



COLLECTION OF IECEx / ExTAG DECISIONS

Standard: IEC 60079-0:2011 IEC 60079-0:2017 IEC 60079-7:2015	Clauses: 3.52, 3.53, 13.5, 29.9, 3.36, 3.83, 13.5, 3.84, 28.2 4.10	Draft Decision Sheet: ExTAG/536B /CD
Subject: Suffix “X” and “U” to the certificate Status of document: Approved	Key words: Ex component Suffix “X”, “U”	Date: February 2020 Originator of proposal: SITI/IAS/NEPSI

Background:

With the extensive application of fieldbus, process control system adopts more and more power supply modules, remote IO modules and input/output modules etc.. It is popular that those modules have to be mounted into an additional housing and tested according to IEC 60079-0 and IEC 60079-7 (former IEC 60079-15) as Ex Components. So many certificates, with either suffix “X” or “U”, have been issued already for those types of modules. It looks that each certification body have individual rules to apply suffix “X” or “U”.

QUESTION: For Ex ec modules (such as power supply modules, remote IO modules and input/output modules), intended to be mounted completely within a separate Ex ec enclosure, shall suffix “U” or “X” be applied to the certificate for the module?

ANSWER:

Suffix “ U” shall be marked on the those modules, when they are evaluated individually and the temperature rise (both service and surface) will need to be determined after installation in a suitable end product enclosure.

These Ex ec modules are intended to be mounted into an Ex ec enclosure. The ingress of protection (IP) of the enclosure shall be tested according to IEC 60079-0 and IEC 60079-7 as the IP requirements in the general industrial standards applied, would not include the additional requirements for explosion protection (IEC 60079-7:2015 clause 4.10.1 note). The mounting of modules will need to be further evaluated for the separation distances and temperature rises etc.. All of these are critical factors for complete Ex equipment (enclosure & modules). So those modules shall be treated as Ex Components, and a certificate with suffix “U” shall be issued..



When modules are tested for a very specific configuration (such as mounting, backboard, backplane, spacings, enclosure size, etc.), a certificate with the suffix “X” may be issued for the

module. In this case, the temperature test for the modules shall be conducted when they are mounted as intended (for example, a family of PLC’s mounted on a DIN rail) and maximum service and surface temperatures shall be determined per IEC 60079-0. The rated ambient temperature that is marked on the modules shall be based on the temperature of the air surrounding the modules during this test. The Specific Conditions of Use shall detail any of the conditions necessary to be observed in order to address “mounted as intended”.