## WARNING
**IMPROPER INSTALLATION**
- Consult with local safety agencies and their requirements when designing a machine control link, interface, and all control elements that affect safety.
- Strictly adhere to all installation instructions.

Failure to comply with these instructions could result in death or serious injury.

## WARNING
**INCORRECT WIRING**
Incorrect wiring will damage units. Strictly adhere to all installation instructions.
Failure to comply with these instructions could result in death or serious injury.

### TABLE 1. GAPS SERIES INTERFACE DETAILS

<table>
<thead>
<tr>
<th>SUPPLY VOLTAGE</th>
<th>SUPPLY CURRENT</th>
<th>OUTPUT TYPE</th>
<th>OUTPUT CONDITION</th>
<th>CONNECTOR</th>
<th>CATALOG LISTING</th>
<th>PIN CONFIGURATION</th>
</tr>
</thead>
</table>
| 12 Vdc to 32 Vdc | 20 mA max. | Current sink | **Target near:** 4 mA ≤ Io ≤ 6 mA  
**Target far:** 12 mA ≤ Io ≤ 16 mA  
**Internal fault:** 9 mA ≤ Io ≤ 11 mA or Io < 1 mA | D38999/25YA98PN | LGXXD3AX-000 | Pin A: Supply excitation  
Pin B: Supply return  
Pin C: Output |
| | | | | D38999/25YA98PA | LGXXD3ABX-000 | Pin A: Supply excitation  
Pin B: Supply return  
Pin C: Output |
| | | | | EN2997Y10803MN | LGXXD3ACX-000 | Pin 1: Supply excitation  
Pin 2: Supply return  
Pin 3: Output |
| 12 Vdc to 32 Vdc | 20 mA max. | Open collector (normally closed) | **Target near:** Switch open, Io < 50 μA  
**Target far:** Switch close, Vo < 1 V @ 20 mA of Io | D38999/25YA98PN | LGXXD3BAX-000 | Pin A: Supply excitation  
Pin B: Supply return  
Pin C: Output |
| | | | | D38999/25YA98PA | LGXXD3BBX-000 | Pin A: Supply excitation  
Pin B: Supply return  
Pin C: Output |
| | | | | EN2997Y10803MN | LGXXD3BCX-000 | Pin 1: Supply excitation  
Pin 2: Supply return  
Pin 3: Output |
| 12 Vdc to 32 Vdc | 20 mA max. | Open collector (normally open) | **Target near:** Switch close, Vo < 1 V @ 20 mA of Io  
**Target far:** Switch open, Io < 50 μA | D38999/25YA98PN | LGXXD3CAX-000 | Pin A: Supply excitation  
Pin B: Supply return  
Pin C: Output |
| | | | | D38999/25YA98PA | LGXXD3CBX-000 | Pin A: Supply excitation  
Pin B: Supply return  
Pin C: Output |
| | | | | EN2997Y10803MN | LGXXD3CCX-000 | Pin 1: Supply excitation  
Pin 2: Supply return  
Pin 3: Output |
### TABLE 4. HAPS SERIES INTERFACE DETAILS

<table>
<thead>
<tr>
<th>SUPPLY VOLT-AGE</th>
<th>SUPPLY CURRENT</th>
<th>OUTPUT TYPE</th>
<th>OUTPUT CONDITION</th>
<th>CONNECTOR</th>
<th>CATALOG LISTING</th>
<th>PIN/WIRE CONFIGURATION</th>
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</thead>
<tbody>
<tr>
<td>12 Vdc to 28 Vdc</td>
<td>10 mA max.</td>
<td>Current sink</td>
<td>Target near: 4 mA ≤ Io ≤ 6 mA</td>
<td>D38999/25YA98PN</td>
<td>1PXXX3AANX-000</td>
<td>Pin A: Supply excitation</td>
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<tr>
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<td></td>
<td></td>
<td>Target far: 12 mA ≤ Io ≤ 16 mA, Internal fault: 9 mA ≤ Io ≤ 11 mA or Io &lt;1 mA</td>
<td>D38999/25YA98PA</td>
<td>1PXXX3ABNX-000</td>
<td>Pin B: Supply return</td>
</tr>
<tr>
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<td></td>
<td>EN2997Y10803MN</td>
<td>1PXXX3ACNX-000</td>
<td>Pin C: Output</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>M83723/90Y1005N</td>
<td>1PXXX3ADNX-000</td>
<td>Pin 1: Supply excitation</td>
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<td></td>
<td></td>
<td>M83723/90Y10056</td>
<td>1PXXX3AENX-000</td>
<td>Pin 2: Output</td>
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<td></td>
<td>M83723/90Y10057</td>
<td>1PXXX3AFNX-000</td>
<td>Pin 3: Supply return</td>
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<td></td>
<td></td>
<td></td>
<td>M83723/90Y10058</td>
<td>1PXXX3AGNX-000</td>
<td>Pin 4: No connection</td>
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<td></td>
<td></td>
<td></td>
<td>Pigtail (Flying Lead)</td>
<td>1PXXX3AHXX-000</td>
<td>Pin 5: No connection</td>
</tr>
<tr>
<td>12 Vdc to 28 Vdc</td>
<td>10 mA max.</td>
<td>Open collector (normally closed)</td>
<td>Target near: Switch close, Io &lt;50 μA</td>
<td>D38999/25YA98PN</td>
<td>1PXXX3AANX-000</td>
<td>White wire (orange stripes): Supply excitation</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Target far: Switch close, Vo &lt;1 V @ 20 mA of Io</td>
<td>D38999/25YA98PA</td>
<td>1PXXX3ABNX-000</td>
<td>White wire (blue stripes): Output</td>
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<td></td>
<td>EN2997Y10803MN</td>
<td>1PXXX3ACNX-000</td>
<td>White wire (no stripes): Supply return</td>
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<td>1PXXX3AENX-000</td>
<td>Pin 2: Output</td>
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<td>Pin 1: Supply excitation</td>
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</table>
**KEEP-OUT ZONE**
It is recommended not to place any metal/magnetic material in the keep-out zone other than target material. Placing any material within the keep-out zone will influence the sensor performance.

FIGURE 1. KEEP OUT ZONE MAP

**TARGET PROFILE**
Target material: Stainless steel 17-4PH heat-treated to condition H1025. Typical thickness of target is 3 mm ±0.1 mm.

FIGURE 2. TYPICAL TARGET PROFILE

**Proximity Switch Actuation and De-Actuation Curves**
The proximity switch shall actuate and de-actuate in accordance with the slide-by curves as per Figure 3.

FIGURE 3. TYPICAL ACTUATION AND DE-ACTUATION CURVE
AEROSPACE PROXIMITY SENSOR, GAPS AND HAPS SERIES

FIGURE 4. GAPS SERIES D38999/25YA98PN CONNECTOR

FIGURE 5. GAPS SERIES EN2997Y10803MN CONNECTOR

FIGURE 6. HAPS SERIES: CYLINDRICAL, FLANGED HOUSING WITH EN2997Y10803MN CONNECTOR

FIGURE 7. HAPS SERIES: CYLINDRICAL, FLANGED HOUSING WITH M83723/90Y1005N CONNECTOR

FIGURE 8. HAPS SERIES: CYLINDRICAL HOUSING WITH D38999/25YA98PN CONNECTOR
FIGURE 9. HAPS SERIES: CYLINDRICAL HOUSING WITH PIGTAIL CONNECTION

FIGURE 10. HAPS SERIES: RIGHT ANGLE, FLANGED HOUSING WITH D38999/25YA98PN CONNECTOR

FIGURE 11. HAPS SERIES: RIGHT ANGLE WITH EN2997Y10803MN CONNECTOR

FIGURE 12. HAPS SERIES: RIGHT ANGLE, FLANGED HOUSING WITH PIGTAIL CONNECTION

FIGURE 13. RIGHT ANGLE WITH M83723/90Y1005N CONNECTOR
WARRANTY/REMEDY

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