**Solenoid SIN60V**

**to VDE 0580**

**Plug plate to ISO 4400/DIN 43650**

**Protection class IP65**

**DESCRIPTION**

The SIN60V is a switching solenoid. Its design corresponds to VDE standard 0580. The steel housing is zinc coated as a standard. Static pressure tightness is 160 bars. All o-rings are Viton. The solenoids are fixed to the valve with four screws. Depending on the intended use, the solenoid can be supplied with a plug screw, or with integrated manual override. The connector plate corresponds to ISO 4400 and DIN 43650.

**FUNCTION**

When the solenoid is energised with the specified nominal voltage, the armature moves from the starting position of its stroke (s = 8.5 mm) to the end position (s = 0 mm). The switching time is essentially dependent on the application. The power-stroke characteristics are designed to suit the requirements of hydraulic valves. AC versions include an electronic rectifier integrated into the connector plate. In this way maximum performance is assured.

**APPLICATION**

Essential for hydraulic directional and poppet valves. Because of the risk of overheating, the solenoid must never be used separately. The length of the fixing screws depends on the base material of the body. An o-ring is used for the valve seal. Information on screws and o-rings will be found in the data sheets relating to the valves concerned. Before changing the plug screw or the screw with integrated manual override, care must be taken to ensure that the solenoid is not under pressure. Risk of injury! The maximum operating pressure is determined by the valve actually used.

**TYPE CODE**

<table>
<thead>
<tr>
<th>Solenoid</th>
<th>Industrial execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square 60 mm housing</td>
<td></td>
</tr>
<tr>
<td>Solenoid completely potted</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Nominal voltage $U_{Nu}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 VDC</td>
</tr>
<tr>
<td>24 VDC</td>
</tr>
<tr>
<td>115 VAC</td>
</tr>
<tr>
<td>230 VAC</td>
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</table>

AC= 50 to 60 Hz

* Rectifier integrated in the plug

Other nominal voltages and nominal power on request

- with mounted screw plug (data sheet 1.1-300) [HB0]
- with mounted manual override (data sheet 1.1-300) [HB5.5]
- with mounted special manual override (data sheet 1.1-310) [HB10.5]

Design-Index (Subject to change)

**DIMENSIONS**

* Solenoid energised (s= 0 mm)
CHARACTERISTICS

Static pressure tightness 160 bar (seal diameter of valve max. 32 mm)
Coil winding insulation class H
Connection/Power supply Over device plug connection to ISO 4400/DIN 43650, (2P+E), other connections on request
Protection class EN 60 529 IP65
Relative duty factor 100 %
Reference temperature 50 °C
Seal Viton, other on request
Fluid Mineral oil, other fluid on request
Switching cycles 15000h
Mounting screws 4 x M6 (Quality 8.8)
Housing Zinc coated steel housing, other surface treatments on request.

DC | AC
---|---
Totale stroke (mm) | 8.5 | 8.5
Working stroke (mm) | 4 | 4
Nominal power (W) | 40 | 46
Armature weight (kg) | 0.124 | 0.124
Solenoid weight (kg) | 1.90 | 1.90
Voltage range (VDC) | 10-250 | 50-250*

* For AC voltages below 50 VAC DC solenoids plus rectifier plugs are available.

PERFORMANCE

F = f(s) Force-stroke characteristics

<table>
<thead>
<tr>
<th>Voltage Range</th>
<th>12DC</th>
<th>24DC</th>
<th>115VAC</th>
<th>230VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal resistance (Ω)</td>
<td>4</td>
<td>16.5</td>
<td>260</td>
<td>920</td>
</tr>
<tr>
<td>Number of windings (-)</td>
<td>780</td>
<td>1'580</td>
<td>5'710</td>
<td>11'200</td>
</tr>
<tr>
<td>Inductivity (mH)</td>
<td>19</td>
<td>75</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

ACCESSOIRES

Plug HB0 + Article No. 239.2033
Plug with integrated manual override HB8,5 + Article No. 253.8002 + acc. data sheet 1.1-300
Special manual override see data sheet 1.1-310
Plug grey Article No. 219.2001
Plug black Article No. 219.2002
Rectifier plug grey Article No. 219.2105
Rectifier plug black Article No. 219.2106

F = f(s) Force-stroke characteristics

1: U = 100% \( U_n \) Reference temperature = 20 °C (40W)
2: U = 90% \( U_n \) Reference temperature = 50 °C
Solenoid in operating temperature (25W)

The values refer to \( U_n = 24 \) VDC.
With other nominal voltages deviations can occur.
For curve 2 the solenoid has been mounted on a body □ 62 x 93.

Technical explanation see data sheet 1.1-400