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## Certificate of Conformity to IEC 61508 Safety Integrity Level (SIL) 2

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### ***Functional Safety of Safety-Related Programmable Electronic Systems***

The **Itron GmbH Karlsruhe Germany, INTELIS FGBB02 Series Gas Meters** has been assessed and is considered capable for use in a high demand Safety Function up to SIL 2 with regards to Functional Safety Management, systematic and random failure rates. The assessment was based on the assumptions, data provided and recommendations given in:

- **Technis report No. T872, Issue 1.2;**
- **ESC Ltd Report: G124\_FSM\_Pt 1\_Itron (3.0);**
- **ESC Ltd Report: G124\_HW\_Pt 2\_Itron (3.0);**
- **ESC Ltd Report: G124\_SW\_Pt 3\_Itron (2.0).**

The product was assessed against the following failure modes:

- A spurious opening of the gas valve, following a closure;
- A partial moving of the valve, leading to inappropriate pressure for safe operation.

The system assessed comprises the following modules:

- Itron's INTELIS FGBB02 Series Gas Meters with defined circuit and parts list numbers and versions:
  - Interface Board: D2030441-AA;
  - Main Board: D2035748-AD.
- The over molding material is ECO 60 Shore A material, reference: A206726-AE.

The assessment was carried out to determine compliance with IEC 61508 with regards to:

- Random Hardware Failure (Predicted failure rate  $<2.0E-04$  per year);
- Architectural Constraint (Type B, SFF  $>90\%$ ,  $<99\%$ );
- Functional Safety Management and systematic requirements.

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Member of IEC61508 Maintenance Committee (TC 65/SC 65A/MT 61508-1-2)

Assessment Date: May 2018, valid to May 2020

Certificate: G124\_CT001 rev. 3

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