



Advantages/Benefits

- ▶ Available in three configurations, probe only, compact design and probe with rail mount controller
- ▶ All plastic construction with PP materials
- ▶ Probe rated IP68
- ▶ Polypropylene enclosure rated IP65 with PG13 cable connector
- ▶ Available in both AC and DC switch power configurations
- ▶ Select FET switch, 1, 6 or 12 amp relay outputs
- ▶ LED's for power, liquid and relay
- ▶ Power fail-safe relay control
- ▶ Shielded probe and cable

Design/Function

The FET switch output provides a solid state, DC level interface with PLCs, relays and alarms.

The 1 amp, relay output provides an interface with valves, PLCs, relays and alarms.

The 6 and 12 amp, relay outputs provide an isolated level interface with large valves and pumps, including PLCs, relays and alarms.

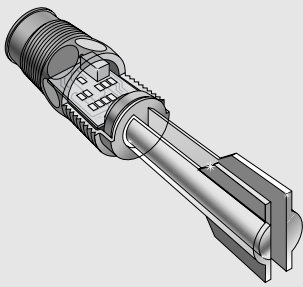
For remote 12 amp relay control, select from Burkert's family of SL31 rail mount controllers.

Applications

- Clean liquids compatible with PP/PPS
- Corrosive liquids compatible with PP/PPS and viton/EPDM
- Dirty liquids ranging up to a maximum of medium slurry
- Liquids with light to medium coating

bürkert
Easy Fluid Control Systems

Tuning Fork Switch



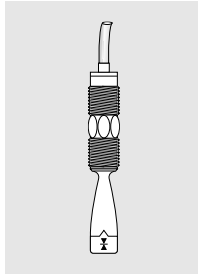
Principle of operation

The tuning fork switch vibrates at a nominal frequency of 400 Hz. As the switch becomes immersed in a liquid or slurry, a corresponding frequency shift occurs. When the measured frequency shift reaches the set point value, the switch changes state indicating the presence of a liquid or solid medium.

Modular switch design

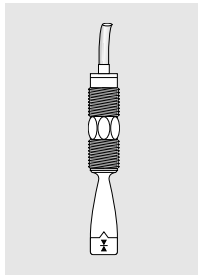
The Tuning Fork Switch is available in a wide variety of configurations to meet your specific requirements. The basic Tuning Fork Switch provides a FET or a 1 amp relay output. The switch is specifically designed for liquid level detection through the wall of the tank. The switch may be combined with an IP65 compact relay controller for integral termination and/or expanded control features. For remote relay control, select from Burkert's family of SL31 rail mount controllers.

Switch with FET output



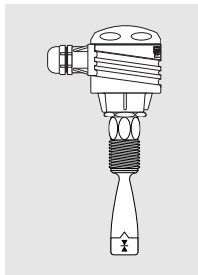
- Wetted materials all polypropylene and ryton
- Selectable normally open or normally closed states
- FET switch output for PLC, relay and LED alarm control interface
- Designed for installation inside the tank or through the tank wall
- Probe rated IP68

Switch with 1 amp relay output



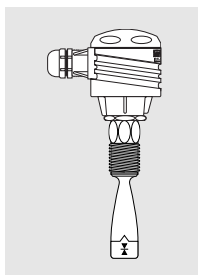
- Wetted materials all polypropylene
- Selectable normally open or normally closed relay
- Relay switch output for valves, pumps, PLC's and alarms
- Designed for installation through the tank wall
- Probe rated IP68

Switch and junction box with FET output



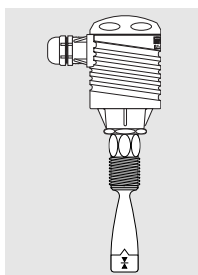
- Wetted materials all polypropylene
- Selectable normally open or normally closed states
- FET switch output for PLC, relay and LED alarm control interface
- Designed for installation through the tank wall
- PP enclosure rated IP65 with rotational base and terminal strip

Switch and 14 - 36 VDC Controller with 6 Amp Relay Output



- Wetted materials all polypropylene
- Selectable normally open or normally closed states
- 6 amp, SPDT relay output for isolated PLC, pump and valve control interface
- LED lights for liquid, power and relay status
- 0 - 60 second time delay dampens process turbulence
- PP enclosure rated IP65 with rotational base and PG13 cable connector

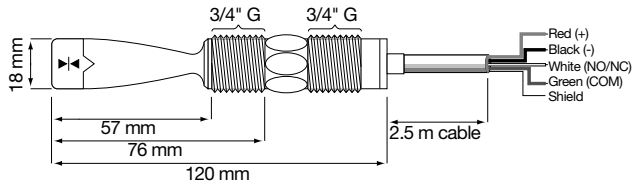
Switch and 110 / 220 VAC controller with 10 Amp Relay Output



- Wetted materials all polypropylene
- Selectable normally open or normally closed states
- 12 amp, SPDT relay output for isolated PLC, pump and valve control interface
- LED lights for liquid, power and relay status
- 0 - 60 second time delay dampens process turbulence
- PP enclosure rated IP65 with rotational base and PG13 cable connector

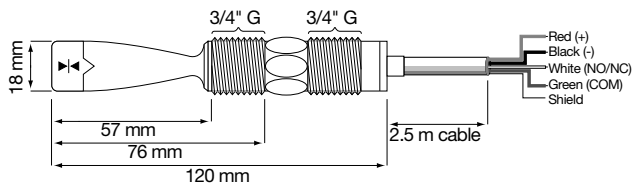
Switch with FET output

Switch with 3/4" G Mounting Threads



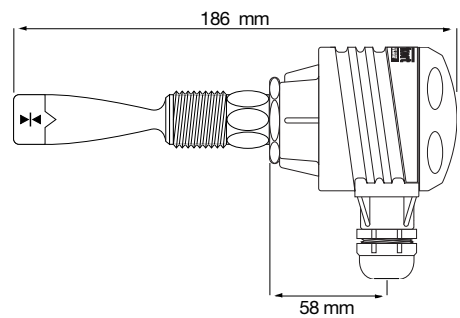
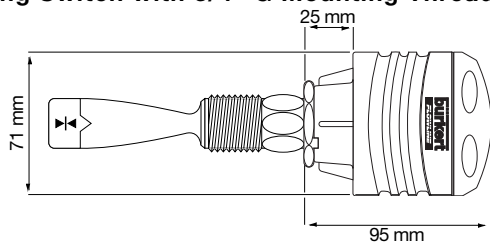
Switch with relay output

Switch with 3/4" G Mounting Threads



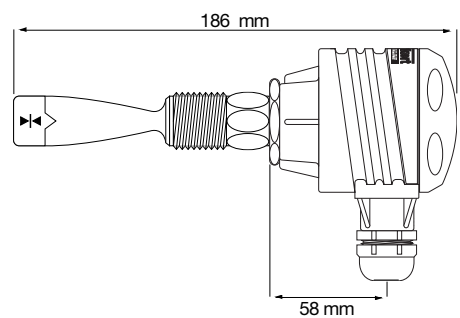
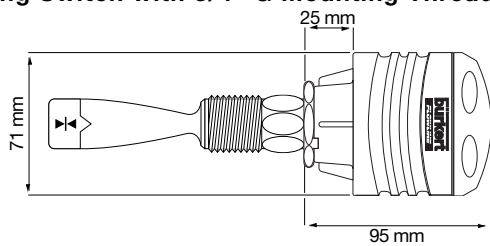
Switch and Junction Box with FET Output

Long Switch with 3/4" G Mounting Threads



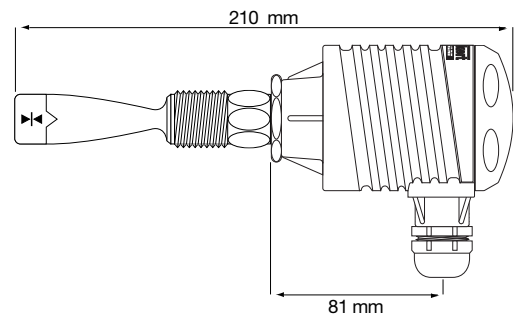
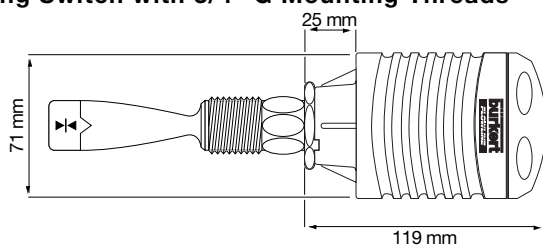
Switch and 14 - 36 VDC Controller with 6 Amp Relay Output

Long Switch with 3/4" G Mounting Threads

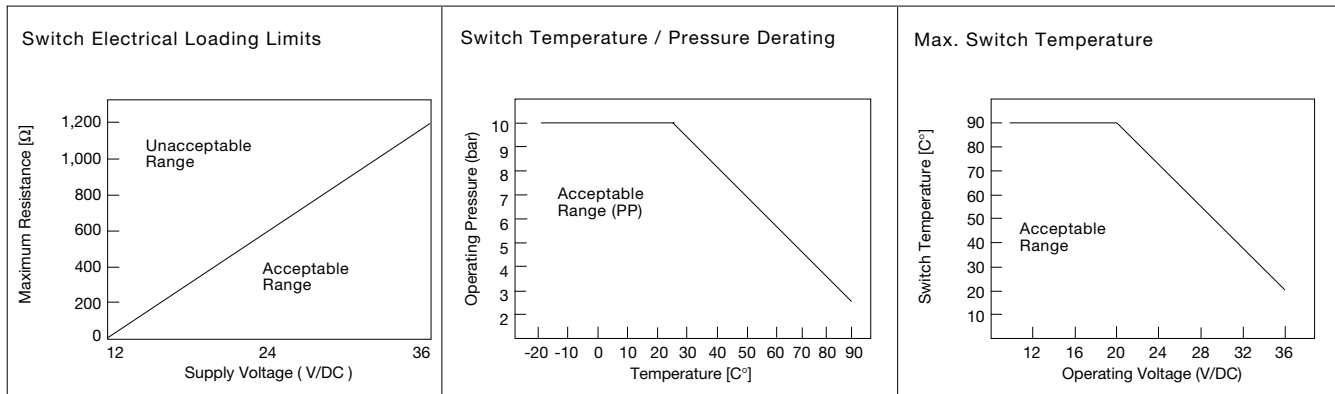


Switch and 115 / 230 VAC Controller with 12 Amp Relay Output

Long Switch with 3/4" G Mounting Threads



Technical Data



Tuning Fork Switch Technical Data

Accuracy	± 1 mm in water
Repeatability	± 0.5 mm in water
Frequency	400 Hz
Supply Voltage	12 up to 36 VDC
Consumption	
Relay	25 mA
FET	8 mA (dry) 19 mA (wet)
Relay rating	60 VDC/VAC at 1 amp
FET rating	36 VDC at 100 mA
Switch output	Selectable NO or NC
Temperature range	-40°C up to +90°C
Pressure range	10 bar at 25°C, derated 0.113 bar per °C above 25°C
Sensor material	PP/Ryton® (40% glass)
Sensor rating	IP68 (NEMA 6)
Mounting threads	G 3/4"
Mounting gasket	Viton 3/4"
Cable type	2.5 m, 4-wire (relay) or 3-wire (FET), 22 gauge with ground, shield and PP jacket
CE compliance	EN 50082-2 immunity EN 55011 emission

Relay Controller Technical Data

Voltage input	AR type: 230 / 115 VAC, 50 - 60 Hz., DR type: 14 - 36 VDC
Current consumption	0.25 amp maximum
Switch supply voltage	13.5 VDC (nominal)
Relay type	Isolated, SPDT (form C)
Switching voltage	AR type: 380 VAC / 150 VDC, DR type: 240 VAC / 120 VDC
Switching current	AR type: 12 amp, DR type: 6 amp maximum non-inductive loads
Contact material	Silver cadmium oxide
Contact resistance	30 milliohms initially (at maximum current and voltage ratings)
Relay state	Switch selectable, normally open or normally closed states
Relay time delay	Adjustable from 0.15 - 60 seconds
Temperature rating	70 degrees C. maximum
Enclosure rating	IP65 splash proof and chemical resistant design
Enclosure material	PP flame retardant (U.L. 94VO)
Cable connection	PG13 liquid-tight cable connector
Mounting threads	3/4" BSP or 3/4" NPT

Ordering Chart (Other Versions on Request)

Standard items

Supply Voltage	Output	Mounting Threads	Probe Material	Specification	Item-No.
12 - 36 V/DC	FET (P)	G 3/4"	PP/PPS	8110-SPLMPO	417 934 C
12 - 36 V/DC	FET (N)	G 3/4"	PP/PPS	8110-SNLMPO	417 938 Q
12 - 36 V/DC	Relay	G 3/4"	PP/PPS	8110-SRLMPO	430 954 Z

Customized items

Supply Voltage	Output	Mounting Threads	Probe Material	Specification	Item-No.
12 - 36 V/DC	FET (P)	3/4" NPT	PP/PPS	8110-SPLNPO	417 937 F
12 - 36 V/DC	FET (N)	3/4" NPT	PP/PPS	8110-SNLNPO	417 941 K
240 / 120 VAC	10 amp	3/4" NPT	PP/PPS	8110-ARLNPO	417 944 N
14 - 36 VDC	6 amp	3/4" NPT	PP/PPS	8110-DRLNPO	417 947 R
12 - 36 VDC	FET (P)	3/4" NPT	PP/PPS	8110-JPLNPO	417 950 Y
12 - 36 VDC	FET (N)	3/4" NPT	PP/PPS	8110-JNLNPO	417 953 P

