

防爆合格证

证号： GYJ111261X

由 A.P.M. Automation Solutions Ltd.
(地址： 62997 Tel Aviv, Israel)

制造的产品：

名称 3D 物位扫描仪

型号规格 II **B*V*AB*

防爆标志 见防爆合格证附件

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 GB3836.1/4 - 2010、IEC61241 - 0:2004、GB12476.4 - 2010 标准，特颁发此证。

本证书有效期： 2011年08月10日 至 2016年08月09日

- 备注
1. 防爆合格证号后缀“X”表示产品安全使用特定条件，见本合格证附件。
 2. 认可产品详细型号详见本合格证附件。
 3. 产品使用注意事项详见本合格证附件。
 4. 本安参数：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 二〇一一年八月十日



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
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EXPLOSION PROTECTION

CERTIFICATE OF CONFORMITY

Cert NO. GYJ111261X

This is to certify that the product

3D - Level - Scanner

manufactured by A.P.M. Automation Solutions Ltd.

(Address: - 62997 Tel Aviv, Israel)

which model is II **B*V*AB*

Ex marking See attachment to this certificate

product standard -

drawing number -

has been inspected and certified by NEPSI, and that it conforms

to GB3836.1/4 - 2010, IEC61241 - 0:2004, GB12476.4 - 2010

This Approval shall remain in force until 2016.08.09

Remarks

1. When the sign "X" is placed after the certificate number, it indicates that the product is subject to special conditions for safe use specified in the attachment to this certificate.
2. The approved types are shown in the attachment to this certificate.
3. Special requirements for safe use specified are shown in the attachment to this certificate.
4. Intrinsic safe parameters are shown in the attachment to this certificate.

Director



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

Issued Date 2011.08.10

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

(GYJ111261X)

(Attachment I)

GYJ111261X防爆合格证附件 I

由A.P.M. Automation Solutions Ltd.生产的II**B*V*AB*系列3D物位扫描仪，由电子单元和天线单元两部分组成，分为一体型安装和分离型安装两种方式，经国家级仪器仪表防爆安全监督检验站(NEPSI)检验，符合下列标准要求：

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”保护的设备
IEC61241 - 0: 2004	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
GB12476.4 - 2010	可燃性粉尘环境用电气设备 第4部分：本质安全型“ID”

产品防爆合格证编号为GYJ111261X。

认可产品型号如下：

II * * B * V * A B *

a b c d e f g h i

- a** 表示软件版本，代码为SB, S, M, MV, MVL；
- b** 表示认证型式，代码为DX（粉尘/本安供电），GX（气体/本安供电），DEX（粉尘/非本安供电），GEX（气体/非本安供电）；
- c** 表示喇叭天线，代码为B（Φ195mm，材质ALU）；
- d** 表示过程连接，不影响防爆性能；
- e** 表示电子版本，代码为V（4-20mA / HART(4线制) / RS485）；
- f** 表示电气连接，代码为M（M20×1.5），N（1/2NPT）；
- g** 表示带内部显示，代码为A；
- h** 表示不带外部显示，代码为B；
- i** 表示分离型安装时电缆长度，最长50m；

认可产品型号与防爆标志对应关系:

型号	电子单元	天线单元
II* GX B * V * A B	Ex ib/ia II BT4	---
II* DX B * V * A B	Ex ibD/iaD 20/21 T110℃	---
II* GX B * V * A B *	Ex ib/ia II BT4	Ex ia II BT4
II* DX B * V * A B *	Ex ibD/iaD 20/21 T110℃	Ex iaD 20 T110℃
II* GEX B * V * A B	[Ex ia] II B	Ex ia II BT4
II* DEX B * V * A B	[Ex iaD]	Ex iaD 20 T110℃
II* GEX B * V * A B *	[Ex ia] II B	Ex ia II BT4
II* DEX B * V * A B *	[Ex iaD]	Ex iaD 20 T110℃

最高使用环境温度: -40~85(℃)

一、产品安全使用特定条件

1. 当电子单元防爆标志为[Ex ia] II B或[Ex iaD]时, 必须将其安装在非危险场所。
2. 对于型号 II* DX B * V * A B 系列产品: 安装方式必须保证外壳防护等级达到IP6X (符合GB4208-2008标准要求)和所有金属部件保持等电位平衡。
3. 对于型号 II* DEX B * V * A B 系列产品: 安装方式必须保证外壳防护等级达到IP6X (符合GB4208-2008标准要求), 所有金属部件与非本安电源地和接口地保持等电位平衡。
4. 对于型号 II* GEX B * V * A B 系列产品: 安装方式必须保证外壳防护等级达到IP67(符合GB4208-2008标准要求), 所有金属部件与非本安电源地和接口地保持等电位平衡。

二、产品使用注意事项

1. 对于型号 II* GX B * V * A B、II* DX B * V * A B、II* GX B * V * A B * 和 II* DX B * V * A B * 系列3D物位扫描仪, 必须与已经本安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危险场所。其系统接线必须同时遵守3D物位扫描仪和所配关联设备的使用说明书要求, 接线端子不得接错。

1.1 本安参数如下:

参数	供电电路		接口电路	
	输入	输出(注1)	4-20mA	RS485
防爆等级	Ex ibD Ex ib II B	Ex ibD Ex ib II B	Ex iaD Ex ia II B	Ex iaD Ex ia II B
最高输入电压 U_i (V)	24	/	10.5	5
最大输入电流 I_i (mA)	注2	/	106	$2 \times 0.5A$
最大输入功率 P_i (W)	3	/	1.1	$2 \times 0.5A$
最大内部电容 C_i (nF)	4		8	0
最大内部电感 L_i (μH)	250		近似为0	0mH
最高输出电压 U_o (V)	/	24(注2)	10.5	5
最大输出电流 I_o (mA)	/	注2	106	$2 \times 0.5A$
最大输出功率 P_o (W)	/	3(注2)	1.1	2×0.625
最大外部电容 C_o (μF)	/	注3	16	2×500
最大外部电感 L_o (μH)	/	注3	80	142
最大外部电感与电阻比 L_o/R_o ($\mu H/\Omega$)	/	注3	17.77	113.7
特性	/	注2	梯形	线性
端子	J12.1(+), J12.2(GND)	J13.1(+), J13.2(GND)	J12.4(4-20mA, 信号), J12.3(GND与 J12.2共地)	J13.3(P), J13.4(N)

注1: J12.1, J12.2 与 J13.1, J13.2直接相连。
注2: 系所配关联设备输出值。
注3: 系所配关联设备最大外部参数分别减去 C_i , L_i 。

1.2 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, 其屏蔽层应接地。

2. 对于型号 II* GEX B * V * A B、II* DEX B * V * A B、II* GEX B * V * A B * 和 II* DEX B * V * A B * 系列3D物位扫描仪电气参数:

参数	供电电路		接口电路	
	输入	输出 (注1)	4-20mA	RS485
最高电压 Um(V)	24	/	9.5	7.5
最大功率 Pm(W)	3	/	/	/
端子	J12.1(+), J12.2(GND)	J13.1(+), J13.2(GND)	J12.4(4-20mA, 信号), J12.3(GND与 J12.2共地)	J13.3(P), J13.4(N)

注1: J12, J12.2 与 J13.1, J13.2 直接相连。

3. 应当保持产品外壳表面清洁, 以防粉尘堆积, 但严禁用压缩空气吹扫。

4. 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。

5. 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)”、GB15577 - 1995 “粉尘防爆安全规程”、GB12476.2 - 2006 “可燃性粉尘环境用电气设备 第1部分: 用外壳和限制表面温度保护的电气设备 第2节: 电气设备的选择、安装和维护”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、制造厂责任

1. 制造厂应将上述安全使用特定条件和产品使用注意事项纳入产品使用说明书;
2. 制造厂必须严格按照NEPSI认可的文件资料生产;

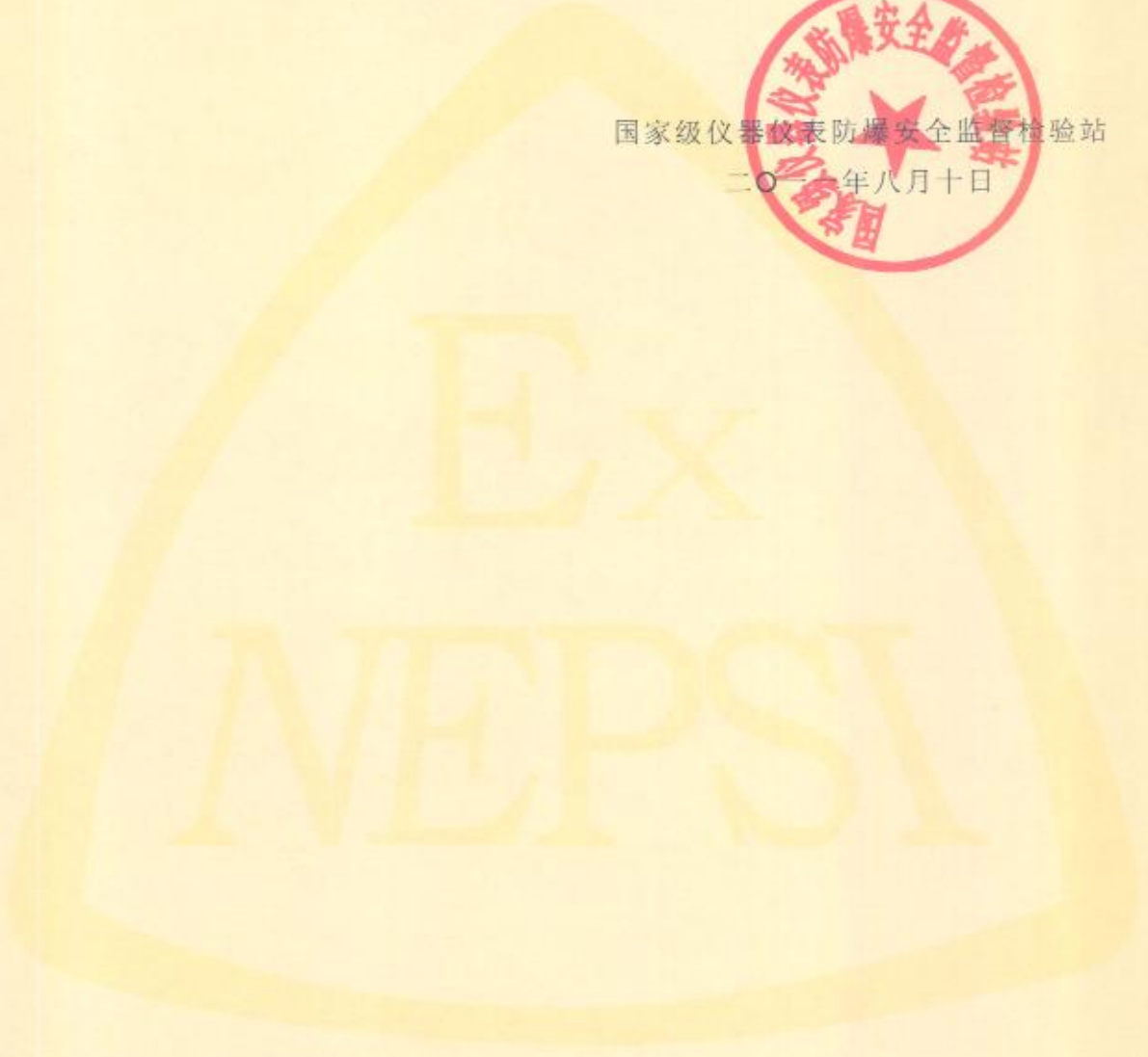
图纸代号	签署日期/版本号	备注
EDR0000001	09.12.2010 / Rev.8h	-
90100-09-01	23.12.08 / Rev.00	-
90100-03-04	23.12.08 / Rev.00	-
90100-05-01	23.12.08 / Rev.00	-

90100-04-10	23.12.08 / Rev.00	-
90100-03-06	23.12.08 / Rev.00	-
90100-03-05	23.12.08 / Rev.00	-
90100-08-02	23.12.08 / Rev.05	-
90100-06-00	23.12.08 / Rev.02	-
90100-05-00	23.12.08 / Rev.02	-
90100-06-01	23.12.08 / Rev.00	-
90100-04-09	23.12.08 / Rev.00	-
90100-04-08	23.12.08 / Rev.01	-
90100-04-07	23.12.08 / Rev.03	-
90100-04-04	23.12.08 / Rev.01	-
90100-04-05	23.12.08 / Rev.00	-
90100-04-06	23.12.08 / Rev.01	-
90100-06-03	23.12.08 / Rev.02	-
90100-04-02	23.12.08 / Rev.03	-
90100-08-00	23.12.08 / Rev.03	-
90100-08-01	23.12.08 / Rev.02	-
90100-06-02	23.12.08 / Rev.00	-
90100-04-01	23.12.08 / Rev.02	-
90100-04-03	23.12.08 / Rev.01	-
90100-04-02	23.12.08 / Rev.03	-
90100-04-00	23.12.08 / Rev.03	-
90100-02-04	23.12.08 / Rev.03	-
90100-03-00	23.12.08 / Rev.01	-
90100-03-03	05.04.09 / Rev.02	-
90100-02-03	23.12.08 / Rev.01	-
90100-03-01	23.12.08 / Rev.04	-
90100-03-02	23.12.08 / Rev.06	-
90100-02-01	23.12.08 / Rev.02	-
90100-01-02	23.12.08 / Rev.04	-
90100-01-00	23.12.08 / Rev.03	-
90100-02-00	23.12.08 / Rev.03	-
90100-01-01	23.12.08 / Rev.04	-
ASM0091000	03.09.09	-
ASM0000091	03.09.09	-
KIT000204	-	-
CS10008-3	08.07.2010 / Rev.02	-
CS10008-10	16.05.2010 / Rev.01	-
CS10008-4	16.05.2010 / Rev.03	-

LBD-LBL0000095	18.06.2011 / Rev 00	-
LBD-LBL0000096	18.06.2011 / Rev 00	-
LBD-LBL0000097	18.06.2011 / Rev 00	-

国家级仪器仪表防爆安全监督检验站

二〇一一年八月十日



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

(GYJ11261X)

(Attachment I)

Attachment I (Translation)

3D-Level-Scanner type II**B*V*AB* series, manufactured by A.P.M. Automation Solutions Ltd., consists of two parts, electronics unit and antenna unit. It has two types of installation, integrated and separated, which had 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 | Explosive atmospheres – Part 1: Equipment – General requirements |
| GB3836.4 - 2010 | Explosive atmospheres – Part 4: Equipment protection by intrinsic safety “i” |
| IEC61241 - 0: 2004 | Electrical apparatus for use in the presence of combustible dust
– Part 0: General requirements |
| GB12476.4 - 2010 | Electrical apparatus for use in the presence of combustible dust
– Part 4: Protection by intrinsic safety “iD” |

The certificate number is GYJ11261X.

The types to this certificate are as below:

II * * B * V * A B *

2 1 2 1 2 1 2 1 2 1

- 2 code indicates software version, SB, S, M, MV, MVL;
- 1 code for approval, DX (Dust application / IS supplied version), GX (Gas application / IS supplied version), DEX (Dust application / non - IS supplied version), GEX (Dust application / non - IS supplied version);
- 2 code for horn antenna, B (Φ195mm, material ALU);
- 1 code for process connection, without influence on explosion protection;
- 2 code for electronics version, V(4-20mA / HART(4 - wire) / RS485);
- 1 code for electrical connection, M (M20×1.5), N (1/2NPT);
- 2 code for equipment with display internal, A;
- 1 code for equipment without display external, B;
- 2 code for providing head separation only, length up to 50m.

The relation between the approved type and Ex marking is as below:

Types	Electronics unit	Antenna unit
II * GX B * V * A B	Ex ib/ia II BT4	---
II * DX B * V * A B	Ex ibD/iaD 20/21 T110℃	---
II * GX B * V * A B *	Ex ib/ia II BT4	Ex ia II BT4
II * DX B * V * A B *	Ex ibD/iaD 20/21 T110℃	Ex iaD 20 T110℃
II * GEX B * V * A B	[Ex ia] II B	Ex ia II BT4
II * DEX B * V * A B	[Ex iaD]	Ex iaD 20 T110℃
II * GEX B * V * A B *	[Ex ia] II B	Ex ia II BT4
II * DEX B * V * A B *	[Ex iaD]	Ex iaD 20 T110℃

Maximum ambient temperature range: -40~85(℃)

I. SPECIAL CONDITIONS FOR SAFE USE

1.1 For electronics unit with Ex marking [Ex ia] II B or [Ex iaD], it must be installed in the safe area.

1.2 For the type II * DX B * V * A B: the installation of the product in the wall to hazardous area shall provide a degree of protection IP6X according GB4208-2008, and in such a way that all metallic parts are intergrated in the local equipotential bonding.

1.3 For the type II * DEX B * V * A B: the installation of the product in the wall between hazardous area and safe area shall provide a degree of protection IP6X according GB4208-2008, and in such a way that all metallic parts and GND of the non-IS supply and interface circuits are intergrated in the local equipotential bonding.

1.4 For the type II * GEX B * V * A B: the installation of the product in the wall between hazardous area and safe area shall provide a degree of protection IP6X according GB4208-2008, and in such a way that all metallic parts and GND of the non-IS supply and interface circuits are intergrated in the local equipotential bonding.

2. SPECIAL REQUIREMENTS

2.1.1 For the type II * GX B * V * A B, II * DX B * V * A B, II * GX B * V * A B * and II * DX B * V * A B * series, only be connected to the certified associated apparatus, the 3D-Level -Scanner could be used in the explosive atmosphere. The connection should be complied with the requirements of the manual of the associated apparatus and the 3D-Level -Scanner.

1.2 The maximum values for connection to a certified associated apparatus are shown in the table:

Parameters	Supply circuit		Interface	
	Input	Output (note 1)	4-20mA	RS485
Level of protection	Ex ibD Ex ib II B	Ex ibD Ex ib II B	Ex iaD Ex ia II B	Ex iaD Ex ia II B
Max. input voltage U_i (V)	24	/	10.5	5
Max. input current I_i (mA)	Note 2	/	106	2×0.5A
Max. input power P_i (mW)	3	/	1.1	2×0.5A
Max. internal capacitance C_i (nF)	4		8	0
Max. internal inductance L_i (μH)	250		negligible	0mH
Max. output voltage U_o (V)	/	24 (note 2)	10.5	5
Max. output current I_o (mA)	/	Note 2	106	2×0.5A
Max. output power P_o (W)	/	3 (note 2)	1.1	2×0.625
Max. external capacitance C_o (μF)	/	Note 3	16	2×500
Max. external inductance L_o (μH)	/	Note 3	80	142
Max. internal inductance to resistance ratio L_o/R_o (μH/Ω)	/	Note 3	17.77	113.7
Characteristics	/	Note 2	trapezoid	linear
Terminals	J12.1(+), J12.2(GND)	J13.1(+), J13.2(GND)	J12.4(4-20mA, signal), J12.3(GND common with J12.2)	J13.3(P), J13.4(N)
Note 1: J12.1, J12.2 directly connected to J13.1, J13.2.				
Note 2: same values as of attached IS power supply.				
Note 3: same values as of attached IS power supply reduced by C_i , L_i .				

2.1.2 The cable with shield is suitable for connection, and the shield should be connected to the earth.

2.2 For the type II * GEX B * V * A B, II * DEX B * V * A B, II * GEX B * V * A B * and II * DEX B * V * A B *, the parameters are as below:

Parameters	Supply circuit		Interface	
	Input	Output (note 1)	4-20mA	RS485
Max. voltage Um(V)	24	/	9.5	7.5
Max. power Pm(W)	3	/	/	/
Terminals	J12.1(+), J12.2(GND)	J13.1(+), J13.2(GND)	J12.4(4-20mA, signal), J12.3(GND) common with J12.2)	J13.3(P), J13.4(N)
Note 1: J12, J12.2 directly connected to J13.1, J13.2.				

2.3 The enclosure shall be kept from the dust, but the dust shall not be blown by compressed air.

2.4 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.

2.5 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)", GB15577-1995 "Safety regulations for the protection of dust explosion", GB12476.2-2006 "Electrical apparatus for use in the presence of combustible dust – Part 1-2: Electrical apparatus protected by enclosures and surface temperature limitation – Selection, installation and maintenance" and 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 The instruction manual should include all the items mentioned above.

3.2 The manufacturer must strictly produce according to the documents approved by NEPSI.

Drawing No.	Rev, / signed date	Remark
EDR0000001	09.12.2010 / Rev.8h	–
90100-09-01	23.12.08 / Rev.00	–
90100-03-04	23.12.08 / Rev.00	–
90100-05-01	23.12.08 / Rev.00	–
90100-04-10	23.12.08 / Rev.00	–
90100-03-06	23.12.08 / Rev.00	–
90100-03-05	23.12.08 / Rev.00	–
90100-08-02	23.12.08 / Rev.05	–
90100-06-00	23.12.08 / Rev.02	–
90100-05-00	23.12.08 / Rev.02	–
90100-06-01	23.12.08 / Rev.00	–
90100-04-09	23.12.08 / Rev.00	–
90100-04-08	23.12.08 / Rev.01	–
90100-04-07	23.12.08 / Rev.03	–
90100-04-04	23.12.08 / Rev.01	–
90100-04-05	23.12.08 / Rev.00	–
90100-04-06	23.12.08 / Rev.01	–
90100-06-03	23.12.08 / Rev.02	–
90100-04-02	23.12.08 / Rev.03	–
90100-08-00	23.12.08 / Rev.03	–
90100-08-01	23.12.08 / Rev.02	–
90100-06-02	23.12.08 / Rev.00	–
90100-04-01	23.12.08 / Rev.02	–
90100-04-03	23.12.08 / Rev.01	–
90100-04-02	23.12.08 / Rev.03	–
90100-04-00	23.12.08 / Rev.03	–
90100-02-04	23.12.08 / Rev.03	–
90100-03-00	23.12.08 / Rev.01	–
90100-03-03	05.04.09 / Rev.02	–
90100-02-03	23.12.08 / Rev.01	–
90100-03-01	23.12.08 / Rev.04	–
90100-03-02	23.12.08 / Rev.06	–
90100-02-01	23.12.08 / Rev.02	–
90100-01-02	23.12.08 / Rev.04	–
90100-01-00	23.12.08 / Rev.03	–
90100-02-00	23.12.08 / Rev.03	–
90100-01-01	23.12.08 / Rev.04	–

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**National Supervision and Inspection Center
For Explosion Protection and Safety of Instrumentation**

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