

NIVOCONT K

CONDUCTIVE LEVEL SWITCHES

5 YEARS WARRANTY



NIVELCO

LEVEL SWITCHES

NIVOCONT K conductive level switches are designed for liquids with conductivity higher than 10 $\mu\text{S}/\text{cm}$. Level detection is performed by probes immersed in the medium. Single-rod and multiple-rod probes are available. The probes, together with the tank wall if it is conductive, act as electrodes, while the liquid serves as the conductive medium between them. In multiple-probe sockets, up to four probe rods can be installed, with an additional reference probe used if the tank wall is non-conductive. The probe length should match the measured level. When the liquid reaches the probe, the conductivity of the circuit changes and the output relay is activated. KLP separators should be used every 0.5 m (1.64 ft) to maintain the proper distance between probes.

FEATURES

Level Switches		Compact Level Switches
KRK-512	KRK-622	KKH-2□2
- Level switching - Filling-emptying control - Selectable NO/NC relay function - Adjustable sensitivity - Adjustable ON/OFF delay - Delay time indication - AC/DC versions 5 years warranty	- Available functions: - Monitoring of 2 independent levels in 2 tanks - Monitoring of 2 independent levels in 1 tank - Pumping from one tank to another - DIP switch on front panel (8 functions) - Adjustable sensitivity (for each probe separately) - Adjustable relay switching delay (for each probe separately) - AC/DC versions 5 years warranty	- Probe and relay in one unit 1 / 2 incorporated KRK-512 electronics 1 / 2 independent relay outputs for pump control or differential level switching - Selectable NO/NC relay function - Adjustable sensitivity - Adjustable ON/OFF delay - Delay time indication - AC/DC versions 5 years warranty

APPLICATIONS

- For conductive liquids with at least 10 $\mu\text{S}/\text{cm}$ conductivity
- For emptying/filling control or level switching
- Fail-safe indication and pump control
- Water inrush indicator



TECHNICAL DATA

Features	Type	Level Switches			Compact Level Switches	
		KRK-512-5	KRK-622-1	KRK-622-4	KKH-212-5	KKH-222-5
Supply voltage (U _n)		24...240 V AC/DC (AC 50...60 Hz)	230 V AC	24 V AC/DC	24...240 V AC/DC (AC 50...60 Hz)	
		-15...+10%			-15...+10%	
Power consumption		1.5 W / max. 2 VA	2.5 W / 5 VA	1.4 W / 2 VA	Max. 2 VA	Max. 4 VA
Ambient temperature		-20...+55 °C (-4...+131 °F)			-20...+50 °C (-4...+122 °F)	
Process temperature		-			-20...+80 °C (-4...+176 °F)	
Process pressure		-			1 bar (14.5 psi)	
Number of probes		-			2+s ⁽¹⁾	4+s ⁽¹⁾
Probe voltage		Max. 3.5 V AC				
Probe current		Max. 0.1 mA AC	Max. 1 mA AC		Max. 0.1 mA	
Sensitivity		Adjustable: 5...100 kΩ				
Fixed ON delay		1.5 s	-		1.5 s	
ON/OFF delay		0.5...10 s				
Relay output		1× SPDT 250 V 8 A, AC1 24 V DC 8 A	2× SPDT 250 V 16 A, AC1 24 V DC 16 A		1× SPDT 250 V 8 A AC1 / DC 24 V 8 A	2× SPDT 250 V 8 A, AC1 / DC 24 V 8 A
Cable capacitance		100 nF (100 kΩ sensitivity); 800 nF (5 kΩ sensitivity)			-	
Electrical connection		Terminal block, max. 2.5 mm ² (14AWG)			Cable gland: 2× M20×1.5 Ø6...12 mm cables, Terminal block, max. 2.5 mm ² (14AWG)	
Electrical protection		Class II		Class III	Class II	
Process connection		-			1½" BSP	
Mechanical connection		EN 60715 rail			-	
Ingress protection		IP20 (NEMA 1 equivalent)			IP67 (NEMA 6 equivalent)	
Material of probe socket		-			PP	
Housing material					Polycarbonate	
Weight		72 g (0.16 lb)	248 g (0.55 lb)	147 g (0.32 lb)	660 g (1.45 lb) (without probe)	800 g (1.75 lb) (without probe)

⁽¹⁾ s = reference probe

PROBES, ACCESSORIES



KS□-201
Single-probe socket

KSK-201
Submersible probe



KLN-200
Probe



KLP-201-0 Separator for
KSH-300 and KKH-200

KLP-204-0
Separator for KSH-200



Features \ Probes	Single-probe			Multi-probe							Submersible
				Aluminum housing			Plastic housing				
	KSP-201	KSS-201	KSN-201	KSH-						KSK-201	
				202/402	203/403	204/404	301/501	302/502	303/503		304/504
Number of probes	1			2+s ⁽¹⁾	3+s ⁽¹⁾	4+s ⁽¹⁾	1+s ⁽¹⁾	2+s ⁽¹⁾	3+s ⁽¹⁾	4+s ⁽¹⁾	1
Process connection	¾" BSP			1½" BSP/NPT as per order code							Cable-mountable
Probe socket material	PP	Carbon steel	1.4571/1.4404				PP				–
Housing	–			Cast aluminum			PBT				ABS
Probe material	1.4571/1.4404 (316Ti/316L equivalent)										1.4401
Insulation of socket	PP	PFA				PP				ABS	
Process temperature	up to +80 °C (176 °F)	up to +200 °C (392 °F)				up to +80 °C (176 °F)					
Ambient temperature		up to +200 °C (392 °F)	up to +80 °C (176 °F)								
Process pressure	up to 3 bar (43.5 psi)	up to 16 bar (232 psi)				up to 3 bar (43.5 psi)				–	
Electrical connection	M4 nut, protected by a rubber cap			M20×1.5 cable gland, cable diameter: Ø6...Ø12 mm (0.25...0.5")							Pg7 ⁽²⁾
Ingress protection	IP20 (NEMA 1 equivalent)			IP65 (NEMA 4 equivalent)			IP67 (NEMA 6 equivalent)				IP68 (NEMA 6P eq.)
Weight (without probe)	100 g (0.22 lb)			400 g (0.88 lb)			200 g (0.44 lb)				50 g (0.11 lb)

⁽¹⁾ s = reference probe.

⁽²⁾ Cable: Ø4...7 mm (Ø0.15...0.275").

DIMENSIONS

KRK-512-5	KKH-200-2-5	KSH-303	KSH-202	KLE/KLF-200
KRK-622-□	KSK-201	KS□-201	KLN-200	
KLP-201	KLP-204			

ORDER CODES

NIVOCONT KRK-512 – 1× output 5 years

Conductive level control switch for KS sockets and KL probes with 1× SPDT relay output for limit switching or differential switching with time delay.

K R K - 5 1 2 - 5

NIVOCONT KRK-622 – 2× outputs 5 years

Conductive level control switch for KS sockets and KL probes with 2× SPDT relay outputs for limit switching or differential switching with time delay.

Supply voltage

K R K - 6 2 2 - □

1 230 V AC

4 24 V AC/DC

NIVOCONT KKH 5 years

Compact conductive level switch with single or dual channel probe socket including 1 or 2 KRK-512 level control switches.

K K H - 2 □ 2 - 5

1 Single channel (3 probes)

2 Dual channel (5 probes)

NIVOCONT KS – Single-probe socket 5 years

Single-probe socket for level detection of electrically conductive liquids. For level detection with KL electrodes and KR level control unit.

Socket- / Insulation material

K S □ - 2 0 1 - 0

P PP / PP

S Carbon steel / PFA

N Stainless steel / PFA

NIVOCONT KSH – Multi-probe socket 5 years

Multi-probe socket for level detection of electrically conductive liquids. For level detection with KL electrodes and KR level control unit.

Type / Process connection

K S H - □ 0 □ - 0

2 Aluminum housing / 1½" BSP

3 Plastic housing / 1½" BSP

4 Aluminum housing / 1½" NPT

5 Plastic housing / 1½" BSP, with titanium screws

Probes

K S H - □ 0 □ - 0

2 2 probes + reference electrode

3 3 probes + reference electrode

4 4 probes + reference electrode

NIVOCONT KSK – Submersible probe 5 years

Submersible probe for conductive liquids, to connect to KR level control unit.

K S K - 2 0 1 - 0 Submersible probe

Accessories sold separately

EAM-702-0 1½" female nut / 1.4571/1.4404

SSA-390-9M-020-01 1½" BSP female nut / PP

NIVOCONT KLN – Stainless steel probe 5 years

Stainless steel probe stem with M6 thread for KS and KKH probe socket.

K L N - 2 □ □ - 0 Length: 0.5...3.0 m (20...120"), step 0.5 m (19.7")

NIVOCONT KLB – Coated probe stem 5 years

Stainless steel (1.4571/1.4404) threaded (M6) probe stem for KS and KKH probe heads, plastic-coated, with 10 mm (0.4") uninsulated tip. Special version: PE-coated (up to +100 °C (+212 °F)).

K L B - 2 □ □ - 0 Length: 0.5...3.0 m (20...120"), step 0.5 m (19.7")

NIVOCONT KLC – PFA-coated probe stem 5 years

Stainless steel (1.4571/1.4404(316Ti)) threaded (M6) probe stem for KS and KKH probe heads, plastic-coated, with 10 mm (0.4") uninsulated tip. Special version: PFA-coated, up to +200 °C (+392 °F).

K L C - 2 □ □ - 0 Length: 0.5...3.0 m (20...120"), step 0.5 m (19.7")

NIVOCONT KLE – Probe extension 5 years

Stainless steel electrode with M6 thread for KS and KKH probe socket. Special version: probe extension for KLN.

K L E - 2 □ □ - 0 Length: 0.5...3.0 m (20...120"), step 0.5 m (19.7")

NIVOCONT KLT – Titanium probe 5 years

Titanium probe stem with M6 thread for KSH-5□□ probe socket.

K L T - 2 □ □ - 0 Length: 0.5...3.0 m (20...120"), step 0.5 m (19.7")

NIVOCONT KLF – Probe extension 5 years

Titanium probe stem with M6 thread for KSH-5□□ probe socket. Special version: probe extension for KLT.

K L F - 2 □ □ - 0 Length: 0.5...3.0 m (20...120"), step 0.5 m (19.7")

NIVOCONT KLP 5 years

Separator for NIVOCONT K probes. Not suitable for coated probes.

K L P - 2 0 4 - 0 For KSH-200

K L P - 2 0 1 - 0 For KSH-300 and KKH-200

Accessories

S A C - 1 □ 1 - 0 Mounting brackets

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NIVOCONT K
– CONFIGURATION &
REQUEST FOR QUOTE

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