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Version: Jun-2023

HollySys

PRODUCT BROCHURE

LEVEL SWITCH

- TUNING FORK LEVEL SWITCH
- FLOAT LEVEL SWITCH
- TOP-MOUNTED CONNECTING ROD FLOAT LEVEL SWITCH
- RF ADMITTANCE LEVEL SWITCH

Intelligence
For Excellence

www.hollysys.com

Profile

Founded in 1993, HollySys is a leading supplier of intelligence solutions with more than 4,700 employees and operates in both China and abroad. HollySys is headquartered in Beijing with R&D, production, and service bases in Beijing, Hangzhou, Xi'an, Singapore, and local branches in major cities in China, as well as offices in India, Malaysia and Indonesia, establishing a comprehensive service network across the world.

HollySys business consists of industrial intelligence, transportation intelligence, and food and pharmaceutical intelligence, covering the main industries for the national economy and the people's livelihood. With years of technological accumulation in various fields and continuous capacity building, we can provide customers with customized integrated solutions, stable and reliable products, and full lifecycle services, helping them improve market competitiveness. Over the past three decades, we have served more than 35,000 clients, successfully completed more than 45,000 projects, and gained more than 1,000 new clients each year, making HollySys a world-renowned brand in automation and intelligence filed.

The HOLLIAS industrial control platform of HollySys features a series of advanced, practical and reliable industrial automation systems and HollySys automation instrumentations products. The system products include MACS-K, MACS-S industrial control system DCS, professional control systems such as DEH, ETS and SIS, and whole-process information-based software for manufacturing enterprises. Instrumentation products include isolated safety barriers, signal isolators, surge protectors, power transmitters, pressure transmitters, electromagnetic flowmeters, metal tube float meters, magnetic level gauges, radar level gauges, throttling elements, thermal elements, and pressure gauges.

The company's products have been successfully applied to major projects and key equipment, including 1000MW ultra-supercritical thermal power units, 1.2 million tons of urea and 5 million tons of oil refining main units, earning a good reputation in the industry.

Specializing in HollySys Instrumentation and control system engineering and integration, the company can provide both new and brown field projects of enterprises with HollySys proprietary products, as well as comprehensive engineering services such as customized design and construction & commissioning.

HollySys has always pursued continuous innovation and R&D while sticking to its vision "create the most valuable intelligent company through stable and sustainable development" to provide more reliable, secure, and intelligent technology and products for our customers.

Contents

HollySys

ALYK-200 Tuning Fork Level Switch

Overview

The ALYK-200 tuning fork level switch is a new type of level switch. The fork body generates vibration by crystal excitation. The vibration frequency changes when the end of the fork body is immersed in liquid. The change is detected by an electronic circuit, and a digital value is output to realize the upper/lower level limit alarm and control.

The tuning fork level switch is called "electrical float". It is used in scenarios where a float level switch is used or cannot be used due to scaling, turbulence, agitation, bubbles or other reasons. This switch is upgraded based on the float level switch, and eliminates the need of maintenance or adjustment as it has no moveable parts.

This series of products is available in ordinary, intrinsically safe and explosion-proof types, suitable for different scenarios.

Features

Strong adaptability

Different electrical parameters of the measured liquid do not affect the measurement, even in harsh conditions such as scaling, turbulence, agitation, bubbles, medium viscosity and high pressure.

Maintenance-free

No maintenance is required after a tuning fork level switch is installed and put into operation, as its detection is completed by an electronic circuit and there are no moveable parts.

Calibration-free

No on-site calibration is required for the tuning fork level switch, as its detection is not affected by the electrical parameters of the measured medium, regardless of liquid types.

Key Technical Specifications

- **Power supply:** DC 24VDC; AC 220VAC and 50/60Hz
- **Operating temperature:** -20~150° C
- **Output mode:** DPDT relay contact output
- **Contact capacity:** 220VAC, 5A
- **Explosion-proof grade:** Intrinsically safe Exia IICT4-CT6
  Flameproof Exd IICT4-CT6

Model and Specification Table

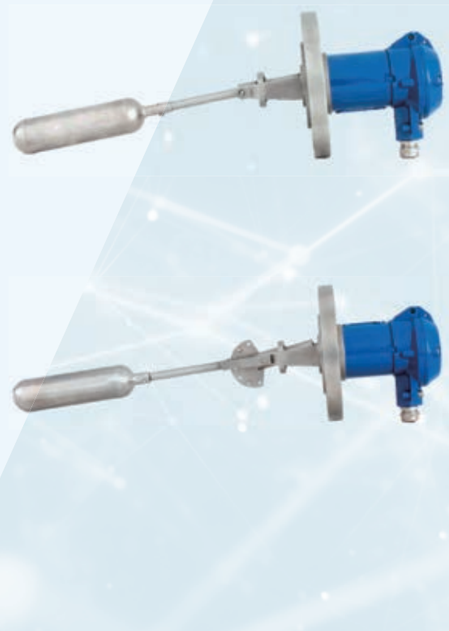
ALYK-200	Tuning Fork Level Switch							
	1	24VDC 4-wire system (including two power lines and two signal lines)						Power supply mode
	2	220VAC 4-wire system (including two power lines and two signal lines)						
		B	316L					Fork body material
		C	316L + Teflon coating					
			L0	G1"			Threaded type: pipe thread	Process connection
			L1	G1 1/4"				
			L2	G1 1/2"				
			L3	DN40 PN1.6			Flange type	
			L4	DN50 PN1.6				
			L5	DN80 PN1.6				
			L6	As required by client				
				F04	304			Flange (thread) material
				F06	316L			
					P	Ordinary		Explosion-proof grade
					D	Explosion-proof type		
					B	Intrinsically safe		
						☐	Insertion depth (mm)	Insertion depth
ALYK-200	☐	☐	☐	☐	☐	-☐		

★ Other special requirements can be indicated at the time of ordering!

ALFK-300 Series Float Level Switch

Overview

Float level switches are suitable for liquid level control when the measured liquid level in the liquid storage equipment and storage & transportation tools in industries such as chemical, petroleum, and ship industries reaches a given point.



Principle

Such switches enable the contact switch to work based on the leverage principle and magnetic action, thus controlling the liquid level in situations that require frequent operation at the liquid level positions.

Key Technical Specifications

Model	Explosion-proof grade	Operating pressure	Operating temperature	Control range	Adjustment mode	Installation mode	Power supply and contact capacity	IP rating
ALFK-301	Exd IIC T4~T6	-0.1~10MPa	0~350°C	≤ 10mm	Non-adjustable	Side-mounted	220VAC/DC 150W	IP5
ALFK-302	Exd IIC T4~T6	-0.1~10MPa	0~350°C	25~550mm	Adjustable	Side-mounted		

Model and Specification Table

ALFK-	Float Level Switch							Series
	301	Side-mounted (non-adjustable)						Installation mode
	302	Side-mounted (adjustable)						
		N	Standard type					
		S	With self-test					
			4	304				Material
			6	316L				
				A5	DN50 PN1.6 (HG/T20592-2009)			Connection mode
				A8	DN80 PN1.6 (HG/T20592-2009)			
				A10	DN100 PN1.6 (HG/T20592-2009)			
				B5	DN50 Class150 (ANSI B16.5)			
				B8	DN80 Class150 (ANSI B16.5)			
				B10	DN100 Class150 (ANSI B16.5)			
				C	Others			
					P	Ordinary		Explosion-proof type
					B	Intrinsically safe		
					D	Explosion-proof type		
						T1	0~150℃	Operating temperature
						T2	150~350℃	
ALFK-	□-	□	□	□	□-	□		

★ Other special requirements can be indicated at the time of ordering!

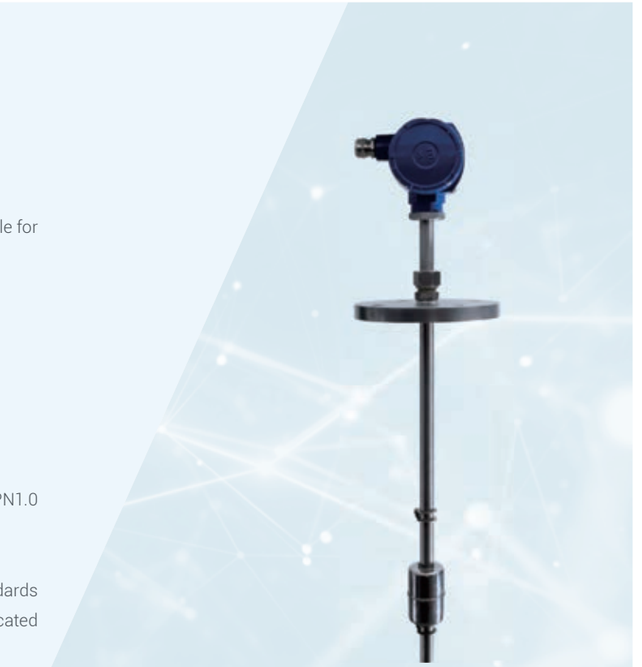
ALFK-340 Series Top-mounted Connecting Rod Float Level Switch

Overview

The ALFK-340 series is based on the principle that the magnetic float rises and falls synchronously with the liquid level. When the magnetic float, along the guide rod, reaches the position where the reed switch is installed, the reed switch is closed or released, and the corresponding digital signal is output. This signal can be directly input to the PLC and flash alarm for automatic level control and alarm. It is matched with the signal converter or input to the PLC to directly drive the 220VAC control circuit for automatic motor and valve control.

Key Technical Specifications

- Detection range: 100 mm ~ 6000 mm
- Control accuracy: ±10 mm
- Contact capacity: 24VDC, 0.5A (resistive); 220VAC, 1A, available for special requirements of users
- Explosion-proof grade: Intrinsically safe Exia IIC T4-T6 Ga
  Flameproof Exd IIC T4-T6
- Specification of float: ϕ92, ϕ84, ϕ54, ϕ48, ϕ25 (for special requirements, ϕ140 and ϕ76 are available)
- Float material: 304, 316L, PP
- Operating temperature: -10 ~ 120° C
- Operating pressure: -0.1MPa~2.5MPa
- Specification of connecting flange: DN100 (DN50, DN25), PN1.0 (PN1.6)
- Electrical interface: M20×1.5 internal thread
- Connecting flange standard: HG20592~20635-97. Other standards (such as GB, JB, ANSI, and JIS) used by the user shall be indicated at the time of ordering.



System Connection

The output signal of the level switch is connected with PLC and other systems for use.

When the user uses the level switch as control and alarm signal, if the control (alarm) loop voltage is greater than 36VAC(DC), the user should equip the switch with a signal converter, which can convert the reed switch signal of the level switch into a relay signal with larger capacity, to ensure the safety and reliability of the level switch and prolong the service life.

Comparison Table of Float Specification, Material, Adapter Flange, Operating Pressure and Temperature

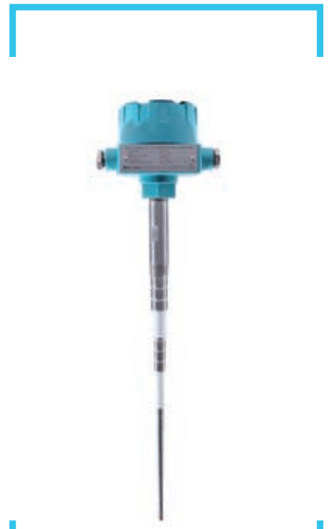
Name	Contents		
Float specification	ϕ92	ϕ84	ϕ48
Float material	304(316L)	PP	304(316L)
Specification of adapter flange	>DN100	>DN100	>DN50
Applicable pressure	1.0MPa	Normal pressure	2.5MPa
Applicable temperature	120℃	60℃	120℃

Model and Specification Table

ALFK-340	Top-mounted Connecting Rod Float Level Switch									Series
	1	1 magnetic float and 1 control point								Number of floats; number of control points
	2	2 magnetic floats and 2 control points								
	3	3 magnetic floats and 3 control points								
	4	4 magnetic floats and 4 control points								
		A5	DN50 PN1.6(HG/T20592-2009)							Connection mode
		A8	DN80 PN1.6(HG/T20592-2009)							
		A10	DN100 PN1.6(HG/T20592-2009)							
		B5	DN50 Class150(ANSI B16.5)							
		B8	DN80 Class150(ANSI B16.5)							
		B10	DN100 Class150(ANSI B16.5)							
		C	Others							
			A	Guide rod material: stainless steel 304						Guide rod material
			B	Guide rod material: stainless steel 316L						
			P	Guide rod material: stainless steel, case material: PP						
			F	Guide rod material: stainless steel, case material: PTFE						
				P	Ordinary (waterproof)					Explosion'-proof type
				D	Explosion-proof type					
				B	Intrinsically safe					
					☐	Installation height (mm)				Installation height
						L1U/L1D	Upward movement of first control point/downward movement of first control point			Movement method of control point
						L2U/L2D	Upward movement of second control point/downward movement of second control point			
						L3U/L3D	Upward movement of third control point/downward movement of third control point			
						L3U/L4D	Upward movement of fourth control point/downward movement of fourth control point			
							K	Normally open contact		Contact type
							B	Normally closed contact		
								☐	Density g/cm3	Density
									D	Operating pressure: normal pressure	Operating pressure
									☐	Actual operating pressure (MPa)	
ALFK-340-	☐-	☐-	☐-	☐-	☐-	☐-	☐-	☐-	☐		

★ Other special requirements can be indicated at the time of ordering!

ALDK-400 RF Admittance Level Switch



Overview

ALDK-400 intelligent RF admittance level switch is a fundamentally intelligent RF admittance level meter. This series of products are high-end products designed based on the principle of RF admittance, which have the advantages of high stability, accurate measurement and wide application. Compared with the traditional RF admittance level meter, this series of products use modular design and are equipped with LCD commissioning module, which can automatically obtain and display the current value of the measured level without using any peripheral auxiliary equipment, and provide users with more reliable measurement data. The LCD commissioning module has dual functions of commissioning and displaying, to enable users to read the data concisely and intuitively and facilitate commissioning.

Typical Applications

Power plant:
Coal pile, raw coal bin, fuel bunker, reservoir, waste gas purification tank, bin pump, ash silo, and oil tank.

Pulp and paper:
Raw material silo, storage tower, drying drum, and chemical material storage silo.

Oilfield:
Crude oil or refined oil storage tank, three-phase separator, sedimentation tank, sewage tank and oil-water interface, and drilling mud tank.

Water treatment:
Reservoir, sewage tank, water treatment tank, sedimentation tank, deep well, and drinking water pipeline.

Chemical industry:
Crude oil distillation tower, raw material and intermediate silo, reaction tank, ammonia water tank, solid silo, and separator.

Metallurgy:
Ore silo, ore crusher, raw material silo, auxiliary material silo, blast furnace, alumina powder silo, and electrolytic cell buffer tank.

Cement:
Stone silo, raw material silo, cement silo, pulverized coal silo, and slag storage silo.

Others:
Quarry, food, pharmaceutical, environmental protection, shipbuilding and other industries.

Characteristic Parameters

- **Intelligence:** The operating range can be adjusted automatically, with indicator light display. The product has system error self-checking function, with indicator light display, and its accuracy is very high when no moving parts are installed horizontally, and it is suitable for measuring viscous materials.
- **Anti-feed-retaining:** The unique circuit design improves the anti-feed-retaining performance.
- **Power supply range:** DC24V 100mA and AC220V 50/60HZ.
- **Relay capacity:** DPDT, 220VAC, 5A non-inductive and 3A inductive.
- **Adaptability:** The operating temperature range of the probe is -184° C~260° C, and the temperature resistance of the circuit part is -40° C~80° C.
- **Sensitivity:** Less than 0.3PF.
- **Adjustable delay:** 0~60 seconds.
- **Stability:** High stability output; resistant to fly ash, falling materials, vapor, crystallization, and waxing.
- **Maintenance-free:** No moveable parts; no easily worn parts; infrequent cleaning, maintenance, and commissioning.
- **Operability:** With panel design concept, after the normal installation, the instrument automatically calibrates the operating point and operates the convenient electrical connection, which can improve the working efficiency of the operator.
- **Explosion-proof grade:** Intrinsically safe Exia IIC T4-CT6, Flameproof Exd IIC T4-CT6.

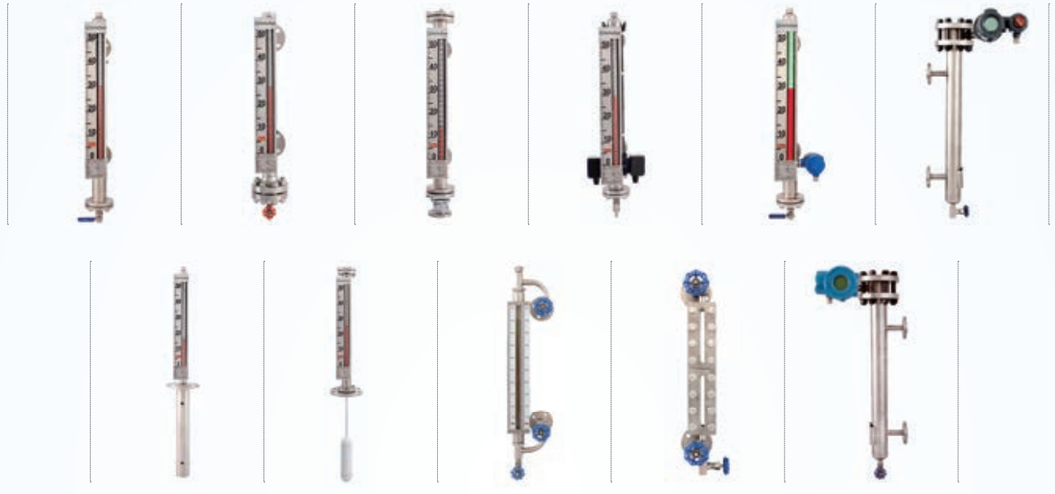
Model and Specification Table

ALDK-400	RF Admittance Level Switch								Series
	1	24VDC							Power supply mode
	2	220VAC							
		T04	304						Probe material
		T06	316L						
			L0	G1”					Process connection
			L1	G1 1/4”	Threaded type: pipe thread				
			L2	G1 1/2”					
			L3	DN40 PN1.6					
			L4	DN50 PN1.6	Flange type				
			L5	DN80 PN1.6					
			L6	As required by Client					
				F04	304				Flange (thread) material
				F06	316L				
					P	Ordinary			Explosion-proof grade
					D	Explosion-proof type			
					B	Intrinsically safe			
						01	Standard type (temperature <120° C)		Electrode form
						02	High-temperature type (temperature <180° C)		
						03	Flat plate type		
						04	Flexible probe (cable type)		
						05	Corrosion-resistant (304 + PTFE)		
							□□□	Probe length (mm)	Probe
ALDK-400	□	□	□	□	□	□-	□		

★ Other special requirements can be indicated at the time of ordering!

Product Series

Level Gauges



Level Switches