



Request for Interpretation – Ballot
SIA Intrusion Standards Subcommittee
Regarding: 5.5.1.2 CRC

Date: November 3, 2020
Standard: DC-09 - SIA Digital Communication Standard – Internet Protocol Event Reporting
Requested By: GB Security - Christoffer Ekman
Prepared By: Ted Nesse, North Latitude Technology, LLC
Question: Can the CRC value in the DC-09 message be transmitted in two bytes?
Background: See page 2

Ballot (Date Due is 11/15/2020):

Return to Joseph Gittens at SIA (jgittens@securityindustry.org)

___ The answer is YES

___ The answer is NO (recommended by the chair)

Comments: (if any)

Name: _____

Organization Represented: _____

Date: _____

Background for request for interpretation on 5.5.1.2 CRC

Here is the original question from GB Security - Christoffer Ekman (October 26, 2020)

The situation is this that I have one alarm maker that has implemented sending the CRC value with two bytes.

I also have a software developer that have developed a software for receiving alarm messages from different protocols, and one of them are IP SIA DC09. They claim that CRC should be sent with 4 bytes and refers to IP SIA DC-07 section 7.1.2.

In that section you can read the following.

7.1.2 <CRC> Cyclic Redundancy Check

This is the checksum associated with the message and used for error detection. The actual CRC field is a 4-byte field representing a 16 bit CRC value and presented in ACSII encoded hexadecimal notation, also known as Hex-ASCII. (For a detailed description of Cyclic Redundancy Check calculation, see Appendix B.)

So I was hoping you could straight this out which one is correct. Thanks in advance.

Here is the provisional response from Ted Nesse, chair of the Intrusion Standards Subcommittee (November 3, 2020):

I can't respond authoritatively for the SIA Intrusion Standards Subcommittee, as formal requests for interpretation require full committee action. But I took a look at your question, and I can offer my personal observations.

In DC09, paragraph 5.5.1.2, it notes that "The CRC shall be transmitted as four ASCII characters". This was added some years ago, to emphasize that the field is hex-encoded ASCII, and not binary bytes. This implies that the underlying CRC is actually two bytes, which is what can be encoded in four hex-ASCII characters. It also refers to DC-07, paragraph 7.1.2 which you have quoted below. The CRC as described there is 16 bits (two bytes) and encoded as ASCII with four bytes.

So in the transmitted DC-09 message, four bytes are required to transmit the CRC, and it looks like the version that is sending only two bytes is not compliant with the standard.