

UNICONT PKK

MULTIFUNCTION LIMIT SWITCH



MAIN FEATURES

- Galvanic isolation
- Intrinsically safe version
- 4 ... 20 mA input
- Relay output
- Power supply for transmitter
- Programmable parameters
- Rail mounted version
- Cable state monitoring

GENERAL DESCRIPTION

UNICONT PKK-312 series is a 4 ... 20 mA current controlled limit switch featuring galvanic isolation also available as an intrinsically safe unit.

The value of the input signal will be compared in the unit with the set (teached) value and the state of the galvanically isolated relay changes in accordance with the comparison mode programmed.

The double throw output relay can be programmed for the following functions:

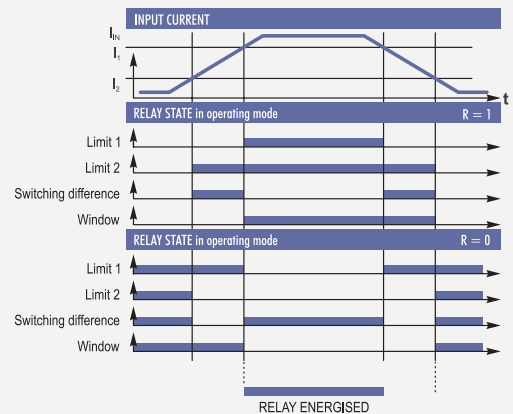
- Limit switch (high or low fail safe)
- ON-OFF control with selectable switching difference
- Window comparison operation mode with energised or de-energised relay state
- Monitoring of discontinuity or short-circuit of the cable

Instead of the 4 ... 20 mA current a dry contact can also be connected to the input. The state of this contact will be copied and the output signal will be galvanically isolated.

The circuitry incorporated in the **UNICONT PKK-312** enables delayed switching, a switching delay of 0.1, 1, 2, and 5 seconds can be selected.

The **UNICONT PKK-312-8 Ex** is a special version, engineered to cooperate with Nivelco's Ex rated vibrating fork level switch, as an intrinsically safe power supply and amplifier unit.

RELAY STATE DIAGRAM



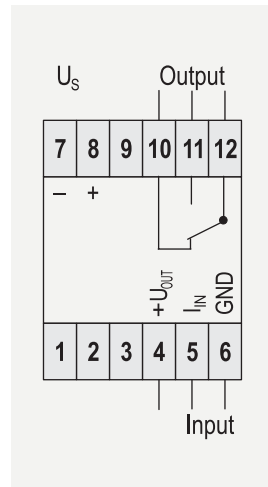
Relay operating modes can be programmed by the press buttons on the front panel taking into consideration the indications of the bi-colour LED's.

One of the most important parameters is the operating mode of the relay „R“. If $R = 1$ the output relay will be energised when the input current is over the value set by teaching. If $R = 0$ the output relay will be de-energised when the current value is over the value set by teaching. By the help of this parameter the characteristic (normal or inverse) of the ON – OFF control can be decided e.g. depending on the need for emptying or filling in connection with level control as well as heating or cooling control if used for temperature control.

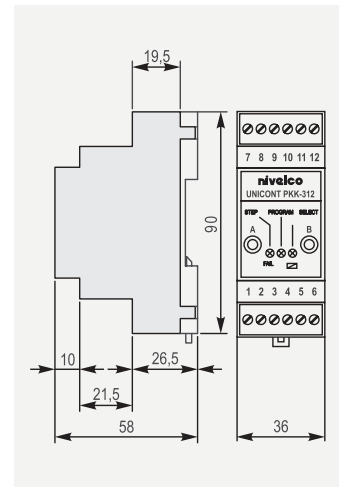
GENERAL TECHNICAL DATA

TYPE	PKK - 312 - □	
Nominal input current range	1 ... 22 mA	
Accuracy of switching level/threshold level	± 0.1 mA	
Discontinuity threshold/Lower value fault current	3.7 mA	
Short circuit threshold/Upper value fault current	22 mA	
Input impedance	10 ohm	
Input overload capability	max 100 mA (permanent)	
Damping	0.1 s; 1 s; 2 s; 5 s selectable	
Relay	Output	1 x SPDT
	Rating	250 V AC, 8 A, AC1
	Insulation strength	4000 V 50 Hz
	Electrical / Mechanical life time	10 ⁵ / 2 x 10 ⁶ switching
Electrical connection	max. 2.5 mm ² twisted or max. 4 mm ² single cable	
Mechanical connection	DIN EN 50022-35 rail mounted	
Ingress protection	IP 20	
Mass	≈ 0.21 kg	

WIRING



DIMENSIONS

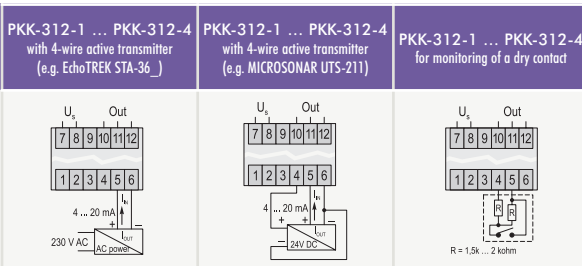


GENERAL TECHNICAL DATA

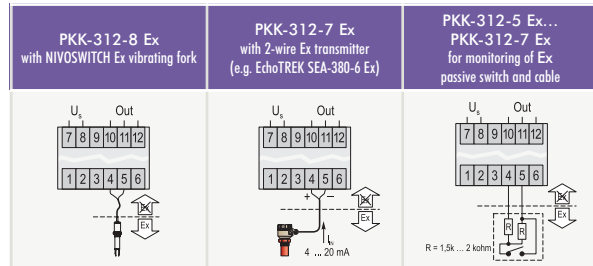
TYPE	STANDARD MODELS				EX APPROVED MODELS			
	PKK-312-1	PKK-312-2	PKK-312-3	PKK-312-4	PKK-312-5 Ex	PKK-312-6 Ex	PKK-312-7 Ex	PKK-312-8 Ex
Power supply (U)	230 V AC ± 10% 50...60 Hz	110 V AC ± 10% 50...60 Hz	24 V AC ± 10% 50...60 Hz	24 V AC ± 10%, 50...60 Hz, 24 V DC ± 15%	230 V AC ± 10% 50...60 Hz	110 V AC ± 10% 50...60 Hz	24 V AC ± 10%, 50...60 Hz, 24 V DC ± 15%	
Power consumption	< 2.7 VA				< 2.5 VA			
Switching levels	2 values in the range of 1...22 mA				2 values in the range of 1...22 mA			
Ex protection mark	-				II (1) G [Ex ia] IIB			
Intrinsically safe maximum values	-				U ₀ < 28.4 V; I ₀ < 140 mA; P ₀ < 1.1 W L ₀ < 6 mH; C ₀ < 50 nF			
Output load capability	U ₀ = 30 V I _{MAX} = 70 mA U _{OUT} min = 16 V				U ₀ = 24 V I _{MAX} = 80 mA U _{OUT} min = 23 V			
Protection class	Class II				Class II			
Ambient temp.	-10 °C ... +55 °C							

APPLICATION

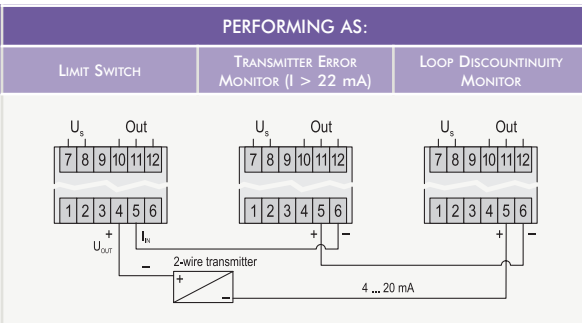
Wiring of standard models



Wiring of Ex certified models



One transmitter wired up with three UNICONT PKK-1



ORDER CODE

UNICONT PKK - 312 - □ Ex*

Code	Power Supply / Ex	Code
1	230 V AC	230 V AC Ex 5
2	110 V AC	110 V AC Ex 6
3	24 V AC	24 V AC Ex 7
4	24 V AC / DC	24 V AC / DC Ex 8**

** The order code of an Ex version should end in „Ex“
** For DC powered, 2-wire NIVOSWITCH Ex vibrating forks of Nivelco