

**Explosive atmospheres –
Part 28: Protection of equipment and transmission
systems using optical radiation**

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

The text of this interpretation sheet is based on the following documents:

ISH	Report on voting
31/1102/ISH	31/1114/RVD

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

IEC 60079-28:2006 (1st edition) Explosive atmospheres – Protection of equipment and transmission systems using optical radiation

Following decision No 12 of the TC 31 meeting in Melbourne in 2011, the issuing of an Interpretation Sheet for IEC 60079-28:2006 (1st edition) was requested, in order to clarify the scope of the existing standard.

Question

Does the scope of this standard cover

- 1) non-array divergent LEDs;
- 2) luminaires;
- 3) optical radiation sources for Mb, Gb or Gc applications which comply with Class 1 limits in accordance with IEC 60825-1;
- 4) single or multiple optical fibre cables not part of optical fibre equipment; or
- 5) enclosed equipment involving an enclosure that fully contains the optical radiation and that complies with a suitable type of protection?

Answer

This standard applies to optical fibre equipment and optical equipment, including LED and laser equipment, with the exception of the equipment detailed below:

- 1) Non-array divergent LEDs used for example to show equipment status or backlight function.
- 2) All luminaires (fixed, portable or transportable), hand lights and caplights (other than for Group I) intended to be supplied by mains (with or without galvanic isolation) or powered by batteries
 - with continuous divergent light sources (for all EPLs);
 - with LED light sources (for EPL Gc only).

- 3) Optical radiation sources for Mb, Gb or Gc applications which comply with Class 1 limits in accordance with IEC 60825-1.
- 4) Single or multiple optical fibre cables not part of optical fibre equipment if the cables
 - comply with the relevant industrial standards, along with additional protective means, e.g. robust cabling, conduit or raceway (for Gb, Mb or Gc);
 - comply with the relevant industrial standards (for Gc).
- 5) Enclosed equipment involving an enclosure that fully contains the optical radiation and that complies with a suitable type of protection as required by the involved EPL, with the enclosure complying with one of the following conditions:
 - an enclosure for which an ignition due to optical radiation in combination with absorbers inside the enclosure would be acceptable (such as flameproof "d" enclosures), or
 - an enclosure for which protection regarding ingress of an explosive atmosphere is provided, such as pressurized "p" enclosures, restricted breathing "nR" enclosure", or
 - an enclosure for which protection regarding ingress of absorbers is provided (such as IP 6X enclosures) and where no internal absorbers are to be expected.

NOTE For these scope exclusions it is anticipated that the enclosures are not opened in the explosive atmosphere, so that ingress is protected.

WITHDRAWN

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<https://standards.iteh.ai/catalog/standards/iec/aaa825ad-6551-4f92-abc3-98d437193d81/iec-60079-28-2006-ish1-2014>