

EFQS-H high-temperature float switch

Microswitch version | Complete English manual, specification and housing drawing

1. Overview and operating principle

EFQS-H is a cable float level sensor for water supply, drainage, wastewater, chemical and petroleum applications with elevated temperatures. Its welded stainless steel enclosure and microswitch support service in compatible mildly corrosive media. Select liquids that do not strongly corrode the stainless steel. The source also identifies high-temperature steam environments as an application, subject to the instrument’s temperature and pressure ratings.

A counterweight balances gravity and buoyancy. Changes in liquid level tilt the sealed float and actuate the internal mechanical switch, producing a dry-contact output through the cable.

2. Construction

The stainless enclosure contains a heat-resistant nylon float structure. Silicone cable and stainless steel support operation up to 100°C. SUS304 and SUS316 enclosure options are described for compatible weakly acidic or alkaline solutions. The wire core is tinned copper and the insulation is silicone rubber.

3. Chinese manual specification

Parameter	Manual value
Rated voltage	220VAC
Resistive-load current	10A in the specification table; see the stricter operating caution below
Inductive-load current	4A
Actuation angle	±45°
Float-body density	0.7g/cm³
Working temperature	–20°C to 100°C
Maximum pressure	≤1MPa
Protection	IP68
Materials	SUS304 / SUS316 enclosure; silicone-rubber insulation; tinned copper core

Operating limit stated in the same manual: maximum 220VAC and 4A. Follow this stricter instruction and the delivered instrument marking rather than treating the table’s 10A resistive value as a universal switching allowance.

The Chinese webpage specifies 0–100°C and 0.69g/cm³; these are kept separate from the manual’s –20°C to 100°C and rounded 0.7g/cm³. The page’s technical table and separate specification sheet give 0.5mm² conductors, despite a feature illustration marked 1mm².

Installation, switching and precautions

4. Counterweight and wiring

Disconnect power before installation and confirm model, voltage and load current. Loosen the counterweight fixing screw and pass the cable through the central hole. Adjust its position so that the dry contacts change at approximately -45° downward and $+45^\circ$ upward, with an angular tolerance of $\pm 2^\circ$. After checking the action, tighten the ball-ended screw.

Use blue for filling, brown for draining, and black or yellow-green as the source-identified common conductor. Confirm identification on the supplied cable with power isolated; a switching common must not be confused with protective earth. Match the receiving pump or control circuit to the actual load rating and use an AC contactor when required. Fully insulate and secure the unused wire. Protect joints from moisture and condensation tracking back into the float.

5. Contact operation and hysteresis

Float movement / position	Contact behavior
Downward to -45°	Blue closes to common for filling
Upward to $+45^\circ$	Brown closes to common for draining
Between -45° and $+45^\circ$	Retains the previous switching state

Filling starts after the float falls to its lower switching angle. Draining starts after it rises to its upper switching angle. The intermediate angular zone retains the previous state; it is not an independent “both open” position.

6. Precautions

1. Observe the stated maximum operating voltage of 220VAC and current of 4A.
2. Do not apply force to the enclosure weld. Stop using the instrument immediately if the enclosure is dented, deformed or leaking at a weld.
3. Do not puncture or cut the cable; damaged insulation can cause electrical leakage.
4. Inspect the instrument regularly and do not use it with damaged housing or conductors.
5. Installation requires relevant knowledge and ability. The source excludes children, untrained persons and persons whose disability prevents safe installation.
6. Keep the instrument and packaging away from children.

7. Manual identification

Original Chinese manual VI-EFQS-251227; original sheet size 148×210mm. Manufacturer and trademark holder: Yueqing ELECALL Electric Co., Ltd., No.246 Weishi Road, Yueqing Economic Development Zone, Zhejiang, China. Telephone: 4006-111-323; website: www.elecall.cn. Slogan: “ELECALL — producing high-quality products”; “Do Better Forever.” Design and specifications may change without notice.

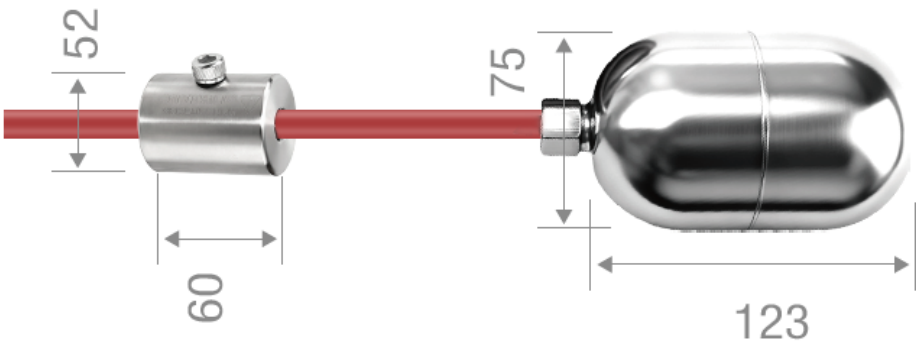
Separate specification and assembly dimensions

8. Complete separate specification sheet

Parameter	Separate sheet value
Float-shell material	SUS304 stainless steel
Working voltage	≤250VAC
Float working temperature	0-100°C
Rated current	4A
Rated power	1000W
Actuating element	Three-terminal microswitch
Lead length	2m / 3m / 4m / 5m / 6m / 8m / 10m / 15m; customizable
Conductor area	0.5mm²
Conductor insulation	Silicone
Black conductor	Common
Blue conductor	Closed in the lower float position
Brown conductor	Closed in the upper float position

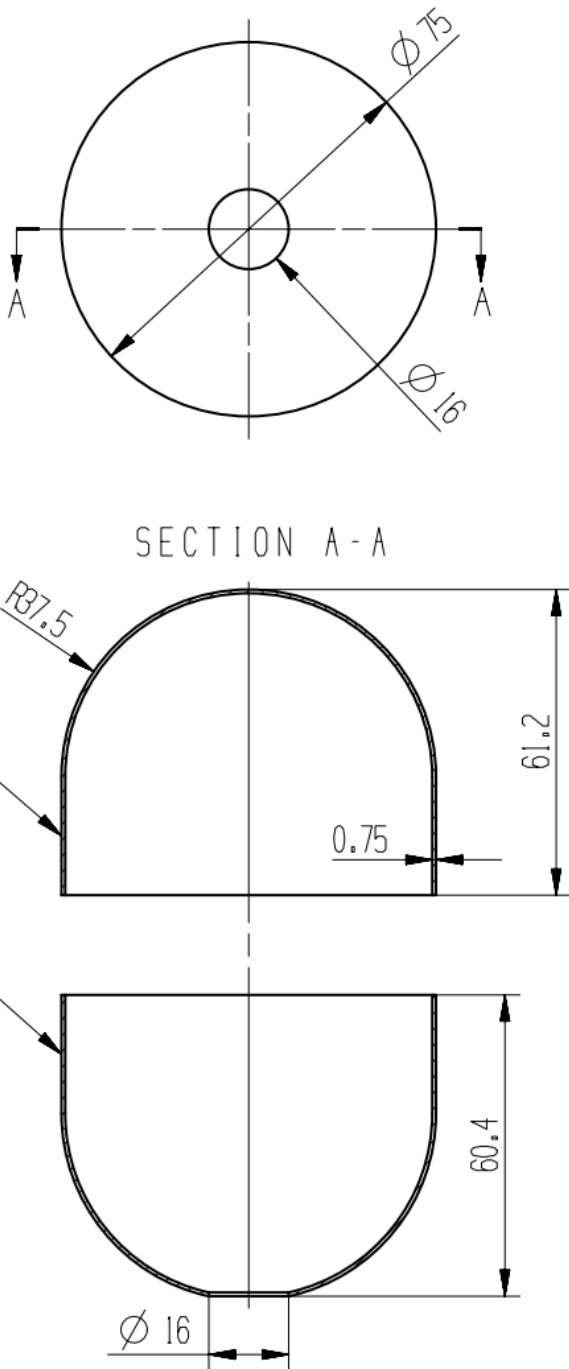
The separate sheet is headed “EFQS-H Cable-Type Stainless Steel Float Switch — Product Specification” and names Yueqing ELECALL Electric Co., Ltd. It gives ≤250VAC / 1000W; the dedicated Chinese manual gives a 220VAC / 4A operating caution. Do not use the higher sheet voltage or power to override that instruction.

9. Finished assembly reference



All dimensions in mm: float Ø75×123; counterweight Ø52×60. The image shows the assembly and its cable-entry fittings. These are finished-assembly references, distinct from the two unfinished shell-piece heights on the next page.

Housing drawing — English annotations



Top view: outside diameter $\phi 75\text{mm}$, central opening $\phi 16\text{mm}$. Section A-A shows the **upper half**, 61.2mm high with R37.5mm dome radius, and the **lower half**, 60.4mm high with $\phi 16\text{mm}$ opening. Wall thickness: 0.75mm. Material: 304 stainless steel.

Technical requirements: unspecified tolerances $\pm 0.1\text{mm}$; wall thickness 0.75mm; clean, smooth surfaces without burrs or scratches. The source includes a rendered view of the two shell halves.

Drawing title: Housing. Blank title-block fields are drawing mark, weight, scale, total pages, page number, change mark, number of places, change-document number, signature, date, design, check, review and approval. The side registration fields are borrowed/general-use part register, tracing, checking of tracing, original drawing number, signature and date. No values are supplied for those fields.