



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 02ATEX2278X

4 Equipment: Type E5-IS/EU I/P Converter

5 Applicant: PMV

6 Address: Korta Gatan 9
17154 Solna
Sweden

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number R52A8700A.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997
EN 50020:2002
EN 50284:1999

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1G
EEx ia IIC T4 ($P_i = 1.1 \text{ W}$, $T_a = -40^\circ\text{C}$ to $+80^\circ\text{C}$)
EEx ia IIC T6 ($P_i = 0.33 \text{ W}$, $T_a = -40^\circ\text{C}$ to $+55^\circ\text{C}$)

Project Number 52A8700
Date 6 November 2002
C. Index 12

M D Shearman
Certification Manager

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Sira Certification Service is a service of Sira Test & Certification Ltd



SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 02ATEX2278X

13 DESCRIPTION OF EQUIPMENT

The Type E5-IS/EU I/P Converter comprises a single printed circuit board mounted on an electro-magnetic coil assembly. A five-sided cover fits over the end of the assembly. A two-way connector is fitted to the circuit board for external connections. As an alternative to the two-way connector, the apparatus is fitted with a flying lead. The whole assembly is then mounted into a loosely-specified enclosure by the end-user.

The I/P Converter has two safety descriptions:

	Temperature class T4	Temperature class T6
U_i	30 V	30 V
I_i	110 mA	110 mA
P_i	1.1 W	0.33 W
C_i	0	0
L_i	0	0

14 DESCRIPTIVE DOCUMENTS

- 14.1 **Drawing No. Rev. Sheet Date Title**
96-097 B 1 of 1 27 Sep 02 Type E5-IS/EU I.S. Label (Certification – Sira)
- 14.2 Report No. R52A8700A
- 14.3 Certificate number Sira 02ATEX2123X dated 6 November 2002

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 The I/P Converter shall be installed in an enclosure that provides a minimum degree of protection of IP54. If the enclosure material is manufactured from alloys containing significant quantities of zirconium or light metals (e.g. aluminium, magnesium, titanium), then, in rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered when the equipment is installed in locations that specifically require group II, category 1G equipment.
- 15.2 When installed, the electrical equipment in the hazardous area must be capable of withstanding a test of 500 Vrms to earth or frame for 1 minute in accordance with clause 10.6 of EN 50020:2002.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R52A8700A.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of SCS Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 This product shall be uniquely marked with the label identified in section 14.1 of this certificate.

Date 6 November 2002

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1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 02ATEX2355X

4 Equipment: I/P Converter Type 122

5 Applicant: IMI Watson Smith Limited

6 Address: Cross Chancellor St
Leeds
LS6 2RT
England

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number R52A8700A.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997
EN 50020:2002
EN 50284:1999

The following document was used for reference:

EN 50281-1-1:1998

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1G, 1D(T90°C)

EEx ia IIC T4 ($P_i = 1.1 \text{ W}$, $T_a = -40^\circ\text{C}$ to $+80^\circ\text{C}$)

EEx ia IIC T6 ($P_i = 0.33 \text{ W}$, $T_a = -40^\circ\text{C}$ to $+55^\circ\text{C}$)

Project Number 52A8700
Date 6 November 2002
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M D Shearman
Certification Manager

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 02ATEX2355X

13 **DESCRIPTION OF EQUIPMENT**

The 122 I/P Converter comprises a single printed circuit board mounted on an electro-magnetic coil assembly. A five-sided cover fits over the end of the assembly. Facilities are fitted to the circuit board for external connections. The whole assembly is then mounted into a defined enclosure.

The I/P Converter has two safety descriptions:

	Temperature class T4	Temperature class T6
U _i	30 V	30 V
I _i	110 mA	110 mA
P _i	1.1 W	0.33 W
C _i	0	0
L _i	0	0

14 **DESCRIPTIVE DOCUMENTS**

Drawing	Rev.	Sheet	Date	Title
94-140	I	1 of 1	25 Sep 02	Type 122 I/P I.S Electrical Details
96-062	A	1 of 1	11 Apr 96	Type 120 I.S. Coil Detail
96-078	A	1 of 1	25 Apr 96	Type 120 CENELEC I.S. Optional Base Details
96-079	B	1 of 1	27 Feb 02	Type 120 Module I.S. Mechanical Detail (Sira)
96-186	B	1 of 1	25 Sep 02	Type E5-IS (PMV) alternative terminal connections
96-227	G	1 of 1	25 Sep 02	M001 (Masoneilan) enclosure general details [aluminium]
2000-058	A	1 of 1	07 Jul 00	P001 E5-EX MK II Explosionproof General Details

14.2 Report No. R52A8700A

15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

15.1 Some enclosures covered by this certificate are manufactured from aluminium alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered when the equipment is installed in locations that specifically require group II, category 1G equipment.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R52A8700A.

Date 6 November 2002

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 02ATEX2355X

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of SCS Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 The equipment shall be marked with the following information:

The name and address of the manufacturer:	IMI Watson Smith Limited, Leeds, England	
The type identification:	I/P Converter Type 122	
A serial number & year of construction:	As appropriate	
Other marking required by Directive 94/9/EC:	CE nnnn  II 1G, 1D(T90°C) EEx ia IIC T4 (P _i = 1.1 W, T _a = -40°C to +80°C) EEx ia IIC T6 (P _i = 0.33 W, T _a = -40°C to +55°C)	
The certification code:	Sira 02ATEX2355X	
The certificate number:		
The input/output parameters:	T4	T6
	U _i	30 V
	I _i	110 mA
	P _i	1.1 W
	C _i	0
	L _i	0

Date 6 November 2002

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EC TYPE-EXAMINATION CERTIFICATE

Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

Certificate Number: Sira 02ATEX2358X

Equipment: Type E5-Ex I/P Converter

Applicant: PMV

Address: Korta Gatan 9
17154 Solna
Sweden

This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number R52A8700A.

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997
EN 50020:2002
EN 50284:1999

The following document was used for reference:

EN 50281-1-1:1998

If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

The marking of the equipment shall include the following:



II 1G, 1D(T90°C)

EEx ia IIC T4 ($P_i = 1.1 \text{ W}$, $T_a = -40^\circ\text{C}$ to $+80^\circ\text{C}$)

EEx ia IIC T6 ($P_i = 0.33 \text{ W}$, $T_a = -40^\circ\text{C}$ to $+55^\circ\text{C}$)

M D Shearman
Certification Manager

Project Number 52A8700
Date 26 November 2002
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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 02ATEX2358X

13 DESCRIPTION OF EQUIPMENT

The Type E5-Ex I/P Converter comprises a single printed circuit board mounted on an electro-magnetic coil assembly. A five-sided cover fits over the end of the assembly. Facilities are fitted to the circuit board for external connections. The whole assembly is then mounted into a defined enclosure.

The I/P Converter has two safety descriptions:

	Temperature class T4	Temperature class T6
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U_i	30 V	30 V
I_i	110 mA	110 mA
P_i	1.1 W	0.33 W
C_i	0	0
L_i	0	0

14 DESCRIPTIVE DOCUMENTS

- 14.1 **Drawing No. Rev. Sheet Date Title**
2002-025 A 1 of 1 12 Nov 02 Type E5-Ex Triple Certification Label (Certification – Sira)
- 14.2 Report No. R52A8700A
- 14.3 Certificate number Sira 02ATEX2355X dated 6 November 2002

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 Some enclosures covered by this certificate are manufactured from aluminium alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered when the equipment is installed in locations that specifically require group II, category 1G equipment.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No.R52A8700A.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of SCS Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 This product shall be uniquely marked with the label identified in section 14.1 of this certificate.

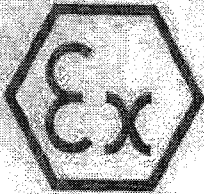
Date 26 November 2002

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1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 03ATEX2007X

4 Equipment: Type 422 I/P Converter

5 Applicant: IMI Watson Smith Limited

6 Address: Cross Chancellor Street
Leeds LS6 2RT
UK

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number R52A9872A.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997 plus amendments A1 and A2
EN 50020:2002
EN 50284:1999

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

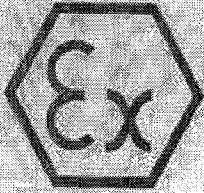


II 1G
EEx Ia IIC T4 (T_a = -40°C to +80°C)

Project Number 52A9872
Date 2 August 2003
C. Index 12

M. D. Shearman
Certification Manager

This certificate and its schedules may only be reproduced in its entirety and without change.



SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 03A-TEX2007X

13 DESCRIPTION OF EQUIPMENT

The Type 422 I/P Converter is designed to convert a 4-20 mA input to a pressure output. The converter comprises the following main sub-assemblies housed in a zinc alloy enclosure with a nylon cover:

- rfi filter PCB
- Input PCB
- main PCB
- two valves

External connections are by means of an integral terminal block, a plug and socket or a flying lead. The Type 422 has the following safety description:

- U_i = 28 V
- I_i = 110 mA
- P_i = 0.8 W
- C_i = 5 nF
- L_i = 0.24 mH

14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Sheet	Rev	Date	Title
	92-133	1 to 2	C	23 May 03	General assembly & marking
	92-153	1 of 1	C	23 May 03	Reedex
	03-039	1 of 1	A	30 May 03	Parts list
	03-040	1 to 3	A	30 May 03	Schematic
	03-041	1 to 2	A	30 May 03	Artwork - main PCB
	03-042	1 of 1	A	30 May 03	Artwork - input PCB
	03-043	1 of 1	A	29 May 03	Artwork - rfi filter board

14.2 Report No. R52A9872A.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 Under certain extreme circumstances, the non-metallic cover may generate an ignition-capable level of electrostatic charge. Therefore, when it is used for applications that specifically require group II, category 1 equipment, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R52A9872A.

17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

Date 2 August 2003

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