ANZEx

Australian/New Zealand Certification Scheme
for Explosion Protected Equipment

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 09.3000X**	*Current Issue:* 5	*Date of Issue:* 2020-08-25

Applicant: **Moore Industries International**
16650 Schoenborn Street
North Hills CA 91343
U.S.A.

Equipment: Current to Pressure Transmitter Models IPX2, IPX2-NG, IPH2 and IPT2

Type of Explosion Protection:
IPX2, IPX2-NG, IPH2: Intrinsic Safety 'ia'
IPX2, IPH2, IPT2: Type of Protection 'n'

Explosion Protection Marking:

IPX2:	Ex ia IIC T4@85˚C /T5@70˚C IP56 and Ex n IIC T6@55˚C
IPX2-NG:	Ex ia IIC T4@85˚C /T5@70˚C IP66
IPH2:	Ex ia IIC T4@85˚C /T5@70˚C and Ex n IIC T6@55˚C
IPT2:	Ex n IIC T6@55˚C

*This certificate is granted subject to the conditions as set out in Standards Australia/Standards New Zealand Miscellaneous Publication **MP87.1***

Signed for and on behalf of issuing body

Name & Position Ujen Singh, Quality & Certification Manager

This certificate is not transferable and remains the property of the issuing body.
The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753 Australia

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Certificate No.: **ANZEx 09.3000X**	*Current Issue:* 5	*Date of Issue:* 2020-08-25

Manufacturer: **Moore Industries International**
16650 Schoenborn Street
North Hills CA 91343
U.S.A.

Additional Manufacturing Location(s): 'None'

STANDARDS:

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

AS/NZS 60079.0:2005	Electrical apparatus for explosive gas atmospheres – Part 0: General requirements (including Amendment 1)
AS/NZS 60079.11:2006	Explosive atmospheres – Part 11: Equipment protection by Intrinsic safety 'i'
AS/NZS 60079.15:2006	Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection, 'n' electrical apparatus (including Amendment 1)

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

The equipment listed has successfully met the examination and test requirements as recorded in:

Test Report Nos. & Issuing Bodies associated with all issues of the certificate: TestSafe Report 30543, 33070, 35636, 37120

Quality Assessment Report No. & Issuing Body: GB/FME/QAR18.0009/01; FM Approvals

File Reference: 2019/018356

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Schedule

Equipment Description:

The Current-to-Pressure (I/P) Transmitter converts a current signal to a pneumatic signal so that an electronic-based system such as a DCS, PLC, or PC can control a pneumatic actuator, valve, or damper drive. Available models accept a wide range of current inputs (4 – 20 mA, 4 – 12 mA, and 12 – 20 mA) and provide a proportional pneumatic signal (3 – 15 psig, 0.2 – 1 Bar, 20 – 100 kPa, etc.).

Housing Styles vary according to Model:

- IPX2: Field Mounted & robust aluminium body.
- IPH2: Field Mounted & compact lightweight aluminium body with polyester or aluminium terminal cover housing.
- IPT2: Compact 40 mm wide aluminium housing for mounting onto DIN-rail or pneumatic header rack. Requires optional housing for field mounting.

The input terminal shall be connected via a barrier which consist of a series resistor.

The installation manual is provided in document no. 170-775-00 & 170-730-00.

Variations Permitted by this issue:

1. Document revision updates for additional notes and manufacturing process improvements.
2. Changed the maximum internal capacitance Ci from 5.7 µF to 8.01 µF at 7.14 V.

Specific Conditions of Use:

- For Models IPX2, IPX2-NG and IPH2, when are used in Zone 0 environment, the apparatus shall be protected from impact.
- It is a condition of safe use that the following parameters shall be taken into account during installation:

	Ex ia	Ex n
Input Parameters	**Terminals +PS/-PS**	**Terminals +PS/-PS**
Maximum Input Voltage U_i	30 V	30 V
Maximum Input Current I_i (limited by series resistor in the barrier)	110 mA	110 mA
Maximum Internal Capacitance C_i	8.01 µF at 7.14 V 0 µF at Ui > 20 V	
Maximum Internal Inductance L_i	0 mH	

Additional Information:

None.

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Manufacturer's Documents associated with this Issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
504-571-01	2	PC2, IPT2-DIN	F	2012-03
504-571-02	3	IPT-PC2 (Track Artworks)	F	2012-02-23
504-573-01	2	PC4, IPX2 [DIN]	D	2013-11
504-573-02	5	PC4, IPX2 (Track Artworks)	D	2013-11-13
507-508-01	2	PC3 IPH2-MII	B1	2013-02
170-430-00	1	IPT2-DIN (Schematic)	G	2015-06
170-460-00	1	IPH2 PC1 - PC4 (Schematic)	F	2014-02
170-531-00	1	PC2 IPT2-DIN	D	2012-02
170-533-00	1	*PC4, IPX2 / IPT2 [DIN]	D2	2018-08
170-556-00	1	PC2 IPH2-MII	A3	2011-09
170-557-00	1	PC3 IPH2-MII	A2	2009-03
204-277-00	1	*POTTED CORE ASSEMBLY, I/P	E	2019-09
200-251-2051	1	*NAME PLATE, IPH2, TEST-SAFE-ANZEx: I.S., TYPE N	C2	2019-05
200-251-2081	1	*NAME PLATE, IPX2 TESTSAFE-ANZEx: I.S.	E1	2019-05
200-251-2324	1	*ID LABEL, Model/Serial IPT2 [DIN] Current-to-Pressure Transmitter	C1	2019-05
170-475-00	1	*IPX2 PC1 THRU PC4 (REPACKAGE) (Schematic)	D	2020-04-21
510-521-01	2	IPX2 PC1 REPACKAGE	E	2014-10
510-521-02	6	IPX2 PC1 REPACKAGE (PCB Layout)	E	2014-10-01
510-523-01	2	*PC2 EPX2/IPX2 (*PC Fabrication*)	D	2019-07
170-576-00	1	*PC1, IPX2 CURRENT TO PRESSURE TRANSMITTER	D	2020-04
170-577-00	1	*PC1 (ZERO BASED), IPX2 CURRENT TO PRESSURE TRANSMITTER	D	2020-04
208-276-00	3	*Module, Mechanical Assembly, IPX2	D	2019-01
170-833-00	1	*LIST OF MATERIALS, PC4 (BOM for PC4 PCB Assembly)	D1	2020-07-28
170-876-00	2	*L/M, PC1 (BOM for IPX2 PC1 PCB Assembly)	D	2020-07-28

*Note: An * is included before the title of documents that are new or revised.*

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History of Issues and Variations

Issue 0 dated 2009-06-20

Manufacturer's Documents associated with Issue 0:

Document Number	Pages / Sheets	Document Title	Revision	Date
504-570-01	2	PC1, IPT [DIN]	B	2000-10
504-570-02	3	IPT (*Track Artworks*)	B	2000-10-04
504-571-01	2	PC2 IPT2-DIN	D	2004-02
504-571-02	3	IPT-PC2 (*Track Artworks*)	D	2004-02-11
504-572-01	2	PC3, IPT [DIN]	B	1996-07-29
504-572-02	3	IPT-DIN PC3 (*Track Artworks*)	B	-
504-573-01	2	PC4, IPT2 [DIN]	C	2001-05
504-573-02	4	IPT-DIN PC4 (*Track Artworks*)	C	-
507-507-01	2	PC1 IPH2-MII/IPX2-MII	D	2002-10
507-507-02	4	IPH-MII/IPX-MII PC1 (*Track Artworks*)	D	2002-09-30
507-508-01	2	PC3 IPH2-MII	B	2006-11
507-508-02	4	IPH-MII PC3 (*Track Artworks*)	B	2006-11-17
507-510-01	2	PC2 IPH2-MII/IPX2-MII	C	2002-10
507-510-02	4	IPH-MII/IPX-MII PC2 (*Track Artworks*)	C	2002-09-30
507-511-01	2	PC3 IPX2-MII	B	2004-11
507-511-02	4	IPX-MII PC3 (*Track Artworks*)	B	2004-11-18
509-552-01	2	PC1 IPX2-RO Option	A	2007-01
509-552-02	4	IPX2-RO PC1 (*Track Artworks*)	B	2009-02-25
509-553-01	2	PC3 IPX2-RO Option	A1	2007-02
509-553-02	4	IPX2-RO PC3 (*Track Artworks*)	A	2007-02-01
170-430-00	1	IPT2-DIN (*Schematic*)	F	2003-04
170-460-00	1	IPX2/IPH2 (*Schematic*)	D	2002-10
170-531-00	1	PC2 IPT2-DIN (*PC Assembly*)	C	2003-04
170-533-00	1	PC4, IPT2 [DIN] (*PC Assembly*)	C	2001-05
170-540-00	1	PC5, IPT2 DIN (*PC Assembly*)	C	2003-04
170-555-00	1	PC1 IPH2-MII/IPX2-MII Not 4-20mA/3-15PSiG (SMT) (*PC Assembly*)	D	2003-07
170-555-01	1	PC1 IPH2-MII/IPX2-MII 4-20mA/3-15PSiG (SMT) (*PC Assembly*)	C	2002-08

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Document Number	Pages / Sheets	Document Title	Revision	Date
170-555-02	1	PC1 IPH2-MII/IPX2-MII 4-20mA/3-15PSiG (Thru-Hole) (*PC Assembly*)	A	2001-09
170-555-03	1	PC1 IPH2-MII/IPX2-MII Not 4-20mA/3-15PSiG (Thru-Hole) (*PC Assembly*)	A	2001-09
170-555-05 & 170-555-29	1	PC1 IPH2 /IPX2 3-27/6-30PSiG (SMT & Thru-Hole) (*PC Assembly*)	A	2003-02
170-555-28	1	PC1 IPH2 /IPX2 3-15PSiG (SMT & Thru-Hole) (*PC Assembly*)	A	2003-02
170-556-00	1	PC2 IPH2-MII (*PC Assembly*)	A	2002-12
170-557-00	1	PC3 IPH2-MII (*PC Assembly*)	B	2008-04
170-560-00	1	PC2 IPX2-MII (*PC Assembly*)	B	2002-08
170-561-00	1	PC3 IPX2-MII (*PC Assembly*)	B	2008-04
170-570-00	1	IPX2-RO Option PC1 (Switch Selectable) (*Fabrication*)	A	2007-01
170-571-00	1	IPX2-RO Option PC1 (Switch Selectable) (*PC Assembly*)	A1	2007-04
170-572-00	1	PC3 IPX2-RO Option (*PC Assembly*)	B	2008-04
204-272-00	1	Electro-Valve Assembly, I/P (*Mechanical Assembly*)	H	2001-11
204-277-00	1	Potted Core Assembly, I/P (*Mechanical Assembly*)	B	2001-11
200-251-2051	1	TAG, ID, IPH2 TestSafe-ANZEx: I.S., Type N	B	2009-04
200-251-2081	1	TAG, Model No., IPX2 (Standard I/P Unit: Air) CSA/FM/KEMA:I.S./N.I/Exp-Prf. TestSafe-ANZEx: I.S. & Type N (Mll-Type N) Universal ID Tag	B	2009-05
200-251-2082	1	TAG, Model No., IPX2 Current-to-pressure X-mitter CSA/FM/KEMA: I.S. & Exp-Prf. TestSafe-ANZEx:I.S.-NG Option: Natural/Sweet Gas (Universal ID Tag)	B	2009-05
200-251-2324	1	ID Label IPT2 DIN Current-to-pressure X-mitter TestSafe-ANZEx: Type N	A	2009-05

CONDITIONS OF CERTIFICATION:

It is a condition of safe use that the following parameters shall be taken into account during installation:

	Ex ia	Ex n
Input Parameters	**Terminals +PS/-PS**	**Terminals +PS/-PS**
Maximum Input Voltage U_i	30 V	30 V
Maximum Input Current I_i (limited by series resistor in the barrier)	110 mA	110 mA
Maximum Internal Capacitance C_i	5.7 µF at 7.14 V	
Maximum Internal Inductance L_i	0 mH	

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Issue 1 dated 2009-10-09

Variations Permitted by Issue 1:

Additional information added in the Certificate that were assessed in Test Report 30543:

1. Added IP rating in the Certificate.
2. Added equivalent internal capacitance for input voltage above 20 V.

Condition of Certification Relating to Issue 1:

It is a condition of safe use that the following parameters shall be taken into account during installation:

	Ex ia	Ex n
Input Parameters	**Terminals +PS/-PS**	**Terminals +PS/-PS**
Maximum Input Voltage U_i	30 V	30 V
Maximum Input Current I_i (limited by series resistor in the barrier)	110 mA	110 mA
Maximum Internal Capacitance C_i	5.7 μF at 7.14 V 0 μF at Ui > 20 V	
Maximum Internal Inductance L_i	0 mH	

Manufacturer's Documents associated with Issue 1:

None

Issue 2 dated 2011-09-13

Variations Permitted by Issue 2:

Only for IPX2 and IPX2-NG models:

1. Create a separate electronic module containing all electronic assemblies and the electromagnet.
2. This redesign includes only the re-packaging of the electronics and will keep the housing and pneumatic components untouched.
3. For extra protection against moisture, the electronic PCB assemblies contained in the electronic module will be encapsulated.
4. The change to the electronics (schematic) is to add additional filtering on the inputs.

Manufacturer's Documents associated with Issue 2:

Document Number	Pages / Sheets	Document Title	Revision	Date
170-475-00	1	IPX2 PC1 Thru PC4 (Repackage) (*Schematic*)	A	2011-06

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Document Number	Pages / Sheets	Document Title	Revision	Date
510-521-01	2	IPX2 PC1 Repackage (*PC Fabrication*)	A	2011-06
510-521-02	4	IPX2 PC1 Repackage (*PCB Layout*)	A	2011-06-22
510-523-02	1	EPX2/IPX2 PC2 Repackage (*PCB Layout*)	A	2011-06-22
510-523-01	2	PC2 EPX2/IPX2 (*PC Fabrication*)	A	2010-10
170-575-00	1	PC Top, IPX2 Current to Pressure Transmitter (*PC Assembly*)	A	2011-06
170-576-00	1	PC1, IPX2 Current to Pressure Transmitter (*PC Assembly*)	A	2011-06
170-577-00	1	PC1 (Zero Based), IPX2 Current to Pressure Transmitter (*PC Assembly*)	A	2011-06
170-578-00	1	PC1 Added Parts, IPX2 Current to Pressure Transmitter (*PC Assembly*)	A	2011-06
170-579-00	1	PC2, IPX2 Current to Pressure Transmitter (*PC Assembly*)	A	2011-06

Issue 3 dated 2016-08-22

Variations Permitted by Issue 3:

1. Delete the epoxy coating on the external surface of enclosure.
2. Minor design change to the schedule drawings, PCB layout and safety components.
3. Update certificate equipment description.
4. Update the condition of Certification.

Condition of Certification Relating to Issue 3:

- For Models IPX2, IPX2-NG and IPH2, when are used in Zone 0 environment, the apparatus shall be protected from impact.
- The following parameters shall be taken into account during installation:

	Ex ia	Ex n
Input Parameters	**Terminals +PS/-PS**	**Terminals +PS/-PS**
Maximum Input Voltage U_i	30 V	30 V
Maximum Input Current I_i (limited by series resistor in the barrier)	110 mA	110 mA
Maximum Internal Capacitance C_i	5.7 µF at 7.14 V 0 µF at Ui > 20 V	
Maximum Internal Inductance L_i	0 mH	

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Manufacturer's Documents associated with Issue 3:

Document Number	Pages / Sheets	Document Title	Revision	Date
504-571-01	2	PC2, IPT2-DIN	F	2012-03
504-571-02	3	IPT-PC2 (Track Artworks)	F	2012-02-23
504-573-01	2	PC4, IPX2 [DIN]	D	2013-11
504-573-02	5	PC4, IPX2 (Track Artworks)	D	2013-11-13
507-508-01	2	PC3 IPH2-MII	B1	2013-02
170-430-00	1	IPT2-DIN (Schematic)	G	2015-06
170-460-00	1	IPH2 PC1 - PC4 (Schematic)	F	2014-02
170-531-00	1	PC2 IPT2-DIN	D	2012-02
170-533-00	1	PC4, IPX2 / IPT2 [DIN]	D	2013-11
170-556-00	1	PC2 IPH2-MII	A3	2011-09
170-557-00	1	PC3 IPH2-MII	A2	2009-03
204-277-00	1	POTTED CORE ASSEMBLY, I/P	C	2016-06
200-251-2051	1	NAME PLATE, IPH2, TEST-SAFE-ANZEx: I.S., TYPE N	C	2011-09
200-251-2081	1	NAME PLATE, IPX2 TESTSAFE-ANZEx: I.S.	D	2013-02
200-251-2324	1	ID LABEL, Model/Serial IPT2 [DIN] Current-to-Pressure Transmitter	C	2016-06
170-475-00	1	IPX2 PC1 THRU PC4 (REPACKAGE) (Schematic)	C	2013-11-25
510-521-01	2	IPX2 PC1 REPACKAGE	E	2014-10
510-521-02	6	IPX2 PC1 REPACKAGE (PCB Layout)	E	2014-10-01
170-576-00	1	PC1, IPX2 CURRENT TO PRESSURE TRANSMITTER	C	2013-11
170-577-00	1	PC1 (ZERO BASED), IPX2 CURRENT TO PRESSURE TRANSMITTER	C	2013-11
208-276-00	3	Module, Mechanical Assembly, IPX2	C	2013-07
170-833-00	1	(BOM for PC4 PCB Assembly)	D	-
170-876-00	2	(BOM for IPX2 PC1 PCB Assembly)	C	-

Issue 4 dated 2019-04-18

Variations Permitted by Issue 4:

Change of QAR issuer to FM Approvals GB/FME/QAR18.0009/00.