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Standard for Digital Imaging and Communications in Security (DICOS) Information Object Definitions (IODs)

National Electrical Manufacturers Association

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Digital Imaging and Communications in Security (DICOS)
Information Object Definitions (IODs)

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Foreword

The Digital Imaging and Communications in Security (DICOS) Standard, this Standards publication, is formally designated as NEMA IIC 1 v02A. NEMA IIC 1 v02A is inspired by and relies heavily on elements of Digital Imaging and Communications in Medicine (DICOM). NEMA IIC 1 v02A adapts DICOM as necessary for security screening applications. While NEMA IIC 1 v02A was retained as the formal Standard designation, NEMA IIC 1 v02A is referenced informally as DICOS v02A.

DICOS v02A revises, corrects, and clarifies the predecessor of DICOS v02A, reflecting “lessons learned” as a result of TSA implementation of the predecessor version of DICOS v02A. Because significant functionality was not added or removed, the designation DICOS v02A was selected.

The predecessor of DICOS V02A, designated as DICOS V02, was published in 2012.

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> National Electrical Manufacturers Association
> 1300 North 17th Street, Suite 900
> Rosslyn, Virginia 22209

The NEMA Industrial Imaging and Communications Section (04 IIC) developed DICOS V02A. Section approval of DICOS V02A does not necessarily imply that section Members voted for its approval or participated in its development. At the time it was approved, the Section was composed of the following Members:

a. Rapiscan www.rapiscan.com
b. Stratovan www.stratovan.com
c. TeleSecurity Sciencies, Inc. www.telesecuritysciences.com

In addition to countless Member efforts, recognition is also given to those organizations that supported the development of DICOS v02A by participating in development efforts and providing comment:

a. U.S. Department of Homeland Security, Transportation Security Administration with input from Customs and Border Protection

Recognition is also given to those organizations that supported the development of DICOS through coordination, by participating in development efforts, or by providing comments, including:

a. Battelle www.battelle.com
b. GST www.gst.com
c. Morpho Detection www.morpho.com/detection
d. Smiths Detection www.smithsdetection.com

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Section 1
Scope

The Digital Imaging and Communications in Security (DICOS) Standard, designated as NEMA IIC 1 v02A, provides a data interchange protocol and an interoperable, extensible file format to facilitate data information interchange (e.g., demographic information, x-ray radiographs, CT images, material-specific information, trace detection signatures, threat assessment) of objects of inspection (e.g., checked luggage, carry-on luggage, parcels, and personnel) for security screening applications.

NEMA IIC 1 v02A is inspired by and relies heavily on elements of Digital Imaging and Communications in Medicine (DICOM). NEMA IIC 1 v02A adapts DICOM as necessary for security screening applications. NEMA IIC 1 v02A includes many references to elements in the DICOM Standard. In text, these references take the general form, see DICOM PS X.Y. Other elements of NEMA IIC 1 v02A, while initially inspired by DICOM, were updated for airport security screening applications. NEMA IIC 1 v02A reflects these adaptations.

> Note: From this point forward, while NEMA IIC 1 v02A is retained as the formal Standard designation, NEMA IIC 1 v02A is referenced as its informal designation, DICOS v02A.

1.1 References

The following Standards (normative references) contain provisions which, through reference in this text, constitute provisions of DICOS v02A. Additional documents and Standards (other references) are referenced that might provide a complete understanding. At the time of publication, the editions indicated were valid. All Standards are subject to revision, and parties to agreements based on DICOS v02A are encouraged to investigate the possibilities of applying the most recent editions of the Standards indicated.

1.1.1 Normative References

1.1.1.1 National Electrical Manufacturers Association (NEMA)

NEMA *Digital Imaging and Communications in Medicine (DICOM) Part 1: Introduction and Overview*, ftp://medical.nema.org/medical/dicom/2011/11_01pu.pdf

NEMA *Digital Imaging and Communications in Medicine (DICOM) Part 2: Conformance*, ftp://medical.nema.org/medical/dicom/2011/11_02pu.pdf

NEMA *Digital Imaging and Communications in Medicine (DICOM) Part 3: Information Object Definitions*, ftp://medical.nema.org/medical/dicom/2011/11_03pu.pdf

NEMA *Digital Imaging and Communications in Medicine (DICOM) Part 4: Service Class Specifications,* ftp://medical.nema.org/medical/dicom/2011/11_04pu.pdf

NEMA *Digital Imaging and Communications in Medicine (DICOM) Part 5: Data structures and encoding,* ftp://medical.nema.org/medical/dicom/2011/11_05pu.pdf

NEMA *Digital Imaging and Communications in Medicine (DICOM) Part 6: Data Dictionary,* ftp://medical.nema.org/medical/dicom/2011/11_06pu.pdf

NEMA *Digital Imaging and Communications in Medicine (DICOM) Part 7: Message Exchange,* ftp://medical.nema.org/medical/dicom/2011/11_07pu.pdf