防爆合格证

证 号：GYJ20.1614X

由 MINCO PRODUCTS INC. 制造的产品：

（地址： 7300 Commerce Lane NE Minneapolis, MN 55432 United States of America）

名　　称　电阻温度检测器

型号规格　B215602-abcd

防爆标志　见附件 (See the attachment)

产品标准　/

图样编号　B215602

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 3836.3-2010、GB 3836.4-2010、GB 3836.8-2014 标准，特颁发此证。

本证书有效期： 2020 年 12 月 14 日 至 2025 年 12 月 13 日

备注
1. 安全使用注意事项见本证书附件。
2. 证书编号后缀“X”表明产品具有安全使用特殊条件，内容见本证书附件。
3. 型号规格说明见本证书附件。
4. 电气安全参数见本证书附件。
5. 本安电气参数见本证书附件。

站长 郭陵华

国家级仪器仪表防爆安全监督检验站

颁发日期二〇二〇年十二月十四日

本证书仅对与认可文件和样品一致的产品有效。

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EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert NO.GYJ20.1614X

This is to certify that the product

Resistance Temperature Detector

manufactured by MINCO PRODUCTS INC.
(Address:7300 Commerce Lane NE Minneapolis, MN 55432 United States of America)

which model is B215602-*a b c d*

Ex marking See the attachment

product standard /

drawing number B215602

has been inspected and certified by NEPSI, and that it conforms to GB 3836.1-2010,GB 3836.3-2010,GB 3836.4-2010,GB 3836.8-2014

This Approval shall remain in force until 2025.12.13

Remarks
1.Conditions for safe use are specified in the attachment(s) to this certificate.
2.Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment(s) to this certificate.
3.Model designation is specified in the attachment(s) to this certificate.
4.Safe parameters specified in the attachment(s) to this certificate.
5.Intrinsic safety parameters specified in the attachment(s) to this certificate.

Director

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

Issued Date 2020.12.14

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

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GYJ20.1614X防爆合格证附件 I

由 Minco Products Inc.生产的 B215602 系列电阻温度检测器，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：

GB 3836.1-2010 爆炸性环境 第1部分：设备 通用要求

GB 3836.3-2010 爆炸性环境 第3部分：由增安型“e”保护的设备

GB 3836.4-2010 爆炸性环境 第4部分：由本质安全型“i”保护的设备

GB 3836.8-2014 爆炸性环境 第8部分：由“n”型保护的设备

产品防爆标志： Ex ia IIC T1~T6/T570℃/ T582℃/ T610℃ Ga

Ex e IIC T1~T6/T570℃/ T582℃/ T610℃ Gb

Ex nA IIC T1~T6/T570℃/ T582℃/ T610℃ Gc

防爆合格证号GYJ20.1614X。

认可产品型号为B215602-a b c d，其中a代表有无连接头，可为A或B；b代表结构类型，可为1或2或3；c代表热缩管和探针帽选项，可为A、B、C或D；d代表热缩管和探针帽材质，可为0、1或2。

一、 产品安全使用特殊条件

防爆合格证号后缀“X”表明产品具有安全使用特殊条件：

1、本安型产品安装于0区场所时，采取措施防止由于冲击或摩擦引起的点燃危险。

2、应采取适当安全措施避免产品裸露的非金属外壳静电电荷产生引燃危险。

3、增安型和nA型产品的电缆引入装置不具备足够夹紧措施，用户应提供夹紧措施以防电缆受到的拉力或扭矩传到连接件上。

4、nA型产品现场使用时，应采取瞬态保护措施以防额定电压因瞬态干扰超过140%。

5、对于不带接线盒的增安型和nA型产品应安装在符合GB3836.1-2010要求的外壳中后确保满足IP54的要求。

二、 产品使用注意事项

1. 使用环境温度：-40℃～+100℃（带接线盒的产品B215602-Axxx）；温度组别和最高环境温度之间的关系：

温度组别	最高环境温度（℃）
T6	78
T5	93
T4	100

2. 使用介质温度：-55℃～+550℃；不同型号产品下，功耗、温度组别和最高介质温度之间的关系：

B215602-x3A0型（探杆内为氧化镁材质，无缩管和探头盖）：

温度组别	功耗		
	100mW	200mW	400mW
	最高介质温度（℃）		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135
T2	270	258	230
T1	420	408	380
570℃	550	/	/
582℃	/	550	/
610℃	/	/	550

B215602-x3B1型、B215602-x3C1型、B215602-x3D1型（探杆内为氧化镁结构，FEP材质的缩管和探头盖）：

温度组别	功耗		
	100mW	200mW	400mW
	最高介质温度（℃）		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135

B215602-x3B2型、B215602-x3C2型、B215602-x3D2型（探杆内为氧化镁材质，PFA材质的缩管和探头盖）：

温度组别	功耗		
	100mW	200mW	400mW
	最高介质温度（℃）		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135
T2	260	258	230

B215602-x1xx型、B215602-x2xx型（探杆为全不锈钢或尖端敏感结构）

温度组别	功耗		
	100mW	200mW	400mW
	最高介质温度（℃）		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135
T2	200	200	200

3. 本安型产品本安参数：Ui=30V，Pi=0.4W，Ci=28pF/m，Li=1.33uH/m。

4. 增安型和nA型产品电气参数：U≤30V，P≤0.4W。

5. 用户不得自行更换该产品的零部件，应会同产品制造商共同解决运行中出现的故障，以杜绝损坏现象的发生。

6. 引入电缆外径应为Φ5.5~Φ7.5mm，现场使用应有效夹紧引入电缆。

7. 用户在使用产品时，应可靠接地。

8. 本安型产品必须与已通过防爆认证的关联设备配套共同组成本安防爆系统方可使用于爆炸性气体环境。其系统接线必须同时遵守本产品和所配关联设备的使用说明书要求，接线端子不得接错。

9. 本安型产品与关联设备的连接电缆应为带绝缘护套的屏蔽电缆，其屏蔽层应接地。

10. 产品所用电缆的工作温度应大于103℃。

11. 产品的安装、使用和维护应同时遵守产品使用说明书、GB3836.13-2013“爆炸性环境 第13部分：设备的修理、检修、修复和改造”、GB/T 3836.15-2017“爆炸性环境 第15部分：电气装置的设计、选型和安装”、GB/T 3836.16-2017“爆炸性环境 第16部分：电气装置的检查和维护”、GB/T 3836.18-2017“爆炸性环境 第18部分：本质安全电气系统”、GB50257-2014“电气设备安装工程爆炸和火灾危险环境电气装置施工及验收规范”。

三、 制造厂责任

1. 制造厂必须将上述安全使用特殊条件和使用注意事项纳入产品的使用说明书中。
2. 制造厂必须严格按照NEPSI认可的文件资料生产。
3. 产品铭牌中应至少包括下列内容：
   a) NEPSI认可标志（见防爆合格证书）
   b) 产品防爆标志
   c) 防爆合格证号
   d) 使用环境温度范围等

国家级仪器仪表防爆安全监督检验站

二〇二〇年十二月十四日

Attachment Ⅰ to GYJ20.1614X

Resistance Temperature Detector types B215602 series manufactured by Minco Products Inc. has been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI), this product accords with following standards:

GB 3836.1-2010 Explosive atmospheres-Part 1: Equipment-General Requirements

GB 3836.3-2010 Explosive atmospheres-Part 3: Equipment protection by increased safety "e"

GB 3836.4-2010 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety "i"

GB 3836.8-2014 Explosive atmospheres-Part 8: Equipment protection by type of protection "n"

The Ex marking is Ex ia IIC T1~T6/T570℃/ T582℃/ T610℃ Ga

Ex e IIC T1~T6/T570℃/ T582℃/ T610℃ Gb

Ex nA IIC T1~T6/T570℃/ T582℃/ T610℃ Gc

The certificate number is GYJ20.1614X.

Type designation: B215602-*a b c d*

a: connection head type: A or B

b: type of probe construction: 1 , 2 or 3

c: shrink tubing/cap option: A, B , C or D

d: shrink tubing/cap material: 0 , 1 or 2

1. Special condition for safe use

Suffix "X" denotes special condition for safe use:

1.1 When product use in 0 area, it must be mounted in such a manner as to eliminate the risk of sparks caused by friction or impact.

1.2 For use and maintenance in explosive atmosphere, observe the warning "POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS".

1.3 For Equipment protection by type of "nA" and "e" equipped with connection head, the user shall ensure adequate clamping of the cables efficient against pulling and twisting.

1.4 For Equipment protection by type of "nA", transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.

1.5 The model without connection head shall be installed in an enclosure complying with the requirements of GB3836.1-2010 and with ingress protection at least IP54.

2. Condition for safe use

2.1 Ambient temperature: -40℃～+100℃ (product with connection head B215602-Axxx)·;

Relationship between temperature class and maximum ambient temperature:

Temperature class	Maximum ambient temperature (℃)
T6	78
T5	93
T4	100

2.2 Process medium temperature: -55℃～+550℃; The relation between power consumption, temperature class and the highest process medium temperature under different types of products:

Type B215602-x3A0 (with shrink tubing or cap):

Temperature class	Power consumption		
	100mW	200mW	400mW
	Highest process medium temperature (℃)		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135
T2	270	258	230
T1	420	408	380
570℃	550	/	/
582℃	/	550	/
610℃	/	/	550

Type B215602-x3B1, B215602-x3C1, B215602-x3D1 (with the FEP shrink tubing or cap):

Temperature class	Power consumption		
	100mW	200mW	400mW
	Highest process medium temperature (℃)		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135

Type B215602-x3B2, B215602-x3C2, B215602-x3D2 (with the PFA shrink tubing or cap):

Temperature class	Power consumption		
	100mW	200mW	400mW
	Highest process medium temperature (℃)		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135
T2	260	258	230

Type B215602-x1xx, B215602-x2xx (Tip-sensitive or All stainless):

Temperature class	Power consumption		
	100mW	200mW	400mW
	Highest process medium temperature (℃)		
T6	60	48	20
T5	75	63	35
T4	110	98	70
T3	175	163	135
T2	260	258	230

2.3 Intrinsic safety parameters of the intrinsic safety product: Ui=30V, Pi=0.4W, Ci=28pF/m, Li=1.33uH/m.

2.4 Safe parameters of the "e" and "nA" product : U≤30V,P≤0.4W.

2.5 In order to avoid damage to the product, the user shall not change any parts of the product and the manufacturer shall be consulted when there is any problem during the usage.

2.6 The cable diameter of cable entry should be Φ 5.5 ~ 7.5 mm. When field wiring connection, cables should be clamped effectively.

2.7 The equipment shall be earthed in accordance with clause 15 of GB3836.1-2010

2.8 The cable used shall have an operating temperature greater than 103° C.

2.9 The intrinsic safety product must be only connected to a certified associated intrinsically safe equipment. This combination must be compatible as regards the intrinsically safe rules.

2.10 The connection cables between the intrinsically safety product and the associated equipment shall be shielded cables with an insulating sheath, and the shielding layer shall be connected to the ground.

2.11 During the installation, using and maintenance, the user shall folloing the instruction and folloing standards:

GB3836.13-2013 Explosive atmospheres-Part 13: Equipment repair, overhaul and reclamation

GB/T3836.15-2017 Explosive atmospheres-Part 15: Eletrical installations design, selection and erection

GB/T3836.16-2017 Explosive atmospheres-Part 16: Eletrical installations inspectio and maintenance

GB/T3836 18-2017 Explosive atmospheres-Part 18: Intrinsically safe electrical systems

GB50257-2014 Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering.

3. Manufacturer's Responsibility

3.1 Special condition for safe use and condition for safe use specified above should be included in the instruction manual.

3.2 Manufacturing should be done according to the documentation approved by NEPSI.

3.3 Any modification with influence on the type of protection should be submitted to NEPSI before application.

3.4 Following items should be added to the nameplate

a) NEPSI logo
b) Ex marking
c) Number of certificate
d) Ambient temperature range

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

Dec 14th, 2020