Swivel Unit
elektrical
## Table of contents Swivel Units elektrical

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<th>Torque [Nm]</th>
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<td>6</td>
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<td>DEF60</td>
<td>min. 30 - max. 330</td>
<td>1,6</td>
<td>10</td>
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<th>Swivel angle</th>
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<tr>
<td>Product Information</td>
<td></td>
<td></td>
<td>14</td>
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<tr>
<td>DES140NC</td>
<td>unlimited</td>
<td>12</td>
<td>18</td>
</tr>
</tbody>
</table>
**Features**

- Compact electrically driven swivel unit with a swivel angle up to 330°
- Easiest energy supply using 24 V machine voltage, independent of pneumatics and hydraulics
- Inductive proximity switch for position recognitions included in delivery

**Functional diagram**

- **Stop cams**
  - infinitely adjustable
- **Direct drive**
  - almost free from play
- **Fixing and positioning**
  - alternate possible from several sides
- **Energy supply**
  - standardised interface M8 round connector signal control line (use only wire without diode)
- **Indirect position sensing**
  - measured at the stroke end via power increase on the motor
- **Intake flange**
  - for connection of the individual application
- **Direct position sensing**
  - via proximity switch
- **Mounting block**
  - intake for inductive sensors
- **Drive**
  - electrical transmission motor
  - 24 V DC
Terms

**Torque:** force moment occurring on the drive edge of the swivel unit

**Swivel time:** time required to cover 30°/330° swivel movement

**Repeatability:** dispersion of stop positions at 100 consecutive swivel cycles

**Cycle:** distance covered by the drive motor in one 0°/330°/0° swivel movement

**Maintenance:** maintenance free up to 5 Mio. rotation

(please see the owner’s manual for conditions, download from www.sommer-automatic.com)

- long maintenance intervals keep costs down
- long durability

Model

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Swivel angle</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEF60</td>
<td>30°* - 330°**</td>
<td>1.6 Nm</td>
</tr>
</tbody>
</table>

* min. swivel angle
** max. swivel angle
electrical Swivel Unit

**Drive**
Electrical transmission motor 24 V DC
- High torque relative to size
- Rapid cycle times

**Swivel angle min. 30°- max. 330°**
Adjustable via stop cam
- Infinitely variable alignment possible
- High repeatability

**Force transfer**
Direct, motor intake flange
- Almost free from play
- Low loss

**Intake flange**
For simple connection
- Low construction and extension effort for connection of follow-up tools
- Simplest connection of an adapter plate adapted to the application
Indirect position sensing
Included in the delivery
- Compact
- No additional interference contours

The control electronics contained include and adjustable min. and max. value for the power. When approaching the end position, the blocked drive motor generates an increase in power. The corresponding output signal can be used as a position sensing.

Direct position sensing
Included in the delivery
- Process safe
- Defined sensing of set end position

Drive
Two way bearing
- Increased torque intake
- High intake flange coaxiality
electrical Swivel Unit

Included in the delivery

- Proximity switch
  Order no. NJ6.5-E2/01

- Controller
  Order no. ELEDEF60

Accessory list

- Cable straight plug
  Order no. KAG500

- Cable angled plug
  Order no. KAW500

- Plug 3-pole
  Order no. S12-G-3

Accessories

Subject to change without prior notice
Order no.: DEF60

Drive: Electrical transmission motor 24V DC
Swivel angle infinitely adjustable [°]: 330
Torque max. [Nm]: 1,2
Swivel Time 330° [s]*: 2,28
Radial bearing load [Nm]: 65
Axial bearing load [N]: 1400
Repeatability +/- [°]: 0,02
Voltage [V]**: 24
Max. power [mA]: 500
Min./max. operating temperature [°C]: 5/80
Protection class: IP 52
Weight [kg]: 1,6

** voltage 12 Volt on inquiry
* without extension load

Subject to change without prior notice
Swivel Unit

electrical

DES140NC
Features

- Driven by an AC servo motor with a torque up to 12 Nm and a speed up to 50 rpm
- Programmable, positionable and regulable torque
- Data interface for standard market systems such as Profibus, Sercos, CANopen and DeviceNet
- Unlimited rotation angle, all positions easily reached
- Extremely flat design, with a height of just 52 mm
- Sealed in accordance with protection category IP 65
Terms

**Torque:** force moment occurring on the drive edge of the swivel unit

**Repeatability:** dispersion of stop positions at 100 consecutive swivel cycles

**Maintenance:** maintenance free up to 5 Mio. rotations

(please see the owner’s manual for conditions, download from www.sommer-automatic.com)

- long maintenance intervals keep costs down
- long durability

---

Model

<table>
<thead>
<tr>
<th>Order no.</th>
<th>swivel angle</th>
<th>max. speed</th>
<th>max. torque</th>
<th>center through-bore</th>
</tr>
</thead>
<tbody>
<tr>
<td>DES140NC</td>
<td>unlimited</td>
<td>50</td>
<td>12 Nm</td>
<td>Ø 62 mm</td>
</tr>
</tbody>
</table>
**Drive**

AC servo motor  
In conjunction with tooth belt-gear rack-worm gear  
- Regulable torque up to 12 Nm  
- Regulable speed up to 50 rpm.  
- Programmable and positionable

**Central bore**

For cable feed-through  
- Ø 62 mm  
- Low torsion on feed-through supply lines

**Self limitation**

Mechanical via angled gear wheel-worm gear  
- Position maintenance under drop in voltage  
- Low play due to spirals tensioned against one another

**Machine connection**

Energy supply, attachment and positioning-possibilities on several sides  
- Optimum integration into the workroom through individual mounting-situation  
- Standardised interface
Intake flange
Direct screwing onto the working flange
- Low design effort
- Single tool connection by pin and threaded hole

Position sensing
Indirect via absolute encoder
- Process safe due to maintenance of the reference even under drop in voltage
- Precise
- No additional interference contours

Design
Extremely flat design
- Total height of 52 mm
- Low installation space requirement

Motor and measuring system connection
Standardised
- Connection without increased wiring effort
electrical Swivel Unit

Forces and Moments
Max allowable forces and torques

Included in the delivery
Software CD
Order no. CD0002

Accessory list

Swivel time in against the Torque
for 360° included acceleration and deceseration

Swivel time in against the moment of inertia
for 360° included acceleration and deceseration

Moment of inertia [kg m²]

Included in the delivery

Swivel time [sec]

Swivel time [sec]
Order no.: DES140NC

<table>
<thead>
<tr>
<th>Drive:</th>
<th>AC-servo motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotation angle:</td>
<td>unlimited</td>
</tr>
<tr>
<td>Nominal torque [Nm]:</td>
<td>9</td>
</tr>
<tr>
<td>Max. Torque [Nm]:</td>
<td>12</td>
</tr>
<tr>
<td>Nominal speed [rpm]:</td>
<td>30</td>
</tr>
<tr>
<td>Max. speed [rpm]:</td>
<td>50</td>
</tr>
<tr>
<td>Self limitation:</td>
<td>angled gear wheal/worm gear</td>
</tr>
<tr>
<td>Force transfer:</td>
<td>tooth belt/worm gear</td>
</tr>
<tr>
<td>Repeatability +/- [°]:</td>
<td>0.1</td>
</tr>
<tr>
<td>Min./max. operating temperature [°C]:</td>
<td>5/80</td>
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<tr>
<td>Protection class:</td>
<td>IP65</td>
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<tr>
<td>Weight [kg]:</td>
<td>3.2</td>
</tr>
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</table>

Power supply servo regulator:
- Net input voltage: 1 x 200-240VAC 50Hz
- Continuous current: 0.9A
- Surge current: 3.0A

Transmission:
- Load transmission input rotation: 96
- Load transmission output rotation: 1

Subject to change without prior notice