

# XPB Series RS485 Signal Isolated Barrier Data Sheet

## 1. General

**XPB Series RS485 Signal Isolated Barrier** (one input one output) transfers RS-485 digital signal which generated by the field instrument from hazardous area to safe area separately, provides intrinsically safe power supply for the communication equipment which located in hazardous area. It restricts the energy from intrinsically safe port to hazardous area, insuring the system against explosion. It widely used in chemical industry, petroleum, natural gas, electricity, and other industrial fields. It is connected with all kinds of intrinsic safety instruments and used as the associated equipment of intrinsically safe explosion-proof system.



The product meets *GB3836.1-2010 Explosive atmospheres - Part 1: Equipment-General requirements* and *GB3836.4-2010 Explosive atmospheres - Part 4: Equipment protection by intrinsic safety "i"*. It has passed the test of China National Test Centre for Explosion Protect Electrical Products and obtained the Explosion-proof Certificate.

## 2. Features

- ◆ Input, output and power are completely isolated, with strong anti-interference ability
- ◆ High accuracy, high linearity, long - term running stability
- ◆ Modular design, small size, low power consumption, suitable for intensive installation
- ◆ Plug-in construction, easy installation, disassembly and maintenance

## 3. Safety Description

Approvals: [Exia Ga] IIC

Equipment	Terminal 4 to 6	Terminal 1 to 3
Um	250V	250V
Uo	6.6V	15.9V
Io	68mA	325mA
Po	113mW	1.3W
Co	5 $\mu$ F	0.46 $\mu$ F
Lo	5mH	0.25mH

## 4. Specifications

Power supply: 20~30VDC

Power consumption:  $\leq 3W$

Field circuit: hazardous area, RS485

System circuit: safe area, RS485

Signal type: Standard RS485 differential signal

Supply output:

12V/9V/8V/6V/5V, selectable with DIP SW

Max.50mA at 12V/9V/8V

Max.100mA at 6V/5V

Signal transmission delay:  $\leq 10\mu s$

Communication rate:  $\leq 57600$  bps.

Communication mode: half-duplex

Drive capability: 1~32

Insulation resistance:  $\geq 100M\Omega/500VDC$

Dielectric strength: input/output  $\geq 1500VAC$  (1min)

input/power  $\geq 1500VAC$  (1min)

output/power  $\geq 500VAC$  (1min)

Operating temperature: 0~50 $^{\circ}C$

Storage temperature: -40~85 $^{\circ}C$

Operating humidity: 10~90%RH

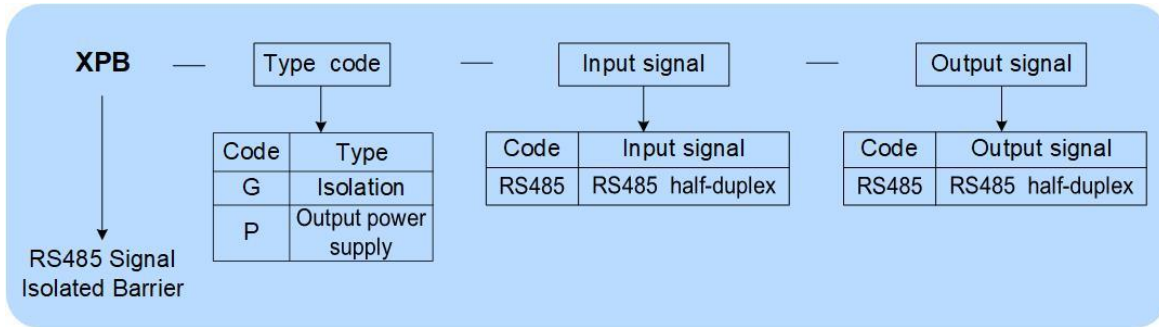
Atmospheric pressure: 86~106kPa

Installation: DIN 35mm rail

Dimension: 122mm $\times$ 18mm $\times$ 96mm

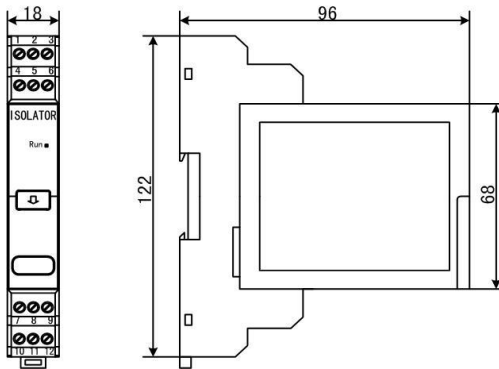
## 5. Ordering Information

XPB series code table :

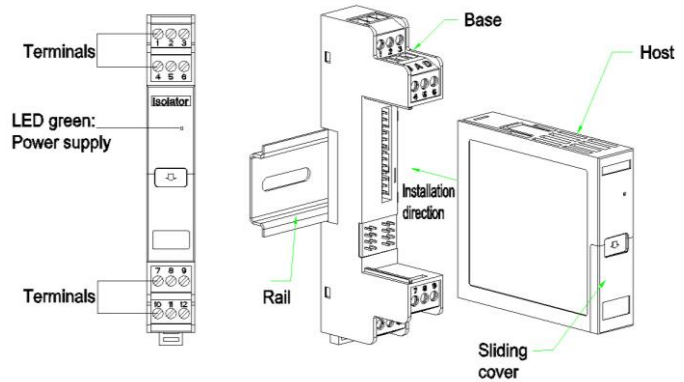


## 6. Dimension & Installation

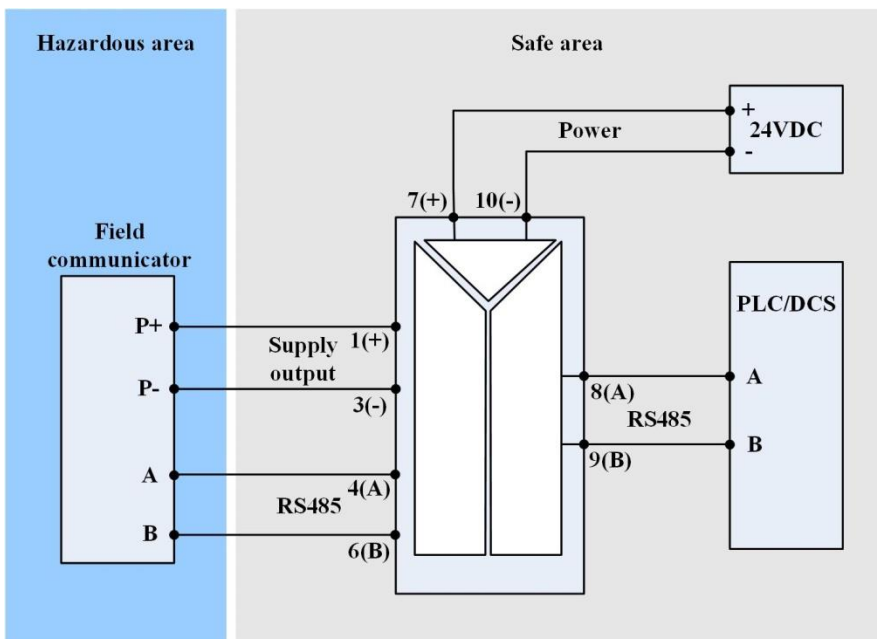
Dimension (122mm×18mm×96mm)



Installation



## 7. Typical Connection



Note 1: no supply output, terminals 1 and 3 are not connected.

Note 2: The connection diagrams given in this manual are typical. When installing, please refer to the connection diagram on the product.

## 8. Examples of ordering

Refer to the code table above and provide the model number correctly.

Example 1 input: hazardous area, one channel RS485 half-duplex, output: safe area, one channel RS485 half-duplex, power supply: 24VDC

order model: XPB-G-RS485-RS485

Example 2 input: hazardous area, one channel RS485 half-duplex, 12V output power supply, output: safe area, , one channel RS485 half-duplex, power supply: 24VDC

order model: XPB-P-RS485-RS485

## 9. Explosion-proof Certificate

国家防爆

编号: CNEx19.0396

### 防爆合格证

制造单位 苏州迅鹏仪器仪表有限公司  
(江苏省苏州市工业园区星汉街5号B幢6楼)

产品名称 隔离式安全栅

型号规格 XPB-P DC24V

防爆标志 [Ex ia Ga]IC

产品标准 Q/MXB 29-2017

总装图号 WG-RY-155

经对上述产品图样及技术文件的审查和样品检验,确认符合下列标准:  
 GB3836.1-2010《爆炸性环境 第1部分:设备通用要求》  
 GB3836.4-2010《爆炸性环境 第4部分:由本质安全型“i”保护的的设备》  
 GB3836.20-2010《爆炸性环境 第20部分:设备保护级别(EPL)为Ga级的设备》

记事:

- 1、本证书可代表 XPB-P 和 XPB-G 两种型号的隔离式安全栅,防爆标志均为 [Ex ia Ga]IC。
- 2、本安参数 (1/3 组, 4/6 组) 均为: Um:250VAC/DC  
Uo:28VDC, Io:93mA, Po:0.65W, Co:0.05 μF, Lo:2.4mH
- 3、安全注意事项见使用说明书。

中心主任

颁发日期 2019年1月24日

本证有效期 2019年1月24日至2024年1月23日

国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲恺路209号  
邮编: 471009  
电话: 0377-63285564  
传真: 0377-63281975  
http://www.china-ex.com

注: 本证书仅对符合文件和产品一致的样品有效, 数据均以证书二维码信息为准 4232 9588 4378 9589 查询方式: www.china-ex.com

国家防爆

编号: CNEx19.0395

### 防爆合格证

制造单位 苏州迅鹏仪器仪表有限公司  
(江苏省苏州市工业园区星汉街5号B幢6楼)

产品名称 温度变送隔离式安全栅

型号规格 XPB-E DC24V

防爆标志 [Ex ia Ga]IC

产品标准 Q/MXB 33-2017

总装图号 WG-RY-143

经对上述产品图样及技术文件的审查和样品检验,确认符合下列标准:  
 GB3836.1-2010《爆炸性环境 第1部分:设备通用要求》  
 GB3836.4-2010《爆炸性环境 第4部分:由本质安全型“i”保护的的设备》  
 GB3836.20-2010《爆炸性环境 第20部分:设备保护级别(EPL)为Ga级的设备》

记事:

- 1、本证书可代表 XPB-E 热电偶温度变送隔离式安全栅和 XPB-R 热电阻温度变送隔离式安全栅,防爆标志均为 [Ex ia Ga]IC。
- 2、本安参数 (1-4-6 组) 均为: Um:250VAC/DC  
Uo:6.6VDC, Io:68mA, Po:0.112W, Co:15 μF, Lo:5mH
- 3、安全注意事项见使用说明书。

中心主任

颁发日期 2019年1月24日

本证有效期 2019年1月24日至2024年1月23日

国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲恺路209号  
邮编: 471009  
电话: 0377-63285564  
传真: 0377-63281975  
http://www.china-ex.com

注: 本证书仅对符合文件和产品一致的样品有效, 数据均以证书二维码信息为准 7158 9996 1780 4229 查询方式: www.china-ex.com



Please Scan