



NPEXB-K512L

Digital Output Isolated Safety Barrier

→ Brief introductions

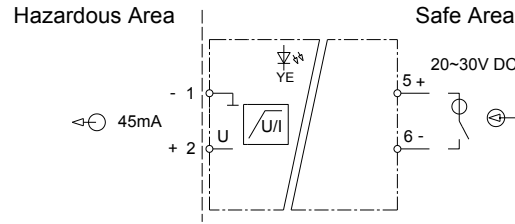
By switch signal controlling, transfers the wet contact signal from safe area into current signals to hazardous area, and drives field device like intrinsically safe valves, audible alarms, displays etc.

The input and output is galvanically isolated from each other. This apparatus was designed to be analogue circuits with various kinds of advantages, for instance, high reliability and quick response etc. It can be interfaced with all kinds of instruments and DCS and PLC.

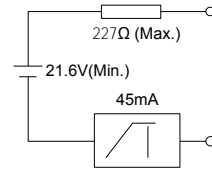
→ Mainly Technical Parameters

Explosive-proof grade	II (1) G [Ex ia Ga] II C
Supply	Loop powered
Input	5+, 6-
Signal type	20 V DC ~ 30 V DC 70mA (at 20 V DC input voltage) 60mA (at 24 V DC input voltage) 51mA (at 30 V DC input voltage)
Input current	
Output	1-, 2+ (for input voltage 20 ~ 30 V DC)
Internal impedance	≤ 227 Ω
Output voltage	> 11.25 V
Max. output current	≤ 45 mA
Open loop voltage	≥ 21.6 V
Transmission characteristics	
Response time	20 ms
Electromagnetic compatibility	EMC in accordance with IEC 61326-3-1
Electrical isolation	
Dielectric strength	≥ 2500 V AC (Input/ Output, 1mA leakage current, 1 minute)
Insulation coordination	≥ 100 MΩ (Input /Output)
Certification No.	TUV 16 ATEX 7981 IECEX TUR 16.0059
U _m	250V AC/DC
Safety related parameters	Terminals 1, 2
U _o	25.2V
I _o	116mA
P _o	731mW
C _o	0.107uF
L _o	2.6mH
Ambient conditions	
Operation temperature	-20°C ~ +60°C
Relative humidity	10%RH ~ 90%RH (40°C)
Atmosphere pressure	80kPa ~ 106kPa
Storage temperature	-40°C ~ +80°C
Dimension	12.8mm×100mm×117mm
Protection degree	IP 20

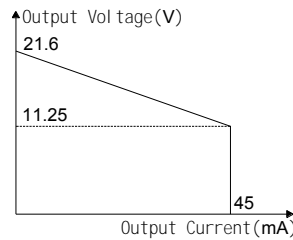
→ Wiring diagram



→ Output equivalent circuit

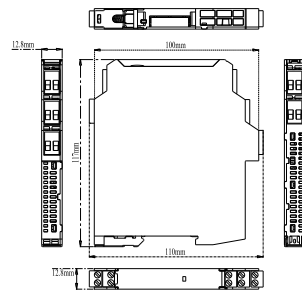


→ Input - Output characteristics



→ Housing

Width × height × depth: 12.8mm × 100mm × 117mm



→ Panel light indication

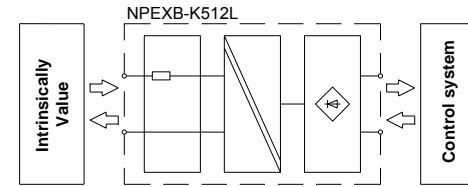
○ OUT: output status indicator, yellow. It turns on when output circuit closed.

→ Example of Applications

This apparatus is used for transmitting signals between field devices and a process control system/control system. It is

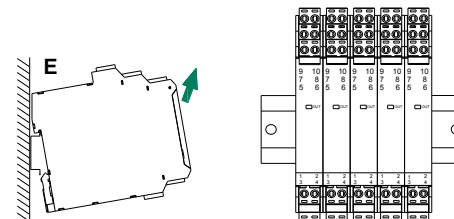
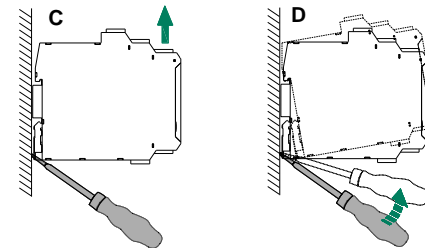
suitable for the connection of field devices used in potentially explosive atmospheres like intrinsically safe valves, audible alarms, displays etc., usually is used to protect intrinsically safe circuits of hazardous area by current and voltage limitation, and established an electromagnetic separation between the potentially explosive atmospheres and the safe areas in a system.

This apparatus transfers the input wet contact signals from safe area and outputs current signals to hazardous area by isolation and amplification to drive field intrinsically device. The LED indicator on the front side can reflect the apparatus output status.



→ Installation

- When installation, snap the clip of bottom of safety barrier onto mounting rail;
- Rotate the safety barrier, and pull downward the springs, press down the safety barrier onto mounting rail.



- When removing, put the nose of screwdriver at hole of metal lock of safety barrier;
- Pry the metal lock off the rail with screwdriver, pull downward the springs, and rotate the safety barrier upward;
- Pull upward the safety barrier, then remove it. The apparatus can be mounted on a 35mm standard rail corresponding to DIN EN 50022, they must be snapped onto the rail, and never slanted or tipped to the side.
- In order to facilitate the heat of the apparatus, Please mounted it vertically if possible.

→ Precautions

- The current Input Isolated Safety Barriers was constructed in protection degree IP20 and must therefore be protected from undesirable ambient conditions (water, small foreign objects). It is suitable for installed in control room or high density field cabinet, convenient for installation and displacement.
- The device was designed for use in pollution degree 2 and overvoltage category III as per IEC/EN 60664-1. If used in areas with higher pollution degree, the devices need to be protected accordingly.
- Installation position shall not be affected by strong mechanical vibration, impact and electromagnetic induction from signal terminal and power supply, should conformity with the requirements on electromagnetic interference resistance of products in Class 3 industrial field atmosphere stipulated in IEC 61000-4, and the atmosphere shall be free from gases that are corrosive to metal and plastic components.
- The apparatus may only be operated, maintained and decommissioned by competent according with the instruction manual, and it must be installed, connected and adjusted in non-hazardous area.
- If faults cannot be eliminated, the apparatus must be taken out of operation and protected from being placed in service again inadvertently. Devices must only be repaired directly by the manufacturer. Tampering with the apparatus is dangerous and therefore forbidden.
- The operator must strictly comply with the relevant local safety standards and guidelines.

→ Supplements

- If there is any content difference between the specification and the website or sample, the instructions shall prevail. We reserve the rights to change or update the product information without prior noticing the users.