Schwimmschalter Quecksilberfrei QFS-3_/... (µ-Schalter)

Diese Schwimmschalter zeichnen sich durch ein quecksilberfreies Schaltersystem aus, das aus einem µ-Schalter, der durch eine Kugel betätigt wird, besteht. Das Schaltsystem schaltet bei einem Schaltwinkel von ca. +3° / +12° (ohne Hysterese) und bei einem Winkel von ca. –26° / +28° (mit zusätzlicher Hysterese).

Technische Daten

Schutzart EN 60529	IP 68
Kabeleinführung	PVC , PTFE bzw. PVDF
Material Schwimmer	
QFS-30, QFS-31	PPH (Polypropylen)
QFS-34	PE (Polyethylen)
Kabel	TPK (Technisch Polymerer Kunststoff)
Auf Wunsch	SIL (Silikon) FEP (Teflon) AEM (Ethylen-Acrylat-Kautschuk)
Leiterquerschnitt	3 x 0,75 mm²
Kabellänge X	Zwischen Schwimmkörper und Befestigung
TPK-Kabel	70 mm
SIL-Kabel	80 mm
FEP-Kabel	110 mm
AEM-Kabel	abhängig vom Innenkabel
Betriebstemperatur	TPK-, AEM-Kabel: max. + 60 °C Silikon-, Teflonkabel mit PE-Schwimmer: max. + 80 °C Silikon-, Teflonkabel mit PP-Schwimmer: max. + 85 °C
Betriebsdruck	max. 1 bar Zylinder max. 2 bar Kugel
Mediendichte	
QFS-30	TPK-Kabel $\rho \geq 0{,}85$ g/cm³ SIL-Kabel $\rho \geq 0{,}90$ g/cm³ FEP-Kabel $\rho \geq 0{,}95$ g/cm³ AEM-Kabel $\rho \geq 0{,}90$ g/cm³
QFS-31	$\rho \geq 0{,}60$ g/cm³
QFS-34	$\rho \geq 0{,}75$ g/cm³
Schaltsystem	µ-Schalter
Kontakt	Wechsler, NO, NC

	Silber-kontakt	**Gold-kontakt**	**Universeller µ-Schalter**
Schaltstrom	20 mA ... 1,5 A	1 mA ... 100 mA	1 mA ... 1,5 A
Schalt-spannung	24 ... 250 V AC 24 ... 150 V DC	5 ... 250 V AC 5 ... 150 V DC	5 ... 250 V AC 5 ... 150 V DC
Schalt-leistung	350 VA 60 W	5 VA 5 W	300 VA 60 W
Schalt-hysterese	ca. 25/35 mm (TPK/FEP)	ca. 25/35 mm (TPK/FEP)	ca. 25/35 mm (TPK/FEP)
mit zusätzlicher Hysterese	ca. 130/155 mm (TPK/FEP)	ca. 130/155 mm (TPK/FEP)	ca. 130/155 mm (TPK/FEP)
Schalt-winkel	ca. +12°...+3°	ca. +12°...+3°	ca. +12°...+3°
mit zusätzlicher Hysterese	ca. +28°...–26°	ca. +28°...–26°	ca. +28°...–26°

Float switches Mercury Free QFS-3_/... (µ-switch)

These float switches are characterised by their switching system which works without mercury. The switching system consists of a µ-switch which is operated by a ball and which switches with an angle of approx. +3°/+12° (without hysteresis) and with an angle of approx. –26°/+28° (with additional hysteresis).

Technical Data

System of protection EN 60529	IP 68
Cable inlet	PVC, PTFE or PVDF
Material float	
QFS-30, QFS-31	PPH (Polypropylen)
QFS-34	PE (Polyethylene)
Cable	TPK (Technical Polymer Plastic)
On request	SIL (Silicone) FEP (Teflon) AEM (Ethylene-Acrylat-Rubber)
Conductor cross section	3 x 0,75 mm²
Cable length X	between float body and fixture
TPK cable	70 mm
SIL cable	80 mm
FEP cable	110 mm
AEM cable	dependent on the inner cable
Operating temperature	TPK, AEM cable: max. + 60 °C Silicone, Teflon cable with PE float: max. + 80 °C Silicone, Teflon cable with PP float: max. + 85 °C
Operating pressure	1 bar (cylinder) 2 bar (ball)
Media density	
QFS-30	TPK cable $\rho \geq 0{,}85$ g/cm³ SIL cable $\rho \geq 0{,}90$ g/cm³ FEP cable $\rho \geq 0{,}95$ g/cm³ AEM cable $\rho \geq 0{,}90$ g/cm³
QFS-31	$\rho \geq 0{,}60$ g/cm³
QFS-34	$\rho \geq 0{,}75$ g/cm³
Switching system	µ-switch
Contact	change-over contact, NO, NC

	Silver contact	**Gold contact**	**universal µ-switch**
Switching current	20 mA ... 1,5 A	1 mA ... 100 mA	1 mA ... 1,5 A
Switching voltage	24 ... 250 V AC 24 ... 150 V DC	5 ... 250 V AC 5 ... 150 V DC	5 ... 250 V AC 5 ... 150 V DC
Switching capacity	350 VA 60 W	5 VA 5 W	300 VA 60 W
Switching hysteresis	approx. 25/35 mm (TPK/FEP)	approx. 25/35 mm (TPK/FEP)	approx. 25/35 mm (TPK/FEP)
with additional hysteresis	approx. 130/155 mm (TPK/FEP)	approx. 130/155 mm (TPK/FEP)	approx. 130/155 mm (TPK/FEP)
Switching angle	approx. +12°...+3°	approx. +12°...+3°	approx. +12°...+3°
with additional hysteresis	approx. +28°...–26°	approx. +28°...–26°	approx. +28°...–26°

QFS-30

QFS-31

QFS-34

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Typenschlüssel

Grundbezeichnung *(µ-Schalter)*

Schwimmertyp
0 = Zylinder Ø 29 mm (PP)
1 = Kugel Ø 90 mm (PP)
4 = Zylinder Ø 50 mm (PE)

Kontakt
W = Wechsler
NO = aufschwimmend schließend
NC = aufschwimmend öffnend

Schaltkontakt
0 = Silberkontakt
1 = Goldkontakt
2 = universeller µ-Schalter

Hysterese
ohne Angabe = keine Hysterese
H = mit Hysterese

Kabelmaterial
TPK = Technisch Polymerer Kunststoff
FEP = Teflon
SIL = Silikon
AEM = Ethylen-Acrylat-Kautschuk

Kabellänge in m
01 = 1 m
02 = 2 m usw.

QFS3 ☐☐☐☐☐☐

Type Key

Basic designation *(µ-switch)*

Float form
0 = Cylinder Ø 29 mm (PP)
1 = Ball Ø 90 mm (PP)
4 = Cylinder Ø 50 mm (PE)

Contact
W = change-over contact
NO = closing if floating
NC = opening if floating

Switching element
0 = silver contact
1 = gold contact
2 = universal µ-switch

Hysteresis
without indication = without hysteresis
H = with hysteresis

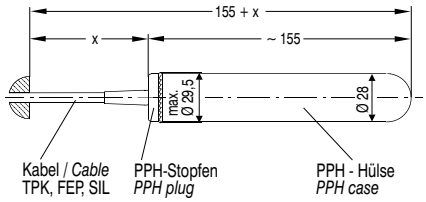
Cable material
TPK = Technical Polymer Plastic
FEP = Teflon
SIL = Silicone
AEM = Ethylene-Acrylat-Rubber

Cable length in m
01 = 1 m
02 = 2 m etc.

QFS3 ☐☐☐☐☐☐☐

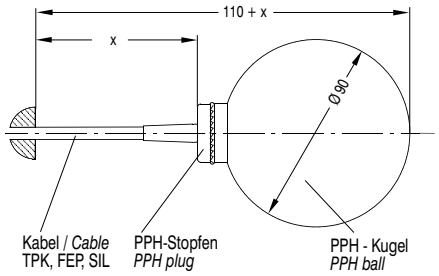
Maßbilder
Dimensional Drawings

QFS-30



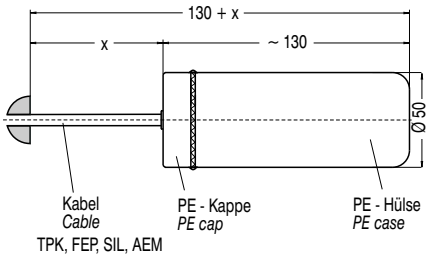
Bemaßung in mm / *Dimensioning in mm*

QFS-31

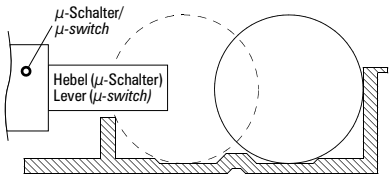


Bemaßung in mm / *Dimensioning in mm*

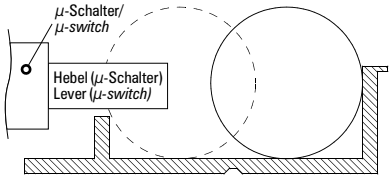
QFS-34



Bemaßung in mm / *Dimensioning in mm*



Mikroschalter mit Hysterese /
Microswitch with hysteresis



Mikroschalter ohne Hysterese /
Microswitch without hysteresis

Irrtümer und Änderungen vorbehalten.

Subject to change without prior notice, errors excepted.

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