



# Certificate of Compliance

**Certificate:** 2557737 (104031\_0\_000)

**Master Contract:** 182407

**Project:** 70039221

**Date Issued:** 2015-09-22

**Issued to:** Hummel AG  
Lise-Meitner-Strasse 2  
Denzlingen, 79211  
GERMANY  
Attention: Klaus Gehri

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



**Issued by:** *Thong Tong*  
Thong Tong

## **PRODUCTS**

CLASS - C441805 - CABLE-Hardware - For Hazardous Locations

CLASS - C441885 - CABLE-Hardware-For Hazardous Locations-Certified to U.S. Standards

Ex de IIC Gb

Ex ta IIIC Da IP66/68

Class I, Div 2, Groups A, B, C, D; Class II, Div 1 or 2, Groups E, F and G; Encl Type 4, 4X and 6

- Cable gland connectors, for use with armored cables, series type EXIOS 20-1, type EXIOS 20-2, type EXIOS 20-3, type EXIOS 25, type EXIOS 32, type EXIOS 40, type EXIOS 50, type EXIOS 63 and type EXIOS 75, and series type EXIOS-MZ 20-1, type EXIOS-MZ 20-2, type EXIOS-MZ 20-3, type EXIOS-MZ 25, type EXIOS-MZ 32, type EXIOS 40-MZ, type EXIOS 50-MZ, type EXIOS 63-MZ and type EXIOS 75-MZ. IP 66 and IP68.

## **Notes:**

1. Permitted temperature range of the cable glands is -60°C to +105°C.
2. The ambient temperature of electrical equipment is usually limited to -20°C to +40°C. The maximum ambient temperature permitted for these cable glands may be exceeded or fall below as long as the permitted temperature range of the cable glands meets the range -60°C to +105°C
3. Cable glands can be used on enclosures of up to 20 bar reference pressure.
4. Cable Glands material may be of brass, nickel-plated brass or stainless steel.



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5. Cable Glands will be restricted to Hazardous Location Areas stated under the NEC/CEC Part I, Installation Code under WIRING METHOD.
- Cable gland connectors, series type EXIOS BARRIER for use with armored cable and series type EXIOS BARRIER and EXIOS A2F for use with non-armored cables. IP 66 and IP68.

Notes:

1. Permitted temperature range of the cable glands is -60°C to +85 °C for series type EXIOS BARRIER and -60°C to +105 °C for series type EXIOS A2F.
2. The ambient temperature of electrical equipment is usually limited to -20°C to +40°C. The maximum ambient temperature permitted for these cable glands may be exceeded or fall below as long as the permitted temperature range of the cable glands meets the range -60°C to +85 °C for series type EXIOS BARRIER and -60°C to +105 °C for series type EXIOS A2F.
3. Cable glands can be used on enclosures of up to 20 bar reference pressure.
4. Cable Glands material may be of brass, nickel-plated brass or stainless steel.
5. Cable Glands will be restricted to Hazardous Location Areas stated under the NEC/CEC Part I, Installation Code under WIRING METHOD.

**CLASS 4418 85 - CABLE - Hardware - For Hazardous Locations – US Requirements**

Class I, Zone 1, AEx de IIC Gb

Zone 20, AEx ta IIIC, T125°C; Da

Class I, Div 2, Groups A, B, C, D; Class II, Div 1 or 2, Groups E, F and G; Encl Type 4, 4X and 6

- Cable gland connectors, for use with armored cables, series type EXIOS 20-1, type EXIOS 20-2, type EXIOS 20-3, type EXIOS 25, type EXIOS 32, type EXIOS 40, type EXIOS 50, type EXIOS 63 and type EXIOS 75, and series type EXIOS-MZ 20-1, type EXIOS-MZ 20-2, type EXIOS-MZ 20-3, type EXIOS-MZ 25, type EXIOS-MZ 32, type EXIOS 40-MZ, type EXIOS 50-MZ, type EXIOS 63-MZ and type EXIOS 75-MZ. IP 66 and IP68.

Notes:

1. Permitted temperature range of the cable glands is -60°C to +105°C.
  2. The ambient temperature of electrical equipment is usually limited to -20°C to +40°C. The maximum ambient temperature permitted for these cable glands may be exceeded or fall below as long as the permitted temperature range of the cable glands meets the range -60°C to +105°C
  3. Cable glands can be used on enclosures of up to 20 bar reference pressure.
  4. Cable Glands material may be of brass, nickel-plated brass or stainless steel.
  5. Cable Glands will be restricted to Hazardous Location Areas stated under the NEC/CEC Part I, Installation Code under WIRING METHOD.
- Cable gland connectors, series type EXIOS BARRIER for use with armored cable and series type EXIOS BARRIER and EXIOS A2F for use with non-armored cables. IP 66 and IP68.

Notes:

1. Permitted temperature range of the cable glands is -60°C to +85 °C for series type EXIOS BARRIER and -60°C to +105 °C for series type EXIOS A2F.



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2. The ambient temperature of electrical equipment is usually limited to -20°C to +40°C. The maximum ambient temperature permitted for these cable glands may be exceeded or fall below as long as the permitted temperature range of the cable glands meets the range -60°C to +85 °C for series type EXIOS BARRIER and -60°C to +105 °C for series type EXIOS A2F.
3. Cable glands can be used on enclosures of up to 20 bar reference pressure.
4. Cable Glands material may be of brass, nickel-plated brass or stainless steel.
5. Cable Glands will be restricted to Hazardous Location Areas stated under the NEC/CEC Part I, Installation Code under WIRING METHOD.

### **APPLICABLE REQUIREMENTS**

CSA Std. C22.2 No. 0-10 (R2015)	- General Requirements
CAN/CSA-C22.2 No 18.3-12	- Outlet Boxes, Conduit Boxes, and Fittings
CAN/CSA-C22.2 No.174-M1984 (R 2012)	- Cables and Cable Glands for Use in Hazardous Locations
CAN/CSA-C22.2 No.94-M91 (R2011)	- Special Purpose Enclosures
CSA - C22.2 No. 213-M1987 (R 2013)	- Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CSA - C22.2 No. 25-1966 (R 2014)	- Enclosures for Use in Class II, Groups E, F and G Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:11	- Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
CAN/CSA-C22.2 No. 60079-1:11	- Explosive atmospheres — Part 1: Equipment protection by Flameproof enclosures “d”
CAN/CSA-C22.2 No. 60079-7:12	- Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
CAN/CSA-C22.2 No. 60079-31:12	- Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
ANSI/UL 514B, Edition 6	- Conduit, Tubing and Cable Fittings
UL 2225, 4nd Ed.,	- Cables and Cable-Fittings For Use In Hazardous (Classified) Locations
ANSI/ISA 12.12.01:2013	- Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2
UL Std No. 1203 (6th Edition)	- Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
ANSI/UL 50 Edition 12	- Enclosures for Electrical Equipment
ANSI/UL 60079-0 (6th Edition 2013)	- Explosive Atmospheres – Part 0: Equipment - General Requirements
ANSI/UL 60079-1 (6th Ed. 2009)(R2013)	- Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”
ANSI/UL 60079-7:2008(R2013)	- Electrical Apparatus for Explosive Gas Atmospheres - Part 7: increased safety "e"
ANSI/UL 60079-31:2015	- Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

### **MARKINGS**



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The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

**Nameplate adhesive label material approval information:**

Permanently Die Stamped, etched or rolled stamped on each Body of the Gland:

- Manufacturer name or trade mark
- Catalogue number designation (provided on packaging or on the product)
- Hazardous Location designation (may be optionally marked with the addition of Class I, Zone 1, Groups IIC, IIB, IIA)
- Type
- Trade size
- CSA Monogram (provided on packaging or on the product)
- CSA12.2557737X (provided on packaging or on the product)

- Note:**
1. Marking of cable-sealing rings: The clamp is stated on the cable gland, packaging and in the instructions. Depending on the type of gland only one size of sealing ring is used.
  2. Informative markings: Marking of size and type of threads plus additional markings for cable entries.
  3. Installation instructions sheet provided in each packaged unit.

**Special conditions of use**

**A. EXIOS standard and EXIOS-MZ Range**

1. Tests of the clamping connection (tensile tests) were done applying 25 % of the values required by Appendix A3 of CSA 60079-0; therefore, a X-marking is provided.  
Note: This is only for cables which are unarmored. For armored cables the pull out test was done on 100% of the products.
2. The cable glands shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -60°C to +85 °C/ 105°C.
3. The entry component threads will be suitably sealed using a method that is applicable to the associated equipment to which the gland will be attached. This will be in accordance with the relevant installation code of practice and will ensure that any ingress protection requirements are maintained.



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4. When glands without sealing rings are installed in an explosive dust atmosphere, they shall only be fitted into enclosures that provide cable entries with a minimum of 5 fully engaged threads, this is in accordance with clause 5.1.1 of CSA/UL 60079-31.
5. The cable glands type EXIOS have to be used together with permanent installations of cables and wires, unless the cables and wires in question are reinforced.
6. The cable glands type EXIOS-MZ are not needed to be used together with permanent installations.
7. Cable glands Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G hazardous locations when provided with NPT or a minimum 10 full ISO metric threads.
8. Cable glands Class I, Division 2, Groups C and D; Class II, Division 2, Groups F and G hazardous locations when provided with a minimum of 5 full ISO metric threads.

#### B. EXIOS BARRIER and EXIOS A2F

- i. The cable glands shall not be used in enclosures where the temperature, at the point of mounting, is outside the range -60°C to +85 °C for series type EXIOS BARRIER and -60°C to +105 °C for series type EXIOS A2F.
- ii. The entry component threads will be suitably sealed using a method that is applicable to the associated equipment to which the gland will be attached. This will be in accordance with the relevant installation code of practice and will ensure that any ingress protection requirements are maintained.
- iii. When glands without sealing rings are installed in an explosive dust atmosphere, they shall only be fitted into enclosures that provide cable entries with a minimum of 5 fully engaged threads, this is in accordance with clause 5.1.1 of CSA/IEC 60079-31:2008.

#### C. EXIOS A2F

- i. The cable glands shall be tested with a reduced tensile force (25%) in accordance with Clause A.3.1 of IEC 60079-0 and may only be used for fixed installation. The user shall ensure adequate clamping of the cable.
- ii. The cable glands are provided with a sealing ring with a minimum axial sealing height of 5 mm.
- iii. The installer shall ensure that, taking into account the presence of undercut, at least five full threads are in engagement when the cable glands are assembled onto the flameproof enclosure.



## *Supplement to Certificate of Compliance*

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*The products listed, including the latest revision described below,  
are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
70039221	2015-09-22	Update Report 2557737. Quote based on assuming no additional tests would be required by any of the latest edition of the applicable standards.
2645104	2013-08-12	Update to Report 2557737 to include new model EXIOS-MZ.
2603166	2013-05-03	Update 2557737 Report to include cCSAus certification of EXIOS BARRIER and EXIOS A2F cable glands.
2602033	2013-04-24	Update to Report 2557737, to include Div. 2 Certification
2557737	2013-01-16	CSA c/us certification of cable glands for Class I, Zone 1, Ex/AEx d IIC IP68.