

NIVOCONT K

CONDUCTIVE LEVEL SWITCHES



5 YEARS WARRANTY

NIVELCO

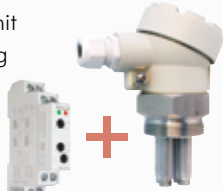

LEVEL SWITCHES

NIVOCONT K conductive level switches can be used in liquids whose conductivity exceeds 10 $\mu\text{S}/\text{cm}$. The level of the liquid is detected by a probe that is immersed in the medium. Single and multiple rod type probes are available. They (*and the tank wall, if conductive*) act as electrodes, and the measured liquid is used as conductive material between them. Up to 4 rods can be fitted in a multiple-probe socket with an additional reference probe if the tank wall is not conductive. The probe's length must correspond with the measured level. When the liquid level reaches the probe, it changes the loop's conductivity, and the output relay is activated. The device senses the change in conductivity between the probes and the reference probe. KLP separators must be used every 0.5 m to provide appropriate distance between the probes.

FEATURES

Level Switches		Compact Level Switches
KRK-512	KRK-622	KKH-2□2
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Available functions: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Probe and relay in one unit 1 or 2 incorporated KRK-512 electronics 1 or 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

VERSIONS

Level Switch and Probe	Compact Level Switch
<ul style="list-style-type: none"> DIN-rail-mounted 1 or 2 channel switching unit Probe socket with aluminum or plastic housing featuring 1½" BSP process connection Probe-rods up to 3 m 	<ul style="list-style-type: none"> 1 or 2 channel switching unit in plastic housing with 1½" BSP process connection Probe-rods up to 3 m 

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



KRK-512-5



KRK-622-□



KSH-2□□



KSH-302



KKH-2□2-5

TECHNICAL DATA

Type	Level Switches		
	KRK-512-5	KRK-622-1	KRK-622-4
Supply voltage (U _n)	24...240 V AC/DC (AC 50...60 Hz)	230 V AC	24 V AC/DC
	-15...+10%		
Power consumption	Max. 2 VA	2.5 W / 5 VA	1.4 W / 2 VA
Ambient temperature	-20...+55 °C		
Probe voltage	Max. 3.5 V AC		
Probe current	Max. 0.1 mA AC	Max. 1 mA AC	
Sensitivity	Adjustable: 5...100 kΩ		
Cable capacitance	100 nF (100 kΩ sensitivity) 800 nF (5 kΩ sensitivity)		
Fixed ON delay	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	
Electrical connection	Terminal block, max. 2.5 mm ²		
Electrical protection	Class II		Class III
Mechanical connection	EN 60715 rail		
Ingress protection	IP20		
Weight	72 g	248 g	147 g

Type	Compact Level Switches	
	KKH-212-5	KKH-222-5
Supply voltage (U _n)	24...240 V AC/DC (AC 50...60 Hz)	
	-15...+10%	
Power consumption	Max. 2 VA	Max. 4 VA
Ambient temperature	-20...+50 °C	
Process temperature	-20...+80 °C	
Process pressure	1 bar	
Number of probes	2+s*	4+s*
Probe voltage	Max. 3.5 V AC	
Probe current	Max. 0.1 mA	
Sensitivity	Adjustable: 5...100 kΩ	
Fixed ON delay	1.5 s	
ON/OFF delay	0.5...10 s	
Relay output	1× SPDT 250 V 8 A AC1 / DC 24 V 8 A	2× SPDT 250 V 8 A, AC1 / DC 24 V 8 A
Electrical connection	Cable gland: 2× M20×1.5 Ø6...12 mm cables, Terminal block, max. 2.5 mm ²	
Electrical protection	Class II	
Process connection	1½" BSP	
Material of probe socket	PP	
Housing material	Polycarbonate	
Ingress protection	IP67	
Weight (without probe)	660 g	800 g

s*=reference probe

PROBES, ACCESSORIES



KSK-201
Single-probe socket



KSK-201
Submersible probe



KLN-2000
Probe



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



KLP-204-0
Separator for KSH-200

Features	Probes			Multi-probe						Submersible	
	Single-probe			Aluminum housing			Plastic housing			KSK-201	
	KSP-201	KSS-201	KSN-201	202	203	204	301	302	303		304
Number of probes	1			2+s*	3+s*	4+s*	1+s*	2+s*	3+s*	4+s*	1
Process connection	¾" BSP			1½" BSP						Cable-mountable	
Probe socket material	PP	Carbon steel	1.4571 (316Ti)				PP			-	
Housing	-			Cast aluminum			PBT			ABS	
Probe material	-			1.4571						1.4401	
Insulation of socket	PP	PFA				PP			ABS		
Process temperature	max. +80 °C	maximum +200 °C				maximum +80 °C					
Ambient temperature		maximum +200 °C			maximum +80 °C						
Process pressure	max. 3 bar	maximum 16 bar				maximum 3 bar			-		
Electrical connection	M4 nut, protected by rubber cap			M20×1.5 cable gland, cable diameter: Ø6...Ø12 mm						Pg7 ⁽¹⁾	
Ingress protection	IP20			IP65			IP67			IP68	
Weight (without probe)	100 g			400 g			200 g			50 g	

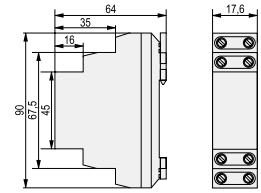
s* = reference probe ⁽¹⁾ Cable: Ø4...7 mm

NIVOCONT KRK-512 1x output **5 years**

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

Type

K R K - 5 1 2 - 5	
K	Conductive level switch



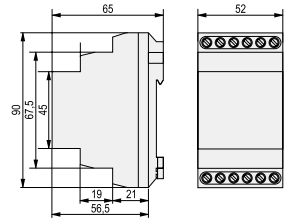
KRK-512-5

NIVOCONT KRK-622 2x outputs **5 years**

Conductive level control switch for KS sockets and KL probes with 2x 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



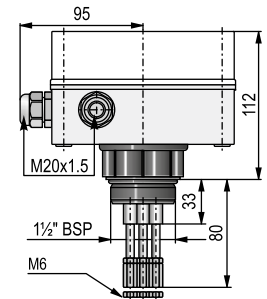
KRK-622-□

NIVOCONT KKH Compact **5 years**

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

Type

K K H - 2 □ 2 - 5	
1	Single channel (3 probes)
2	Dual channel (5 probes)



KKH-2□2-5

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**

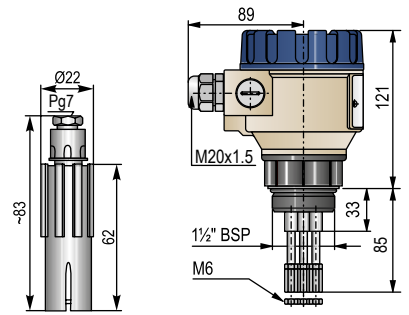
Multi-probe socket for level detection of electrically conductive liquids For level detection with KL electrodes and KR level control unit

Type / Process connection

K S H - □ 0 □ - 0	
2	Aluminum housing / 1 1/2" BSP
3	Plastic housing / 1 1/2" BSP
4	Aluminum housing / 1 1/2" NPT

Probes

K S H - □ 0 □ - 0	
2	2-probes + reference electrode
3	3-probes + reference electrode
4	4-probes + reference electrode



KSK-201

KSH-303

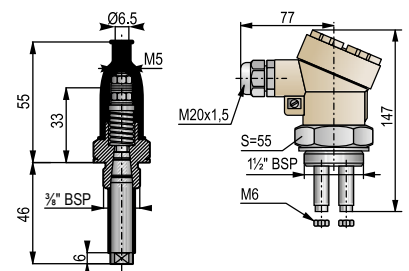
NIVOCONT KSK Submersible probe **5 years**

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

K S K - 2 0 1 - 0	Submersible probe
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Accessories sold separately; see relevant page for details

EAM-702-0	1 1/2" female nut / 1.4571
SSA-390-9M-020-01	1 1/2" BSP female nut / PP



KSK-201

KSH-202

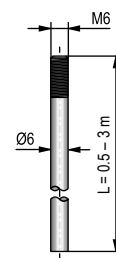
NIV24
 KRK-512-5, KRK-622-1, KRK-622-4, KKH-212-5, KKH-222-5, KSP-201-0, KSS-201-0, KSN-201-0, KSH-202-0, KSH-302-0, KSK-201-0, KSH-203-0, KSH-303-0, KSH-204-0, KSH-304-0, KSH-303-0, KSH-304-0

NIVOCONT KLN Stainless steel probe **5 years**

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

Length

K L N - 2 □ □ - 0		
0 5		0.5 m
1 0		1.0 m
1 5		1.5 m
2 0		2.0 m
2 5		2.5 m
3 0		3.0 m



KLN-200

NIVOCONT KLB Coated probe stem **5 years**

Stainless steel (1.4571) threaded (M6) probe stem for KS and KKH probe heads
 Probe stem coated with plastic tube, 10 mm uninsulated length at the end.
 Special version: PE-coated (up to +100 °C).

Length

K L B - 2 □ □ - 0		
0 5		0.5 m
1 0		1.0 m
1 5		1.5 m
2 0		2.0 m
2 5		2.5 m
3 0		3.0 m

NIVOCONT KLC PFA-coated probe stem **5 years**

Stainless steel (1.4571) threaded (M6) probe stem for KS and KKH probe heads
 Probe stem coated with plastic tube, 10 mm uninsulated length at the end.
 Special version: PFA-coated (up to +200 °C).

Length

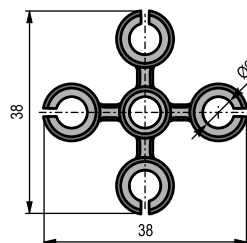
K L C - 2 □ □ - 0		
0 5		0.5 m
1 0		1.0 m
1 5		1.5 m
2 0		2.0 m
2 5		2.5 m
3 0		3.0 m

NIVOCONT KLE Probe extension **5 years**

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

Length

K L E - 2 □ □ - 0		
0 5		0.5 m
1 0		1.0 m
1 5		1.5 m
2 0		2.0 m
2 5		2.5 m
3 0		3.0 m



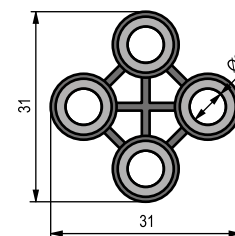
KLP-201

NIVOCONT KLP **5 years**

Separator for NIVOCONT K probes.
 Separator does not fit coated probes.

Type

K L P - 2 0 4 - 0	For KSH-200
K L P - 2 0 1 - 0	For KSH-300 and KKH-200



KLP-204

NIV24

KLN-205-0, KLN-210-0, KLN-215-0
 KLN-220-0, KLN-230-0
 KLP-204-0, KLP-201-0

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