



EXPLOSION PROTECTION CERTIFICATE OF CONFORMITY

Cert No. GYJ071177X

This is to certify that the product

Transmitter

manufactured by Micro Motion, Inc.
(Address: Boulder, Co. 80301, USA)

which model is 24□S□A(D, C)□□□4□□

Ex marking Ex nAC II T5, Ex nA II T5

product standard /

drawing number EB-20003058 Rev.B

has been inspected and certified by NEPSI, and that it conforms
to GB3836.1 - 2000 GB3836.8 - 2003

This Approval shall remain in force until 2012.06.05

- Remarks**
1. This certificate also cover the transmitter with the same type that manufactured by Emerson Process Management Co., Ltd. (Address: No.1277, Xin Jin Qiao Rd., Pudong).
 2. When the sign "X" is placed after the certificate number, it indicates that the transmitter is subject to special conditions for safe use specified in the attachment to this certificate.
 3. Type 24□S□A(D)□□□4□□: Ex nAC II T5, Type 24□S□C□□□4□□: Ex nA II T5.
 4. Type details and Special requirements for safe use are specified in the attachment to this certificate.

Director

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

Issued Date

2007.06.06



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

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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

(GYJ071177X)

(Attachment I)

Attachment I (Translation)

Transmitters, type 24 S A(D、C) 4 series, manufactured by Micro Motion, Inc. or by Emerson Process Management Co., Ltd., have been approved by National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) in accordance with the following standards:

- GB3836.1-2000 Electrical apparatus for explosive gas atmospheres
Part 1: General requirements
- GB3836.8-2003 Electrical apparatus for explosive gas atmospheres
Part 8: Type of protection "n"

The certificate number is GYJ071177X.

Transmitters type 24 S A 4 and 24 S D 4 are approved with explosion marking of Ex nAC II T5; type 24 S C 4 are approved with explosion marking of Ex nA II T5,

The types to this certificate are as below:

24 S A 4

24 S D 4

24 S C 4

code: Number for type;

code: Letter for mounting configuration/housing material;

code: Number for IO terminations;

code: Display mode, 1, 3 and 6;

code: Letter for conduit connections;

code: Letter for language;

code: Letter for software and other options, without influence on explosion protection.

The permissible range of ambient temperature for type 24 S A(or C) 4 transmitter is -40°C to +60°C; The permissible range of ambient temperature for type 24 S D 4 transmitter without Profibus DP connector is -40°C to +60°C, the permissible range of ambient temperature for the transmitter with Profibus DP connector is -30°C to +60°C

I . SPECIAL CONDITIONS FOR SAFE USE

- 1.1 The use of the transmitter at an ambient temperature under -20°C is admissible, if the cables and cable entries of conduit entries are suitable for that temperature and use.
- 1.2 The protection shall made to the apparatus, to provide transient protection device set at a level not exceeding 40% of the rated voltage.
- 1.3 The cable entry holes have to be connected by means of suitable cable entry, that certificated with types of protection listed in GB3836.1-2000 and the relative standard, the way of being installed shall be ensure that the equipment satisfies degree of protection IP54 according to GB4208-1993 and the requirements of the instruction manual.
- 1.4 Special conditions for safe use for transmitters with plug sockets:

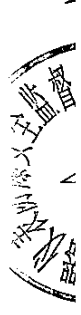
Type	Type of the plug socket
24 1 S 2 C 3 4 5 4 6 7	TURCK: FSV57-□M/M20/CS or FSV57-□M/14.5/CS
24 1 S 2 D 3 4 5 4 6 7	TURCK: FKW4.5-□M/M20/CS or FKW4.5-□M/14.5/NPT/CS

- 1.4.1 The plug are allowed to be connected to the plug socket in Zone 2, the plug must be certificated with types of protection listed in GB3836.1-2000 for use in the appropriated explosive gas atmosphere, and the requirement listed in the certificate must be fulfil.
- 1.4.2 The plug must be equipped with a connecting nut and equipped with a securing element which can only be removed with a tool, to assure a safe fixing of the plug at the plug socket, in the plugged and screwed status the plug must assure the type of protection IP67 in accordance with GB4208-1993 for the contacts.
- 1.4.3 Plug and plug socket can not be separated when they are energized and the contacts can not be energized when plug and plug socket are separated.
- 1.4.4 If the plug socket is not connected with a plug, the plug socket is to be protected against water and dust at least IP67 in accordance with GB4208-1993. Before the plug socket will be connected to a plug it must be guaranteed that there is no dust and water in the plug and the plug socket.

II . SPECIAL REQUIREMENTS

- 2.1 Electrical safe parameters:

24 1 S 2 A 3 4 5 4 6 7



Circuit and terminals code		Voltage (V)	current
Power supply: terminals1-2(J1)		DC: 18~100 AC: 85~250	---
Output/input	mA output: terminals 1-2(J2)	DC: 30	4~20mA
	Frequency/pulse: terminals 1-2(J3)	DC: 30	---
	Discrete output: terminals 1-2(J3)	DC: 30	Max:0.5A
	Discrete input: terminals 1-2(J3)	DC: 30	
Sensor circuits	Drive circuit: pin connection7-8	12.36	75mA
	Pick-off coil circuit: pin connection 3-4 and 5-6	3.3	27 μ A
	Temperature circuit: pin connection 1, 2 and 9	2.5	370 μ A

24 1 S 2 D 3 4 5 4 6 7

Circuit and terminals code		Voltage (V)	current
Power supply: terminals1-2(J1)		DC: 18~100 AC: 85~250	---
Profibus DP input/output circuit: terminals 1-5(J2)) or Plug socket pin 1-5		DC: 30	---
Sensor circuits	Drive circuit: pin connection7-8	12.36	75mA
	Pick-off coil circuit: pin connection 3-4 and 5-6	3.3	27 μ A
	Temperature circuit: pin connection 1, 2 and 9	2.5	370 μ A

24 1 S 2 C 3 4 5 4 6 7

Circuit and terminals code		Voltage (V)	current
Power supply: terminals1-2(J1) or Plug socket pin 2-3		DC: 11~25	---
Device Net input/output circuit: terminals 1-2(J2)) or Plug socket pin 4-5		DC: 30	---
Sensor circuits	Drive circuit: pin connection7-8	12.36	75mA
	Pick-off coil circuit: pin connection 3-4 and 5-6	3.3	27 μ A
	Temperature circuit: pin connection 1, 2 and 9	2.5	370 μ A

2.2 Do not open the cover while energized in the explosive gas atmosphere.

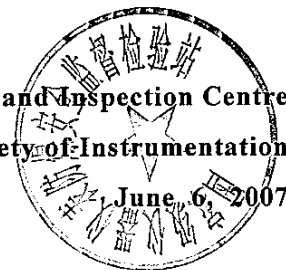
2.3 Users are forbidden to change the configuration to ensure the explosion protection performance of the equipment. Any faults shall be settled with experts from the manufacturer.

2.4 During installation, operation and maintenance, users shall comply with the relevant requirements of the product instruction manual, GB3836.13-1997 "Electrical apparatus for explosive gas atmospheres Part 13: Repair and overhaul for apparatus used in explosive gas atmospheres", 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)" and GB50257-1996 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

III. MANUFACTURER'S RESPONSIBILITY

- 3.1 The instruction manual shall include all the clauses mentioned above.
- 3.2 The manufacturer shall exactly conform to the documents approved by NEPSI.
- 3.3 The nameplate shall add the following:
 - 3.3.1 Identification of NEPSI.
 - 3.3.2 Certificate No.

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





防爆合格证

证号：GYJ071177X

由美国高准公司
(地址：Boulder, Co. 80301, USA)

制造的产品：

名称 变送器

型号规格 24□S□A(D、C)□□□4□□

防爆标志 Ex nAC II T5、Ex nA II T5

产品标准 /

图样编号 EB - 20003058 Rev.B

经图样及技术文件的审查和样品检验，确认上述产品符合 GB3836.1 - 2000、GB3836.8 - 2003 标准，特颁发此证。有效期自颁发日期起伍年内有效。

- 备注
1. 本证书同时适用于由艾默生过程控制有限公司(地址：浦东新金桥路 1277 号)组装生产的相同型号变送器。
 2. 防爆合格证号后缀“X”表示使用时有特殊要求，见本合格证附件。
 3. 型号 24□S□A(D)□□□4□□系列产品的防爆标志为 Ex nAC II T5；
型号 24□S□C□□□4□□系列产品的防爆标志为 Ex nA II T5。
 4. 认可产品型号和产品使用注意事项见本合格证附件。

站长

国家级仪器仪表防爆安全监督检验站

颁发日期 二〇〇七年六月六日



本证书仅对与认可文件和样品一致的产品有效。

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(GYJ071177X)

(Attachment I)

GYJ071177X防爆合格证附件 I

由美国高准公司或艾默生过程控制有限公司生产的24 $\boxed{1}$ s $\boxed{2}$ A(D、C) $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$ 系列变送器, 经国家级仪器仪表防爆安全监督检验站(NEPSI)检验, 符合GB3836.1 - 2000 “爆炸性气体环境用电气设备 第1部分: 通用要求”和GB3836.8 - 2003 “爆炸性气体环境用电气设备 第8部分: “n”型电气设备”防爆标准规定的要求, 防爆合格证号为GYJ071177X。

24 $\boxed{1}$ s $\boxed{2}$ A $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$ 和24 $\boxed{1}$ s $\boxed{2}$ D $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$ 系列变送器的防爆标志为 Ex nAC II T5; 24 $\boxed{1}$ s $\boxed{2}$ C $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$ 系列变送器的防爆标志为 Ex nA II T5。

本证书认可产品的具体型号如下:

24 $\boxed{1}$ s $\boxed{2}$ A $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$

24 $\boxed{1}$ s $\boxed{2}$ D $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$

24 $\boxed{1}$ s $\boxed{2}$ C $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$

$\boxed{1}$ 代码: 代表类型;

$\boxed{2}$ 代码: 代表装配结构或外壳材质;

$\boxed{3}$ 代码: 代表IO端子数量;

$\boxed{4}$ 代码: 代表显示方式, 包括代码1、3、6;

$\boxed{5}$ 代码: 代表管道连接方式;

$\boxed{6}$ 代码: 代表语言种类;

$\boxed{7}$ 代码: 代表应用软件等备选件, 不涉及防爆性能。

24 $\boxed{1}$ s $\boxed{2}$ A(C) $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$ 系列最大使用环境温度范围介于-40℃~+60℃之间;

不带Profibus DP连接器的24 $\boxed{1}$ s $\boxed{2}$ D $\boxed{3}$ $\boxed{4}$ $\boxed{5}$ 4 $\boxed{6}$ $\boxed{7}$ 系列变送器最大使用环境温度介于-40℃~+60℃之间; 带Profibus DP连接器的变送器最大使用环境温度介于-30℃~+60℃之间。

一、产品使用特殊要求

1. 该产品在低于-20℃环境使用时, 其连接电缆和电缆引入装置也必须适用于该温度。
2. 采取措施以防电压因瞬态干扰而超过额定电压的40%以上。
3. 电缆引入口配置的电缆引入装置或封堵件必须符合GB3836.1 - 2000和防爆型式专用标准要求, 整体装配后的外壳不得低于GB4208-1993所要求的IP54防护等级, 电缆引入装置的安装使用必须遵守其说明书。



(GYJ071177X)

(Attachment I)

4. 以插座方式连接的变频器使用时必须符合以下要求:

型 号	插 座 型 号
24 1 S 2 C 3 4 5 4 6 7	TURCK: FSV57 - □M/M20/CS 或 FSV57 - □M/14.5/CS
24 1 S 2 D 3 4 5 4 6 7	TURCK: FKW4.5 - □M/M20/CS 或 FKW4.5 - □M/14.5/NPT/CS

(1) 在2区危险场所使用并与上述插座配接的插头, 必须具备GB3836.1-2000所规定的防爆型式并具有防爆合格证书, 同时符合防爆合格证书所规定的使用要求。

(2) 插头与插座必须采用具有联锁装置的螺纹配接方式, 其结构应保证非专用工具不能解除它的作用, 以保证它们之间的连接, 连接后的防护等级不得低于GB4208-1993所要求的IP67。

(3) 插座与插头带电时不得分开, 分开后触头不得带电。

(4) 如果插座上没有配接插头, 必须采取防水防尘措施以保证插座的防护等级不得低于GB4208-1993所要求的IP67; 在插座插入插头之前, 必须保证插座和插头均处于无水无尘的状态。

二、产品使用注意事项

1. 电气安全参数:

24 1 S 2 A 3 4 5 4 6 7

电路类型及端子代号		电压 (V)	电流
供电电源: 端子1-2(J1)		DC: 18~100 AC: 85~250	---
输出/输入电路	mA输出: 端子1-2(J2)	DC: 30	4~20mA
	频率/脉冲信号: 端子1-2(J3)	DC: 30	---
	离散量输出: 端子1-2(J3)	DC: 30	Max:0.5A
	离散量输入: 端子1-2(J3)	DC: 30	
传感器电路	驱动电路: 插脚7-8	12.36	75mA
	检测线圈电路: 插脚3-4和5-6	3.3	27 μA
	温度补偿电路: 插脚1、2和9	2.5	370 μA

24 1 S 2 D 3 4 5 4 6 7

电路类型及端子代号		电压 (V)	电流
供电电源: 端子1-2(J1)		DC: 18~100 AC: 85~250	---
Profibus DP 输入/输出电路: 端子1-5(J2) 或插座引脚1-5		DC: 30	---
传感器电路	驱动电路: 插脚7-8	12.36	75mA
	检测线圈电路: 插脚3-4和5-6	3.3	27 μA
	温度补偿电路: 插脚1、2和9	2.5	370 μA



(GYJ071177X)

(Attachment I)

24 1 S 2 C 3 4 5 4 6 7

电路类型及端子代号		电压 (V)	电流
供电电源: 端子1-2(J1) 或插座引脚2-3		DC: 11~25	---
Device Net 输出/输入电路: 端子1-2(J2) 或插座引脚4-5		DC: 30	---
传感器电路	驱动电路: 插脚7-8	12.36	75mA
	检测线圈电路: 插脚3-4和5-6	3.3	27 μ A
	温度补偿电路: 插脚1、2和9	2.5	370 μ A

2、在爆炸性气体环境中使用时必须遵守“断电源后开盖”的原则。

3、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。

4、产品的安装、使用和维护应同时遵守产品说明书、GB3836.13 - 1997“爆炸性气体环境用电气设备 第13部分：爆炸性气体环境用电气设备的检修”、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护（煤矿除外）”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。

三、制造商责任

- 1、产品制造厂必须将上述特殊要求和使用注意事项纳入产品的使用说明书；
- 2、制造厂必须严格按照NEPSI认可的文件资料生产；
- 3、产品铭牌中应增加下列内容：
 - (1) NEPSI认可标志
 - (2) 防爆合格证号

