



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx UL 16.0058X Issue No: 0 Certificate history:
Issue No. 0 (2016-07-06)

Status: **Current** Page 1 of 4

Date of Issue: **2016-07-06**

Applicant: **Comark LLC, DBA Nematron Corp.**
440 Fortune Blvd.
Milford, MA 01757
United States of America

Equipment: **Industrial Flat Panel Monitors and Industrial PCs, M-Series Monitors,
Industrial Flat Panel Monitors, iPC- Series, Industrial PCs, nPC-Series,
Non-display PC**

Optional accessory:

Type of Protection: **Intrinsic Safety "ic", Non-sparking "nA", Enclosure "tc"**

Marking: M-Series and iPC-Series: Ex ic nA IIC T4 Gc IP66 and Ex tc IIIC T67°C Dc IP66

nPC-Series: Ex nA IIC T4 Gc

0°C to 55°C

*Approved for issue on behalf of the IECEx
Certification Body:*

Katy A. Holdredge

Position:

Senior Staff Engineer

*Signature:
(for printed version)*

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:



IECEx Certificate of Conformity

Certificate No: IECEx UL 16.0058X

Issue No: 0

Date of Issue: 2016-07-06

Page 2 of 4

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America





IECEX Certificate of Conformity

Certificate No: IECEx UL 16.0058X Issue No: 0
Date of Issue: 2016-07-06 Page 3 of 4
Manufacturer: Comark LLC, DBA Nematron Corp.
440 Fortune Blvd.
Milford, MA 01757
United States of America

Additional Manufacturing
location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus 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:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

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

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[US/UL/ExTR16.0063/00](#)

Quality Assessment Report:

[US/UL/QAR16.0004/00](#)



IECEX Certificate of Conformity

Certificate No: IECEx UL 16.0058X

Issue No: 0

Date of Issue: 2016-07-06

Page 4 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

See Annex for Equipment.

CONDITIONS OF CERTIFICATION: YES as shown below:

See Annex for Conditions of Certification.

Annex:

[Annex to IECEx UL 16.0058 Issue 0.pdf](#)

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 Aluminium

*Additional nomenclature indicates no critical options

iPC-Series:

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

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

- I. Model Designation – iPC
- II. LCD DISPLAY SIZE
 - 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, not used on nPC)
 - SS = Stainless Steel bezel option
 - NL or blank = Power Coated Aluminum

Other nomenclature suffixes indicate non-critical product options.

nPC-Series

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

Electrical Data

M-Series:

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

Conditions of Certification

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 60079-15; and
- The end-equipment shall provide an internal environment of pollution degree 2 or better, as defined in IEC 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 60664-1; and
- The enclosure of the end-equipment shall provide a degree of protection not less than IP 54 in accordance with IEC 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 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 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.