

DI Isolated Barrier

NPEXA-K51

Single input, single output

NPEXA-K511

Single input, double outputs

Input: dry contact or proximity switch
Output: relay

Digital input isolated barrier, it converts switch or proximity detector signals (dry contact or NAMUR) from a hazardous area into relay signals to a safe area by isolation. Operation mode, output 2 function and the input circuit fault detection function can be set with the DIP switch. The input, output, and power supply are galvanically isolated from each other.

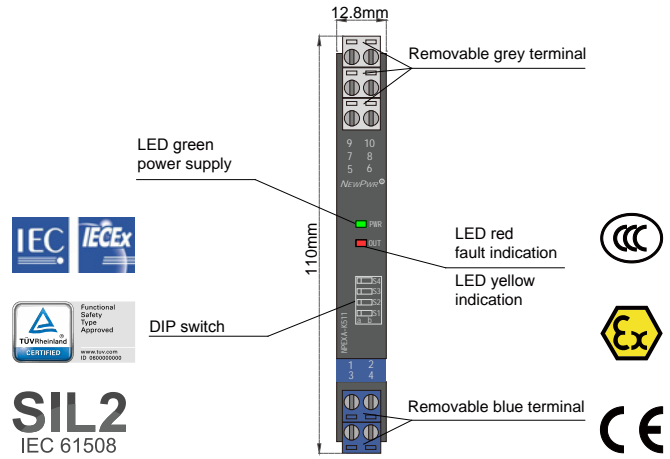
Parameters

Power supply:	20V DC ~ 30V DC (Reverse power protection)
Power dissipation:	1W
Input signal:	Dry contact or NAMUR
Switching trigger point:	Input signal > 2.1mA, signal "1", the yellow LED is always bright Input signal < 1.2mA, signal "0", the yellow LED goes out
Open-circuit voltage:	Approx. 8.5V
Short-circuit current:	Approx. 8.5mA
output signal:	Relay contact
Load capacity:	250VAC/2A, 30VDC/2A
LFD function:	When input current $\leq 50\mu\text{A}$, considers the input line breakdown, the apparatus enters into safe function state, the output relay de-energized. If input current $\geq 6.5\text{mA}$, considers the input circuit short-circuit, the apparatus enters into safe function state, the output relay de-energized, the indicator red flashing
Relay mechanical life:	> 100000 switching cycles
Switch frequency:	< 10Hz
Energized/De-energized delay:	< 20ms
Electromagnetic compatibility:	IEC 61326-3-1
Dielectric strength:	$\geq 3000\text{V AC}$ (intrinsically safe side / non-intrinsically safe side) $\geq 1500\text{V AC}$ (Power supply/non-intrinsically safe side)
Insulation resistance:	$\geq 100\text{M}\Omega$ (Input /Output/Power supply)
Operation temperature:	$-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$
Storage temperature:	$-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$
Dimension:	12.8mm (W) \times 110mm (H) \times 117mm (D)
Safe state:	de-energized

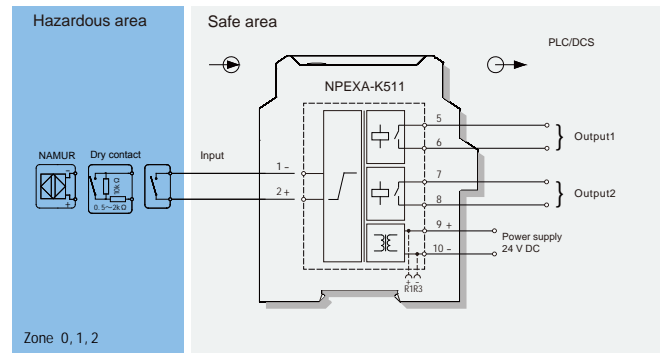
DIP switch settings

NPEXA-K51/NPEXA-K511(NPEXA-K51 can set S1、S2)

Switch	State	a	b
S1		output1 normal mode	inverted mode
S2		LFD on	LFD off
S3		output2 normal mode	fault signal output



Wiring diagram



Explosive-proof parameters

Germany TÜV (TÜV Rheinland)

Safety Integrity Level (SIL): SIL2, SC3 according to IEC 61508

Ex marking: EU: Ex I (M1) [Ex ia Ma] I

II (1)G [Ex ia Ga] IIC

II (1)D [Ex ia Da] IIIC

II 3(1)G Ex ec nC [ia Ga] IIC T4 Gc

IECEx: [Ex ia Ma] I

[Ex ia Ga] IIC

[Ex ia Da] IIIC

Ex ec nC [ia Ga] IIC T4 Gc

Um: 250V

NPEXA-K51 Certified parameters (Terminals 1, 2):

Uo=10.5V, Io=11.3mA, Po=29.7mW

IIC: Co=0.644 μF , Lo=51.05mH

IIIC(II B): Co=7.839 μF , Lo=468.7mH

IIA: Co=36.939 μF , Lo=1025mH

I: Co=46.939 μF , Lo=1739mH

NPEXA-K511 Certified parameters (Terminals 1, 2):

Uo=10.5V, Io=11.3mA, Po=29.7mW

IIC: Co=0.644 μF , Lo=37.33mH

IIIC(II B): Co=7.839 μF , Lo=455mH

IIA: Co=36.939 μF , Lo=1011mH

I: Co=46.939 μF , Lo=1725mH