

# 防爆合格证

证号：GYJ101061X

由 **Emerson Process Management Distribution Ltd.** 制造的产品：  
(地址:Meridian East, Meridian Business Park Leicester, LE19UX, United Kingdom)

名称 手操器

型号规格 475系列

防爆标志 Ex ia II C T4

产品标准 /

图样编号 2009 07 58 0

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、GB3836.4-2000 标准，特颁发此证。

本证书有效期：2010年03月29日至2015年03月28日

- 备注
1. 型号中“X”代表安全使用特定条件：
    - 手操器必须使用由 Panasonic 公司生产的型号为 CGA103450A、电压为 4.2V、容量为 1950mAh 的锂离子电池
    - 电池只能使用 00475-0003-002X 充电器进行充电，充电只能在安全场所进行
  2. 安全使用注意事项见使用说明书和本证书附件 I。
  3. 本安参数见本证书附件 I。

站长

国家级仪器仪表防爆安全监督检验站  
颁发日期 二〇一〇年三月二十九日

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:0086 21 64368180  
传真:0086 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

(GYJ101061X)

(Attachment I)

## GYJ101061X防爆合格证附件 I

由Emerson Process Management Distribution Ltd.生产的475系列手操器，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：

GB3836.1-2000 爆炸性气体环境用电气设备 第1部分：通用要求

GB3836.4-2000 爆炸性气体环境用电气设备 第4部分：本质安全型“i”

产品防爆标志为Ex ia II CT4，防爆合格证号为GYJ101061X。

认可产品型号为475 **a b c d**

**a**代表通讯协议：H- Hart, F-HART and Foundation fieldbus

**b**代表电池形式：P-Rechargeable Lithium-Ion Power Module

**c**代表供电/充电：1- Power Supply and Charger NiMH/Li-Ion, 9-Not included

**d**代表语言、产品认证、升级、标准选件、蓝牙和选件

### 一、产品安全使用特定条件

产品防爆合格证号后缀“X”代表产品安全使用有特定条件，即：

- 手操器必须使用由 Panasonic 公司生产的型号为 CGA103450A、电压为 4.2V、容量为 1950mAh 的锂离子电池
- 电池只能使用 00475-0003-002X 充电器进行充电，充电只能在安全场所进行

### 二、产品使用注意事项

1. 产品使用环境温度范围为： $-10^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

2. 参数：

2.1 电池

标称电压 (DC)	容量
7.2V	1950mAh



## 2.2 电池充电（充电只能在安全场所进行）

电压 $U_m$ (DC)
9.8V

## 2.3 连接为F时

最高输出电压(DC) $U_o$ (V)	最大输出电流 $I_o$ ( $\mu$ A)
1.9	32

## 2.3.1 连接本安Fieldbus电路板时

最高输入电压 $U_i$ (V)	最大输入电流 $I_i$ (mA)	最大输入功率 $P_i$ (W)	最大内部等效参数	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
30	380	1.3	0	0

2.3.2 475系列手操器符合IEC60079-27:2008标准对FISCO系统中现场仪表的有关要求，当其连接符合FISCO模型的电路板时，其本安参数及内部最大等效参数如下：

## Ex ia II C电路板

最高输入电压 $U_i$ (V)	最大输入电流 $I_i$ (mA)	最大输入功率 $P_i$ (W)	最大内部等效参数	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
17.5	215	1.9	0	0

## Ex ia II B电路板

最高输入电压 $U_i$ (V)	最大输入电流 $I_i$ (mA)	最大输入功率 $P_i$ (W)	最大内部等效参数	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
17.5	380	5.3	0	0

## 2.4 连接为H时

最高输出电压(DC) $U_o$ (V)	最大输出电流 $I_o$ ( $\mu$ A)
1.9	32

## 连接本安电路板时

最高输入电压 $U_i$ (V)	最大输入电流 $I_i$ (mA)	最大输入功率 $P_i$ (W)	最大内部等效参数	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
30	200	1.0	0	0

3. 该产品与关联设备的连接电缆应为带绝缘护套的屏蔽电缆，其屏蔽层应在安全

场所接地。

4. 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475系列手操器和所配关联设备的使用说明书要求，接线端子不得接错。
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. 安装现场确认无可燃性气体存在时方可维修。
7. 产品的安装、使用和维护应同时遵守产品使用说明书、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）”、GB3836.16-2000“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力装置施工及验收规范”和的有关规定。

### 三、制造厂责任

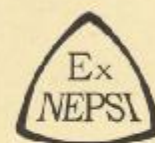
1. 制造厂必须将上述使用注意事项纳入产品的使用说明书中。
2. 产品铭牌中应至少包括下列内容：
  - a) NEPSI认可标志（见防爆合格证书）
  - b) 产品防爆标志
  - c) 防爆合格证号
  - d) 使用环境温度范围
  - e) 本安参数



国家级仪器仪表防爆安全监督检验站

二〇一〇年三月十九日





# EXPLOSION PROTECTION

## CERTIFICATE OF CONFORMITY

Cert NO. GYJ101061X

This is to certify that the product

Field Communicator

manufactured by Emerson Process Management Distribution Ltd.  
(Address: Meridian East, Meridian Business Park Leicester, LE19UX  
United Kingdom)

which model is 475 Series

Ex marking Ex ia II CT4

product standard /

drawing number 2009 07 58 0

has been inspected and certified by NEPSI, and that it conforms  
to GB3836.1-2000、GB3836.4-2000

This Approval shall remain in force until 2015.03.28

### Remarks

1. Symbol "X" is used to denote specific conditions of use:
  - The Field Communicator must use lithium ionic battery pack typed CGA103450A manufactured by Panasonic with 4.2V voltage and 1950mAh capacity.
  - Charge only with charger 00475-0003-002X and do not charge in hazardous areas.
2. Special conditions for safe use are specified in the instruction manual and the attachment I to this certificate.
3. Intrinsically safe parameters are specified in the attachment I to this certificate.

Director

National Supervision and Inspection Centre for  
Explosion Protection and Safety of Instrumentation  
Issued Date 2010.03.29

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](mailto:info@nepsi.org.cn)

Tel:0086 21 64368180  
Fax:0086 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

(GYJ101061X)

(Attachment I)

## Attachment I to GYJ101061X

### 1. Description

475 Series field communicator, manufactured by Emerson Process Management Distribution Ltd., has been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI), according with following standards:

GB3836.1-2000 "Electrical apparatus for explosive gas atmospheres

- Part 1: General requirements"

GB3836.4-2000 "Electrical apparatus for explosive gas atmospheres

- Part 4: Intrinsic safety "i"

Field communicator has the Ex marking Ex ia II CT4. Certificate number is GYJ101061X.

Certified type is 475 **a b c d**

The symbol **a** stands for Communication Protocol: H-HART, F-HART and Foundation fieldbus.

The symbol **b** stands for Battery Type: P-Rechargeable Lithium-Ion Power Module.

The symbol **c** stands for Power Supply/Charger: 1- Power Supply and Charger NiMH/Li-Ion,  
9-Not included.

The symbol **d** stands for : Language, Product Certifications, Easy Upgrade, Standard Options,  
Bluetooth and Option.

### 2. Special Condition for Safe Use

2.1 Symbol "X" is used to denote specific conditions of use:

- The Field Communicator must use lithium ionic battery pack typed CGA103450A manufactured by Panasonic with 4.2V voltage and 1950mAh capacity.
- Charge only with charger 00475-0003-002X and do not charge in hazardous areas.

2.2 The ambient temperature range is:  $-10^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

2.3 Parameters

2.3.1 Battery



Nominal Voltage (DC)	Capacity
7.2V	1950mAh

## 2.3.2 Battery charge connection (only for use outside the hazardous area)

Voltage $U_m$ (DC)
9.8V

## 2.3.3 Connection F

Maximum output voltage: $U_o$ (V)	Maximum input current: $I_o$ ( $\mu$ A)
1.9	32

## 2.3.3.1 For the connection of an intrinsically safe Fieldbus circuit

Maximum input voltage: $U_i$ (V)	Maximum input current: $I_i$ (mA)	Maximum input power: $P_i$ (W)	Maximum internal parameters:	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
30	380	1.3	0	0

2.3.3.2 475 Series field communicator comply to the requirements for FISCO field devices specified in IEC60079-27: 2008. For the connection of an intrinsically safe circuit in accordance FISCO model, FISCO parameters of 475 Series field communicator are as follows

For circuits type of protection Ex ia II C

Maximum input voltage: $U_i$ (V)	Maximum input current: $I_i$ (mA)	Maximum input power: $P_i$ (W)	Maximum internal parameters:	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
17.5	215	1.9	0	0

For circuits type of protection Ex ia II B

Maximum input voltage: $U_i$ (V)	Maximum input current: $I_i$ (mA)	Maximum input power: $P_i$ (W)	Maximum internal parameters:	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
17.5	380	5.3	0	0

## 2.3.4 Connection H

Maximum output voltage: $U_o$ (V)	Maximum input current: $I_o$ ( $\mu$ A)
1.9	32

For the connection of an intrinsically safe circuit

Maximum input voltage: $U_i$ (V)	Maximum input current: $I_i$ (mA)	Maximum input power: $P_i$ (W)	Maximum internal parameters:	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
30	200	1.0	0	0

2.4 The cables between field signal indicator and associated apparatus should be shielded cables (the cables must have insulated shield). The shielded has to be grounded reliably



in non-hazardous area.

- 2.5 Associated apparatus should be installed in a safe location, and during installation, operation and maintenance, the regulations of the instruction manual have to be strictly observed.
- 2.6 End users is not permitted to change any components insides, but to settle the problem in conjunction with manufacturer to avoid damage to the product..
- 2.7 Maintenance should be done in non-hazardous location.
- 2.8 When installation, use and maintenance of the field signal indicator, observe instruction manual and following standards:

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 area (other than mines)",

GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres Part 16: Inspection and maintenance of electrical installation(other than mines)",

GB50257-1996 "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 specified above should be included in the instruction manual.
- 3.2 Following items should be added to the nameplate
  - a) NEPSI logo (See the certificate)
  - b) Ex marking
  - c) Number of certificate
  - d) Ambient temperature range
  - e) Intrinsically safe parameters

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

March 29, 2010