**INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC) SYSTEM FOR CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT FOR USE IN EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

**TITLE: Draft Revision of ExTAG DS 2013/001-Temperature measurement of cable entries on electrical machines.**

**Circulated to: ExTAG – IECEx Testing and Assessment Group**

**INTRODUCTION**

During the Split 2018 meeting of IEC TC 31 MT 27, the meeting noted IECEx DS 2013/001 and noted the value of this Clarification and that this DS should also apply to Editions 5, 6 and 7 of IEC 60079-0 and requested that the Secretariat propose a minor update to the current DS 2013/001.

This Draft proposes a small update to the current DS 2013/001 to be issued as DS 2013/001A.

In accordance with OD 035 it is issued for a six week comment period.

Please submit comments using the comments table, a separate document by

**20180601**

To [**Christine Kane**](mailto:christine.kane@iecex.com)

If there are no comments received the document will be forwarded for publication.

***Julien Gauthier***

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**ExTAG Secretary**

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| **Address:**  **IECEx Secretariat**  **Level 33 Australia Square**  **264 George Street**  **Sydney NSW 2000**  **Australia**  **Web:** [**www.iecex.com**](file://C:\Users\christine.kane\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\christine.kane\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\christine.kane\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\AppData\Local\Users\horn02\AppData\Local\christine.kane\AppData\Local\Microsoft\christine.kane\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Christine.Kane\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\AppData\Local\jugauthier\AppData\Local\Temp\notesC9812B\www.iecex.com) | **ExTAG Secretary**  **Mr Julien Gauthier**  **LCIE S.A.**  **33 Avenue du General Leclerc**  **92260 Fontenay-aux-Roses**  **FRANCE**  **Tel: +33 1 40 95 55 26**  **Fax: +33 1 40 95 89 37**  **Email :** [**julien.gauthier@fr.bureauveritas.com**](mailto:julien.gauthier@fr.bureauveritas.com) |

**COLLECTION OF IECEx / ExTAG DECISIONS**

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| **Standard:**  IEC 60079-0:2017 Ed7  IEC 60079-0:2011 Ed6  IEC 60079-0:2007 Ed5 | **Clauses:**  16.6  16.6  16.5 |  |
| **Subject:**  Temperature measurement of cable entries on electrical machines  **Status of document:**  **Draft** | **Key words:**   * Cable entries * Branching point * Temperature measurement | **Date: April 2018**  **Originator of proposal:** IECEx Secretariat in consultation with IEC TC31 MT27  **TC/SC involved:**  IEC/TC 31 |
| **Question**: Clause 16.6 of IEC 60079-0:2011 and IEC 60079-0:2017 states “When the temperature under rated conditions is higher than 70 °C at the entry point or 80 °C at the branching point of the conductors, information shall be marked on the equipment exterior to provide guidance to the user on the proper selection of cable and cable gland or conductors in conduit.”  It is not normal practice for electrical machines to be tested with the cable entry devices and cables that might be used in an actual installation, but with the cables available at the manufacturer’s test area. In many cases, there will be no formal entry device as the cables will enter via the space reserved for fixing of a gland plate.  How shall the relevant entry point and branching point temperatures be determined?  **Answer**: This subject was discussed at the TC31 MT27 meeting in Oslo in September 2012, and again discussed at TC31 MT27 in Podstrana, Croatia in April 2018.  MT27 resolved that a note should be added to IEC 60079-0 to clarify the testing requirement in a future edition.  Until such a note is added, MT27 requested that the following clarification be issued as an ExTAG Decision Sheet:  *The use of the internal air space temperature to represent the service temperature of terminal box gaskets and seals, the cable branching point temperature, and the entry point temperature reflects the normal practice of testing machines without prior knowledge of the actual glands and cables to be used for installation. The production of heat from the machine connections is generally insignificant with respect to the production of heat from the machine windings and core.*  **Further amplification**:   1. The entry point of the cable where the temperature is measured should be sealed so far as possible to ensure that there is minimum air-circulation which can reduce the measured temperature. 2. This is not intended to apply to any gasket between the terminal box and the frame of the machine, where higher temperatures may be recorded, but only to the gasket between the terminal box and its lid. 3. Although written in the context of electrical machines, there may be other types of equipment where an equivalent approach is applicable | | |