

Level Switches (intrinsically safe)

Type of Explosion

Protection:

 I M2 EEx ia I

Degree of Enclosure

Protection:

IP 68

EC-Type Examination

Certificate:

IBExU 99 ATEX 1093



Use

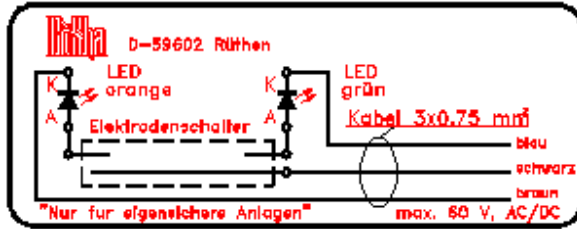
BöSha level switches of type BS 70... and BS 71... act as level controllers and indicators. The level switches of type BS 70 float on the surface of the liquid medium; the immersion depth of the BS 71 series is variable, but in standard form it is preset to sink to a depth of 1.5 m. BöSha immersion-type float switches acting as “FULL/EMPTY” contact makers and signal transmitters or for dry running and overflow indication can also be used, in conjunction with a coupling switch, for controlling pump motors or solenoid valves in intrinsically safe circuits. They are accommodated in a tubular plastic enclosure, are completely sealed and act as contact makers. BöSha level switches can be used in water, sewage, mildly corrosive liquids, oil (without aromatic additives) and fuel oil. The level switches may be installed in any position.

In order to ensure optimum function the cable is fixed near the float body on the level where the switching function is intended to take place.

Type

Designation	Contact Making
BS 70 and BS 71	By 2 series-connected LED
BS 70/o and BS 71/o	With an electronic switch (mercury tube switch) which is designed as changeover switch
BS 70/os and BS 71o/s	By a changeover switch (mercury tube switch) connected in series with 2 anti-parallel diodes
BS 71/2-3	By 2 parallel working NO-switches connected in series with one LED each
BS 71/2-4	By 2 parallel working CO-switches connected in series with anti-parallel LED
BS 70/MS and BS 71/MS	By a changeover switch (snap-action contact switch) connected in series with 2 LED
BS 70/NS and BS 71/NS	With 2 separate inclination switches, consisting of one NC- and one NO-contact, connected in series with one LED each

BS 70 and BS 71 (with visual indication)



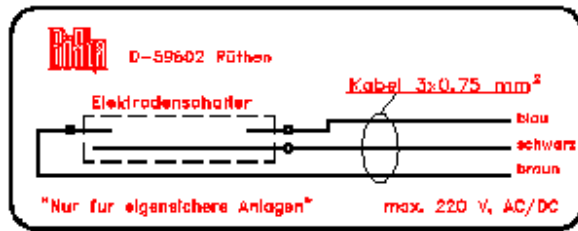
Description:

- Contact making by 2 series-connected LED

Technical Specifications

Installation Position	Suspended on cable
Switching Function	Switching over when passing through the horizontal
Floating Body Material	Polypropylene, flame-resistant
Floating Body Dimensions	BS 70 = 163.5 x 32 mm
	BS 71 = 163.5 x 55 mm
Immersion Depth	BS 70 – floats on the surface
	BS 71 – in standard form sinking to a depth of 1.5 m (variable if required)
Cable	Oil resistant and highly flexible 3 x 0.75 mm ² , blue, optionally H05VV-F 3 x 1 mm ² , blue
Length of Connecting Lead	As required, up to 75 m max.
Temperature Stability	Max. + 60 °C (higher temperatures on request)
Pressure Resistance	Max. 6 bar
Contact	Mercury tube switch
Switching Angle	± 3°
Voltage	Up to 60 V AC/DC max.
Amperage	Up to 30 mA
Electrical Connection	To intrinsically safe circuits EEx i, e. g. via coupling switch

BS 70/o and BS 71/o (supply voltage 230 V)



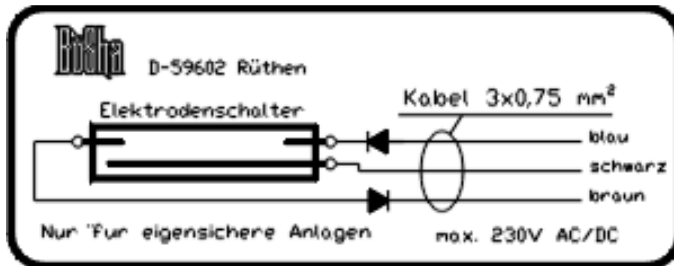
Description:

- Contact making with an electronic switch (mercury tube switch) being designed as changeover switch

Technical Specifications

Installation Position	Suspended on cable
Switching Function	Switching over when passing through the horizontal
Floating Body Material	Polypropylene, flame resistant
Floating Body Dimensions	BS 70/o = 163.5 x 32 mm
	BS 71/o = 163.5 x 55 mm
Immersion Depth	BS 70/o – floats on the surface
	BS 71/o – in standard form sinking to a depth of 1.5 m (variable if required)
Cable	Oil resistant and highly flexible 3 x 0.75 mm², blue, optionally H05VV-F 3 x 1 mm², blue
Length of Connecting Lead	As required, up to 75 m max.
Temperature Stability	Max. + 60 °C (higher temperatures on request)
Pressure Resistance	Max. 6 bar
Contact	Mercury tube switch, changeover
Switching Angle	± 3°
Voltage	230 V eff
Amperage	6 A, mean switching capacity
Electrical Connection	To intrinsically safe circuits EEx I, e. g. via coupling switch

BS 70/os and BS 71/os (supply voltage 230 V)



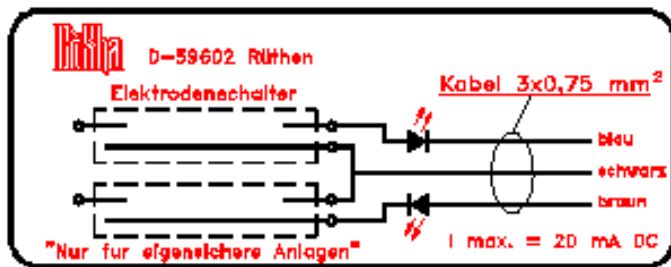
Description:

- Contact making by a changeover switch (mercury tube switch) connected in series with 2 anti-parallel diodes

Technical Specifications

Installation Position	Suspended on cable
Switching Function	Switching over when passing through the horizontal
Floating Body Material	Polypropylene, flame resistant
Floating Body Dimensions	BS 70/os = 163.5 x 32 mm
	BS 71/os = 163.5 x 55 mm
Immersion Depth	BS 70/os – floats on the surface
	BS 71/os – in standard form sinking to a depth of 1.5 m (variable if required)
Cable	Oil resistant and highly flexible 3 x 0.75 mm², blue, optionally H05VV-F 3 x 1 mm³, blue
Length of Connecting Lead	As required, up to 75 m max.
Temperature Stability	Max. + 60 °C (higher temperatures on request)
Pressure Resistance	Max. 6 bar
Contact	Mercury tube switch, changeover
Switching Angle	± 3°
Voltage	230 V eff
Amperage	Max. 0,6 A
Electrical Connection	To intrinsically safe circuits EEx i, e. g. via coupling switch

BS 71/2-3 (with visual indication)



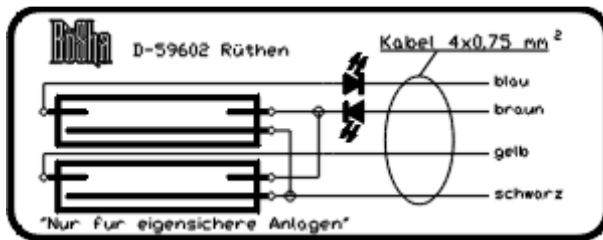
Description:

- Contact making by 2 parallel working NO-switches connected in series with one LED each

Technical Specifications

Installation Position	Suspended on cable
Switching Function	Switching over when passing through the horizontal
Floating Body Material	Polypropylene, flame resistant
Floating Body Dimensions	163.5 x 55 mm
Immersion Depth	In standard form sinking to a depth of 1.5 m (variable if required)
Cable	Oil resistant and highly flexible 3 x 0.75 mm ² , blue, optionally H05VV-F 3 x 1 mm ² , blue
Length of Connecting Lead	As required, up to 75 m max.
Temperature Stability	Max. + 60 °C (higher temperatures on request)
Pressure Resistance	Max. 6 bar
Contact	Mercury tube switch
Switching Angle	± 3°
Voltage	Up to 60 V AC/DC max.
Amperage	Up to 30 mA
Electrical Connection	To intrinsically safe circuits EEx i, e. g. via coupling switch

BS 71/2-4 (with visual indication)



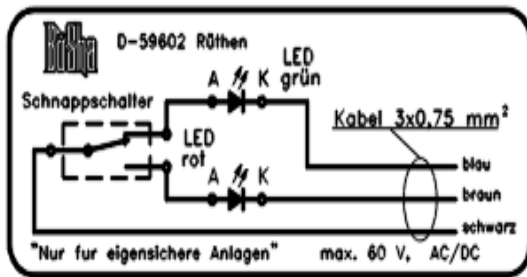
Description:

- Contact making by 2 parallel working CO-switches connected in series with anti-parallel LED

Technical Specifications

Installation Position	Suspended on cable
Switching Function	Switching over when passing through the horizontal
Floating Body Material	Polypropylene, flame resistant
Floating Body Dimensions	163.5 x 55 mm
Immersion Depth	In standard form sinking to a depth of 1.5 m (variable if required)
Cable	Oil resistant and highly flexible 3 x 0.75 mm ² , blue, optionally H05VV-F 3 x 1 mm ² , blue
Length of Connecting Lead	As required, up to 75 m max.
Temperature Stability	Max. + 60 °C (higher temperatures on request)
Pressure Resistance	Max. 6 bar
Contact	Mercury tube switch
Switching Angle	± 3°
Voltage	Up to 60 V AC/DC max.
Amperage	Up to 30 mA
Electrical Connection	To intrinsically safe circuits EEx i, e. g. via coupling switch

BS 70/MS and BS 71/MS (with visual indication)



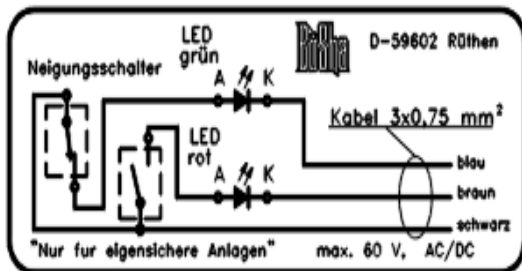
Description:

- Contact making by a changeover switch (snap-action contact switch) connected in series with 2 LED

Technical Specifications

Installation Position	Suspended on cable
Switching Function	Switching over when passing through the horizontal
Floating Body Material	Polypropylene, flame resistant
Floating Body Dimensions	BS 70/MS = 163.5 x 32 mm
	BS 71/MS = 163.5 x 55 mm
Immersion Depth	BS 70/MS – floats on the surface
	BS 71/MS – in standard form sinking to a depth of 1.5 m (variable if required)
Cable	Oil resistant and highly flexible 3 x 0.75 mm ² , blue, optionally H05VV-F 3 x 1 mm ² , blue
Length of Connecting Lead	As required, up to 75 m max.
Temperature Stability	Max. + 60 °C (higher temperatures on request)
Pressure Resistance	Max. 6 bar
Contact	Snap-action contact switch
Switching Angle	Approx. 15°
Voltage	Up to 60 V AC/DC max.
Amperage	Up to 30 mA
Electrical Connection	To intrinsically safe circuits EEx i, e. g. via coupling switch

BS 70/NS and BS 71/NS (with visual indication)



Description:

- Contact making with 2 separate inclination switches, consisting of one NC- and one NO-contact, connected in series with one LED each

Technical Specifications

Installation Position	Suspended on cable
Switching Function	Switching over when passing through the horizontal
Floating Body Material	Polypropylene, flame resistant
Floating Body Dimensions	BS 70/NS = 163.5 x 32 mm
	BS 71/NS = 163.5 x 55 mm
Immersion Depth	BS 70/NS – floats on the surface
	BS 71/NS – in standard form sinking to a depth of 1.5 m (variable if required)
Cable	Oil resistant and highly flexible 3 x 0.75 mm ² , blue, optionally H05VV-F 3 x 1 mm ² , blue
Length of Connecting Lead	As required, up to 75 m max.
Temperature Stability	Max. + 60 °C (higher temperatures on request)
Pressure Resistance	Max. 6 bar
Contact	Mechanical contact (switching capacity up to 3 W)
Switching Angle	Approx. 15°
Voltage	Up to 60 V AC/DC
Amperage	Up to 30 mA
Electrical Connection	To intrinsically safe circuits EEx i, e. g. via coupling switch