsic safety:
0Exia IIC T5…T2 X
Ta (See table in the certificate.)

Dimensional drawings

Figure 3. 3/4- and 1-in. Threaded Mounting (Standard Length)

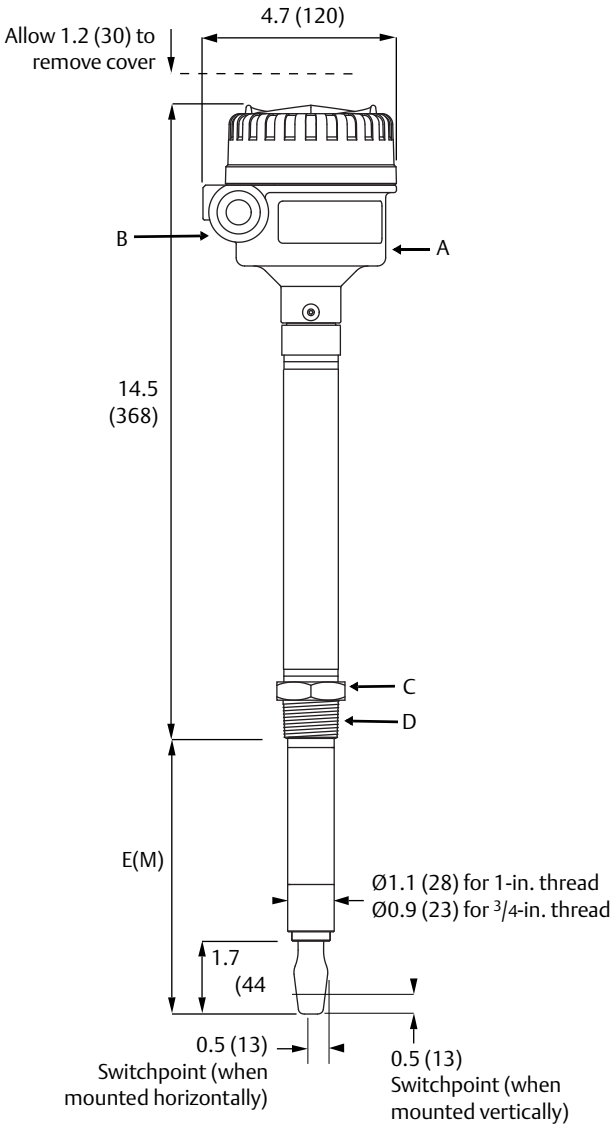


A. Aluminum or stainless steel housing
B. Cable entry M20 x 1.5 or 3/4-in. ANPT
C. 1.575 (40) A/F hexagon
D. 3/4-in. or 1-in. thread

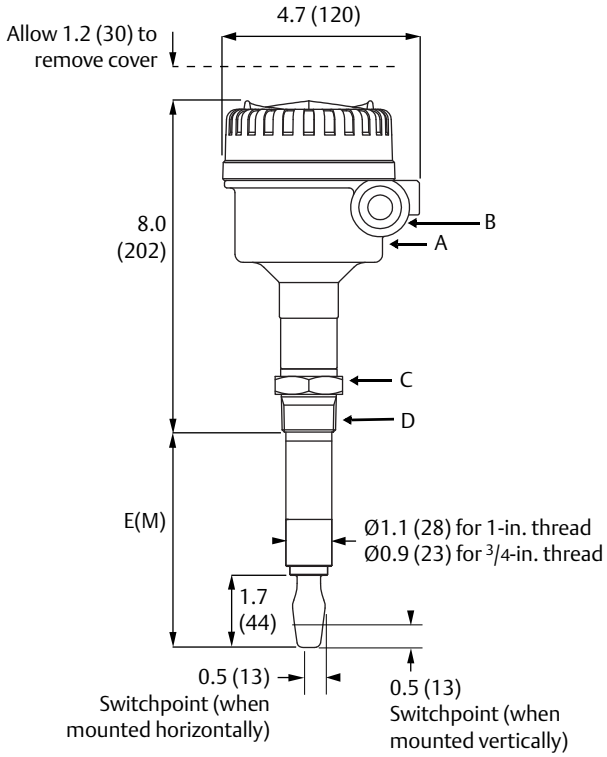
Note
Dimensions are in inches (millimeters).
For Hygienic Rosemount 2130 dimensions, see Type 1 drawing downloads on Emerson.com/Rosemount.

Figure 4. 3/4- and 1-in. Thread Mounting (Extended Length)

2130*E**



2130*M**



A. Aluminum or stainless steel housing
B. Cable entry M20 x 1.5 or 3/4-in. ANPT
C. 1.575 (40) A/F hexagon
D. 3/4-in. or 1-in. thread

Note

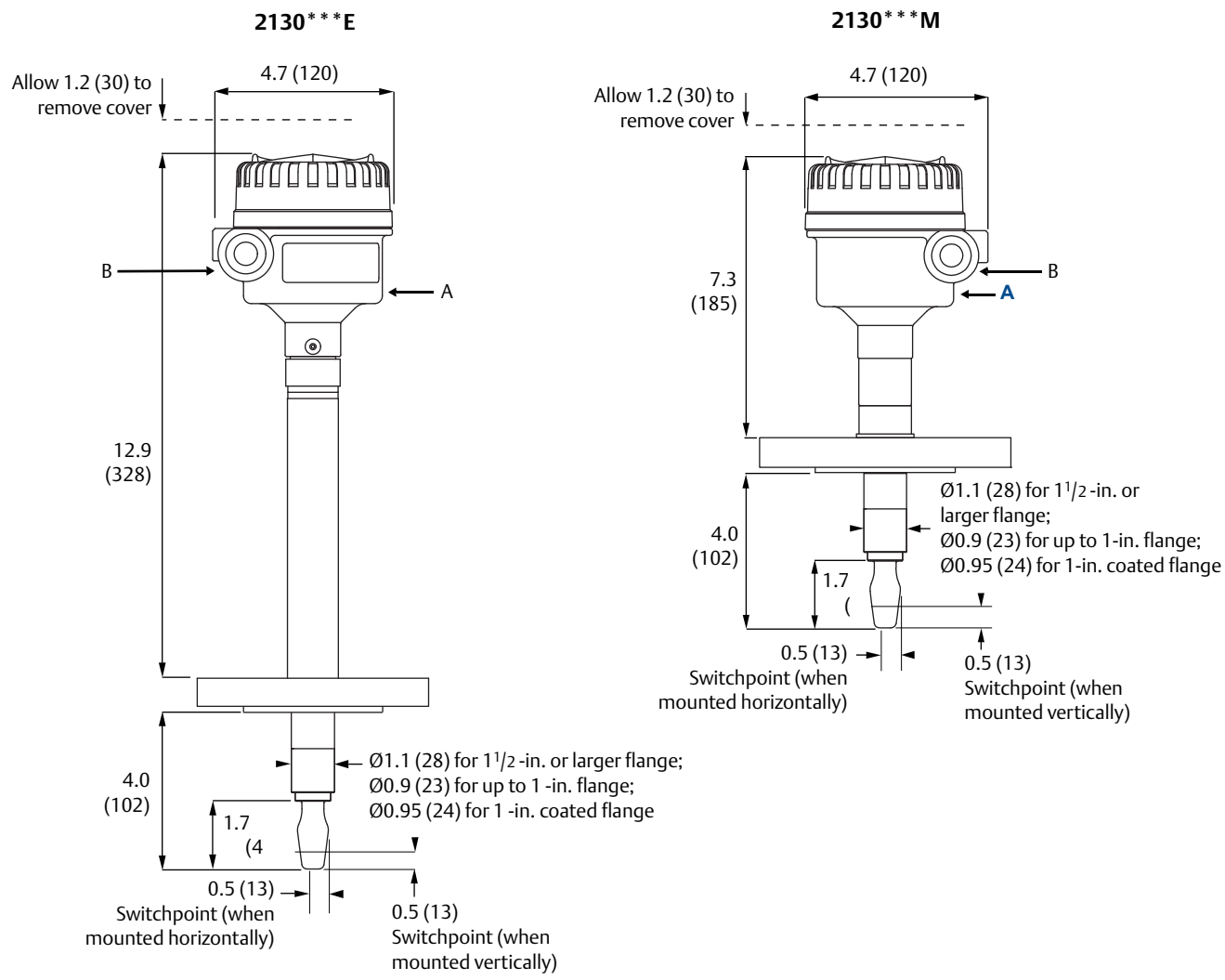
Dimensions are in inches (millimeters).
For Hygienic Rosemount 2130 dimensions, see Type 1 drawing downloads on Emerson.com/Rosemount.

Table 7. Fork Length for Threaded Rosemount 2130

Process connection	Standard length Fork Length code A	Minimum length Fork Length code E (M)	Maximum length Fork Length code E (M)(1)
3/4-in. thread	1.7-in. (44 mm)	3.75-in. (95 mm)	157.5-in. (4000 mm)
1-in. thread	1.7-in. (44 mm)	3.74-in. (94 mm)	157.5-in. (4000 mm)

1. Maximum extended length of fork with hand-polished option is 39.4-in. (1000 mm).

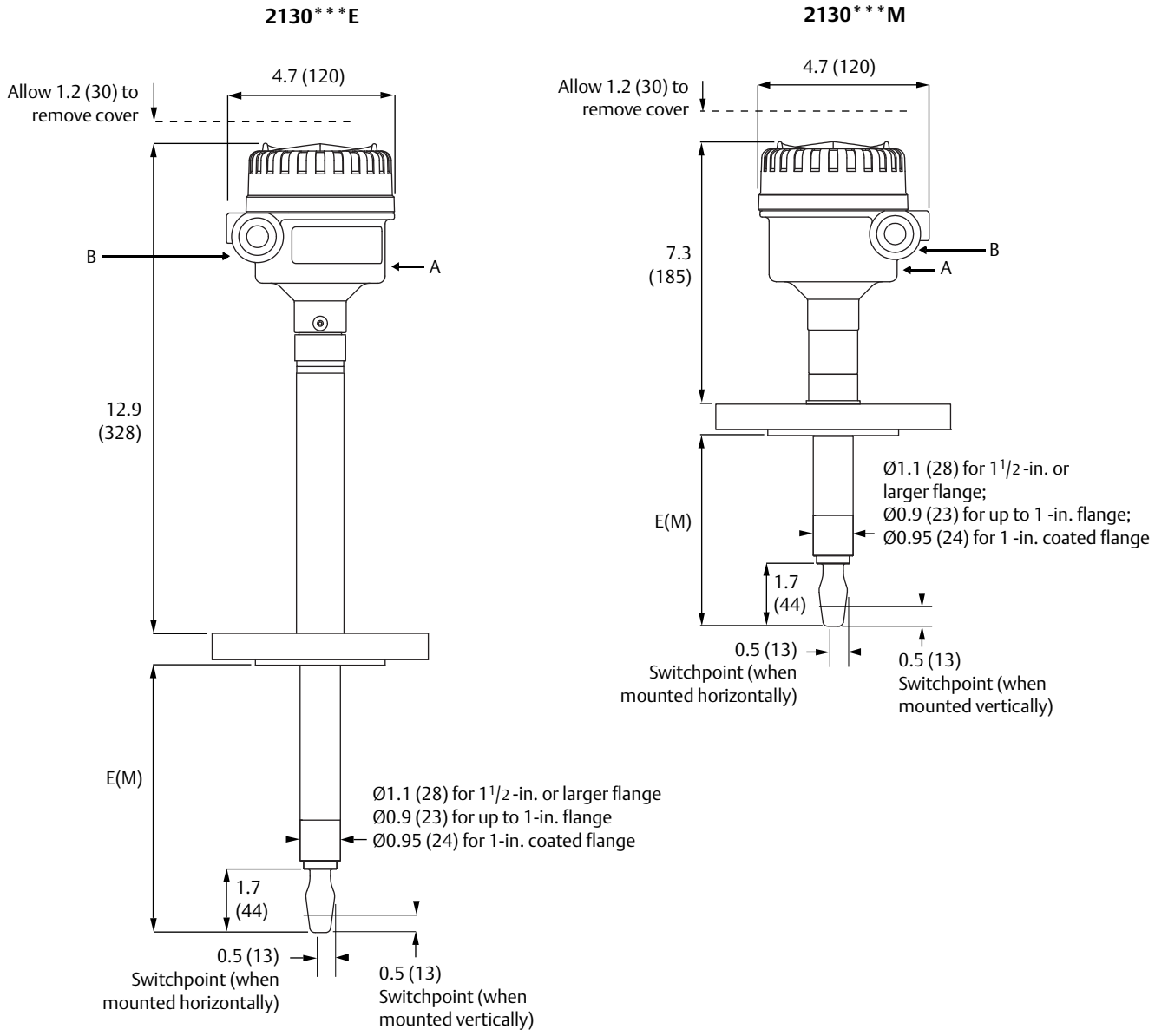
Figure 5. Flanged Mounting (Standard Length)



A. Aluminum or stainless steel housing
B. Cable entry M20 x 1.5 or 3/4-in. ANPT
C. 1.575 (40) A/F hexagon
D. 3/4-in. or 1-in. thread

Note
Dimensions are in inches (millimeters).

Figure 6. Flanged Mounting (Extended Length)



A. Aluminum or stainless steel housing

B. Cable entry M20 x 1.5 or 3/4-in. ANPT

Note

Dimensions are in inches (millimeters).

Table 8. Fork Length for Flanged Rosemount 2130

Material	Standard length Fork Length code H	Minimum length Fork Length code E(M)	Maximum length Fork Length code E(M)(1)
Stainless steel	4.0-in. (102 mm)	3.5-in. (89 mm)	157.5-in. (4000 mm)
ECTFE copolymer coated	4.0-in. (102 mm)	3.5-in. (89 mm)	59.1-in. (1500 mm)

1. Maximum extended length of fork with hand-polished option is 39.4 -in. (1000 mm).