



防爆合格证

证号: GYJ15.1118

由 德国PEPPERL+FUCHS有限公司
(地址: Lilienthalstrasse 200, 68307 Mannheim, Germany)

制造的产品:

名称 隔离式安全栅
型号规格 KFD0-SD2-Ex 系列
防爆标志 [Ex ia Ga] II C/II B
产品标准 /
图样编号 /

经图样及技术文件的审查和样品检验, 确认上述产品符合 GB 3836.1-2010、GB 3836.4-2010、GB 3836.20-2010 标准, 特颁发此证。

本证书有效期: 2015年4月10日至2020年4月9日

备注 1. 安全使用注意事项见本证书附件。
2. 型号规格说明见本证书附件。
3. 本安电气参数见本证书附件。

站长



国家级仪器仪表防爆安全监督检验站

颁发日期二〇一五年四月十日

本证书仅对与认可文件和样品一致的产品有效。

地址: 上海市漕宝路103号
邮编: 200233

网址: www.nepsi.org.cn
Email: info@nepsi.org.cn

电话: +86 21 64368180
传真: +86 21 64844580



EXPLOSION PROTECTION CERTIFICATE OF CONFORMITY

Cert NO.GYJ15.1118

This is to certify that the product

Isolated Barrier

manufactured by PEPPERL+FUCHS GmbH

(Address:Lilienthalstrasse 200, 68307 Mannheim, Germany)

which model is KFD0-SD2-Ex a Series

Ex marking [Ex ia Ga] II C/II B

product standard /

drawing number /

has been inspected and certified by NEPSI, and that it conforms
to GB 3836.1-2010,GB 3836.4-2010,GB 3836.20-2010

This Approval shall remain in force until 2020.04.09

Remarks 1.Conditions for safe use are specified in the attachment to this certificate.
2.Model designation is specified in the attachment to this certificate.
3.Intrinsic safety parameters specified in the attachment to this certificate.

Director



National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation
Issued Date 2015.04.10

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

103 Cao Bao Road
Shanghai 200233, China

<http://www.nepsi.org.cn>
Email: info@nepsi.org.cn

Tel: +86 21 64368180
Fax: +86 21 64844580


国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ15.1118)

(Attachment I)

GYJ15.1118防爆合格证附件 I

德国PEPPERL+FUCHS有限公司生产的KFD0-SD2-Ex  系列隔离式安全栅，
经国家级仪器仪表防爆安全监督检验站（NEPSI）检验，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

产品防爆标志为[Ex ia Ga] II C/II B，防爆合格证号为GYJ15.1118。

一、产品使用注意事项

1. 证书包括的产品规格如下：

KFD0-SD2-Ex1.1045 KFD0-SD2-Ex2.1045 KFD0-SD2-Ex1.1245

KFD0-SD2-Ex2.1245 KFD0-SD2-Ex1.1065 KFD0-SD2-Ex2.1065

KFD0-SD2-Ex1.10100 KFD0-SD2-Ex1.1180（防爆标志为[Ex ia Ga] II B）

2. 隔离式安全栅必须安装在安全场所，其使用环境温度范围为-20℃~+60℃。

3. 隔离式安全栅非本安端（端子：7~9）的最高电压（Um）：250V r.m.s.。

4. 隔离式安全栅本安端（单通路端子：1-2-3；双通路端子：1-2-3 / 4-5-6）的安全输出参数如下：

| 型号后缀 | 最高输出电压 | 最大输出电流 | 最大输出功率 | 最大内部等效参数 | |
|----------------------|--------------------|---------------------|--------------------|---------------------|---------------------|
| | U _o (V) | I _o (mA) | P _o (W) | C _i (μF) | L _i (mH) |
| Ex1.1045 Ex2.1045 | 25.2 | 93 | 0.586 | 0 | 0 |
| Ex1.1245 Ex2.1245 | 25.2 | 110 | 0.693 | 0 | 0 |
| Ex1.1065 Ex2.1065 | 17.22 | 220 | 0.947 | 0 | 0 |
| Ex1.1180 | 25.2 | 184 | 1.159 | 0 | 0 |
| Ex1.10100 | 17 | 271 | 1.152 | 0 | 0 |

5. 对于连接到每组通路本安端子上的外部电容 (Co) 和外部电感 (Lo) 不得超出以下数值:

| 气体组别 | 电容 (μF) | 电感 (mH) |
|---|----------------|---------|
| KFD0 - SD2 - Ex1.1045 / KFD0 - SD2 - Ex2.1045 | | |
| II C | 0.107 | 4.11 |
| II B | 0.82 | 16.44 |
| II A | 2.90 | 32.88 |
| KFD0 - SD2 - Ex1.1245 / KFD0 - SD2 - Ex2.1245 | | |
| II C | 0.107 | 2.93 |
| II B | 0.82 | 11.75 |
| II A | 2.90 | 23.50 |
| KFD0 - SD2 - Ex1.1065 / KFD0 - SD2 - Ex2.1065 | | |
| II C | 0.353 | 0.73 |
| II B | 2.06 | 2.93 |
| II A | 8.50 | 5.87 |
| KFD0 - SD2 - Ex1.10100 | | |
| II C | 0.375 | 0.48 |
| II B | 2.20 | 1.93 |
| II A | 9.00 | 3.87 |
| KFD0 - SD2 - Ex1.1180 | | |
| II B | 0.82 | 4.2 |
| II A | 2.90 | 8.40 |

注: 以上表格中最大外部电容 (Co) 和电感(Lo)数值使用时应注意下列要求:

- 对于仅含分布电感和电容的电路, 例如电缆的分布电容和电感, 允许的最大外部电容和电感数值为表格允许值;
- 对于与电缆组合的电路, 当本安电路中含有最大为表格允许值1%以下的电感或表格容许值1%以下的电容时, 允许的最大外部电容和电感数值为表格允许值;
- 对于电感和电容组合电路, 当电感和电容均大于表格容许值的1% (不包括电缆) 时, 允许的最大外部电容和电感数值为表格允许值的50%。

- 6. 产品的安装、使用和维护应同时遵守产品说明书、GB3836.13 - 2013 “爆炸性环境第13部分：设备的修理、检修、修复和改造”、GB3836.15 - 2000 “爆炸性气体环境用电气设备 第15部分：危险场所电气安装（煤矿除外）”、GB3836.16 - 2006 “爆炸性气体环境用电气设备 第16部分：电气装置的检查和维修（煤矿除外）”、GB3836.18 - 2010 “爆炸性环境 第18部分：本质安全系统”和GB50257 - 1996 “电气装置安装工程爆炸和火灾危险环境 电气装置施工及验收规范”的有关规定。

二、制造厂责任

- 1. 产品制造厂必须将上述使用注意事项纳入上述系列隔离式安全栅使用说明书。
- 2. 制造厂必须严格按照NEPSI认可的文件资料生产：

| 图纸代号 | 版本号/签署日期 | 备注 |
|-------------------|----------------|----|
| 266 - 018BS - 00 | 2006 - 01 - 06 | - |
| 266 - 018BS - 01 | 2005 - 11 - 23 | - |
| 266 - 018BS - 02 | 2005 - 12 - 16 | - |
| 266 - 018BS - 03 | 2005 - 11 - 23 | - |
| 266 - 018BS - 04A | 2012 - 02 - 22 | - |
| 266 - 018BS - 05 | 2005 - 11 - 23 | - |
| 266 - 018BS - 06A | 2012 - 02 - 22 | - |
| 266 - 018BS - 10A | 2012 - 02 - 22 | - |

- 3. 产品铭牌中至少包括下列内容：
 - 1) NEPSI认可标志（见防爆合格证书）
 - 2) 产品防爆标志
 - 3) 防爆合格证号
 - 4) 安全参数



国家级仪器仪表防爆安全监督检验站



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National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ15.1118)

(Attachment I)

Attachment I

(Translation)

Isolated Barrier typed KFD0-SD2-Ex a , manufactured by PEPPERL+FUCHS GmbH, has been approved by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI) in accordance with the following standards:

GB3836.1-2010 Electrical atmospheres – Part 1: Equipment – General requirements

GB3836.4-2010 Electrical atmospheres – Part 4: Equipment protection by Intrinsic safety “i”

GB3836.20-2010 Electrical atmospheres – Part 20: Equipment with equipment protection level (EPL) Ga

The isolated barrier is approved with explosion marking of [Ex ia Ga] II C/II B. The certificate number is GYJ15.1118.

1. SPECIAL REQUIREMENTS

1.1 The types to this certificate are as below:

KFD0-SD2-Ex1.1045

KFD0-SD2-Ex2.1045

KFD0-SD2-Ex1.1245

KFD0-SD2-Ex2.1245

KFD0-SD2-Ex1.1065

KFD0-SD2-Ex2.1065

KFD0-SD2-Ex1.10100

KFD0-SD2-Ex1.1180 (Ex Marking: [Ex ia Ga] II B)

1.2 The isolated barrier must be located in a non-hazardous area, the permissible maximum ambient temperature is -20°C to $+60^{\circ}\text{C}$.

1.3 The maximum voltage (U_m) at the terminals (code:7~9) for the non-intrinsically safe circuits: 250Vr.m.s.

1.4 Electrical parameters at the terminals (single channel code: 1-2-3 Dual channel code: 1-2-3 / 4-5-6) for the intrinsically safe circuits:

| Type suffix | Max.output voltage U_o (V) | Max.output current I_o (mA) | Max.output power P_o (W) | Maximum internal parameters | |
|----------------------|---------------------------------|----------------------------------|-------------------------------|-----------------------------|------------|
| | | | | C_i (μF) | L_i (mH) |
| Ex1.1045 Ex2.1045 | 25.2 | 93 | 0.586 | 0 | 0 |
| Ex1.1245 Ex2.1245 | 25.2 | 110 | 0.693 | 0 | 0 |
| Ex1.1065 Ex2.1065 | 17.22 | 220 | 0.947 | 0 | 0 |
| Ex1.1180 | 25.2 | 184 | 1.159 | 0 | 0 |
| Ex1.10100 | 17 | 271 | 1.152 | 0 | 0 |

1.5 The maximum external capacitance (C_o) and the maximum external inductance connected to per channel shall be not more than following value:

| Gas groups | Capacitance (μF) | Inductance (mH) |
|---------------------------------------|-------------------------------|-----------------|
| KFD0-SD2-Ex1.1045 / KFD0-SD2-Ex2.1045 | | |
| II C | 0.107 | 4.11 |
| II B | 0.82 | 16.44 |
| II A | 2.90 | 32.88 |
| KFD0-SD2-Ex1.1245 / KFD0-SD2-Ex2.1245 | | |
| II C | 0.107 | 2.93 |
| II B | 0.82 | 11.75 |
| II A | 2.90 | 23.50 |
| KFD0-SD2-Ex1.1065 / KFD0-SD2-Ex2.1065 | | |
| II C | 0.353 | 0.73 |
| II B | 2.06 | 2.93 |
| II A | 8.50 | 5.87 |
| KFD0-SD2-Ex1.10100 | | |
| II C | 0.375 | 0.48 |
| II B | 2.20 | 1.93 |
| II A | 9.00 | 3.87 |
| KFD0-SD2-Ex1.1180 | | |
| II B | 0.82 | 4.2 |
| II A | 2.90 | 8.40 |

Note: the above parameters applied shall be compliance with either of the following methods:

1. for distributed inductance and capacitance e.g. as in a cable, allow the values of capacitance and inductance;
2. for circuits containing up to 1 % inductance or up to 1% capacitance with a cable, allow the values of capacitance and inductance;
3. for connection of the combined inductance and capacitance where both are greater than 1% of the allowed value (excluding the cable), allow up to 50% each of the values of capacitance and inductance.

1.6 During installation, operation and maintenance, users shall comply with the relevant requirements of the product instruction manual, GB3836.13-2013 "Explosive atmospheres-Part 13: Equipment repair, overhaul and reclamation", GB3836.15-2000 "Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous areas (other than mines)", GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres Part 16: Inspection and maintenance of electrical installation (other than mines)" , GB3836.18-2010 Explosive atmospheres-Part 18:Intrinsically safe system and GB50257-1996 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

2. MANUFACTURER'S RESPONSIBILITY

2.1 The instruction manual shall include all the clauses mentioned above.

2.2 The manufacturer shall exactly conform to the documents approved by NEPSI as following.

| Drawing No | Rev./Dated | Remark |
|---------------|------------|--------|
| 266-018BS-00 | 2006-01-06 | - |
| 266-018BS-01 | 2005-11-23 | |
| 266-018BS-02 | 2005-12-16 | |
| 266-018BS-03 | 2005-11-23 | - |
| 266-018BS-04A | 2012-02-22 | - |
| 266-018BS-05 | 2005-11-23 | - |
| 266-018BS-06A | 2012-02-22 | - |
| 266-018BS-10A | 2012-02-22 | - |

2.3 The nameplate shall include the following:

2.3.1 Identification of NEPSI.

2.3.2 Ex Marking.

2.3.3 Certificate No.

2.3.4 Electrical parameters or specification.

**National Supervision and Inspection Centre
For Explosion Protection and Safety of Instrumentation
April 10, 2015**