

## **DECLARATION OF COMPLIANCE**

### **For the use of Penny & Giles ICS Hydro-Pneumatic products in hazardous atmospheres**

In compliance with the requirements of the ATEX 94/9/EC (100a) and ATEX 1999/92/EC (137) Directives, which became mandatory on 1<sup>st</sup> July 2003, Penny & Giles ICS Hydro-Pneumatic series of products have been assessed against the relevant parts of the following standards:

1. The Penny & Giles ICS Hydro-Pneumatic series of products are potentiometers and as such are classed as 'Simple Apparatus' according to the definition in paragraph 3.5.4(a) of BS EN 60079-14:2008.
2. 'Simple Apparatus' is not certified, but may be used as part of an intrinsically safe circuit providing it is used with a suitable interface of associated apparatus (e.g. a safety barrier).
3. The ICS Hydro-Pneumatic products also comply with the more onerous requirements for 'simple apparatus' defined in paragraph 5.7(a) of BS EN60079-11:2012. This definition requires consideration of further aspects, as discussed below:
  - 1) The products do not achieve safety by the inclusion of current and/or voltage limiting devices.
  - 2) The products do not contain any means of increasing the available voltage or current.
  - 3) Penny & Giles have carried out tests to ensure that the insulation between any of the externally available connections of the ICS products, and any externally accessible metal component of the body of the product will withstand 500Vrms or 707Vdc without breakdown.

Note that in cases of the ICS Hydro-Pneumatic series of products, the potentiometer tracks are assumed to be inaccessible as they are enclosed within the customer's cylinder. See section 5) below.

- 4) The ICS products have external accessible plastic components. When these products are used in hazardous areas, precautions must be applied to ensure that they are not rubbed, placed in the path of a fast moving dust flow or subjected to any other conditions that may lead to the build up of a static charge.

The external metal cases of the ICS products are made from an aluminium alloy with a content by mass of no more than 7.5% in total of magnesium, titanium and zirconium. Care should be taken to ensure that the case will not be subjected to impact, friction or any other condition which could lead to the production of sparks (see, for example, the requirements stated in 4.3.3 of BS EN60079-26:2007).

- 5) Provided power dissipation in the ICS products is limited to no more than 1W, then the products will satisfy the T4 temperature classification of Group II apparatus at an ambient temperature 80°C. Penny & Giles may be able to assist where use outside of these limitations is required.

ICS products may be required to operate in hydraulic oils at temperatures exceeding 80°C. However, the potentiometer tracks will normally be wholly immersed in the hydraulic oil inside the customer's cylinder. Higher temperatures may be permissible because the oil will limit the temperature rise of the potentiometer tracks and also prevent direct contact between the potentiometer tracks and atmospheric gasses. It is the responsibility of the equipment design authority to seek advice regarding a specific application from an appropriate approvals body.

- 6) Where ICS Hydro-Pneumatic products are to be located where Category 1G and M1 equipment is normally required, it is the responsibility of the system design authority to ensure that the apparatus shall also comply with the additional requirements of BS EN60079-0:2012 or BS EN50303:2000 as applicable. Penny & Giles will assist with the provision of further information should this be required.

Where 'simple apparatus' forms part of an apparatus containing other electric circuits, then the combination of apparatus shall be considered as a whole. 'Simple apparatus' is required to be clearly identified when it is installed and it is the responsibility of the system design authority to obtain, where necessary, certification of any system in which the ICS products may be used. The requirements specified in 4) above may require special conditions of installation or use to be detailed in the system certificate.



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