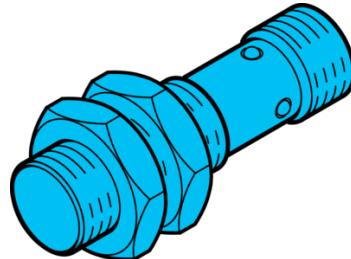


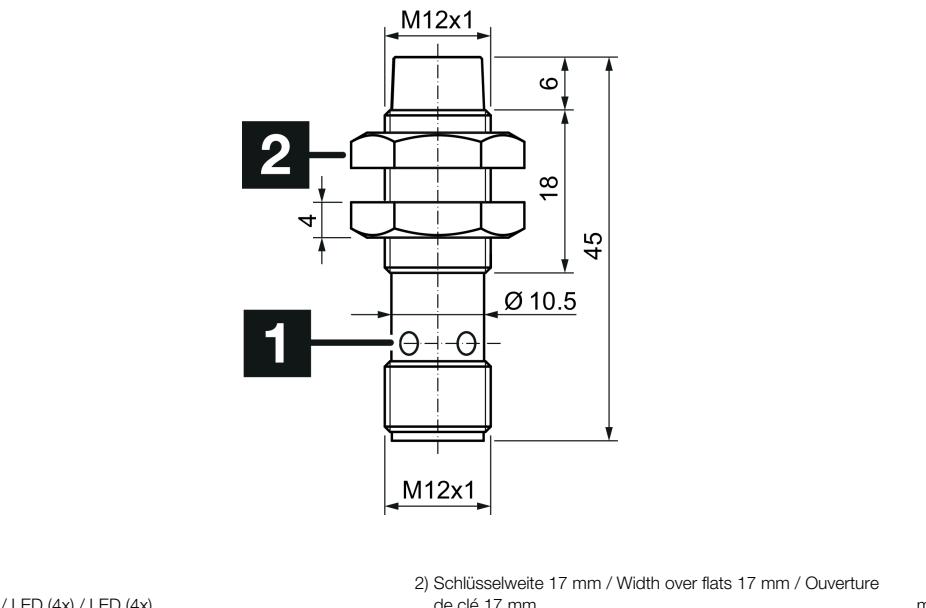
# DCCK 12 M 04 NOK-IBSL

Induktiver Näherungssensor  
Inductive proximity sensor  
DéTECTEUR de proximité inductif



di-soric GmbH & Co. KG  
Steinbeisstraße 6  
DE-73660 Urbach  
Germany  
Tel: +49 (0) 7181/9879-0  
info@di-soric.com · www.di-soric.com

206645



1) LED (4x) / LED (4x) / LED (4x)

2) Schlüsselweite 17 mm / Width over flats 17 mm / Ouverture de clé 17 mm

BN : braun / brown / marron

BU : blau / blue / bleu

WH: weiß / white / blanc

+20°C, 24 V DC

| Technische Daten            | Technical data                       | Caractéristiques techniques            |  |
|-----------------------------|--------------------------------------|--|--|
| Einbauart                   | Installation type                    | Type de montage                        | nicht bündig / non-flush / Non affleurant  |
| Schaltabstand               | Switching distance                   | Distance de commutation                | 4 mm   |
| Betriebsspannung            | Service voltage                      | Tension de service                     | 10 ... 30 V DC   |
| Schaltausgang               | Switching output                     | Sortie de commutation                  | npn, 200 mA, NC  |
| Auswertung                  | Evaluation                           | Évaluation                             | digital / digital / Numérique  |
| Umgebungstemperatur Betrieb | Ambient temperature during operation | Température ambiante de fonctionnement | -25 ... +70 °C   |
| Schutzart                   | Protection type                      | Indice de protection                   | IP 67  |
| Anschluss                   | Connection                           | Raccordement                           | Stecker, M12, 4-polig, A-kodiert / Connector, M12, 4-pin, A-coded / Connecteur, M12, 4 pôles, Codage A |

Stand 27.02.24, Änderungen vorbehalten

As of 02/27/24, subject to change

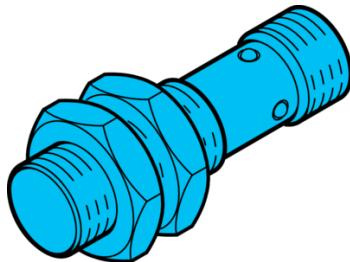
Etat 27.02.24, sous réserve de modifications



| Sicherheitshinweise   | Safety instructions  | Consignes de sécurité  |
|---|--|--|
| <b>Allgemeiner Sicherheitshinweis</b><br>WARUNG! Kein Sicherheitsbauteil gemäß 2006/42/EG und EN 61496-1/-2! Darf nicht zum Personenschutz eingesetzt werden! Nichtbeachtung kann zu Tod oder schwersten Verletzungen führen! Nur bestimmungsgemäß verwenden! | <b>General safety notice</b><br>WARNING! Not a safety component pursuant to 2006/42/EG and EN 61496-1/-2! May not be used for personal protection! Non-compliance can lead to death or serious injuries! Only use as directed! | <b>Consigne de sécurité générale</b><br>AVERTISSEMENT ! Ce produit n'est pas un composant de sécurité au sens des réglementations 2006/42/CE et NF EN 61496-1/-2 ! Ne pas l'utiliser pour la protection des personnes ! Le non-respect de cette consigne peut entraîner la mort ou des blessures graves ! N'utiliser le produit que selon son utilisation conforme ! |

# DCCK 12 M 04 NOK-IBSL

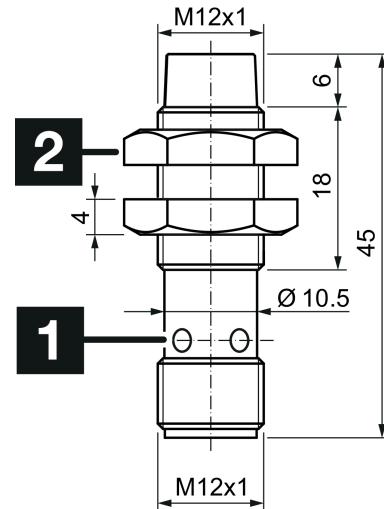
电感式接近传感器



di-soric GmbH & Co. KG  
Steinbeisstraße 6  
DE-73660 Urbach  
Germany  
Tel: +49 (0) 7181/9879-0  
info@di-soric.com · www.di-soric.com



206645



1) LED (4x)

2) 开口度 17 mm

mm

BN : 棕色  
BU : 蓝色

WH: 白色

+20°C, 24 V DC

非齐平

4 mm

10 ... 30 V DC

npn, 200 mA, NC

数量

-25 ... +70 °C

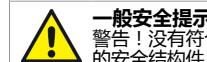
IP 67

连接

版本 24.02.27 , 保留变更权



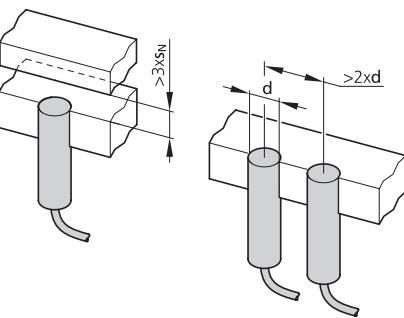
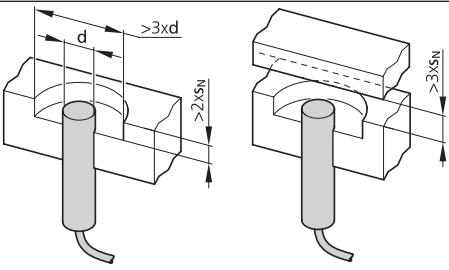
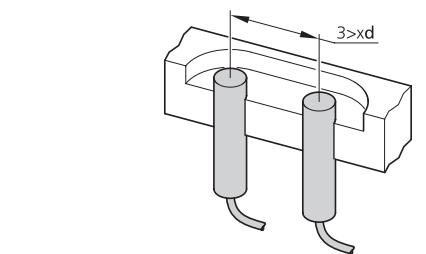
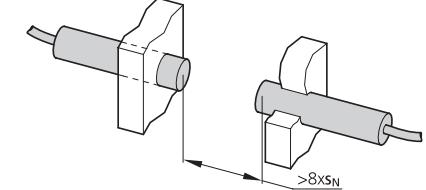
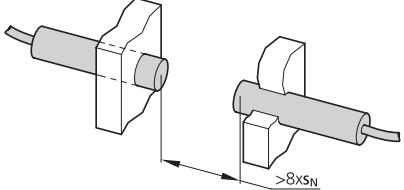
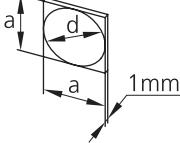
## 安全提示



### 一般安全提示

警告！没有符合 2006/42/EU 和 EN 61496-1/-2 标准的安全结构件！不得用于人身安全保护！不遵守规定会导致死亡或重伤危险！仅按规定使用！

| Induktiver Näherungssensor  | Inductive Proximity Switch  | Détecteur inductif de proximité   |
|---|---|---|
| Einbauhinweise ⑩  | Mounting recommendations ⑪  | Recommendations de montage ⑪  |
| <b>Maximale Einschraublängen</b><br>Durch die in DIN 13 festgelegten Gewindemaße und Toleranzen ergeben sich folgende maximale Einschraublängen:<br>M4 5mm<br>M5 5mm<br>M8 8mm<br>M12 8mm<br>M18 8mm<br>M30 16mm<br>Längere Gewinde sind entsprechend freizubohren.   | <b>Maximum screw-in length</b><br>Due to the thread dimensions and tolerances stipulated in DIN 13, the following maximum screw-in lengths are valid:<br>M4 5mm<br>M5 5mm<br>M8 8mm<br>M12 8mm<br>M18 8mm<br>M30 16mm<br>Clearance drilling is required for longer threads.   | <b>Longueur noyable maximale</b><br>Selon la norme DIN 13, en fonction du filetage, les longueurs maximales d'implantation sont :<br>M4 5 mm<br>M5 5 mm<br>M8 8 mm<br>M12 8 mm<br>M18 8 mm<br>M30 16 mm<br>Un lamage devra être prévu pour les gros filets.   |
| <b>Leitungsführung</b><br>Um eine sichere und zuverlässige Funktion zu gewährleisten, muss Folgendes beachtet werden:<br><ul style="list-style-type: none"> <li>■ Anschlussleitungen der Näherungssensoren nicht zusammen mit Leitungen höherer Spannungen oder mit Anschlussleitungen hoher induktiver Lasten (Schütze, Ventile usw.) verlegen. Sicherheitsabstände einhalten.</li> <li>■ Auf der Versorgungsspannung dürfen keine Spannungsspitzen auftreten. Nicht geregelte Spannungsversorgungen mit einem Kondensator puffern.</li> </ul> | <b>Cable routing:</b><br>To ensure a secure and reliable function, the following must be taken into account: <ul style="list-style-type: none"> <li>■ Do not route the connection cables of the proximity switches together with higher voltage cables or with connection cables of higher inductive loads (contactors, valves, etc). maintain safety distances.</li> <li>■ No peaks may occur in the power supply. Use a capacitor to buffer uncontrolled power supplies.</li> </ul> | <b>Câblage</b><br>Afin d'assurer un fonctionnement fiable et sécurisé, respecter les points suivants: <ul style="list-style-type: none"> <li>■ Ne pas faire cheminer les câbles des détecteurs de proximité avec des câbles de tension supérieure ou des câbles ayant une charge inductive plus élevée (ex. : contacteurs...) et maintenir une distance de sécurité.</li> <li>■ L'alimentation doit être stable, sans pic de tension. Utiliser un condensateur comme réservoir d'alimentation.</li> </ul> |
| <b>Anzugsmomente</b><br>Durch zu hohe Anzugsmomente der Muttern können Näherungssensoren beschädigt werden.<br>Die maximal zulässige Anzugsmomente sind zu beachten:<br>M4 0,8 Nm<br>M5 1,5 Nm<br>M8 4 Nm<br>M12 10 Nm<br>M18 25 Nm<br>M30 35 Nm  | <b>Tightening torque</b><br>Proximity switches can be damaged by an excessive tightening torque of the nuts. Please note the maximum permissible tightening torques:<br>M4 0,8 Nm<br>M5 1,5 Nm<br>M8 4 Nm<br>M12 10 Nm<br>M18 25 Nm<br>M30 35 Nm  | <b>Couple de serrage</b><br>Les détecteurs de proximité peuvent être endommagés en cas de pression trop forte exercée sur les écrous.<br>Il faut tenir compte des couples de serrage maxi. suivants :<br>M4 0,8 Nm<br>M5 1,5 Nm<br>M8 4 Nm<br>M12 10 Nm<br>M18 25 Nm<br>M30 35 Nm   |

| Einbauhinweise ⑦  |      | Mounting recommendations ⑦   |      | Recommandations de montage ⑦   |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
|---|------|--|------|--|------|-------------|-----|---------|------|-------|------|--------|------|-----------|------|-----------|------|-----------|------|--------|------|--------|------|--------|------|-----------|-----|-----------------|-----|------|-----|--|--|-------------|-----|-------------|-----|-------------|-----|---------|------|-------|------|--------|------|-----------|------|-----------|------|-----------|------|--------|------|--------|------|--------|------|-----------|-----|-----------------|-----|------|-----|--|--|-------------|-----|-------------|-----|---------|------|--------|------|-----------|------|-----------|------|--------|------|--------|------|-----------|-----|------|-----|
| <b>Reduktionsfaktor in Abhängigkeit von:</b> <table> <tr><td>Stahl St 37</td><td>1,0</td><td>Steel St 37</td><td>1,0</td><td>Acier St 37</td><td>1,0</td></tr> <tr><td>Messing</td><td>0,35</td><td>Brass</td><td>0,35</td><td>Laiton</td><td>0,35</td></tr> <tr><td>Aluminium</td><td>0,35</td><td>Aluminium</td><td>0,35</td><td>Aluminium</td><td>0,35</td></tr> <tr><td>Kupfer</td><td>0,25</td><td>Copper</td><td>0,25</td><td>Cuivre</td><td>0,25</td></tr> <tr><td>Edelstahl</td><td>0,6</td><td>Stainless steel</td><td>0,6</td><td>Inox</td><td>0,6</td></tr> </table> |      | Stahl St 37  | 1,0  | Steel St 37  | 1,0  | Acier St 37 | 1,0 | Messing | 0,35 | Brass | 0,35 | Laiton | 0,35 | Aluminium | 0,35 | Aluminium | 0,35 | Aluminium | 0,35 | Kupfer | 0,25 | Copper | 0,25 | Cuivre | 0,25 | Edelstahl | 0,6 | Stainless steel | 0,6 | Inox | 0,6 | <b>Reduction factor depending on:</b> <table> <tr><td>Stahl St 37</td><td>1,0</td><td>Steel St 37</td><td>1,0</td><td>Acier St 37</td><td>1,0</td></tr> <tr><td>Messing</td><td>0,35</td><td>Brass</td><td>0,35</td><td>Laiton</td><td>0,35</td></tr> <tr><td>Aluminium</td><td>0,35</td><td>Aluminium</td><td>0,35</td><td>Aluminium</td><td>0,35</td></tr> <tr><td>Kupfer</td><td>0,25</td><td>Copper</td><td>0,25</td><td>Cuivre</td><td>0,25</td></tr> <tr><td>Edelstahl</td><td>0,6</td><td>Stainless steel</td><td>0,6</td><td>Inox</td><td>0,6</td></tr> </table> |  | Stahl St 37 | 1,0 | Steel St 37 | 1,0 | Acier St 37 | 1,0 | Messing | 0,35 | Brass | 0,35 | Laiton | 0,35 | Aluminium | 0,35 | Aluminium | 0,35 | Aluminium | 0,35 | Kupfer | 0,25 | Copper | 0,25 | Cuivre | 0,25 | Edelstahl | 0,6 | Stainless steel | 0,6 | Inox | 0,6 | <b>Les facteurs de réduction:</b> <table> <tr><td>Stahl St 37</td><td>1,0</td><td>Acier St 37</td><td>1,0</td></tr> <tr><td>Messing</td><td>0,35</td><td>Laiton</td><td>0,35</td></tr> <tr><td>Aluminium</td><td>0,35</td><td>Aluminium</td><td>0,35</td></tr> <tr><td>Kupfer</td><td>0,25</td><td>Cuivre</td><td>0,25</td></tr> <tr><td>Edelstahl</td><td>0,6</td><td>Inox</td><td>0,6</td></tr> </table> |  | Stahl St 37 | 1,0 | Acier St 37 | 1,0 | Messing | 0,35 | Laiton | 0,35 | Aluminium | 0,35 | Aluminium | 0,35 | Kupfer | 0,25 | Cuivre | 0,25 | Edelstahl | 0,6 | Inox | 0,6 |
| Stahl St 37   | 1,0  | Steel St 37  | 1,0  | Acier St 37  | 1,0  |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Messing   | 0,35 | Brass  | 0,35 | Laiton   | 0,35 |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Aluminium   | 0,35 | Aluminium  | 0,35 | Aluminium  | 0,35 |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Kupfer  | 0,25 | Copper   | 0,25 | Cuivre   | 0,25 |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Edelstahl   | 0,6  | Stainless steel  | 0,6  | Inox   | 0,6  |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Stahl St 37   | 1,0  | Steel St 37  | 1,0  | Acier St 37  | 1,0  |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Messing   | 0,35 | Brass  | 0,35 | Laiton   | 0,35 |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Aluminium   | 0,35 | Aluminium  | 0,35 | Aluminium  | 0,35 |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Kupfer  | 0,25 | Copper   | 0,25 | Cuivre   | 0,25 |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Edelstahl   | 0,6  | Stainless steel  | 0,6  | Inox   | 0,6  |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Stahl St 37   | 1,0  | Acier St 37  | 1,0  |  |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Messing   | 0,35 | Laiton   | 0,35 |  |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Aluminium   | 0,35 | Aluminium  | 0,35 |  |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Kupfer  | 0,25 | Cuivre   | 0,25 |  |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
| Edelstahl   | 0,6  | Inox   | 0,6  |  |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
|  <p><b>Bündiger Einbau (b)</b></p> <p>Bei bündigem Einbau bzw. bei Parallelmontage sind die Abstände der rechten Grafik einzuhalten!</p>  |      | <p><b>Flush mounting (b)</b></p> <p>In case of flush mounting or parallel mounting the following distances of the right drawing are to be observed!</p>                          |      | <p><b>Montage noyé (b)</b></p> <p>En cas de montage noyé ou parallèle, les distances du schéma à droite devront être respectées !</p>  |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
|  <p><b>Anreihung</b></p> <p>Um eine gegenseitige Beeinflussung zu vermeiden, muss zwischen den Näherungsschaltern ein Mindestabstand von <b>2xd</b> eingehalten werden.</p>   |      | <p><b>Mounting side by side</b></p> <p>To avoid mutual interaction, <b>2xd</b> minimum distance a must be maintained between the proximity switches.</p>                         |      | <p><b>Montage en parallèle</b></p> <p>Afin d'éviter les interférences, une distance minimale de juxtaposition doit être maintenue.</p>   |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
|  <p><b>Nichtbündiger Einbau (nb)</b></p> <p>Bei nicht bündigem Einbau bzw. bei Parallelmontage sind die Abstände der rechten Grafik einzuhalten!</p>   |      | <p><b>Non-flush mounting (nb)</b></p> <p>In case of non-flush mounting or parallel mounting the following distances of the right drawing are to be observed!</p>                 |      | <p><b>Montage non noyé (nb)</b></p> <p>En cas de montage non-noyé ou parallèle, les distances du schéma à droite devront être respectées !</p>                                     |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
|  <p><b>Anreihung</b></p> <p>Um eine gegenseitige Beeinflussung zu vermeiden, muss zwischen den Näherungsschaltern ein Mindestabstand von <b>3xd</b> eingehalten werden.</p>   |      | <p><b>Mounting side by side</b></p> <p>To avoid mutual interaction, a minimum distance <b>3xd</b> must be maintained between the proximity switches.</p>                         |      | <p><b>Montage en parallèle</b></p> <p>Afin d'éviter les interférences, une distance minimale de juxtaposition doit être maintenue.</p>   |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
|  <p><b>Gegenüberliegende Sensoren</b></p> <p>Bei sich gegenüberliegenden Sensoren muss der Abstand zwischen den aktiven Fächern mindestens <b>8xSn</b>, betragen.</p>   |      | <p><b>Opposite sensors</b></p> <p>For sensors positioned opposite the distance between the active zones must be at least 8 times the nominal sensing distance (<b>8 Sn</b>).</p> |      | <p><b>Détecteurs opposés</b></p> <p>Pour les détecteurs qui opposent leur face active, une distance minimale de 8 fois la portée nominale (<b>8xSn</b>) devra être respectée !</p> |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |
|  <p><b>Normmessplatten und Faktoren</b></p> <p><math>a = d = \text{Ø aktive Fläche}</math><br/>oder<br/><math>3xSn \text{ wenn } 3xS_n &gt; d</math></p>   |      | <p><b>Standard meas. plates and factors</b></p> <p><math>a = d = \text{Ø active area}</math><br/>or<br/><math>3xSn \text{ if } 3xS_n &gt; d</math></p>                           |      | <p><b>Cibles standard et facteurs de réduction</b></p> <p><math>a = d = \text{Ø zone active}</math><br/>ou<br/><math>3 \times 3 \times Sn \text{ si } S_n &gt; d</math></p>        |      |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |             |     |         |      |       |      |        |      |           |      |           |      |           |      |        |      |        |      |        |      |           |     |                 |     |      |     |  |  |             |     |             |     |         |      |        |      |           |      |           |      |        |      |        |      |           |     |      |     |