

[1] **TYPE EXAMINATION CERTIFICATE**



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

[3] Type Examination Certificate Number: **DEMKO 14 ATEX 1374X Rev. 0**

[4] Equipment: **M-Series Monitors, Industrial Flat Panel Monitors, iPC- Series, Industrial PC's, nPC-Series, Non-display PC**

[5] Manufacturer: **Comark LLC DBA Nematron Corp.**

[6] Address: **5840 Interface Dr. Ste 100 Ann Arbor MI 48103-9515, 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. **4786420836**

[9] 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 60079-11:2012 EN60079-15:2010 EN 60079-31:2009

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

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

 **II 3 G Ex ic nA IIC T4 Gc**

 **II 3 G Ex nA IIC T4 Gc**

 **II 3 D Ex tc IIIC T67°C Dc**

Certification Manager
Jan-Erik Storgaard

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: 2015-04-01

Certification Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com



Schedule

TYPE EXAMINATION CERTIFICATE No.

DEMKO 14 ATEX 1374X Rev. 0

Report: 4786420836

[13]

[14]

[15]

Description of Equipment:

The optical radiation output of apparatus with respect to explosion protection, according to Annex II, Clause 1.3.1 of the Directive 94/9/EC, is covered in this Certificate.

M-Series

Ex II 3 G Ex ic nA IIC T4 Gc

Ex II 3 D Ex tc IIIC T67°C Dc

Models, M1200, M1500, M1500SRT, M1700, M1900, M2200W

Model M, followed by 1200, 1500, 1700, 1900, or 2200W, may be followed by SR or blank, may be followed by T or blank, may be followed by DC, may be followed by NL, SS, may be followed by additional alphanumeric characters. :

M-Series monitors accept standard analog VGA or DVI inputs and can display VESA video modes. An optional 5-wire analog touchscreen is available that offers RS-232 or USB interface capability. M-Series monitors are housed in heavy duty steel chassis with stainless steel or powder coated aluminum bezels. See "Special Conditions for Safe Use" within this document for information concerning enclosure installation information.

M-Series Nomenclature

<u>M</u>	<u>1500</u>	<u>SR</u>	<u>T</u>	<u>-DC</u>	<u>-NL</u>
I	II	III	IV	V	VI

I. Model Designation – M

II. LCD DISPLAY SIZE

1200 = 12"

1500 = 15"

1700 = 17"

1900 = 19"

2200W = 22"

*III. SR = Sunlight readable LCD display
blank = standard LCD display

IV. T = Touchscreen option
blank = no touchscreen and no keypad options

V. Power Supply:
DC = 24 V DC

VI. Front Panel:
SS = Stainless Steel bezel
NL or blank = Powder Coated Aluminum

*Additional nomenclature indicates no critical options

iPC-Series

Ex II 3 G Ex ic nA IIC T4 Gc

Ex II 3 D Ex tc IIIC T67°C Dc

Models, iPC1200, iPC1500, iPC1700, iPC1900

iPC1, followed by 2, 5, 7 or 9, followed by 00, may be followed by T or blank, may be followed by additional alphanumeric characters, maybe followed by DC, maybe followed by SS, NL.

iPC Series products are high performance embedded ultra-thin industrial computers. The iPC Series are Color TFT LED-backlit LCD, and the standard front panels are stainless steel or powder coated aluminum. The touchscreen option is chemically strengthened or tempered glass covered by a polyester overlay. iPC-Series offers an optional non-touch with chemically strengthened or tempered glass window. See "Special Conditions for Safe Use" within this document for information concerning enclosure installation information.

iPC-Series Nomenclature

<u>iPC</u>	<u>1500</u>	<u>T</u>	-	<u>N2800</u>	-	<u>2GB</u>	<u>-80SS</u>	<u>-CF</u>	-	<u>W7</u>	-	<u>DC</u>	-	<u>NL</u>
I	II	III		IV		V	VI	VII		VIII		IX		X

I. Model Designation – iPC

II. LCD DISPLAY SIZE

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1200 = 12"

1500 = 15"

1700 = 17"

1900 = 19"

- III. T = Touchscreen option
Blank = No Touchscreen

- IV. Processor (not critical): Any 3 to 6 digit alphanumeric character

- V. DRAM Option (not critical): Any 3 to 6 digit alphanumeric character

- VI. Hard Drive (not critical): Blank or any 3 to 6 digit alphanumeric character

- VII. Compact Flash Option (not critical): Blank or any 3 to 6 digit alphanumeric character

- VIII. Operating System (not critical): Any 3 to 6 digit alphanumeric character

- IX. Power supply:
DC = 24VDC

- X. Front panel: (applies to iPC only)
-SS = Stainless Steel bezel option
-NL or blank = Power Coated Aluminum

Other nomenclature suffixes indicate non-critical product options.

nPC-Series

Ex II 3 G Ex nA IIC T4 Gc

Model, nPC300, may be followed by additional alphanumeric characters.

nPC- Series are open type, non-display PC's. HDMI and DVI cables are available to connect nPC-Series with other devices for remote monitoring applications. They are wall, shelf or DIN rail mountable, including to the rear of M-Series monitors. See "Special Conditions for Safe Use" within this document for information concerning enclosure installation information.

nPC-Series Nomenclature

nPC - 300 - N2800 - 2GB - 80SS - CF - W7 - DC
I II III IV V VI VII VIII

- I. Model Designation – nPC

- II. NODE TYPE
300 = No Display Node

- III. Processor (not critical): Any 3 to 6 digit alphanumeric character

- IV. DRAM Option (not critical): Any 3 to 6 digit alphanumeric character

- V. Hard Drive (not critical): Blank or any 3 to 6 digit alphanumeric character

- VI. Compact Flash Option (not critical): Blank or any 3 to 6 digit alphanumeric character

- VII. Operating System (not critical): Any 3 to 6 digit alphanumeric character

- VIII. Power supply:
DC = 24VDC

Other nomenclature suffixes indicate non-critical product options.

Temperature range

The ambient temperature range is 0 °C to 55 °C for all models.



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Electrical data

Model M1500SR: 18 – 36 VDC, 2.75 A Max

All M-Series with displays up to 19" except for Models M1500SR, M2200 and M2200W: 18 – 36 VDC, 2.0 A Max

Model M2200 and M2200W: 18-36 VDC, 4.5 A Max

iPC-Series:

Input: 18-36VDC, 6.0 A Max

nPC-Series:

Input: 18-36VDC, 6.0 A Max

Mounting Instructions

When installing the mounting clip, tighten the screws to 8-10 Inch-Pound Maximum.

Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this Type Examination Certificate.

Special conditions for safe use:

For M -Series and iPC -Series, Equipment are not intended to be used in areas that can result in severe impact to the equipment.

For Group IIC Environment -

Installation within end-equipment that provides an internal "micro-environment"* of pollution degree 2 or better

For this installation option, the open-type M-Series, iPC-Series and nPC 300 shall be installed within end-equipment that complies with all of the following conditions:

- The enclosure of the end-equipment shall provide a degree of protection not less than IP 64 in accordance with IEC/EN 60079-15; and
- The end-equipment shall provide an internal environment of pollution degree 2 or better, as defined in IEC/EN 60664-1; and
- Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the end-equipment; and
- Enclosure must utilize a tool removable cover, door, or panel.

Installation within areas that provide an external "macro-environment"** of pollution degree 2 or better

For this installation option, the open-type M-Series, iPC-Series, and nPC 300 shall be installed within end-equipment that complies with all of the following conditions:

- The end-equipment shall be used in a pollution degree 2 or better area, as defined in IEC/EN 60664-1; and
- The enclosure of the end-equipment shall provide a degree of protection not less than IP 54 in accordance with IEC/EN 60079-15; and
- Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the end-equipment; and
- Enclosure must utilize a tool removable cover, door, or panel.

*The term "micro-environment", per IEC 60664-1, is defined as the "immediate environment of the insulation which particularly influences the dimensioning of the creepage distances".

**The term "macro-environment", per IEC 60664-1, is defined as an "environment of the room or other location in which the equipment is installed or used".

For Group IIIC Environment

- The enclosure of the end-equipment shall provide a degree of protection not less than IP 64 in accordance with IEC/EN 60079-31

For Group IIIA and IIIB Environment

- The enclosure of the end-equipment shall provide a degree of protection not less than IP 54 in accordance with IEC/EN 60079-31

For Group IIIC installations the following Special Conditions apply for the purpose of ESD protection:

- For model M1500SRT: The brightness adjustment buttons must be wiped with a damp cloth prior to use;
- For M and iPC series models with the touch screen option installed: The touch screen must be wiped with a damp cloth prior to use.

Essential Health and Safety Requirements

Met by compliance with the standards EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60079-15:2010, and EN 60079-31:2009.

Additional information

Nematron M- Series and iPC models identified within this certificate have in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529: 1991/A1 2000.

