DECLARATION OF CONFORMITY

KROHNE Messtechnik GmbH, Ludwig-Krohne-Str. 5, D-47058 Duisburg Germany

We declare herewith under sole responsibility:
Wir erklären hiermit unter alleiniger Verantwortung:
Nous déclarons sous notre seule responsabilité:

H250/M40/K1-SK, H250/M40/K2-SK

variable area flowmeters for measuring flow rates of gases and liquids are suitable for the use in a safety-related application up to SIL 2 according to IEC 61508-2:2010 provided that the safety instructions are observed (see safety manual). IEC 61508-3 is not part of this declaration because there is no software implemented in these devices. The assessment of the safety critical and dangerous random errors lead to the following parameters:


débitmètres à section variable pour mesurer les débits de gaz ou liquides peuvent être utilisés pour des applications de sécurité fonctionnelle jusqu'à SIL 2 selon IEC 61508-2:2010 en respectant les consignes de sécurité spécifiées dans le Safety Manual. La norme IEC 61508-3 n’est pas applicable à cette déclaration sachant qu’il n’y a aucun logiciel intégré dans ces appareils. L’évaluation des défaillances aléatoires et dangereuses pour la sécurité donne les valeurs suivantes:

Type A device | Hardware Fault Tolerance HFT=0 | Low demand mode

H250/M40/K1(2)-SK with 1(2) fail-safe limit switches SJ3,5-SN/S1N (MIN/MAX)

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λα0</th>
<th>λα1</th>
<th>λα2</th>
<th>λα3</th>
<th>MTBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>50 FIT</td>
<td>10 FIT</td>
<td>38 FIT</td>
<td>487 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

T[Proof] | 1 year | 5 years | 10 years
PFD_{avg} | 1.82E-04 | 3.46E-04 | 3.41E-04 |

H250/M40/K1(2)-SK with 1(2) standard limit switches SC3,5-N0 (MIN/MAX)

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λα0</th>
<th>λα1</th>
<th>λα2</th>
<th>λα3</th>
<th>MTBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>81 FIT</td>
<td>10 FIT</td>
<td>77 FIT</td>
<td>376 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

T[Proof] | 1 year | 5 years | 10 years
PFD_{avg} | 3.68E-04 | 7.02E-04 | 1.70E-03 |

Reference: exida FMEDA report "KROHNE 10/10020361 R010 Version 3 [V5, V1]"

*Note: SIL AC (Architectural Constraints) means that the element meets the hardware architectural constraints up to SIL 2 at HFT=0 or SIL 3 at HFT=1 for low demand mode applications to route 2H, but does not imply all related IEC 61508 requirements are fulfilled.

Duisburg, 26/08/2019

Dr. Michael Dellmann
Managing Director

KROHNE Messtechnik GmbH, Ludwig-Krohne-Str. 5, 47058 Duisburg, Germany, Tel.: +49 203 301 5, Fax: +49 203 301 10 386, www.krohne.com
Sitz der Gesellschaft: Duisburg HRB 6548
Geschäftsführer: Dr. Michael Dellmann, Lars Lemke, Ingo Wöld
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Wir erklären hiermit unter alleiniger Verantwortung:
Nous déclarons sous notre seule responsabilité:

H250/M40/K1-SK , H250/M40/K2-SK
WITH REMOVABLE PROCESS CONNECTIONS, UNION NUTS AND O-RINGS

variable area flowmeters for measuring flow rates of gases and liquids are suitable for the use in a safety-related application up to SIL 2 according IEC 61508-2:2010 provided that the safety instructions are observed (see safety manual). IEC 61508-3 is not part of this declaration because there is no software implemented in these devices. The assessment of the safety critical and dangerous random errors lead to the following parameters:


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Type A device | Hardware Fault Tolerance HFT=0 | Low demand mode

H250/M40/K1(2)-SK with 1(2) fail-safe limit switches SJ3,5-SN/S1N (MIN/MAX), removable connections

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λSD</th>
<th>λSU</th>
<th>λCD</th>
<th>λDU</th>
<th>MTBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>50 FIT</td>
<td>10 FIT</td>
<td>63 FIT</td>
<td>341 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

T[Proof] 1 year 5 years 10 years
PFDavv 3.01E-04 5.74E-04 1.39E-03

H250/M40/K1(2)-SK with 1(2) standard limit switches SC3,5-N0 (MIN/MAX), removable connections

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λSD</th>
<th>λSU</th>
<th>λCD</th>
<th>λDU</th>
<th>MTBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>81 FIT</td>
<td>10 FIT</td>
<td>102 FIT</td>
<td>283 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

T[Proof] 1 year 5 years 10 years
PFDavv 4.87E-04 9.30E-04 2.26E-03

Reference: exida FMEDA report "KROHNE 10/100203SL R010 Version 3" [V7, V3]

*Note: SIL AC (Architectural Constraints) means that the element meets the hardware architectural constraints up to SIL 2 at HFT=0 or SIL 3 at HFT=1 for low demand mode applications to route 2H, but does not imply all related IEC 61508 requirements are fulfilled.

Duisburg, 26/06/2019

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Sitz der Gesellschaft: Duisburg HRB 6348
Geschäftsführer: Dr. Michael Dellmann, Lara Lemke, Ingo Wald
DECLARATION OF CONFORMITY
KONFORMITÄTSERKLÄRUNG

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H250/M40/HT/K1-SK , H250/M40/HT/K2-SK
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Type A device | Hardware Fault Tolerance HFT=0 | Low demand mode

H250/M40/HT/K1(2)-SK with 1(2) fail-safe limit switches SJ3,5-SN/S1N (MIN/MAX)

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λSD</th>
<th>λSU</th>
<th>λC</th>
<th>λDU</th>
<th>MTBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>50 FIT</td>
<td>10 FIT</td>
<td>58 FIT</td>
<td>432 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

T[Proof] 1 year 5 years 10 years
PFD₉₅ₑ⁻⁰₄ 2.77E-04 5.29E-04 1.28E-03

H250/M40/HT/K1(2)-SK with 1(2) standard limit switches SC3,5-N0 (MIN/MAX)

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λSD</th>
<th>λSU</th>
<th>λC</th>
<th>λDU</th>
<th>MTBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>81 FIT</td>
<td>10 FIT</td>
<td>97 FIT</td>
<td>342 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

T[Proof] 1 year 5 years 10 years
PFD₉₅ₑ⁻⁰₄ 4.63E-04 8.84E-04 2.15E-03

Reference: exida FMEDA report "KROHNE 10/10020361 R010 Version 3" [V6, V2]

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Duisburg, 26/08/2019

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H250/M40/HT/K1-SK, H250/M40/HT/K2-SK

with removable process connections, union nuts and O-rings

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Typ A device | Hardware Fault Tolerance HFT=0 | Low demand mode

H250/M40/HT/K1(2)-SK with 1(2) fail-safe limit switches SJ3.5-SN/S1N (MIN/MAX), removable connections

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λSD</th>
<th>λSU</th>
<th>λDD</th>
<th>λDU</th>
<th>MTRBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>50 FIT</td>
<td>10 FIT</td>
<td>84 FIT</td>
<td>313 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T[Proof]</th>
<th>1 year</th>
<th>5 years</th>
<th>10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFD_{avg}</td>
<td>4.01E-04</td>
<td>7.66E-04</td>
<td>1.88E-03</td>
</tr>
</tbody>
</table>

H250/M40/HT/K1(2)-SK with 1(2) standard limit switches SC3.5-N0 (MIN/MAX), removable connections

<table>
<thead>
<tr>
<th>Environmental profile</th>
<th>λSD</th>
<th>λSU</th>
<th>λDD</th>
<th>λDU</th>
<th>MTRBF</th>
<th>SIL AC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 3 (general field mounted, see manual)</td>
<td>0 FIT</td>
<td>81 FIT</td>
<td>10 FIT</td>
<td>122 FIT</td>
<td>263 years</td>
<td>SIL2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T[Proof]</th>
<th>1 year</th>
<th>5 years</th>
<th>10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFD_{avg}</td>
<td>5.83E-04</td>
<td>1.11E-03</td>
<td>2.70E-03</td>
</tr>
</tbody>
</table>


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Duisburg, 20/06/2019

Dr. Michael Delimann
Managing Director

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Geschäftsführer: Dr. Michael Delimann, Lars Lomike, Ingo Wald