**Sensors with cable connection**

Standard cable length 1 m (included in base price). Stock length 3 m. (charge for extra 2 m). Preferred longer lengths are 2 m, 3 m, 5 m, 8 m and 10 m. When ordering please specify required cable length by "-" to the type number (e.g. 153 270 with 3 m cable: 153 270 – 3). Please note that when invoiced, this will be charged as two items. Item 1 will be the basic sensor 153 270 with 1 m cable, and item 2 will be the additional 2 metres of cable.

**Spacers for Machine Safety Sensors 153 270/161 271/165 270 and corresponding Magnets for mounting onto ferrous material**

Machine safety sensors should not be mounted directly onto ferrous material, because proper operation cannot be guaranteed. Therefore we recommend the use of the following spacers for our machine safety sensors 153 270/161 271/165 270 and corresponding coded magnets.

**350 002**
for sensor 161 271

**350 003**
for magnet 304 221 12

**350 004**
for sensor 153 270/magnet 304 261 12

**350 005**
for sensor 165 270/magnet 304 261 12
(not necessary for 165 270 a and 165 270 A)

**Anti-tamper mounting screws**

To prevent the unauthorised removal of the sensor and magnet fixing screws, we recommend the use of our socked head inserts.
Type 351 040 for hexagon socket screws DIN 912/M 4,
Type 351 041 for hexagon socket screws DIN 912/M 5,
Type 351 042 for hexagon socket screws DIN 7991/M 4.
100 pcs. per pack.

We reserve the right to change specifications without notice.
These strong magnet systems, marked through „S“ resp. „Q“ at the 9th position, increase the operating distance at our Machine Safety Switch Sensors 120 272/161 271 ../165 270 ../171 271 .. as shown in the table below.

304 221 12 S

304 261 12 S

304 261 12 Q

304 200 00

Hygiene magnet 304 200 00 SH*
meets European hygiene standard CEN/TC 153/HN108E

* also available as "normal" magnet (no. 304 200 00 VH).

Strong magnet system operating distances

<table>
<thead>
<tr>
<th>type no.</th>
<th>ON</th>
<th>OFF</th>
<th>OFF both contacts completely off</th>
<th>min. distance sensor/magnet</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 272</td>
<td>7 mm</td>
<td>17 mm</td>
<td>23 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>161 271</td>
<td>7 mm</td>
<td>17 mm</td>
<td>23 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>165 270 ..</td>
<td>7 mm</td>
<td>17 mm</td>
<td>23 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>171 271</td>
<td>7 mm</td>
<td>17 mm</td>
<td>23 mm</td>
<td>3 mm</td>
</tr>
</tbody>
</table>

Attention! These strong magnets should only be used, if the application requires an air gap bigger than 4 mm between sensor and magnet. Please ensure that the maximum opening gaps of the door are not exceeded.

We reserve the right to change specifications without notice.
Alternative magnet operating directions and mounting tolerances

153 270

Note: the operating distance could be less
Alternative magnet operating directions and mounting tolerances

161 271

Note: the operating distance could be less
Sensors for Central Control Units 462 12. G1./462 121 E../H../463 12. ...

**114 270***

Material: PBT

**114 270 AOD***

Material: PBT

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Protection Class</th>
<th>Air Gaps for Reliable Switching Function (mm)</th>
<th>Drive</th>
<th>Temperature Range (°C)</th>
<th>Compatible Magnet System</th>
</tr>
</thead>
<tbody>
<tr>
<td>114 270</td>
<td>IP 67</td>
<td>&gt; 0.5/-7 7 mini 16 mini 19</td>
<td>A</td>
<td>-25 ...+75</td>
<td>304 275 02</td>
</tr>
<tr>
<td>114 270</td>
<td>IP 67</td>
<td>typ. 7 7 typ. 10 typ. 17</td>
<td>B</td>
<td>-25 ...+75</td>
<td>304 275 02</td>
</tr>
<tr>
<td>114 270</td>
<td>IP 67</td>
<td>&gt; 0.5/-2.5 mini 10 mini 14</td>
<td>C</td>
<td>-25 ...+75</td>
<td>304 275 32</td>
</tr>
<tr>
<td>114 270 AOD*</td>
<td>IP 67</td>
<td>&gt; 0.5/-7 7 mini 16 mini 19</td>
<td>A</td>
<td>-25 ...+75</td>
<td>304 275 02</td>
</tr>
<tr>
<td>114 270 AOD*</td>
<td>IP 67</td>
<td>typ. 7 7 typ. 10 typ. 17</td>
<td>B</td>
<td>-25 ...+75</td>
<td>304 275 02</td>
</tr>
<tr>
<td>114 270 AOD*</td>
<td>IP 67</td>
<td>&gt; 0.5/-2.5 mini 10 mini 14</td>
<td>C</td>
<td>-25 ...+75</td>
<td>304 275 32</td>
</tr>
</tbody>
</table>

* USL/CNL registered sensors

We reserve the right to change specifications without notice.

1) Cable sets see p. XI-1 (type no. K 04. 00.)

Only sensors listed above should be connected to elo Bau central control units.
Sensors for Central Control Units 462 12. G1./462 121 E../H../463 12. ..

**153 270*/ 153 270 AA* **

![Diagram of 153 270*/ 153 270 AA*](image)

Material: PBT

**153 270 AOD*/ 153 270 AOE* **

![Diagram of 153 270 AOD*/ 153 270 AOE*](image)

Material: PBT

**153 270 S/SA **

![Diagram of 153 270 S/SA](image)

Material: PBT

---

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Protection Class IEC 529</th>
<th>Indication</th>
<th>Air Gaps for Reliable Switching Function</th>
<th>Circuit Diagram</th>
<th>Temperature Range (°C)</th>
<th>Compatible Magnet System</th>
</tr>
</thead>
<tbody>
<tr>
<td>153 270</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 3 min. 7 min. 10</td>
<td>I</td>
<td>-25 ...+75</td>
<td>304 281 12 A</td>
</tr>
<tr>
<td>153 270 AA</td>
<td>IP 67 LED</td>
<td></td>
<td>&gt; 0.5 ≤ 3 min. 7 min. 10</td>
<td>II</td>
<td>-25 ...+75</td>
<td>304 281 12 A</td>
</tr>
<tr>
<td>153 270 AOD1</td>
<td>IP 65/67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 3 min. 7 min. 10</td>
<td>I</td>
<td>-25 ...+75</td>
<td>304 281 12 A</td>
</tr>
<tr>
<td>153 270 AOE1</td>
<td>IP 65/67 LED</td>
<td>&gt; 0.5 ≤ 3 min. 7 min. 10</td>
<td>II</td>
<td>-25 ...+75</td>
<td>304 281 12 A</td>
<td></td>
</tr>
<tr>
<td>153 270 S</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 9 min. 17 min. 21</td>
<td>I</td>
<td>-25 ...+75</td>
<td>304 281 12 S</td>
</tr>
<tr>
<td>153 270 SA</td>
<td>IP 67 LED</td>
<td></td>
<td>&gt; 0.5 ≤ 9 min. 17 min. 21</td>
<td>II</td>
<td>-25 ...+75</td>
<td>304 281 12 S</td>
</tr>
</tbody>
</table>

* USL/CNL registered sensors

We reserve the right to change specifications without notice.
Sensors for Central Control Units 462 12. G1./462 121 E../H../463 12. ...

161 271*/161 271 AA*

Material: PBT

161 271 AB/161 271 AC

Material: PBT

161 271 A0D*/161 271 A0E*

Material: PBT

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Protection Class</th>
<th>Indication</th>
<th>Air Gaps for Reliable Switching Function</th>
<th>Circuit Diagram</th>
<th>Temperature Range (°C)</th>
<th>Compatible Magnet System</th>
</tr>
</thead>
<tbody>
<tr>
<td>161 271</td>
<td>IP 67</td>
<td></td>
<td>&gt; 0.5≤ 4 mm</td>
<td>I</td>
<td>-25...+75</td>
<td>304 221 12</td>
</tr>
<tr>
<td>161 271 AA</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5≤ 4 mm</td>
<td>II</td>
<td>-25...+75</td>
<td>304 221 12</td>
</tr>
<tr>
<td>161 271 AB</td>
<td>IP 65</td>
<td></td>
<td>&gt; 0.5≤ 4 mm</td>
<td>I</td>
<td>-25...+75</td>
<td>304 221 12</td>
</tr>
<tr>
<td>161 271 AC</td>
<td>IP 65</td>
<td>LED</td>
<td>&gt; 0.5≤ 4 mm</td>
<td>II</td>
<td>-25...+75</td>
<td>304 221 12</td>
</tr>
<tr>
<td>161 271 A0D</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5≤ 4 mm</td>
<td>I</td>
<td>-25...+75</td>
<td>304 221 12</td>
</tr>
<tr>
<td>161 271 A0E</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5≤ 4 mm</td>
<td>II</td>
<td>-25...+75</td>
<td>304 221 12</td>
</tr>
</tbody>
</table>

* USL/CNL registered sensors

We reserve the right to change specifications without notice. 1) Cable sets see p. X/7-1 (type no. K 04. 00.)

Only sensors listed above should be connected to elobau central control units.
Sensors for Central Control Units 462 12. G1./462 121 E../H../463 12. . .
165 270*/165 270 AA*

material: PBT

165 270 Q
suitable for mounting directly onto ferrous material

material: PBT

165 270 R
suitable for mounting directly onto ferrous material

material: PBT

<table>
<thead>
<tr>
<th>type no.</th>
<th>protection class IEC 529</th>
<th>indication</th>
<th>air gaps for reliable switching function</th>
<th>circuit diagram</th>
<th>temperature range (°C)</th>
<th>compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>165 270</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 4</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 261 12</td>
</tr>
<tr>
<td>165 270 AA</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4</td>
<td>II</td>
<td>-25 ... +75</td>
<td>304 261 12 N</td>
</tr>
<tr>
<td>165 270 Q</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 4</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 261 12 N</td>
</tr>
<tr>
<td>165 270 R</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 4</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 261 12 N</td>
</tr>
</tbody>
</table>

* USL-/CNL registered sensors

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.
Machine Safety Switch Sensors

Sensors for Central Control Units 462 12. G1./462 121 E../H../463 12. ...

165 270 A0D*/165 270 A0E*

material: PBT

165 270 A0P/165 270 AAP

material: PBT

<table>
<thead>
<tr>
<th>type no.</th>
<th>protection class IEC 529</th>
<th>indication</th>
<th>air gaps for reliable switching function</th>
<th>circuit diagram</th>
<th>temperature range (°C)</th>
<th>compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>165 270 A0D*</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>I</td>
</tr>
<tr>
<td>165 270 A0E*</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>II</td>
</tr>
<tr>
<td>165 270 A0P</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>I</td>
</tr>
<tr>
<td>165 270 AAP</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>II</td>
</tr>
</tbody>
</table>

* USL/-CNL registered sensors
We reserve the right to change specifications without notice.

Buffers have free movement of approx. 3 mm
(door should be free from play with buffers fully out)
retention force: approx. 20 N

* Cable sets see p. IX-1 (type no. K 04.00)
Only sensors listed above should be connected to elo Bau central control units.
Sensors for Central Control Units 462 12. G1./462 121 E../H../463 12. ...

171 271*/171 271 AA*

material: PBT

171 271 AM*

material: PBT

171 271 A0D*/171 271 A0E*

material: PBT

171 271 AT/171 271 AU

material: PBT

---

**Table:**

<table>
<thead>
<tr>
<th>type no.</th>
<th>protection class IEC 529</th>
<th>indication</th>
<th>air gaps for reliable switching function (mm)</th>
<th>circuit diagram</th>
<th>temperature range (°C)</th>
<th>compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>171 271</td>
<td>IP 67</td>
<td>-</td>
<td>&gt; 0.5 ≤ 4 mini 11 mini 16</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00 ...</td>
</tr>
<tr>
<td>171 271 AA</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4 mini 11 mini 16</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00 ...</td>
</tr>
<tr>
<td>171 271 AM*</td>
<td>IP 65</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4 mini 11 mini 16</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00 ...</td>
</tr>
<tr>
<td>171 271 A0D*</td>
<td>IP 65/67</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4 mini 11 mini 16</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00 ...</td>
</tr>
<tr>
<td>171 271 A0E*</td>
<td>IP 65/67</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4 mini 11 mini 16</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00 ...</td>
</tr>
<tr>
<td>171 271 AT</td>
<td>IP 66</td>
<td>-</td>
<td>&gt; 0.5 ≤ 4 mini 11 mini 16</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00 ...</td>
</tr>
<tr>
<td>171 271 AU</td>
<td>IP 66</td>
<td>LED</td>
<td>&gt; 0.5 ≤ 4 mini 11 mini 16</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00 ...</td>
</tr>
</tbody>
</table>

* USL-/CNL registered sensors

We reserve the right to change specifications without notice.
Sensors for Central Control Units 462 12. G1./462 121 E../H../463 12. .

### 171 271 AY/AZ*

- **Material:** PBT

### 171 271 V*

- **Material:** Stainless steel

### 171 271 VZ*

- **Material:** Stainless steel

---

**Female Cable Connector 351 150**

For sensors 171 271 AY/AZ

**Hygiene magnet 304 200 00 VH**

Meets European hygiene standard CEN/TC 153/HN108E

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Protection Class IEC 529</th>
<th>Indication</th>
<th>Air Gaps for Reliable Function</th>
<th>Circuit Diagram</th>
<th>Temperature Range (°C)</th>
<th>Compatible Magnet System</th>
</tr>
</thead>
<tbody>
<tr>
<td>171 271 AY</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5/≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>I</td>
</tr>
<tr>
<td>171 271 AZ</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5/≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>II</td>
</tr>
<tr>
<td>171 271 V</td>
<td>IP 68</td>
<td>-</td>
<td>&gt; 0.5/≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>I</td>
</tr>
<tr>
<td>171 271 VZ</td>
<td>IP 67</td>
<td>LED</td>
<td>&gt; 0.5/≤ 4</td>
<td>min. 11</td>
<td>min. 16</td>
<td>II</td>
</tr>
</tbody>
</table>

* USL-/CNL registered sensors

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.

IV C-11
Sensors for Central Control Units 462 12. G1./462 121 E./H./463 12. ...

**120 272**

- Material: PBT
- 

**120 272 V**

- Material: Stainless steel 1.4305
- 

---

**671 271..0 ATEX approved to 94/9 EG (ATEX)**

Intrinsically safe type, can not be used in connection with elobau-central control units.

---

<table>
<thead>
<tr>
<th>Type no.</th>
<th>Protection class</th>
<th>Air gaps for reliable switching function (mm)</th>
<th>Temperature range (°C)</th>
<th>Compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 272</td>
<td>IP 67</td>
<td>&gt; 0,5 ≤ 4, min. 13, min. 22</td>
<td>-25 ...+75</td>
<td>304 200 00...</td>
</tr>
<tr>
<td>120 272 V</td>
<td>IP 68</td>
<td>&gt; 0,5 ≤ 4, min. 13, min. 22</td>
<td>-25 ...+75</td>
<td>304 200 00...</td>
</tr>
</tbody>
</table>

---

**671 271..0**

- Cable 0.75 mm²
- Standard length 1,5 m
- Basic nickel plate NBR

---

<table>
<thead>
<tr>
<th>Type no.</th>
<th>Switching voltage (V)</th>
<th>Switching current I₁, I₂ (A)</th>
<th>Continuous current I₁, I₂ (mA)</th>
<th>Switching power (W/VA)</th>
<th>Temperature range (°C)</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>671 271 .0</td>
<td>24 AC/DC</td>
<td>0.5 (2 sec.)</td>
<td>max. 50</td>
<td>10/10</td>
<td>-25 ...+75</td>
<td>DCA 1206; 22Ω; 0.25W</td>
</tr>
</tbody>
</table>

---

- IP 68
- > 0,5 ≤ 4, min. 11, min. 16
- 304 200 00 V.

---

<table>
<thead>
<tr>
<th>Protection class IEC 529</th>
<th>Air gaps for reliable switching function (mm)</th>
<th>Compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 68</td>
<td>&gt; 0,5 ≤ 4, min. 11, min. 16</td>
<td>304 200 00 V.</td>
</tr>
</tbody>
</table>

---

- Cable: UL version (PVC) 0,75 mm²
- -5°C...-90°C (-40°C...+105°C)
- Ex version: Encapsulation (m)
- I: Intrinsically safe (ia)

---

* USL-/CNL registered sensors

** Applied for approval (according to EEx ia IIC T4/T5/T6)

** Applied for approval (according to EEx m IIC T4/T5/T6)

---

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.
Sensors for Central Control Units 462 12. G1 /462 121 E../H../463 12. ...

Special type 122 271

Sensor 122 271 does not have T.U.V. or B.I.A. approval but is accepted by most of the German professional associations if the sensor and magnet can be hidden, i.e. mounted behind panel, in a box etc. They have the advantage of large operating distances.

<table>
<thead>
<tr>
<th>type no.</th>
<th>protection class IEC 529</th>
<th>air gap for reliable switching function (mm)</th>
<th>temperature range (°C)</th>
<th>compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>122 271</td>
<td>IP 67</td>
<td>&gt;0,5 / ≤15, min. 28, min. 37</td>
<td>-25 ...+75</td>
<td>300 785</td>
</tr>
</tbody>
</table>

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.

Special type 144 971 V

This plunger operated switch type 144 971 V also has no T.U.V. or B.I.A. approvals but is again accepted by many German professional associations for example in the control of transport trolleys in food processing machines.

<table>
<thead>
<tr>
<th>type no.</th>
<th>protection class IEC 529</th>
<th>S_w ( switch is operated at...)</th>
<th>temperature range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>144 971V</td>
<td>IP 67</td>
<td>36 ± 2 mm</td>
<td>-25 ...+75</td>
</tr>
</tbody>
</table>

material: stainless steel
Sensors with cable connection

Standard cable length 1 m (included in base price). Stock length 3 m, (charge for extra 2 m). Preferred longer lengths are 2 m, 3 m, 5 m, 8 m and 10 m. When ordering please specify required cable length by **"-"** to the type number (e.g. 153 260 with 3 m cable: 153 260 – 3). Please note that when invoiced, this will be charged as two items. Item 1 will be the basic sensor 153 260 with 1 m cable, and item 2 will be the additional 2 metres of cable.

Spacers for Machine Safety Sensors 153 260/161 261/165 260 and corresponding magnets for mounting onto ferrous material

Machine safety sensors should not be mounted directly onto ferrous material, because proper operation cannot be guaranteed. Therefore we recommend the use of the following spacers for our machine safety sensors 153 260/161 261/165 260 and corresponding coded magnets.

**350 002**
for sensor 161 261

**350 004**
for sensor 153 260/magnet 304 281 12.

**350 003**
for magnet 304 221 12

**350 005**
for sensor 165 260/magnet 304 261 12

Anti-tamper mounting screws

To prevent the unauthorised removal of the sensor and magnet fixing screws, we recommend the use of our socketed head inserts:
Type 351 040 for hexagon socket screws DIN 912/M 4,
Type 351 041 for hexagon socket screws DIN 912/M 5,
Type 351 042 for hexagon socket screws DIN 7991/M 4.
100 pcs. per pack.

We reserve the right to change specifications without notice.
These strong magnet systems, marked through „S“ resp. „Q“ at the 9th position, increase the operating distance at our Machine Safety Switch Sensors 161 261/165 260/171 261 as shown in the table below.

### Strong magnet system operating distances

<table>
<thead>
<tr>
<th>type no.</th>
<th>ON</th>
<th>OFF</th>
<th>min. distance sensor/magnet</th>
</tr>
</thead>
<tbody>
<tr>
<td>161 261</td>
<td>7 mm</td>
<td>20 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>165 260</td>
<td>7 mm</td>
<td>18 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>171 261</td>
<td>7 mm</td>
<td>20 mm</td>
<td>3 mm</td>
</tr>
</tbody>
</table>

**Attention!**

These strong magnets should only be used, if the application requires an air gap bigger than 4 mm between sensor and magnet. Please ensure that the maximum opening gaps of the door are not exceeded.

*We reserve the right to change specifications without notice.*
Alternative magnet operating directions and mounting tolerances

153 260

sensor

magnet system 304 281 12 B

misalignment ±1

misalignment ±2

misalignment ±2

171 261

sensor

magnet system 304 281 02 B

misalignment ±2

misalignment ±2

misalignment ±1

Note: the operating distance could be less

We reserve the right to change specifications without notice.
Alternative magnet operating directions and mounting tolerances
161 261

Note: the operating distance could be less

We reserve the right to change specifications without notice.
Sensors for Central Control Units 463 13./462 151 G.

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Protection Class IEC 529</th>
<th>Air Gaps for Reliable Switching Function (mm)</th>
<th>Temperature Range (°C)</th>
<th>Compatible Magnet System</th>
</tr>
</thead>
<tbody>
<tr>
<td>153 260</td>
<td>IP 67</td>
<td>a &gt; 0.5 ≤ 3, b min. 9</td>
<td>-25 ... +75</td>
<td>304 281 12</td>
</tr>
<tr>
<td>161 261</td>
<td>IP 67</td>
<td>a &gt; 0.5 ≤ 4, b min. 14</td>
<td>-25 ... +75</td>
<td>304 221 12</td>
</tr>
<tr>
<td>165 260</td>
<td>IP 67</td>
<td>a &gt; 0.5 ≤ 4, b min. 14</td>
<td>-25 ... +75</td>
<td>304 261 12</td>
</tr>
</tbody>
</table>

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.
Sensors for Central Control Units 463 13../462 151 G.

171 261

Sensors for Central Control Units

material: PBT

171 261 V

Sensors for Central Control Units
material: stainless steel

171 261 AT

Sensors for Central Control Units

material: PBT

171 261 AY

Sensors for Central Control Units
material: PBT

female cable connector 351 150
for sensor 171 261 AY

material: PBT

<table>
<thead>
<tr>
<th>type no.</th>
<th>protection class IEC 529</th>
<th>air gaps for reliable switching function (mm)</th>
<th>circuit diagram</th>
<th>temperature range (°C)</th>
<th>compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>171 261</td>
<td>IP 67</td>
<td>&gt; 0.5/≤4</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00</td>
</tr>
<tr>
<td>171 261 AT</td>
<td>IP 66</td>
<td>&gt; 0.5/≤4</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00</td>
</tr>
<tr>
<td>171 261 V</td>
<td>IP 68</td>
<td>&gt; 0.5/≤4</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00</td>
</tr>
<tr>
<td>171 261 AY</td>
<td>IP 67</td>
<td>&gt; 0.5/≤4</td>
<td>I</td>
<td>-25 ... +75</td>
<td>304 200 00</td>
</tr>
</tbody>
</table>

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.
Sensors for Central Control Units 463 13./462 151 G.

671 261..0 ATEX approved to 94/9 EG (ATEX)*/**

Intrinsically safe type, can not be used in connection with elobau-central control units.

<table>
<thead>
<tr>
<th>Type no.</th>
<th>Switching voltage (V)</th>
<th>Switching current I, I (A)</th>
<th>Continuous current I, I (mA)</th>
<th>Switching power (W/VA)</th>
<th>Temperature range (°C)</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>671 261 0</td>
<td>24 AC/DC</td>
<td>0.5 (2 sec.)</td>
<td>max. 50</td>
<td>5/5</td>
<td>-25 ... +75</td>
<td>DCA 1206; 22Ω; 0.25W</td>
</tr>
</tbody>
</table>

Protection class IEC 529

<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>Air gaps for reliable switching functions (mm)</th>
<th>Recommended operating magnet (For other suitable magnets, please consult the factory.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>&gt; 0.5/≤ 4</td>
<td>min. 16</td>
</tr>
</tbody>
</table>

Cable U = UL version (PVC) 0.75 mm² | -5°C...+80°C (-40°C...+80°C) |

Ex version M = encapsulation (m) | I = intrinsically safe (ia) |

* USL-/CNL registered sensors

Special types

Sensors 120 261 and 122 261 do not have T.Ü V, or B.I.A. approval but are accepted by most of the German professional associations if the sensor and magnet can be hidden, i.e. mounted behind panel, in a box etc. They have the advantage of large operating distances.

120 261

- Protection class IEC 529
- Air gaps for reliable switching functions (mm)
- Temperature range (°C)
- Compatible magnet system

<table>
<thead>
<tr>
<th>Type no.</th>
<th>Protection class</th>
<th>Air gaps for reliable switching function (mm)</th>
<th>Temperature range (°C)</th>
<th>Compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 261</td>
<td>IP 67</td>
<td>&gt; 0.5/≤ 13</td>
<td>Min. 23</td>
<td>-25 ... +75</td>
</tr>
<tr>
<td>122 261</td>
<td>IP 67</td>
<td>&gt; 0.5/≤ 15</td>
<td>Min. 25</td>
<td>-25 ... +75</td>
</tr>
</tbody>
</table>

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.
Spacers for Machine Safety Sensors 153 262/161 262/165 262 and corresponding Magnets for mounting onto ferrous material

Machine safety sensors should not be mounted directly onto ferrous material, because proper operation cannot be guaranteed. Therefore we recommend the use of the following spacers for our machine safety sensors 153 262/161 262/165 262 and corresponding coded magnets.

<table>
<thead>
<tr>
<th>Spacer Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>350 002</td>
<td>for sensor 161 262</td>
</tr>
<tr>
<td>350 003</td>
<td>for magnet 304 221 12</td>
</tr>
<tr>
<td>350 004</td>
<td>for sensor 153 262/magnet 304 281 12</td>
</tr>
<tr>
<td>350 005</td>
<td>for sensor 165 262/magnet 304 261 12</td>
</tr>
</tbody>
</table>

Anti-tamper mounting screws

To prevent the unauthorised removal of the sensor and magnet fixing screws, we recommend the use of our socked head inserts.

Type 351 040 for hexagon socket screws DIN 912/M 4,
Type 351 041 for hexagon socket screws DIN 912/M 5,
Type 351 042 for hexagon socket screws DIN 7991/M 4.

100 pcs. per pack.

We reserve the right to change specifications without notice.
These strong magnet systems, marked through „S“ resp. „O“ at the 9th position, increase the operating distance at our Machine Safety Switch Sensors 120 262/161 262/165 262/171 262 as shown in the table below.

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Operating Distance (ON)</th>
<th>Operating Distance (OFF)</th>
<th>Min. Distance Sensor/Magnet</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 262</td>
<td>7 mm</td>
<td>20 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>161 262</td>
<td>7 mm</td>
<td>20 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>165 262</td>
<td>7 mm</td>
<td>18 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>171 262</td>
<td>7 mm</td>
<td>20 mm</td>
<td>3 mm</td>
</tr>
</tbody>
</table>

Attention!
These strong magnets should only be used, if the application requires an air gap bigger than 4 mm between sensor and magnet. Please ensure that the maximum opening gaps of the door are not exceeded.

We reserve the right to change specifications without notice.
Alternative magnet operating directions and mounting tolerances

153 262*

sensor

magnet system 304 281 12 B

misalignment ± 1

misalignment ± 2

misalignment ± 2

sensor

magnet system 304 281 02 B

misalignment ± 1

misalignment ± 2

misalignment ± 2

171 262*

sensor

magnet system 304 200 00

misalignment ± 2

Note: the operating distance could be less

*USL-/CNL-registered sensors

We reserve the right to change specifications without notice.
Alternative magnet operating directions and mounting tolerances

161 262*

165 262*

*USL-/CNL-registered sensors

Note: the operating distance could be less

We reserve the right to change specifications without notice.
**Sensors for Central Control Units**

462 141 E1/H1/462 151 H1/462 M41 H3./462 M51 H.1

**Machine Safety Switch Sensors**

153 262/153 V62*

![Image of 153 262/153 V62](image)

- Material: PBT

161 262/161 V62*

![Image of 161 262/161 V62](image)

- Material: PBT

165 262/165 V62*

![Image of 165 262/165 V62](image)

- Material: PBT

---

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Protection Class</th>
<th>Air Gaps for Reliable Switching Function (mm)</th>
<th>Temperature Range (°C)</th>
<th>Compatible Magnet System</th>
<th>Circuit Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>153 262</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 3, min. 10</td>
<td>-25...+75</td>
<td>304 281 12</td>
<td>I</td>
</tr>
<tr>
<td>161 262</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4, min. 16</td>
<td>-25...+75</td>
<td>304 221 12</td>
<td>I</td>
</tr>
<tr>
<td>165 262</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4, min. 16</td>
<td>-25...+75</td>
<td>304 261 12</td>
<td>I</td>
</tr>
<tr>
<td>163 V62</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 3, min. 10</td>
<td>-25...+75</td>
<td>304 281 12</td>
<td>I</td>
</tr>
<tr>
<td>161 V62</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4, min. 16</td>
<td>-25...+75</td>
<td>304 221 12</td>
<td>I</td>
</tr>
<tr>
<td>165 V62</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4, min. 16</td>
<td>-25...+75</td>
<td>304 261 12</td>
<td>I</td>
</tr>
</tbody>
</table>

*USL-/CNL-registered sensors

We reserve the right to change specifications without notice. Only sensors listed above should be connected to elobau central control units.
Sensors for Central Control Units 462 141 E1/H1/462 151 H1/462 M41 H3./462 M51 H.1

165 262 A0P*

* buffers have free movement of approx. 3 mm (door should be free from play with buffers fully out)
retention force: approx. 20 N

material: PBT

171 262/171 V62*

material: PBT

171 262 V*

material: VA

<table>
<thead>
<tr>
<th>Type no.</th>
<th>protection class IEC 529</th>
<th>air gaps for reliable switching function (mm)</th>
<th>temperature range (°C)</th>
<th>compatible magnet system</th>
<th>circuit diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>165 262 A0P</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 16</td>
<td>304 261 12 P</td>
<td>I</td>
</tr>
<tr>
<td>171 262</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 16</td>
<td>304 200 00 ..</td>
<td>I</td>
</tr>
<tr>
<td>171 262 V</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 16</td>
<td>304 200 00 ..</td>
<td>I</td>
</tr>
<tr>
<td>171 V62</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 16</td>
<td>304 200 00 ..</td>
<td>II</td>
</tr>
<tr>
<td>171 V62 VY</td>
<td>IP 67</td>
<td>&gt; 0.5 ≤ 4</td>
<td>min. 16</td>
<td>304 200 00 ..</td>
<td>II</td>
</tr>
</tbody>
</table>

*USL-/CNL-registered sensors

We reserve the right to change specifications without notice.
Sensors for Central Control Units 462 141 E1/H1/462 151 H1/462 M41 H3./462 M51 H.1
Intrinsically safe type, cannot be used in connection with elobau-central control units.

671 262...0/671 V62...0 approved to 94/9 EG (ATEX) */**

<table>
<thead>
<tr>
<th>type no.</th>
<th>switching voltage (V)</th>
<th>switching current I₁, I₂ (A)</th>
<th>continuous current I₁, I₂ (mA)</th>
<th>switching power (W/VA)</th>
<th>temperature range (°C)</th>
<th>resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>671 262...0</td>
<td>24 AC/DC</td>
<td>0.5 (2 sec.)</td>
<td>max. 50</td>
<td>5/5</td>
<td>-25...+75</td>
<td>DCA 1206; 22Ω; 0,25W</td>
</tr>
<tr>
<td>671 V62...0</td>
<td>24 AC/DC</td>
<td>0.5 (2 sec.)</td>
<td>max. 50</td>
<td>5/5</td>
<td>-25...+75</td>
<td>DCA 1206; 22Ω; 0,25W</td>
</tr>
</tbody>
</table>

Protection class IEC 529 air-gaps for reliable switching functions recommended operating magnet (For other magnets, please consult the factory.)

- 0.5 ≤ 4 min. 16 304 200 00 V. I
- 0.5 ≤ 4 min. 16 304 200 00 V. II

- U = UL version (PVC) 0.75 mm² -5°C...+80°C (-40°C...+80°C)
- M = encapsulation (m)
- I = intrinsically safe (ia)

Machine Safety Switch Sensors

* USL-/CNL-registered sensors

**Applied for approval (according to EEx ia IIC T4/T5/T6)
Applied for approval (according to EEx m IIC T4/T5/T6)
zone 0/cat. 1 (ia)
zone 1/cat. 2 (m)
zone 21/cat. 2 (m)

We reserve the right to change specifications without notice.
Sensors for Central Control Units 462 141 E1/H1/462 151 H1/462 M41 H3./462 M51 H.1

114 262*/114 V62*

material: PBT

actuation possibilities

114 262*/114 V62*

mounting distance max. 7 mm

120 262*/120 V62*

material: PBT

misalignment sensor-magnet max. 3 mm
Note: the operating distance could be less!

We reserve the right to change specifications without notice

* USL-/CNL-registered sensors
Sensors for Central Control Units 462 141 E1/H1/462 151 H1/462 M.1 H1

153 262 AFA* 161 262 AFA*

Material: PBT

165 262 AFA* 171 262 AFA*

Material: PBT

**view of plug**

<table>
<thead>
<tr>
<th>type no.</th>
<th>protection class IEC 529</th>
<th>air gaps for reliable switching function</th>
<th>temperature range (°C)</th>
<th>compatible magnet system</th>
</tr>
</thead>
<tbody>
<tr>
<td>153 262 AFA*</td>
<td>IP 67</td>
<td>&gt; 0.5/≤ 3</td>
<td>-25...+75</td>
<td>304 281 12.</td>
</tr>
<tr>
<td>161 262 AFA*</td>
<td>IP 67</td>
<td>&gt; 0.5/≤ 4</td>
<td>-25...+75</td>
<td>304 221 12.</td>
</tr>
<tr>
<td>165 262 AFA*</td>
<td>IP 67</td>
<td>&gt; 0.5/≤ 4</td>
<td>-25...+75</td>
<td>304 261 12.</td>
</tr>
<tr>
<td>171 262 AFA*</td>
<td>IP 67</td>
<td>&gt; 0.5/≤ 4</td>
<td>-25...+75</td>
<td>304 200 00.</td>
</tr>
</tbody>
</table>

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† Cable sets see chapter X !