

# TYPE EXAMINATION CERTIFICATE



[1]

[2]

**Equipment or Protective System intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC**

[3]

Type Examination Certificate Number: **DEMKO 14 ATEX 1342501X Rev. 2**

[4]

Equipment: **Programmable Industrial Controllers – 1794 Series**

[5]

Manufacturer: **Rockwell Automation**

[6]

Address: **1201 S 2<sup>nd</sup> St., Milwaukee, WI 53204 USA**

[7]

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

[8]

UL International Demko A/S certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of **Category 3** equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to the European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in confidential report no. **4786468457**

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Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to Standards:

**EN 60079-0:2012+A11:2013**

**EN 60079-15:2010**

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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 Type examination certificate relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

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The marking of the equipment or protective system shall include the following:

**II 3 G Ex nA IIC T5 Gc**  
 **II 3 G Ex nA IIC T4 Gc**  
 **II 3 G Ex nA IIC T3 Gc**  
 **II 3 G Ex nA nC IIC T4 Gc**

**Certification Manager**

Jan-Erik Storgaard

**Certification Body**

This is to certify that the sample(s) of the Equipment described herein ("Certified Equipment") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Equipment Certification Program Requirements. This certificate and test results obtained apply only to the equipment sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured equipment. UL has not established Follow-Up Service or other surveillance of the equipment. The Manufacturer is solely and fully responsible for conformity of all equipment to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

**Date of issue:** 2014-05-22

**Re-issued:** 2014-12-24



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**Schedule**  
**TYPE EXAMINATION CERTIFICATE No.**  
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Description of Equipment:

These devices are open-type programmable controllers for use in Zone 2 Group IIC Hazardous Locations. Most of these devices plug into accessory bases that utilize terminal blocks for electrical connection. The bases are then din-rail mounted. The accessories can be utilized with any of the I/O devices described below.

The optical radiation output of the indicator LEDs of the subject devices with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 94/9/EC is not covered in this certificate.

The devices consist of the following modules:

<u>Module</u>	<u>Protection Method</u>	<u>Temperature Classification</u>	<u>Description</u>	<u>Electrical Ratings</u>
1794-ACNR15XT	nA	T4	ControlNet Redundant Adapter	Output: 5 Vdc, 640 mA Input: 19.2 to 31.2 Vdc, 400 mA -20°C to 70°C
1794-ACNR15	nA	T4	ControlNet Redundant Adapter	Output: 5 Vdc, 640 mA Input: 19.2 to 31.2 Vdc, 400 mA -20°C to 55°C
1794-IB10XOB6XT	nA	T4	10 Point Input/6 Point Output Combo Module	Flexbus: 5 Vdc, 50 mA Input: 10-31.2 Vdc, 11 mA Output: 10-31.2 Vdc, 2 A Supply: 10-31.2 Vdc, 25 mA -20°C to 70°C
1794-IB10XOB6	nA	T3	10 Point Input/6 Point Output Combo Module	Flexbus: 5 Vdc, 50 mA Input: 10-31.2 Vdc, 11 mA Output: 10-31.2 Vdc, 2 A Supply: 24 Vdc, 25 mA -20°C to 55°C
1794-IB16XT	nA	T4	16 Point Input Module	Flexbus: 5 Vdc, 30 mA Input: 10-31.2 Vdc, 4 mA Supply: 10-31.2 Vdc, 50 mA -20°C to 70°C
1794-IB16	nA	T4	16 Point Input Module	Flexbus: 5 Vdc, 30 mA Input: 10-31.2 Vdc, 12 mA Supply: 10-31.2 Vdc -20°C to 55°C
1794-OB16PXT	nA	T4	16 Point Output Module	Flexbus: 5 Vdc, 60 mA Output: 10-31.2 Vdc, 500 mA Supply: 10-31.2 Vdc, 35 mA -20°C to 70°C
1794-OB16P	nA	T3	16 Point Output Module	Flexbus: 5 Vdc, 60 mA Output: 10-31.2 Vdc, 500 mA Supply: 24 Vdc, 75 mA -20°C to 55°C
1794-OB8EPXT	nA	T4	8 Point 24 V dc Protected Output	Flexbus: 5 Vdc, 80 mA Output: 19.2-31.2 Vdc, 2 A Supply: 19.2-31.2 Vdc, 55 mA -20°C to 70°C
1794-OB8EP	nA	T4	8 Point 24 V dc Protected Output	Flexbus: 5 Vdc, 73 mA Output: 19.2-31.2 Vdc, 2 A Supply: 24 Vdc, 80 mA -20°C to 55°C



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<u>Module</u>	<u>Protection Method</u>	<u>Temperature Classification</u>	<u>Description</u>	<u>Electrical Ratings</u>
1794-IE8XT	nA	T4	8 Point Input Module	Flexbus: 5 Vdc, 11 mA I Input: 4-20 mA, 0-20 mA V Input: +/- 10 V, 0-10 V Supply: 10.5-31.2 Vdc, 140 mA -20°C to 70°C
1794-IE8	nA	T4	8 Point Input Module	Flexbus: 5 Vdc, 15 mA I Input: 4-20 mA, 0-20 mA V Input: +/- 10 V, 0-10 V Supply: 24 Vdc, 60 mA -20°C to 55°C
1794-IF2XOF2IXT	nA	T4	2 Analog Inputs 2 Analog Outputs Module	Flexbus: 5 Vdc, 55 mA Input: +/- 10 Vdc, 0-20 mA Output: +/- 10 Vdc, 0-20 mA Power: 19.2-31.2 Vdc, 180 mA -20°C to 70°C
1794-IF2XOF2I	nA	T4	2 Analog Inputs 2 Analog Outputs Module	Flexbus: 5 Vdc, 50 mA Analog In: +/- 10 Vdc, 0-20 mA Analog Out: +/- 10 Vdc, 0-20 mA Supply: 19.2-31.2 Vdc, 180 mA -20°C to 55°C
1794-IF4IXT, 1794-IF4ICFXT	nA	T4	4 Analog Input Module	Flexbus: 5 Vdc, 55 mA I In: 0-20 mA V In: +/- 10 Vdc Power: 19.2-31.2 Vdc, 145 mA -20°C to 70°C
1794-IF4I	nA	T4	4 Analog Input Module	Flexbus: 5 Vdc, 55 mA Analog In: 0-20 mA, +/- 10 Vdc Supply: 19.2-31.2 Vdc, 145 mA -20°C to 55°C
1794-OF4IXT	nA	T4	4 Analog Output Module	Flexbus: 5 Vdc, 55 mA Analog Out: 0-20 mA, +/- 10 Vdc Power: 19.2-31.2 Vdc, 210 mA -20°C to 70°C
1794-OF4I	nA	T4	4 Analog Output Module	Flexbus: 5 Vdc, 55 mA Analog Out: 0-20 mA, +/- 10 Vdc Supply: 19.2-31.2 Vdc, 210 mA -20°C to 55°C
1794-IJ2XT	nA	T4	2 Channel Frequency Input Module	Flexbus: 5 Vdc, 30 mA Input: 10-31.2 Vdc, 10 mA Output: 10-31.2 Vdc, 1 A, 24 VA Supply: 19.2-31.2 Vdc, 120 mA -20°C to 70°C
1794-IJ2	nA	T4	2 Channel Frequency Input Module	Flexbus: 5 Vdc, 30 mA Input: 10-31.2 Vdc, 10 mA Output: 10-31.2 Vdc, 1 A, 24 VA Supply: 19.2-31.2 Vdc, 120 mA -20°C to 55°C
1794-IRT8XT	nA	T4	8 Point Thermocouple/RTD Input Module	Flexbus: 5 Vdc, 40 mA Inputs: 0 to 500 Ohm Inputs: -40 to +100 mVdc Supply: 19.2-31.2 Vdc, 55 mA -20°C to 70°C
1794-IRT8	nA	T4	8 Point Thermocouple/RTD Input Module	Flexbus: 5 Vdc, 40 mA Inputs: 0 to 500 Ohm Inputs: -40 to +100 mVdc Supply: 24 Vdc, 95 mA -20°C to 55°C





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<u>Module</u>	<u>Protection Method</u>	<u>Temperature Classification</u>	<u>Description</u>	<u>Electrical Ratings</u>
1794-OW8XT	nA nC	T4	8 Point Relay Output	Flexbus: 5 Vdc, 35 mA Output: 5-30 Vdc/2 A Res Supply: 19.2-31.2 Vdc, 125 mA 250 Vac, 50/60 Hz, 2 A Res -20°C to 70°C
1794-OW8	nA nC	T4	8 Point Relay Output	Flexbus: 5 Vdc, 35 mA Output: 5-30 Vdc/2 A Res Supply: 24 Vdc, 125 mA 250 Vac, 50/60 Hz, 2 A Res -20°C to 55°C
1794-TB3, 1794-TB3K, 1794-TB3S, 1794-TB3SK, 1794-TB3T, 1794-TB3TK, 1794-TB3TS, 1794-TB3TSK	nA	T4	Cage Clamp Terminal Base	Flexbus: 5 Vdc, 640 mA I/O Terminals: 2 A V/COMM Terminals: 10 A 125 V DC/AC, 50/60 Hz -20°C to 70°C
1794-TB3G, 1794-TB3GK, 1794-TB3GS, 1794-TB3GSK, 1794-TB3GT	nA	T4	Screw Clamp Terminal Base	Flexbus: 5 Vdc, 640 mA I/O Terminals: 2 A V/COMM Terminals: 10 A 31.2 V DC/AC, 50/60 Hz -20°C to 70°C
1794-AENTR	nA	T5	Dual Port Ethernet Adapter	Output: 5 VDC, 640 mA Input: 24 VDC, 400 mA Input Range: 19.2-31.2 VDC, 500 mA 0°C to 55°C
1794-AENTRXT	nA	T4	Dual Port Ethernet Adapter	Output: 5 VDC, 640 mA Input: 24 VDC, 400 mA Input Range: 19.2-31.2 VDC, 500 mA -25°C to 70°C

Temperature range

The relation between ambient temperature and the assigned temperature class is as follows:

**Ambient temperature range**

-20°C to +55°C  
-20°C to +55°C  
-20°C to +70°C  
0°C to +55°C  
-25°C to +70°C

**Temperature class**

T3  
T4  
T4  
T5  
T4

Electrical data

The modules are provided with the electrical ratings shown above.

Installation instructions

The products are installed as per Installation Instructions given for each module.

Routine tests

No routine tests are necessary.

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Descriptive Documents

Project Report No.: 4786468457 (Hazardous Location Testing)

Drawings:

**Description:**

Label Drawing 1794 Flex N1794A

Label Drawing 1794 Flex N1794A

**Drawing No.:**

10001085665

10001085657

**Rev. Level:**

02

02

**Date:**

2014-09-08

2014-09-08



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Description:	Drawing No.:	Rev. Level:	Date:
1794-ACNR15 BOM	PN-45765	-	2012-01-04
1794-ACNR15/D HMI Board Schematic	10000021558	05	2009-10-26
1794-ACNR15 PS Board Schematic	10000022142	05	2010-06-24
1794-ACN(R)/D Main Board Schematic	10000046348	07	2011-07-14
1794-ACNR15XT/D BOM	PN-55884	-	2012-01-04
1794-IB10XOB6 BOM	1794-IB10XOB6 A	-	2004-03-24
1794-IB10XOB6, 1794-IB10XOB6XT Schematic	10000143466	01	2012-02-16
1794-IB10XOB6XT BOM	PN-36134	-	2011-06-22
1794-IB8, 1794-IB16 Schematic	10000144903	01	2012-01-11
1794-IB16 BOM	1794-IB16 A	-	2011-07-15
1794-IB16XT Schematic	10000144927	00	2011-04-06
1794-IB16XT BOM	PN-14642	-	2011-07-15
1794-IE8 Schematic	10000126297	01	2011-04-21
1794-IE8 BOM	1794-IE8 B	-	2011-02-18
1794-IE8XT Schematic	10000127106	00	2010-10-19
1794-IE8XT BOM	PN-14647	-	2011-02-18
Output Hybrid Schematic	10000305162	01	2013-06-05
Input Hybrid Schematic	10000139868	02	2013-06-05
Flex Iso Ana Schematic	10000153671	02	2012-10-09
1794-IF2XOF2I BOM	1794-IF2XOF2I A	-	2011-01-04
1794-IF2XOF2IXT BOM	PN-14652	-	2011-01-04
1794-IF4I BOM	1794-IF4I A	-	2011-01-04
1794-IF4IXT BOM	PN-14650	-	2011-01-04
1794-IJ2 BOM	1794-IJ2 A	-	2004-03-24
XT SCM-Counter-2IN, 2OUT	10000024215	00	2008-08-05
1794-IJ2, 1794-IJ2XT Main Board Schematic	10000313544	01	2013-06-10
1794-IJ2, 1794-IJ2XT SCM Board Schematic	10000314889	01	2013-05-31
1794-IJ2XT BOM	PN-36136	-	2010-07-07
1794-IRT8XT Schematic	10000127646	01	2011-11-29
1794-IRT8 BOM	1794-IRT8 B	-	2011-12-05
1794-IRT8XT BOM	1794-IRT8XT B	-	2011-12-05
1794-OB8EP BOM	1794-OB8EP A	-	2004-03-24
1794-OB8EP, 1794-OB8EPXT Schematic	10000144933	00	2011-04-07
1794-OB8EPXT BOM	PN-14645	-	2011-07-15
1794-OB16P Schematic	10000144909	00	2011-03-30
1794-OB16P BOM	1794-OB16P A	-	2011-07-15
1794-OB16PXT Schematic	10000144930	00	2011-04-05
1794-OB16PXT BOM	PN-14644	-	2011-07-15
1794-OF4I BOM	1794-OF4I A	-	2010-07-20
1794-OF4IXT BOM	PN-14651	-	2009-08-26
1794-OW8, 1794-OW8XT Schematic	10000144937	01	2011-04-05
1794-OW8, 1794-OW8XT PCB Layout	10000144939	A01	2014-03-07
1794-OW8 BOM	1794-OW8 A	-	2011-07-15
1794-OW8XT BOM	PN-14646	-	2011-07-15



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Description:	Drawing No.:	Rev. Level:	Date:
1794-TB3S PCB Layout	92414791	A01	2014-03-07
1794-TB3, 1794-TB2, 1794-TB3S Schematic	92414651	A01	2006-03
1794-TB3 BOM	1794-TB3 A	-	2004-03-24
1794-TB3GS PCB Layout	92415991	A01	2014-03-07
1794-TB3G/1794-TB3GS Schematic	92415851	A01	2006-05
1794-TB3G BOM	1794-TB3G A	-	2004-03-24
1794-TB3GS BOM	1794-TB3GS A	-	2004-03-24
1794-TB3S BOM	1794-TB3S A	-	2004-03-24
1794-TB3T, 1794-TB3TS PCB Layout	92416591	A01	2014-03-07
1794-TB3T, 1794-TB3TS Schematic	92416451	A01	2006-05
1794-TB3T BOM	1794-TB3T A	-	2004-03-24
1794-TB3TS BOM	1794-TB3TS A	-	2004-03-24
Installation Instructions	1794-PC001D-EN-P	-	2014-08
Installation Instructions Addendum	1794-DU001B-EN-P	-	2014-08
1794-AENTR, 1794-AENTRXT Power Board Schematic	10000012608	01	2011-02-25
1794-AENTR, 1794-AENTRXT Main Board Schematic	10000107031	01	2011-05-11
1794-AENTR, 1794-AENTRXT HMI Board Schematic	10000107032	01	2011-05-05
1794-AENTR BOM	PN-125283	-	2011-11-30
1794-AENTRXT BOM	PN-125282	-	2011-11-30
1794-TB3GT Schematic	10000146079	00	2011-01-04
1794-TB3GT BOM	PN-128133	-	2011-11-23

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Special conditions for safe use:

- The system shall be mounted in an ATEX certified enclosure with a minimum ingress protection rating of at least IP54 and used in area of not more than pollution degree 2. Enclosure must utilize a tool removable cover or door.
- Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 140%.
- Earthing is accomplished through mounting of modules on rail.
- Subject devices are for operation in Ambient Temperature Range: -20°C to +55°C OR -20°C to +70°C OR 0°C to +55°C OR -25°C to +70°C.
- Module 1794-OW8 and 1794-OW8XT must be used at or below 60 VAC or 75 VDC.

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Essential Health and Safety Requirements

Met by compliance with the standards EN 60079-0:2012+A11:2013, EN 60079-15:2010.

