



[1] EC-TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protected System Intended for use
in Potentially explosive atmospheres
Directive 94/9/EC

- [3] EC-Type Examination Certificate Number: Nemko 04ATEX1319X
- [4] Equipment or Protective System: Electro Pneumatic Valve Positioner
- [5] Applicant/ Manufacturer: Palmstierna International, Flowserve
- [6] Address: Korta Gatan 9
SE-171 54 Solna, SWEDEN
- [7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] Nemko AS, notified body number 0470 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential report no. 16918
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
CENELEC EN 50014: 1997 + A1: 1999 + A2: 1999 ; CENELEC EN 50020: 2002;
CENELEC EN 50284: 1999
- [10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- [12] The marking of the equipment or protective system shall include the following:



II 1 G

EEx ia IIC T4 Ta -40°C to 55°C

Oslo, 2004-12-13

Rolf Hoel
Certification Department

Revised issue, editorial corrections

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Enterprise number:
NO 974404532

[13] Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX1319X

[15] Description of Equipment or Protective System

The EP2/Logix 505si analogue electronic positioners are single-acting analogue positioners. They combine piezo-valve technology with inner-loop feedback to provide control with minimal air consumption. The positioners are configured by switches and potentiometers on the valve. An external 4-20 mA signal is used for supply and control signal.

The EP2/Logix 505si analogue positioner are installed within a die-cast aluminium enclosure and comprise the following:

- Main circuit board
- Piezo relay
- Hall effect sensor
- Feedback potentiometer
- Optional limit switch boards. Mechanical switches, reed switches or Pepperl & Fuchs inductive proximity switches.

Technical Data

Ui: 28V, Ii: 93mA, Pi: 660mW, Li: 611 μ H, Ci: 14.7nF

Ingress Protection Code

IP 66

[16] Report No. 16918

Descriptive Documents

Number	Rev.	Date	Title/Description	Sheets
EP2-app2	--	2004-07-01	Control drawing	1
EP3-App3	--	2004-07-01	Marking plate	1
1039074	--	2003-05-30	I/P-UMFORMER LOGIX 500	1
1039074	--	2003-05-30	STUCKLISTE I/P-UMFORMER	1
1039075	--	2002-11-08	PIEZOEinheit KUNSTSTOFF-GEHAUSE	1
D2-As31	--	2004-02-18	PMV Positioner D2	1
D2-As52	--	2004-02-18	PMV Positioner D2	1
LCIE 97ATEX6007X	--	1998-09-14	Cable entry Type ECDEP	2
D2-25	--	2002-12-10	PMV Positioner D2	1
--	A	2004-07-08	Logix 505si technical information	1
--	B	2004-07-08	Logix 505si Safety components	1
Logic 705 Schematics	2:4	2004-05-26	<Logix 500si / EP2>	1

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Sira 03ATEX2242	--	2003-06-12	D2 Digital Positioners	3
PTB 00ATEX2049X	--	2000-10-05	SN-sensors, Type NJ... and SJ...	4
PTB EX-95.D.2140X	--	1995-11-02	SN-Sensors, Type N... and F...	5
D2-14 R2	R2	2002-11-26	Switchkort	1
D2-AS14P	--	2003-06-18	As., prox., D2	1
D2-AS14M	--	2003-04-09	As., mec. switch, D2	1
D2-AS14N	--	2003-04-22	As., nam. switch, D2	1
D2-AS14D	--	2003-06-12	As., Slotted Nam., D2	1
D2-AS14 P R2 BOM	A	2003-06-30	PALMSTIERNAS INSTRUMENT	1
D2-AS14 D5 R2 BOM	C	2003-10-01	PALMSTIERNAS INSTRUMENT	1
D2-AS14 D6 R2 BOM	C	2003-10-01	PALMSTIERNAS INSTRUMENT	1
D2-AS14 N R2 BOM	B	2003-09-09	PALMSTIERNAS INSTRUMENT	1
D2-AS14 N R2 BOM	B	2003-09-09	PALMSTIERNAS INSTRUMENT	1
D2-AS14 D4 R2 BOM	C	2003-10-01	PALMSTIERNAS INSTRUMENT	1
D2-14R21 Silk layer 1	--	2003-06-27	Silk Layer 1	1
D2-14R21 Coppelayer 1	--	2003-06-27	Copper Layer 1	1
D2-14R21 Coppelayer 2	--	2003-06-27	Copper Layer 2	1

[17] Special Conditions for Safe Use

Impact and friction hazards need to be considered according to EN50284 clause 4.3.1 when the transmitter is made with aluminium enclosure and used in category II 1 G

[18] Essential Health and Safety Requirements

See item 9

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SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX1319X****[15] Description of Equipment or Protective System**

This Certificate is extended to include use of new enclosure, new alternative Model name Logix 705 and revised Descriptive documents as listed.

Model codes covered by this certificate:

- Logix 705-15-ABC-DEF
- Logix 505si-15-ABC-DEF
- EP2-15-ABC-DEF

A = Housing colour

B = Connection Threads

C = Limit switches

0: None

1: Cherry DG

2: Hamlin 59050

3: P+F NJ2-V3-N

4: P+F SJ2-S1N

5: P+F SJ2-SN

6: P+F SJ2-N

D = Minimum operating temperature

S: -20°C

E: -40°C

E = Rotary indicator

0: None

F: Flat

D: Domed

F = Language

Safety Parameters

All models, terminals no. 2-3

Ui: 28V, Ii: 93mA, Pi: 660mW, Li: 611µH, Ci: 14.7nF

Switch Board Options:**Option N**

Pin 1;2: Switch 1

Ui: 16V, Ii: 52mA, Pi: 169mW, Ci: 40nF, Li: 50µH

Pin 3;4: Switch 2

Ui: 16V, Ii: 52mA, Pi: 169mW, Ci: 40nF, Li: 50µH

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SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE**Option D4, D5, D6**

Pin 1;2: Switch 1

Ui: 16V, Ii: 52mA, Pi: 169mW, Ci: 40nF, Li: 100µH

Pin 3;4: Switch 2

Ui: 16V, Ii: 52mA, Pi: 169mW, Ci: 40nF, Li: 100µH

Option S (Normally Open)

Pin 1;3: Switch 1

Ui: 28V, Ii: 45mA, Pi: 315mW, Ci: 1nF, Li: 1µH

Pin 4;6: Switch 2

Ui: 28V, Ii: 45mA, Pi: 315mW, Ci: 1nF, Li: 1µH

Option S (Normally Closed)

Pin 2;3: Switch 1

Ui: 28V, Ii: 45mA, Pi: 315mW, Ci: 1nF, Li: 1µH

Pin 5;6: Switch 2

Ui: 28V, Ii: 45mA, Pi: 315mW, Ci: 1nF, Li: 1µH

Option P

Pin 1;3: Switch 1

Ui: 10.6V, Ii: 29.7mA, Pi: 79mW, Ci: 1nF, Li: 1µH

Pin 5;6: Switch 2

Ui: 10.6V, Ii: 29.7mA, Pi: 79mW, Ci: 1nF, Li: 1µH

- [16] **Report No. 32929**
and descriptive documents listed in EP2/Logix705 Technical file Contents dated 2004-10-11, Revision A

Descriptive Documents

Name/Number	Rev.	Sheets	Description	Date
EP2-App2	1	1	Control drawing	2004-10-11
EP2-App3	1	1	Marking plate	2004-10-11
EP2-App4	0	1	Enclosure description	2004-10-11
EP2-App5	B	1	Logix 705 Technical information	2004-10-11
EP2-App6	C	1	Logix 705 Safety components	2004-10-11
Logix 705 Schematics	2.4	1	Logix 705 Mainboard Schematics	2004-10-11
D2-14 R2	R2	1	Switchboard Schematics	2002-11-26
D2-AS14 M R2 BOM	B	1	Bill of Material Mechanical Switches D2	2003-09-09

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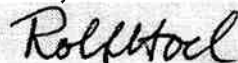
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SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE

- [17] **Special Conditions for Safe Use**
As specified in the schedule to the certificate
- [18] **Essential Health and Safety Requirements**
See item 9

Oslo, 2004-12-13



Rolf Hoel
Certification Department

Revised for editorial corrections, replaces document dated 2004-11-13

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SUPPLEMENT 2 TO EC-TYPE EXAMINATION CERTIFICATE**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX1319X****[15] Description of Equipment or Protective System**

This Certificate is extended to minor modifications of the electronic board and components. The changes do not affect the safety characteristics of the apparatus.

[16] Report No. 46714**Descriptive Documents**

Number	Rev.	Sheets	Description	Date
--	R1	1	<Logix 705 si / EP2>	2005-05-26
--	B	1	EP2/Logix705Si Technical fil contents	2005-06-16
7-82 R1 L2	--	1	Logix 705-82 R1 Layer 2	2004-06-16
7-82 R1 L1	--	1	Logix 705-82 R1 Layer 1	2004-06-16
--	B	3	7-AS82 R1 BILL OF MATERIAL	2005-06-16

[17] Special Conditions for Safe Use

As specified in the schedule to the certificate

[18] Essential Health and Safety Requirements

See item 9

Oslo, 2005-06-14


PP Rolf Hoel
Certification Department

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SUPPLEMENT 3 TO EC-TYPE EXAMINATION CERTIFICATE**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX1319X****[15] Description of Equipment or Protective System**

The Certificate is extended to include minor changes in the design. The changes do not affect the safety characteristics of the apparatus.

[16] Report No. 48762**Descriptive Documents**

Number	Rev.	Sheets	Description	Date
D2-25(*)	3	1	PMV Positioner D2	2004-08-17
D2-As31	2	1	PMV Positioner D2	2005-07-13
D2-As52	2	1	PMV Positioner D2	2005-07-11

[17] Special Conditions for Safe Use

As specified in the schedule to the certificate

[18] Essential Health and Safety Requirements

See item 9

Oslo, 2005-07-14



Rolf Hoel

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SUPPLEMENT 4 TO EC-TYPE EXAMINATION CERTIFICATE**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX1319X****[15] Description of Equipment or Protective System**

The Certificate is extended to include two alternative versions.

Type Designation of variants:

Logix 705 and PT-700

Technical Data;

Ui: 28V, Ii: 93mA, Pi: 660mW, Li: 611 μ H, Ci: 14.7nF

Ingress Protection Code:

IP 66 by Nemko according to EN 60529: 1991+ A1: 2000

[16] Report No. 75141

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Descriptive Documents


Document name	Revision	Number of sheets	Description	Date
EP2_Logix705si Technical file contents_revC	C	1	Technical file content	2006-12-07
PT-AS8_7-82 Cert_Notes R1.0 A	A	3	Certification supplement notes	2006-12-07
PT-AS8_7-AS82_R1.0_BOM_revA	A	4	BOM PT700 and Logix705	2006-12-01
PT-AS8_7-AS82_R3_C1_MHN	A	1	Layout mainboard components 1	2006-12-01
PT-AS8_7-AS82_R3_C4_MHN	A	1	Layout mainboard components 4	2006-12-01
PT-AS8_7-AS82_R3_D_MHN	A	1	Layout mainboard dimensions	2006-12-01
PT-AS8_7-AS82_R3_L1_MHN	A	1	Mainboard Layer1 drawing	2006-12-01
PT-AS8_7-AS82_R3_L2_MHN	A	1	Mainboard Layer2 drawing	2006-12-01
PT-AS8_7-AS82_R3_L3_MHN	A	1	Mainboard Layer3 drawing	2006-12-01
PT-AS8_7-AS82_R3_L4_MHN	A	1	Mainboard Layer4 drawing	2006-12-01
7-asIS82_rev5_061114_KBM	A	1	Summary drawing Logix705	2006-11-14
EP2-App3_rev3_061201_KBM	A	1	Marking plate Logix705	2006-12-01
PT-13_rev0_061201_KBM	A	1	Marking plate PT700	2006-12-01
PT-7As2S_rev0_061109_KBM	A	1	Summary drawing PT700	2006-11-09
PT-AS8_7-AS82_R3.x_rev A_MHN	A	1	Schematics mainboard	2006-10-11
PT-AS6_R1_BOM_REVC_060801_KBM	C	4	Describing document PT-AS6	2006-08-01
26PC_Series_chart_7	C	1	Product sheet 26PCDFA3G	2005-06-28
903250006_sd	A	1	Drawing contact 90325-0006, 90327-0306	2001-05-29
05565965	AB	1	Drawing flat cable 4-pol RM 1,27	1995-11-28
PS_99020_0011	A	13	Product sheet 90327-0306	2006-12-01
903270306_sd	A	1	Drawing contact 90327-0306	2004-09-16
PT-12_rev1_061201_LRW	A	1	Drawing flat cable PT-12	2006-12-01
UTV-SR-General-10_Boards PT 700 and Logix 7xx_rev0_061110_KBM	A	1	Describing document mainboard models	2006-11-10
PT-6 D revA 061201 LRW	A	1	Drawing PT-AS6 PCB dimension	2006-12-07
PT-6 L1 revA 061201 LRW	A	1	Drawing PT-AS6 Layer 1	2006-12-07
PT-6 L2 revA 061201 LRW	A	1	Drawing PT-AS6 Layer 2	2006-12-07

[17] **Special Conditions for Safe Use**
As specified in the schedule to the certificate

[18] **Essential Health and Safety Requirements**
See item 9

Oslo, 2007-01-17

Rolf Hoel



Certification Manager, Ex-products

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