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## Letter of Conformity

To whom it may concern:

The PROFIsafe – Profile specifies safety measures to be implemented in safety-related communication peers that allow the exchange of safety-related data on the basis of a non safety-related communication protocol (black channel).

Main Results:

The PROFIsafe – Profile version 2.6MU1 [1] has been evaluated by TÜV SÜD with respect to the requirements of IEC 61508-2: 2010 [4] and IEC 61784-3: 2016/AMD1:2017 [5]. No deviations or contradictions have been found during the assessment.

In addition to the requirements given in the PROFIsafe – Profile, the development of safety components has to fulfil the requirements of the applicable product- respectively application standards, (e.g. IEC 61508, parts 1-4) for the required safety level.

The PROFIsafe – Profile [1] itself does not place any requirements on the development of the Hardware and Software of a particular device. The PROFIsafe - Profile supplementary [2] lists the minimum requirements for environmental stress and electromagnetic stress that shall be met by the hardware of the communication partners. These requirements might need modification as required by the particular application standards to be met.

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The calculation of residual errors is documented in [3]. PROFIsafe communication consumes less than 1% of the maximum PFH, respectively  $PFD_{avg}$ , for SIL3 in accordance to IEC 61508:2010 of the overall safety function, see [1], chapter 9.5.2. The probabilistic requirements in PROFIsafe version 2.6MU1 have not changed, so the calculations documented in [3] are still valid.

For use in wireless communication, additional requirements related to Security are defined in the PROFIsafe – Profile, see [1], chapter 9.8.


References:
<p>[1] PI Specification "PROFIsafe – Profile for Safety Technology on PROFIBUS and PROFINET", V2.6MU1, August 2018</p> <p>[2] PROFIsafe – Environmental Requirements related to PROFIsafe – Profile for Safety Technology on PROFIBUS DP and PROFINET IO (IEC 61784-3-3)</p> <p>[3] Residual Error Considerations Related to PROFIsafe V2.6.1</p>
<p>[4] IEC 61508-2: 2010 ("Functional Safety of Electrical / Electronic / Programmable Electronic Systems - Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems")</p> <p>[5] IEC 61784-3: 2016/AMD1:2017 ("Industrial communication networks – Profiles - Part 3: Functional safety fieldbuses – General rules and profile definitions")</p>
<p>[6] EVALUATION REPORT PROFIsafe – Profile for Safety Technology on PROFIBUS DP and PROFINET IO, Revision 2.1, 2018-09-04, TÜV SÜD Rail GmbH</p>

Munich, October 29<sup>th</sup>, 2018

Kind regards

  
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