Product Data Sheet
September 2016
IP2024, Rev BC

Mobrey™ Squing 2

Vibrating Fork Liquid Level Switch

- Function virtually unaffected by flow, bubbles, turbulence, foam, vibration, solids content, coating products, liquid properties, and product variations
- No need for calibration and requires a minimum amount of installation
- Easy terminal access, polarity insensitive, and short circuit protection
- Electronic self-checking and condition monitoring
- Adjustable switching delay for turbulent or splashing applications
- Magnetic test point makes functional test easy
- “Fast drip” fork design gives quicker response
- Explosion-proof/flameproof and intrinsically safe options

EMERSON
Process Management

Overview of the Mobrey Squing 2

There is a variety of plug-in electronics options, with each having an adjustable mode and switching delay (see "Electrical connections" on page 10)

'Fast drip' fork

Measurement principle

The Mobrey Squing 2 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 Mobrey Squing 2 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

- Virtually unaffected by turbulence, foam, vibration, solids content, coating liquids, or liquid properties
- The Mobrey Squing 2 is designed for operation in process temperatures from –40 to 302 °F (–40 to 150 °C)
- A 'heartbeat' LED indicates its operating state. The LED also flashes when the switch output is 'off' and is constantly lit when 'on'
- Adjustable switching delay prevents false switching in turbulent or splashing applications
- 'Fast drip' fork design gives quicker response time, especially with viscous liquids
- Rapid wet-to-dry and dry-to-wet time setting for highly responsive switching
- Fork shape is optimized for hand polishing to meet hygienic requirements
- No moving parts or crevices for virtually no maintenance

Contents

Fit and forget

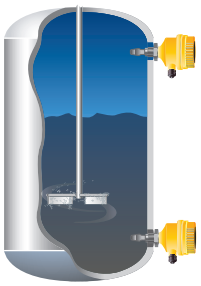
- Once installed, the Mobrey Squing 2 is ready to go.
  It needs no calibration and requires minimum installation
- The 'heartbeat' LED gives an instant visual indication that the unit is operational
- Functional testing of the instrument and system is easy with a magnetic test point
- You can install, and forget it

Superior performance

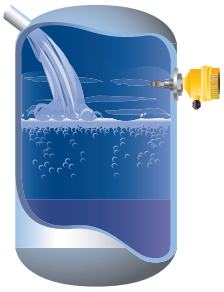
- The Mobrey Squing 2 is a popular choice for high and low level alarm and pump control duties for its simplicity, ease of use, and reliability
- Functionality is virtually unaffected by flow, turbulence, bubbles, foam, or vibration
- The 'fast drip' design allows the liquid to be quickly drawn away from the fork tip when mounted horizontally, making the Mobrey Squing 2 quicker and more responsive in high density or viscous liquid applications
- With a user-selectable time delay feature, the risk of false switching is minimized in turbulent or splashing applications

Applications

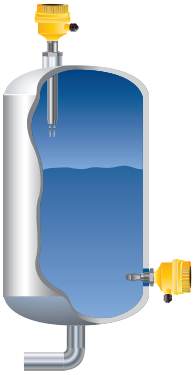
- Overfill protection
- High and low level alarms
- Pump control or limit detection
- Run dry or pump protection
- Hygienic applications
- High temperature applications
- Wireless applications



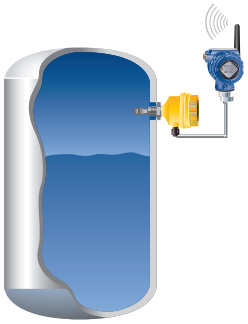
High and low level alarm



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 8 for more information on material selection.

Table 1. Mobrey Squing 2 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	
T	Tuning fork level switch	
Materials of construction (process connection and fork)		
D	316/316L stainless steel (1.4401/1.4404)	★
E	316/316L stainless steel (1.4401/1.4404) 3.1B certs (1.4404)	★
C(1)	Alloy C (UNS N10002), Alloy C-276 (UNS N10276), solid	
F(2)	ECTFE copolymer, coated 316/316L SST (1.4401/1.4404)	
G(2)	ECTFE copolymer, coated 316/316L SST (1.4401/1.4404) 3.1B certs (1.4404)	
Process connection		
5A	3/4-in. BSPT (R) thread	★
5B	3/4-in. BSPP (G) thread	★
5D	3/4-in. NPT thread	★
1A	1-in. BSPT (R) thread	★
1B	1-in. BSPP (G) thread	★
1D	1-in. NPT thread	★
1P	1-in. BSPP (G) O-ring hygienic fitting	★
6R	1 1/2-in. (38 mm) Tri Clamp hygienic fitting	★
2R	2-in. (51 mm) Tri Clamp hygienic fitting	★
8Q	Mobrey 'A' flange	★
9Q	Mobrey 'G' flange	★
1G	1-in. ASME B16.5 Class 150 Raised Face (RF) flange	
1H	1-in. ASME B16.5 Class 300 Raised Face (RF) flange	
1J	1-in. ASME B16.5 Class 600 Raised Face (RF) flange	
6G	1 1/2-in. ASME B16.5 Class 150 Raised Face (RF) flange	★
6H	1 1/2-in. ASME B16.5 Class 300 Raised Face (RF) flange	★
6J	1 1/2-in. ASME B16.5 Class 600 Raised Face (RF) flange	
2G	2-in. ASME B16.5 Class 150 Raised Face (RF) flange	★
2H	2-in. ASME B16.5 Class 300 Raised Face (RF) flange	★
2J	2-in. ASME B16.5 Class 600 Raised Face (RF) flange	
3G	3-in. ASME B16.5 Class 150 Raised Face (RF) flange	★
3H	3-in. ASME B16.5 Class 300 Raised Face (RF) flange	★
3J	3-in. ASME B16.5 Class 600 Raised Face (RF) flange	
4G	4-in. ASME B16.5 Class 150 Raised Face (RF) flange	★
4H	4-in. ASME B16.5 Class 300 Raised Face (RF) flange	★

Table 1. Mobrey Squing 2 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.

4J	4-in. ASME B16.5 Class 600 Raised Face (RF) flange		
1K	DN25, EN1092 PN 10/16 flange		★
1L	DN25, EN1092 PN 25/40 flange		★
1M	DN25, EN1092 PN 63 flange		★
1N	DN25, EN1092 PN 100 flange		★
6K	DN40, EN1092 PN 10/16 flange		★
6L	DN40, EN1092 PN 25/40 flange		★
6M	DN40, EN1092 PN 63 flange		
6N	DN40, EN1092 PN 100 flange		
2K	DN50, EN1092 PN 10/16 flange		★
2L	DN50, EN1092 PN 25/40 flange		★
2M	DN50, EN1092 PN 63 flange		
2N	DN50, EN1092 PN 100 flange		
7K	DN65, EN1092 PN 10/16 flange		★
7L	DN65, EN1092 PN 25/40 flange		★
7M	DN65, EN1092 PN 63 flange		
7N	DN65, EN1092 PN 100 flange		
3K	DN80, EN1092 PN 10/16 flange		★
3L	DN80, EN1092 PN 25/40 flange		★
3M	DN80, EN1092 PN 63 flange		
3N	DN80, EN1092 PN 100 flange		
4K	DN100, EN1092 PN 10/16 flange		★
4L	DN100, EN1092 PN 25/40 flange		★
4M	DN100, EN1092 PN 63 flange		
4N	DN100, EN1092 PN 100 flange		
SA	25A, 10K, JIS B2220 flange		★
SB	25A, 20K, JIS B2220 flange		★
TA	40A, 10K, JIS B2220 flange		★
TB	40A, 20K, JIS B2220 flange		★
UA	50A, 10K, JIS B2220 flange		★
UB	50A, 20K, JIS B2220 flange		★
VA	80A, 10K, JIS B2220 flange		★
VB	80A, 20K, JIS B2220 flange		★
XA	100A, 10K, JIS B2220 flange		★
XB	100A, 20K, JIS B2220 flange		★
Electronic type		**Available certifications**	
T	Direct load switching (mains 2-wire) 20 to 264 Vac 50/60 Hz, 20 to 60 Vdc	N, G, E, F, D, J	★
G	PNP/PLC low voltage (3-wire) 20 to 60 Vdc	N, G, E, F, D, J	★
V	Relay (DPCO)	N, G, E, F, D, J	★

Table 1. Mobrey Squing 2 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.

K	NAMUR		All	★
H	8/16 mA		All	★
Surface finish			**Available connections**	
1	Standard surface finish		All	★
2	Hand polished (Ra < 0.4 μm)		Hygienic Connection Only	★
Product certifications		**Electronic types allowed**	**Available housings**	
N	Standard (no approvals)	All	All	★
G	FM and CSA (unclassified, safe area)	All	Y, T	★
E	ATEX Exd	All	X, S	★
F	FM Exd	All	Y, T	★
D	CSA Exd	All	Y, T	★
J	IECEx Exd	All	X, S	★
A	ATEX I.S.	K, H	All	★
K	FM I.S. and non-incendive	K, H	All	★
C	CSA I.S. and non-incendive	K, H	All	★
H	IECEx I.S.	K, H	All	★
Housing			**Available for certifications**	
A	Glass filled nylon, M20 conduits/cable threads		N, A, K, C, H	★
D	Glass filled nylon, 1/2-in. NPT conduits/cable threads		N, A, K, C, H	★
X	Aluminum alloy, M20 conduits/cable threads		All except G, F, D	★
Y	Aluminum alloy, 3/4-in. NPT conduits/cable threads		All except A, H	★
S	Stainless steel, M20 conduits/cable threads		All except G, F, D	★
T	Stainless steel 3/4-in. NPT conduits/cable threads		All except A, H	★
Fork length			**Available connections**	
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	★
B	Ext. 5.9 in. (150 mm)		All except 1-in. BSPP O-ring 1P	★
C	Ext. 11.8 in. (300 mm)		All except 1-in. BSPP O-ring 1P	★
D	Ext. 19.7 in. (500 mm)		All except 1-in. BSPP O-ring 1P	★
L	Semi-ext 3.9 in. (98 mm)		All except 1-in. BSPP O-ring 1P	★
M(4)	Extended, customer specified length in millimeters		All except 1-in. BSPP O-ring 1P	★
Extension range				
XXXX(4)	Specific customer specified length in millimeters (Only if fork length M is specified)			★
Typical model number: T D 1A V 1 N A A				

1. Available for threaded process connection codes 0A, 0D, 1A, and 1D and flanged process connections as standard, other upon request.
2. Available only for a flanged Mobrey Squing 2 but excludes 1-in./DN25/25A flanges.
3. Not available for hand polished wet side.
4. Minimum extended length available for 3/4-in. threaded connection is 3.8 in. (95 mm); for 1-in. threaded, it is 3.7 in. (94 mm); for flanged, it is 3.5 in. (89 mm); and for Tri Clamp, it is 4.1 in. (105 mm). Maximum length is 157.5 in. (4000 mm), except for ECTFE copolymer coating and hand-polished process where the maximum length is 59.1 in. (1500 mm) and 39.4 in. (1000 mm) respectively. Example: Code M4000 is 4000 millimeters.

Spare Parts and Accessories

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See page 8 for more information on material selection.

Table 2. 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	★
02100-1010-0001	Hygienic adapter boss 1-in. BSPP. Material: 316 SST 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	★
02120-2000-0001[3]	1 1/2-in. BSPP adjustable 316 SST clamp gland for 1-in. extended lengths. Silicone (Si) rubber seal	★
02120-2000-0002[3]	1 1/2-in. NPT adjustable 316 SST clamp gland for 1-in. extended lengths. Silicone (Si) rubber seal	★
02120-7000-0001[4]	Replacement cassette: Direct load switching (2 Wire) (Red)	★
02120-7000-0002[4]	Replacement cassette: PNP/PLC low voltage cassette (Yellow)	★
02120-7000-0003[4]	Replacement cassette: NAMUR (Light Blue)	★
02120-7000-0004[4]	Replacement cassette: Relay (DPCO) cassette (Green)	★
02120-7000-0005[4]	Replacement cassette: 8/16 mA output cassette (Dark Blue)	★

1. Check the Electronic Type and Product Certification sections in Table 1 on page 4 for availability conditions.
2. 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.
3. The adjustable clamp gland is not explosion-proof.
4. This replacement cassette is for versions of the Mobrey Squing 2 shipped since June 2013.

Specifications

General

Product

Mobrey Squing 2 Vibrating Fork Liquid 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	D	X	Y	S	T
Housing material	Nylon PA66 30%GF		Al alloy ASTM B85 A360.0		316C12 SST	
Rotational	Yes		No		No	
Housing paint	Not applicable		Polyurethane paint		Not applicable	
LED window	Nylon PA12		None		None	
Conduit entry	M20	1/2-in. NPT	M20	3/4-in. NPT	M20	3/4-in. NPT
Ingress protection	IP66/67 to EN60529		IP66/67 to EN60529, NEMA 4X		IP66/67 to EN60529, NEMA 4X	

Connections

Threaded, hygienic, and flanged process connections. See "Process connection" on page 4 for a complete list

Extended lengths

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

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)

Dimensional drawings

See "Dimensional Drawings" on page 14.

Material selection

Emerson provides a variety of Mobrey 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 Mobrey 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- and 1-in. BSPT (R), and 3/4- and 1-in. NPT)

ECTFE co-polymer coated 316/316L Stainless Steel (1.4401/1.4404 dual certified) – only available for a flanged Mobrey Squing 2 but excludes 1-in./DN25/25A flanges

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 altitude

6562 ft. (2000 m)

Maximum operating pressure

The final rating depends on the selected process connection.

- Threaded connection: see Figure 1 for operating pressures

  Clamp glands 02120-2000-0001 and 02120-2000-0002 (page 7) limit the maximum pressure to 18.85 psig (1.3 bar g)

- Hygienic connection: 435 psig (30 bar g)

- Flanged connection:

  See Figure 1 or Table 5 (whichever gives the lowest pressure).

Figure 1. Process Pressure

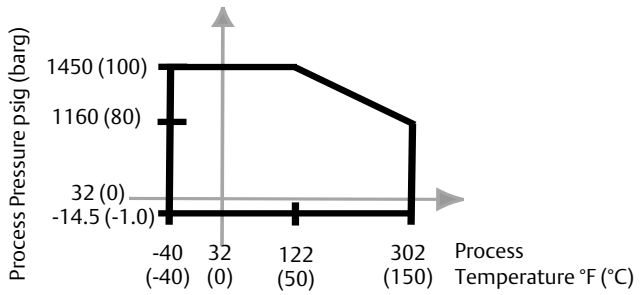


Table 5. Maximum Flange Pressure Rating

Standard	Class/Rating	SST flanges
ASME B16.5	Class 150	275 psig(1)
ASME B16.5	Class 300	720 psig(1)
ASME B16.5	Class 600	1440 psig(1)
EN1092-1	PN 10	10 barg(2)
EN1092-1	PN 16	16 barg(2)
EN1092-1	PN 25	25 barg(2)
EN1092-1	PN 40	40 barg(2)
EN1092-1	PN 63	63 barg(2)
EN1092-1	PN 100	100 barg(2)
JIS B2220	10K	14 barg(3)
JIS B2220	29K	34 barg(3)

1. At 100 °F (38 °C), the rating decreases with an increasing process temperature.
2. At 122 °F (50 °C), the rating decreases with an increasing process temperature.
3. At 248 °F (120 °C), the rating decreases with an increasing process temperature.

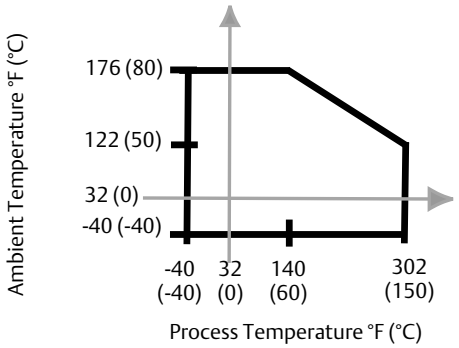
Minimum and maximum operating temperatures

See Figure 2 for operating temperatures.

Clamp glands 02120-2000-0001 and 02120-2000-0002 (page 7) limit the maximum temperature to 257 °F (125 °C).

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

Figure 2. Operating Temperatures



Liquid density requirement

Minimum 37.5 lb/ft^3 (600 kg/m^3)

Liquid viscosity range

Up to 10000 cP (centiPose)

Solids content and coating

Maximum recommended diameter of solid particles in the liquid is 0.2 in. (5 mm).

For a coating product, avoid bridging of forks

Switching delay

User selectable 0.3, 1, 3, 10, 30 seconds 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).

Performance

Hysteresis (water)

±0.039-in. (±1 mm) nominal.

Switching point (water)

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

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)
– on Direct Load and PNP/PLC electronics

Heartbeat LED

The Mobrey Squing 2 has a status-indicating heartbeat LED, which can be seen at all times and from all angles through a lens in the cover (no lens in metal housings).

The LED flashes when the output is 'off' and is constantly lit when it is 'on'. The LED gives a constant indication that the Mobrey Squing 2 is functioning correctly (different flash rates are used to indicate a product malfunction) and gives a local indication of the process state.

Magnetic test point

A magnetic test point is located on the side of the housing, allowing a functional test of the Mobrey Squing 2 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, Maximum 14 AWG (0.13 to 2.5 mm^2). Note national regulations.

Grounding

The Mobrey Squing 2 must always be grounded either through the terminals or using the external ground connection provided.

Conduit plugs/cable gland

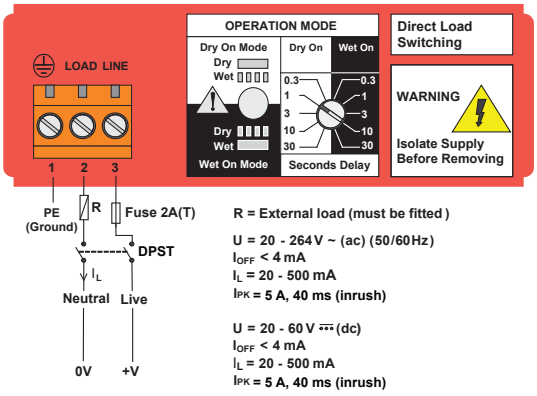
Metal housing:
Conduit entries for explosion-proof areas are shipped with one Exd plug (loose in bag) and two dust caps fitted. Use suitably rated cable glands. Unused conduit entries must be sealed with a suitably rated blanking plug.

Glass-filled nylon housing with direct load, PNP/PLC and IS electronics are shipped with one PA66[(1)] cable gland and one blanking plug.

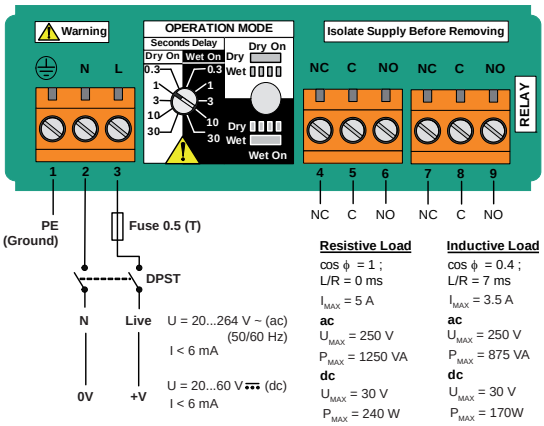
Glass-filled nylon housing with relay electronics are shipped with two PA66[(1)] cable glands.

Electrical connections

■ Direct load switching (two-wire) cassette

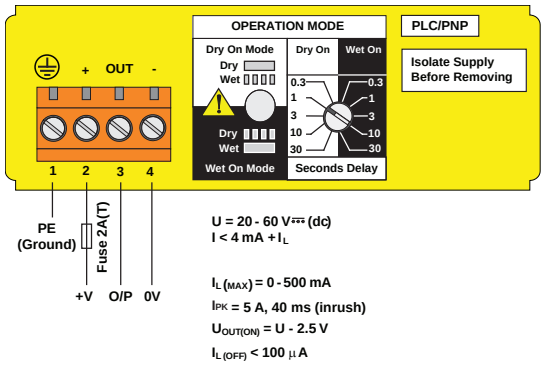


■ DPCO dual relay for voltage free contacts cassette

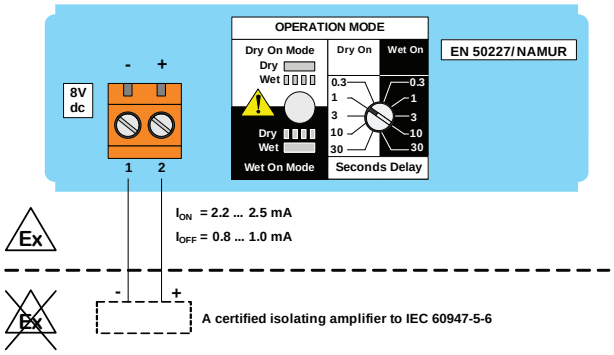


1. Cable diameter 0.2 to 0.3 in. (5 to 8 mm)

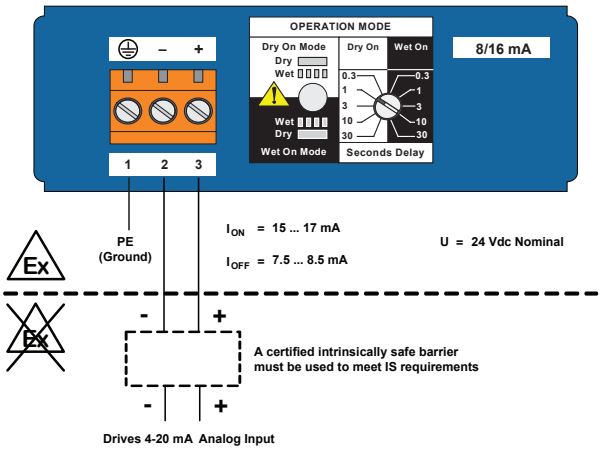
- Solid state PNP output for direct interface to PLC's (three wires) cassette



- NAMUR (light blue) cassette



- 8/16 mA (dark blue) cassette



Note
The external DPST switch that is shown in the wiring diagrams is an optional local disconnect (customer supplied).

Product Certifications

European directive information

The EC declaration of conformity for all applicable European directives for this product can be found in the Safety Instructions manual supplied with the Mobrey Squing 2. A hard copy may be obtained by contacting your local sales office.

ATEX directive

Complies with the ATEX directive.

Pressure Equipment Directive (PED)

The Mobrey Squing 2 is outside the scope of the PED directive.

Low Voltage Directive (LVD)

EN61010-1 Pollution degree 2, Category II (264 V maximum), Pollution degree 2, Category III (150 V maximum).

Electro Magnetic Compatibility (EMC) directive

EN61326 Emissions to Class B.

Immunity to industrial location requirements.

CE-mark

Complies with applicable directives (EMC, ATEX, and LVD).

Ordinary location certification for FM

G 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

G 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.

Canadian Registration Number

CRN 0F04227.2C

Note
The requirements of CRN are met when a Mobrey Squing 2 CSA IS-approved (C code) vibrating fork level switch model 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

F Explosion-proof for Class I, Div. 1, Groups A, B, C, and D
Temperature Class: T6 (T_{amb} –40 to 75 °C)
Enclosure: Type 4X

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

K 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 (T_{amb} –40 to 80 °C, Tproc < 80 °C)
Control Drawing: 71097/1013 (with NAMUR electronics)
Control Drawing: 71097/1316 (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

D Explosion-proof for Class I, Div. 1, Groups A, B, C, and D
Temperature Class: T6 (T_{amb} –40 to 75 °C)
Enclosure: Type 4X
Single process seal

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

C 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} –40 to 80 °C, Tproc < 80 °C)
Control Drawing: 71097/1177 (with NAMUR electronics)
Control Drawing: 71097/1317 (with 8/16 mA electronics)
Single process seal

European approvals

ATEX flameproof approval

E Certificate: Sira 01ATEX1163X
Flameproof and Dust:
ATEX Marking ⟨Ex⟩ II 1/2 G D
Ex d IIC T6...T2 Ga/Gb
Ex tb IIIC T85 °C...T265 °C Db

ATEX intrinsically safe approval

A Certificate: Sira 01ATEX2121X
Intrinsic Safety and Dust:
ATEX Marking ⟨Ex⟩ II 1 G D
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

International Electrotechnical Commission (IEC) flameproof approval

J Certificate: IECEx SIR 06.0050X
Flameproof and Dust:
Ex d IIC T6...T2 Ga/Gb
Ex tb IIIC T85°C...T265°C Db

International Electrotechnical Commission (IEC) intrinsically safe approval

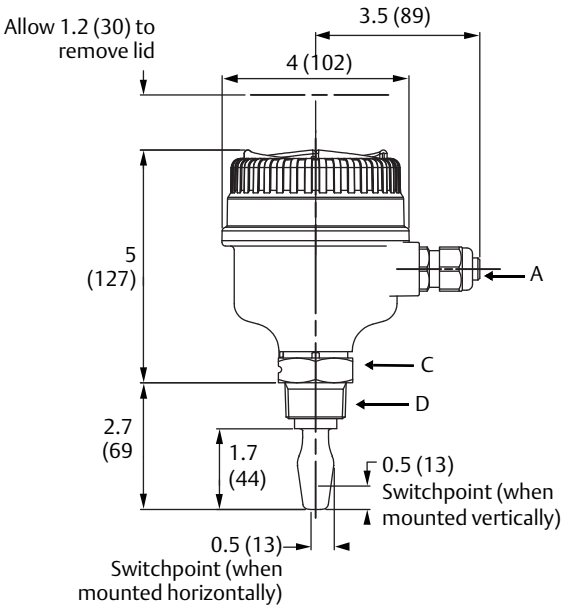
H Certificate: IECEx SIR 06.0065X
Intrinsically Safe and Dust:
Ex ia IIC T5...T2 Ga
Ex ia IIIC T85 °C...T265 °C Da

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

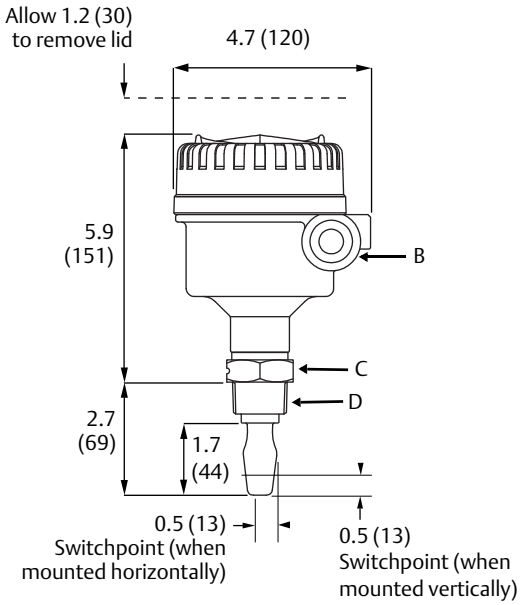
Dimensional Drawings

Figure 3. Threaded Mounting (Standard Length)

Glass-filled nylon housing



Aluminum/stainless steel housing

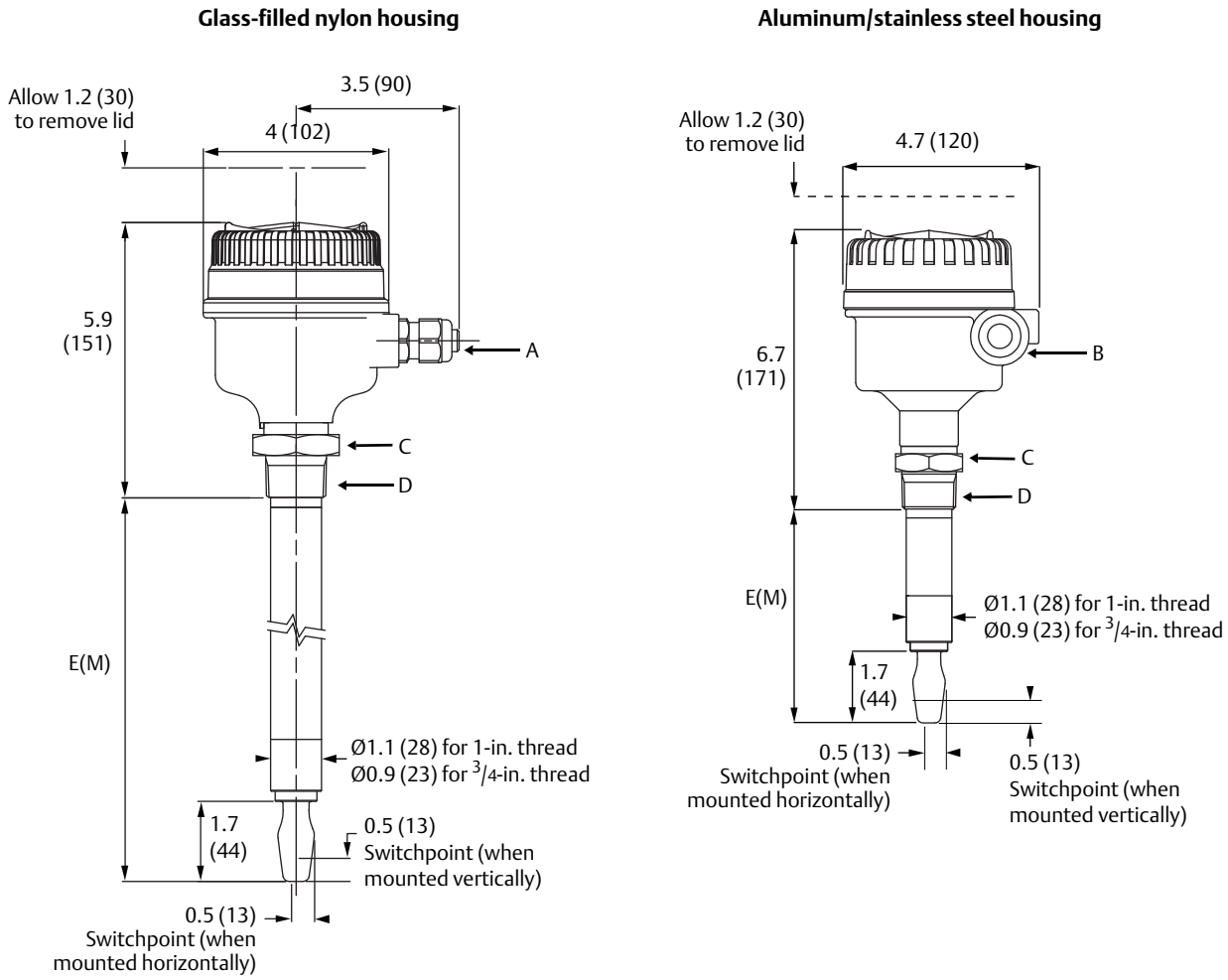


A. Cable entry M20x1.5 or $^{1}/_{2}$-in. NPT
B. Cable entry M20x1.5 or $^{3}/_{4}$-in. NPT
C. 1.6 (40) A/F hexagon
D. $^{3}/_{4}$- or 1-in. thread

Dimensions are in inches (millimeters).

Note
For Hygienic Mobrey Squing 2 dimensions, see Type 1 drawing downloads on EmersonProcess.com/Mobrey.

Figure 4. Thread Mounting (Extended Length)



A. Cable Entry M20x1.5 or 1/2-in. NPT
B. Cable Entry M20x1.5 or 3/4-in. NPT
C. 1.6 (40) A/F hexagon
D. 3/4-in. or 1-in. thread

Dimensions are in inches (millimeters).

Note
For Hygienic Mobrey Squing 2 dimensions, see Type 1 drawing downloads on EmersonProcess.com/Mobrey.

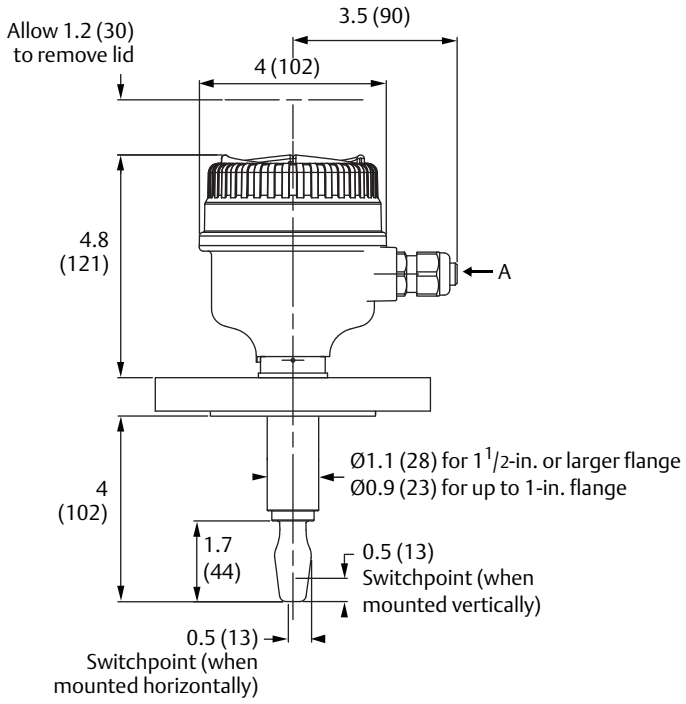
Table 6. Fork length for Threaded Mobrey Squing 2

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)

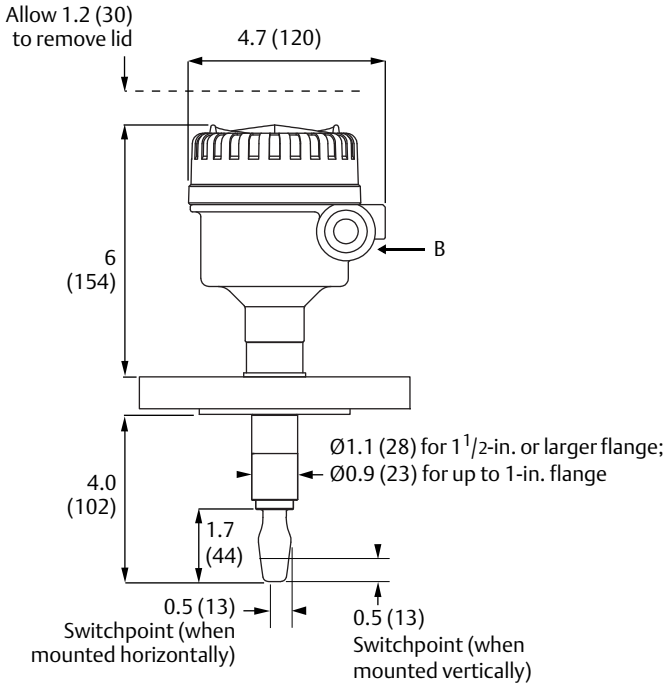
1. Maximum extended length of fork with hand-polished option is 39.4 in. (1000 mm).

Figure 5. Flange Mounting (Standard Length)

Glass-filled nylon housing



Aluminum/stainless steel housing



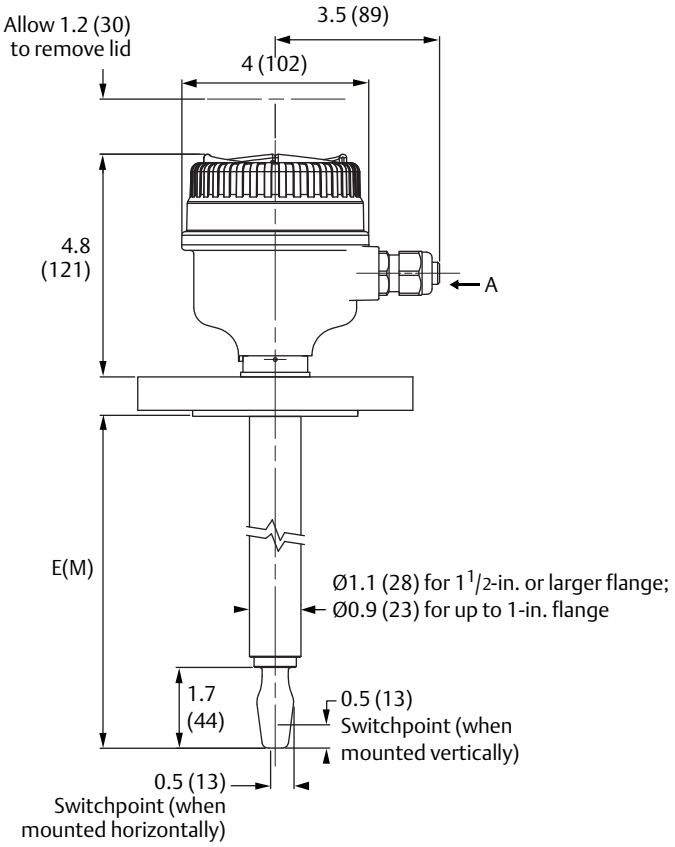
A. Cable entry M20x1.5 or 1/2-in. NPT
B. Cable entry M20x1.5 or 3/4-in. NPT

Dimensions are in inches (millimeters).

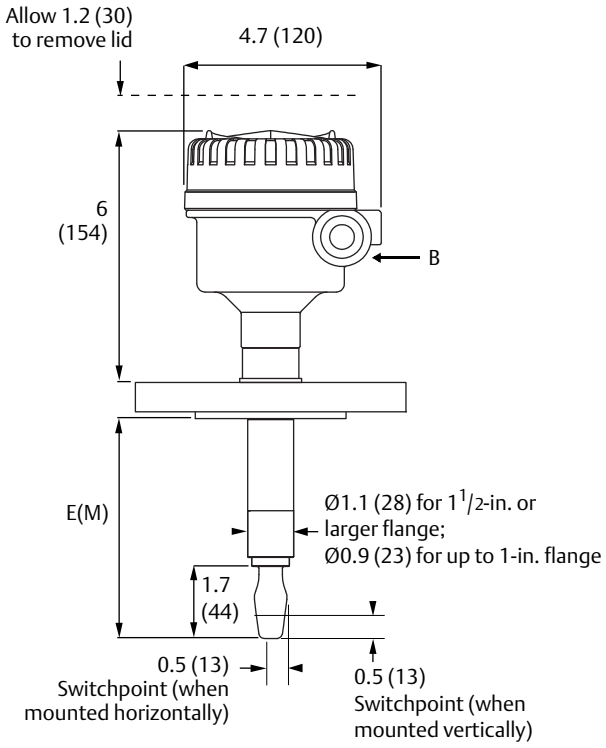
Note
For Hygienic Mobrey Squing 2 dimensions, see Type 1 drawing downloads on EmersonProcess.com/Mobrey.

Figure 6. Flange Mounting (Extended Length)

Glass-filled nylon housing



Aluminum/stainless steel housing



A. Cable entry M20x1.5 or 1/2-in. NPT
B. Cable entry M20x1.5 or 3/4-in. NPT

Dimensions are in inches (millimeters).

Note
For Hygienic Mobrey Squing 2 dimensions, see Type 1 drawing downloads on EmersonProcess.com/Mobrey.

Table 7. Fork Length for Flanged Mobrey Squing 2

Process connection material	Standard length model code H	Minimum length model code E (M)	Maximum length model code E (M)
Stainless steel(1)	4 (102)	3.5 (89)	157.5 (4000)
ECTFE co-polymer coated	4 (102)	3.5 (89)	59.1 (1500)
Alloy C and Alloy C-276	4 (102)	3.5 (89)	157.5 (4000)

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

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