



Advantages/Benefits

- ▶ Available in three configurations, probe only, compact design and probe with rail mount controller
- ▶ All plastic construction with PP or PFA materials
- ▶ Probe rated IP68 through the wall or IP67 when submersed
- ▶ Polypropylene enclosure rated IP65 with PG13 cable connector
- ▶ Available in both AC and DC switch power configurations
- ▶ 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 6 amp, relay output provides an isolated level interface with valves, pumps, PLCs, relays and alarms.

The 12 amp, relay output provides an isolated level interface with large valves and pumps, including PLCs, relays and alarms.

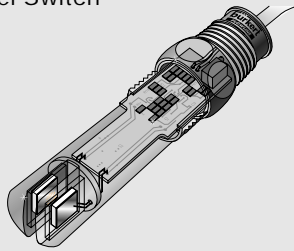
For remote 12 amp relay control, select from Burkert's family of SL31 rail mount controllers.

Applications

- Ultrapure liquids compatible with PFA / EPDM
- Clean liquids compatible with PP / PFA and viton / EPDM
- Corrosive liquids compatible with PP / PFA and viton / EPDM
- Dirty liquids ranging up to a maximum of medium slurry
- Coating liquids ranging up to a maximum of medium coating, including light weight oils
- Leak detection in and around secondary containment vessels



Ultrasonic Level Switch



Principle of operation

- Two piezoelectric crystals are separated by an air gap in the fork shaped tip of the probe. One crystal is an acoustic transmitter and the other is an acoustic microphone.
- As liquid fills the gap between the two crystals, an acoustic bridge is formed and the switch changes state.

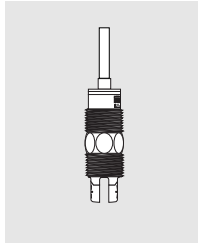
Modular switch design

- The ultrasonic level switch is available in a wide variety of configurations and materials to meet your specific requirements.
- The basic ultrasonic switch provides a FET output and is offered in both short and long probe lengths.
- The short switch is typically used for liquid level detection inside the tank, or leak detection in and around secondary containment vessels.
- The long switch is specifically designed for liquid level detection through the wall of the tank.
- Either switch may be combined with an IP65 junction box or 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.

Unsuitable applications

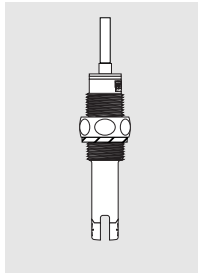
For remote relay control, select from Burkert's family of SL31 rail mount controllers. Not suitable for: 1) applications with foaming liquids; or 2) liquids containing small air bubbles which may adhere to the probe.

Short Switch with FET Output



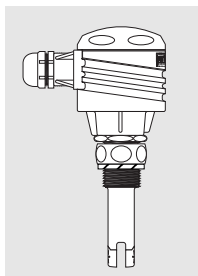
- Wetted materials all polypropylene or PFA
- Selectable normally open or normally closed states
- FET switch output for PLC, relay and LED alarm control interface
- Designed for installation inside the tank or vessel
- Probe rated IP68 through the wall or IP67 probe and cable when fully submersed
- Pulsed, piezoelectric measurement with shielded probe and cable

Long Switch with FET Output



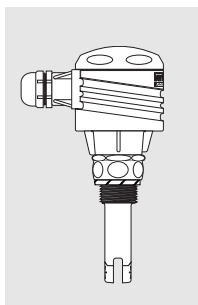
- Wetted materials all polypropylene or PFA
- Selectable normally open or normally closed states
- FET switch output for PLC, relay and LED alarm control interface
- Designed for installation through the tank wall. Probe rated IP68 through the wall or IP67 probe and cable when fully submersed
- Pulsed, piezoelectric measurement with shielded probe and cable

Switch and Junction Box with FET Output



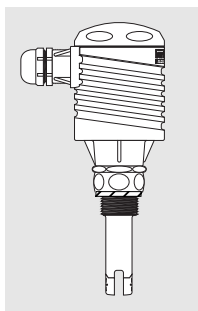
- Wetted materials all polypropylene or PFA
- Selectable normally open or normally closed states
- FET switch output for PLC, relay and LED alarm control interface
- Designed for installation through the tank wall
- piezoelectric measurement with shielded probe and cable
- PP enclosure rated IP65 with rotational base, terminal strip and PG13 connector

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



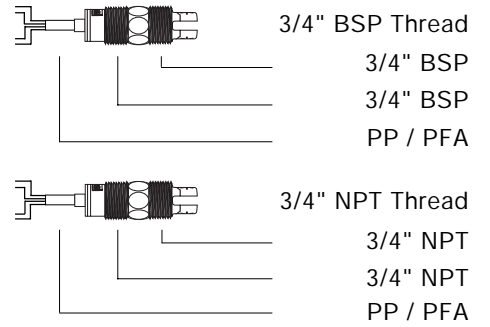
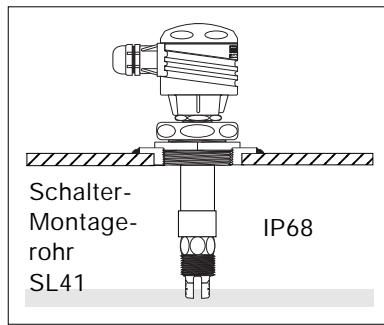
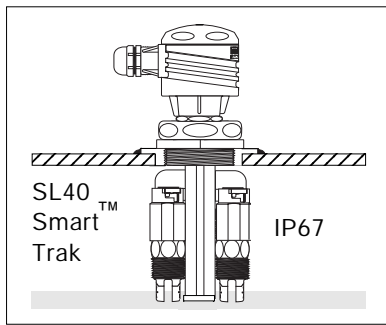
- Wetted materials all polypropylene or PFA
- Selectable normally open or normally closed states
- 6 amp, SPDT relay output for isolated PLC, pump and valve control interface
- LED lights for liquid, power and relay status 0 - 60 second time delay dampens process turbulence
- PP enclosure rated IP65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

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

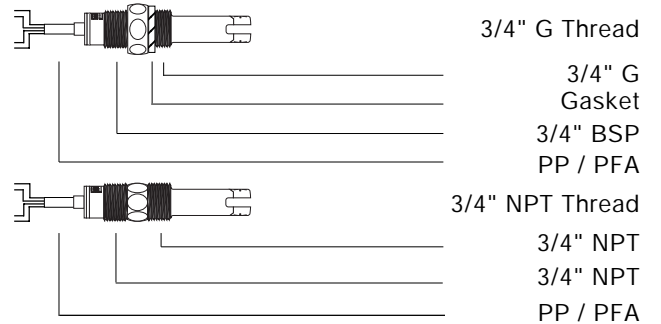
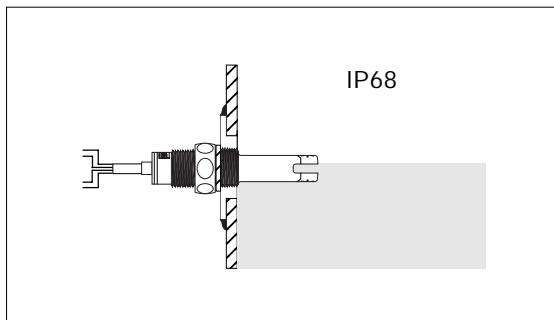


- Wetted materials all polypropylene or PFA
- Selectable normally open or normally closed states
- 12 amp, SPDT relay output for isolated PLC, pump and valve control interface
- LED lights for liquid, power and relay status 0 - 60 second time delay dampens process turbulence
- PP enclosure rated IP65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

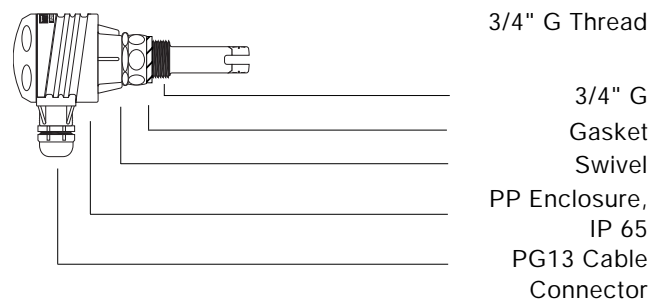
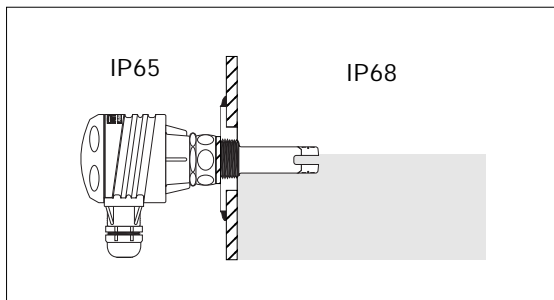
Short Switch with FET Output



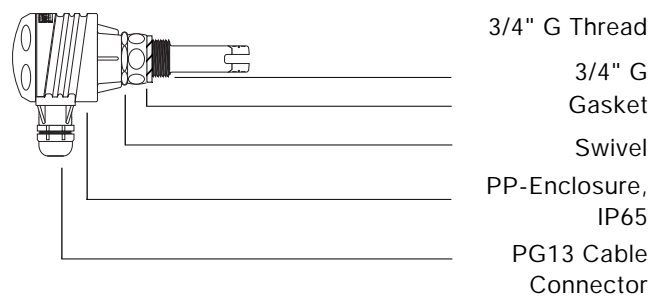
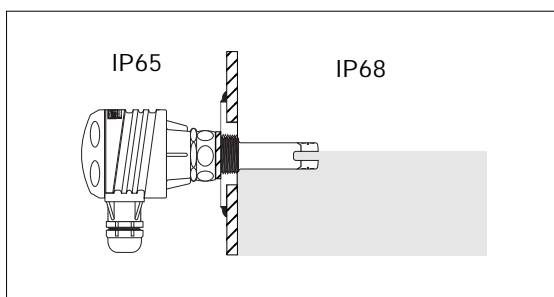
Long Switch with FET Output



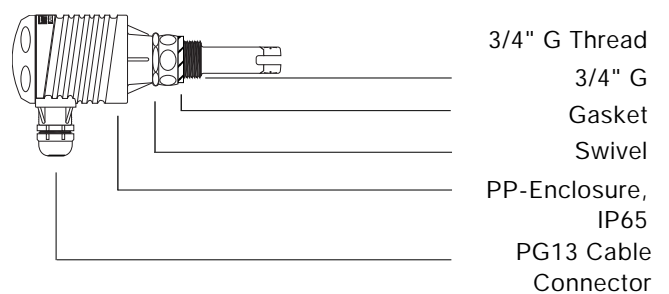
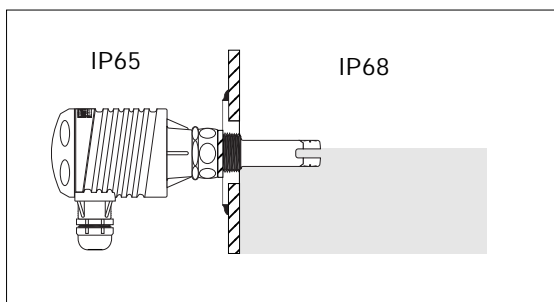
Switch and Junction Box with FET Output



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

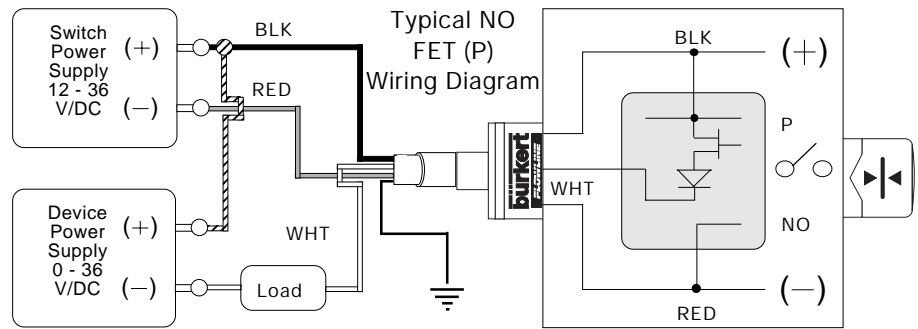


Switch and 115 / 230 VAC Controller with 12 Amp Relay Output



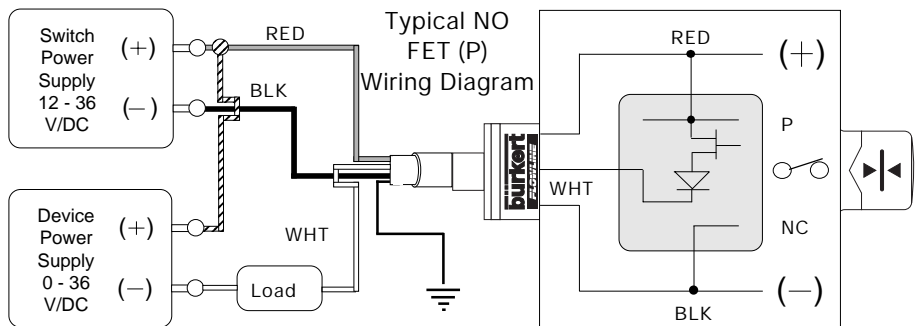
Short Switch with FET Output

Voltage input	12 - 36 VDC, 0.1 amp max
Current Consumption	Dry: 5 mA (+/- 1 mA) Wet: 19 mA (+/- 1 mA)
Switch Type	P channel or N channel
Switch mode	Selectable, NO or NC based on supply polarity



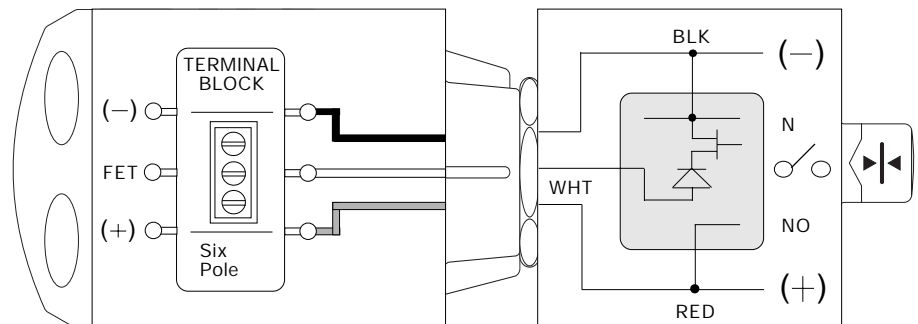
Long Switch with FET Output

Voltage input	12 - 36 VDC, 0.1 amp max
Current Consumption	Dry: 5 mA (+/- 1 mA) Wet: 19 mA (+/- 1 mA)
Switch Type	P channel or N channel
Switch mode	Selectable, NO or NC based on supply polarity



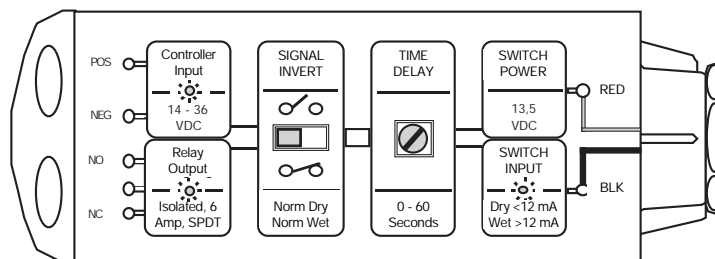
Switch and Junction Box with FET Output

Voltage input	12 - 36 VDC, 0.1 amp max
Current Consumption	Dry: 5 mA (+/- 1 mA) Wet: 19 mA (+/- 1 mA)
Switch Type	P channel or N channel
Switch mode	Selectable, NO or NC based on supply polarity



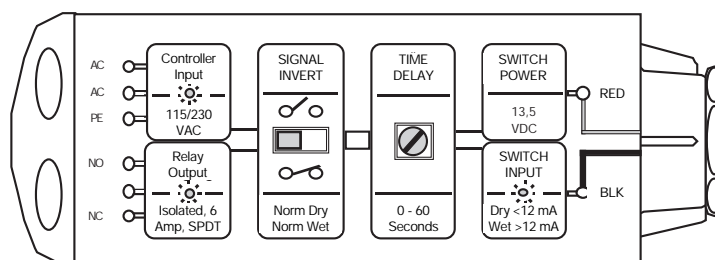
Switch and 14 - 36 VDC Controller with 6 Amp Relay Output

Relay type	Isolated, 6 amp SPDT
Relay mode	Selectable, NO or NC
Time delay	Adjustable 0 - 60 sec.
Display	LED lights for liquid, power and relay status



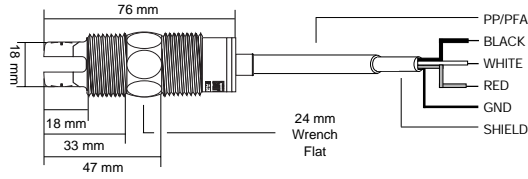
Switch and 115 / 230 VAC Controller with 12 Amp Relay Output

Relay type	Isolated, 6 amp SPDT
Relay mode	Selectable, NO or NC
Time delay	Adjustable 0 - 60 sec.
Display	LED lights for liquid, power and relay status

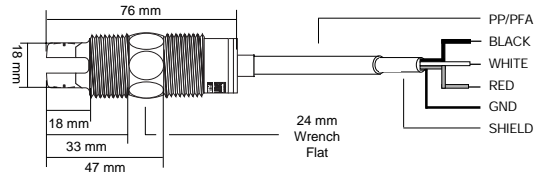


Short Switch with FET Output

Switch with 3/4" BSP Mounting Threads

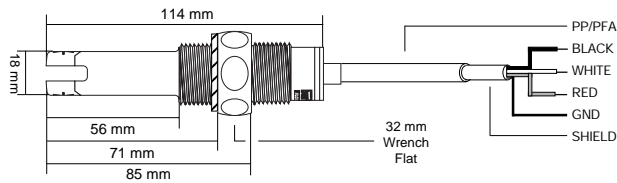


Switch with 3/4" NPT Mounting Threads

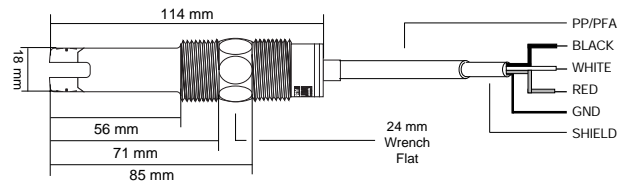


Long Switch with FET Output

Switch with 3/4" G Mounting Threads

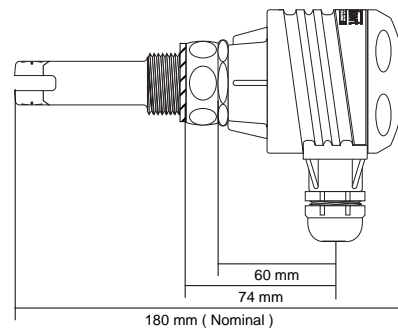
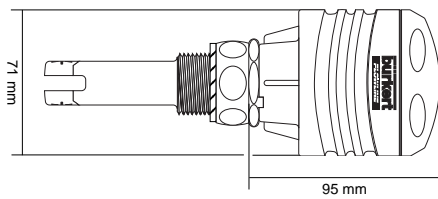


Switch with 3/4" NPT Mounting Threads



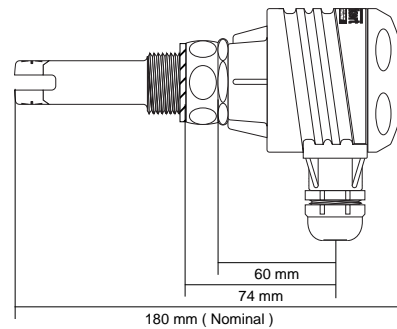
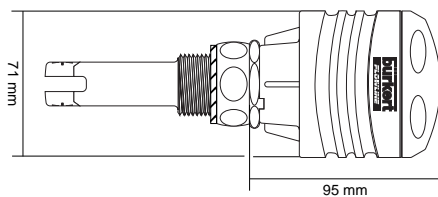
Switch and Junction Box with FET Output

Long Switch with 3/4" G Mounting Threads



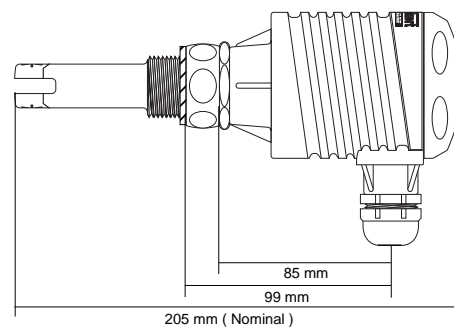
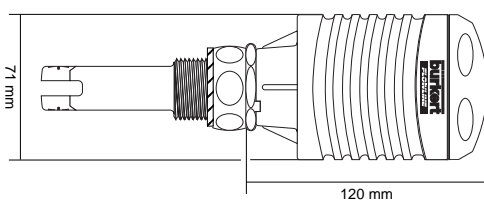
Switch and 14 - 36 VDC Controller with 6 Amp Relay Output

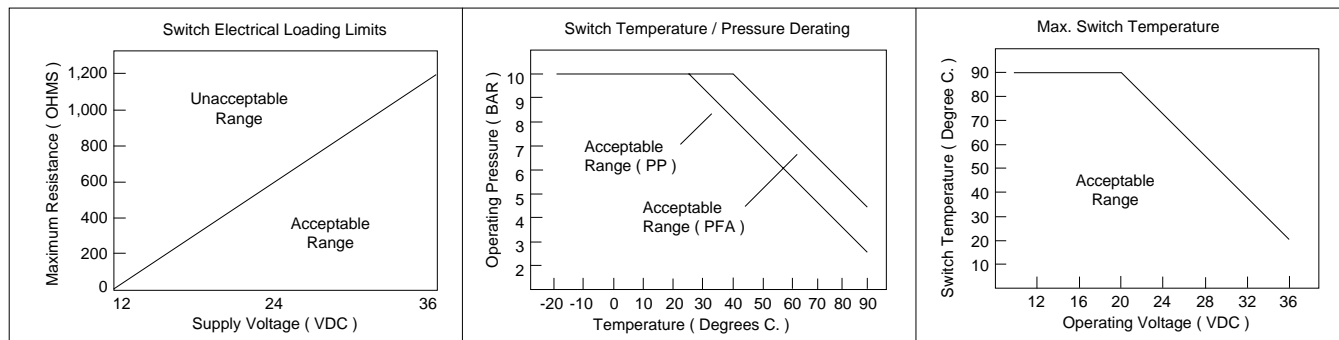
Long Switch with 3/4" G Mounting Threads



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

Long Switch with 3/4" G Mounting Threads





Ultrasonic Switch Technical Data

Accuracy	+ / - 1 mm in water
Repeatability	+ / - .5 mm in water
Operating principle	Piezoelectric measurement
Voltage input	12 - 36 VDC, 0.1 amp maximum
Current consumption	Dry: 5 mA (+ / - 1 mA) Wet: 19 mA (+ / - 1 mA)
FET switch voltage	0 - 36 VDC, 0.1 amp maximum
FET switch current	100 mA maximum (independent of supply)
FET switch mode	Selectable, NO or NC states
Wetted materials	PP or PFA probe, viton or EPDM gasket
Pressure rating	PP probe: 10 bar @ 25 degrees C. derated @ .11338 bar per degree C. above 25 degrees C. or PFA probe: 10 bar @ 40 degrees C. derated @ .11338 bar per degree C. above 40 degrees C.
Temperature rating	90 degrees C. maximum
Mounting threads	Available in 3/4" G, 3/4" BSP & 3/4" NPT
Probe rating	IP68 through-wall / IP67 submersed
Cable type	3 wire, 22 gauge with ground, foil shield and PP or PFA sealed jacket
Cable length	3.5 meters

Relay Controller Technical Data

Voltage input	AR type: 115 / 230 VAC, 50 - 60 Hz., DR type: 14 - 36 VDC
Current consumption	.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)

Supply Voltage	Output	Probe Length	Mounting Threads	Probe Material	Specification	Order-No.
12 - 36 V/DC	FET (P)	SHORT	BSP 3/4"	PP	SL22-SPSMPO	417005 M
12 - 36 V/DC	FET (P)	SHORT	BSP 3/4"	PFA	SL22-SPSMFO	417006 N
12 - 36 V/DC	FET (N)	SHORT	BSP 3/4"	PP	SL22-SNSMPO	417125 H
12 - 36 V/DC	FET (N)	SHORT	BSP 3/4"	PFA	SL22-SNSMFO	417127 B
12 - 36 V/DC	FET (P)	LONG	G 3/4"	PP	SL22-SPLMPV	417201 W ²⁾
12 - 36 V/DC	FET (P)	LONG	G 3/4"	PFA	SL22-SPLMFE	417237 R ³⁾
12 - 36 V/DC	FET (P)	LONG	G 3/4"	PFA	SL22-SPLMFV	417238 S ²⁾
12 - 36 V/DC	FET (N)	LONG	G 3/4"	PP	SL22-SNLMPE	417239 T ³⁾
12 - 36 V/DC	FET (N)	LONG	G 3/4"	PP	SL22-SNLMFV	417204 Z ²⁾
12 - 36 V/DC	FET (N)	LONG	G 3/4"	PFA	SL22-SNLMFE	417240 G ³⁾
12 - 36 V/DC	FET (N)	LONG	G 3/4"	PFA	SL22-SNLMFV	417241 V ²⁾
230 / 150 V/AC	12 AMP	SHORT	BSP 3/4"	PP	SL22-ARSMPO	417242 W
230 / 150 V/AC	12 AMP	SHORT	BSP 3/4"	PFA	SL22-ARSMFO	417243 X
14 - 36 V/DC	6 AMP	SHORT	BSP 3/4"	PP	SL22-DRSMPO	417244 Y
14 - 36 V/DC	6 AMP	SHORT	BSP 3/4"	PFA	SL22-DRSMFO	417245 Z
230 / 150 V/AC	12 AMP	LONG	BSP 3/4"	PP	SL22-ARLMPE	417246 S ³⁾
230 / 150 V/AC	12 AMP	LONG	NPT 3/4"	PP	SL22-ARLMFV	417247 T ²⁾
230 / 150 V/AC	12 AMP	LONG	G 3/4"	PFA	SL22-ARLMFE	417248 C ³⁾
230 / 150 V/AC	12 AMP	LONG	G 3/4"	PFA	SL22-ARLMFV	417249 D ²⁾
14 - 36 V/DC	6 AMP	LONG	G 3/4"	PP	SL22-DRLMPE	417250 A ³⁾
14 - 36 V/DC	6 AMP	LONG	G 3/4"	PP	SL22-DRLMPV	417251 X ²⁾
14 - 36 V/DC	6 AMP	LONG	G 3/4"	PFA	SL22-DRLMFE	417252 Y ³⁾
14 - 36 V/DC	6 AMP	LONG	G 3/4"	PFA	SL22-DRLMFV	417253 Z ²⁾
12 - 36 V/DC	FET (P)	SHORT	G 3/4"	PP	SL22-JPSMPO	417254 S ¹⁾
12 - 36 V/DC	FET (P)	SHORT	BSP 3/4"	PFA	SL22-JPSMFO	417255 T ¹⁾
12 - 36 V/DC	FET (P)	LONG	G 3/4"	PP	SL22-JPLMPE	417256 U ¹⁾³⁾
12 - 36 V/DC	FET (P)	LONG	G 3/4"	PP	SL22-JPLMPV	417257 V ¹⁾²⁾
12 - 36 V/DC	FET (P)	LONG	G 3/4"	PFA	SL22-JPLMFE	417258 E ¹⁾³⁾
12 - 36 V/DC	FET (P)	LONG	G 3/4"	PFA	SL22-JPLMFV	417259 F ¹⁾²⁾

¹⁾ with junction box, ²⁾ Viton gasket, ³⁾ EPDM gasket

