**Data and energy:**
The primary switched mode DIN rail power supply SLA4.100 specifically supplies AS Interface® systems with energy. The AS-Interface bus technology allows to connect up to 62 participants to a control and to supply them with energy with a single two-conductor cable. When connecting slaves, the yellow AS-Interface cable offers the high degree of protection IP67 in conjunction with the insulation displacement. The communication signals of the individual network participants are modulated onto the supply voltage. For this purpose, specific power supply units with integrated data decoupling are required for AS-Interface systems.

**Fast addressing of slaves:**
The "IR addressing mode" selectable via jumper interrupts the data communication on the yellow AS-Interface cable. Participants with an infrared interface can then quickly be assigned a new ID address by means of an infrared programming unit without the need to disconnect them from the AS-Interface cable. Afterwards, the "Communication Mode" can be selected again to restart the data communication.

**Worldwide operation:**
This compact primary switched-mode built-in power supply can be operated on all usual single-phase line voltages. Its design corresponds to international standards. The CE-Declaration allows for industrial and office application.

**Ground fault detector:**
Acc. to EN60204 part 1 and DIN VDE0113 respectively, ground faults in control circuits must neither cause a machine to start inadvertently or to dangerous move nor prevent a controlled shutdown. The internal SLA4 ground fault detector makes external ground fault detector modules redundant. The AS-Interface network is monitored by the power supply unit via the AS-Interface cable connected to the various participants. Detected ground faults are stored and signalled via front panel LEDs and relay contacts. The ground fault detector may be manually checked using the test/reset button.

**Order information**

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLA4.100</td>
<td>AS-Interface power supply unit</td>
</tr>
<tr>
<td>SLZ13</td>
<td>Adapter for S7-300 rail</td>
</tr>
<tr>
<td>SLZ02</td>
<td>Wall mounting set (two pcs. per package)</td>
</tr>
</tbody>
</table>
Ground fault detector

The ground fault detector monitors ground faults on the AS-Interface lines and includes a self-test feature. The ground fault feature consists of the LED 'Ground Fault (GF)', a 'Test/Reset' push-button and a relay output. In case of failure, the output voltage will not switch off. For proper functioning, it is essential to connect the shield terminal to PE or machine ground. The AS-Interface network must not contain any other ground fault detectors or insulation monitoring devices.

LED 'Ground Fault (GF)' displays a current or stored ground fault push-button 'Test/Reset':
- push <2s to start test function
- push >2s to reset stored ground fault

Ground fault relay normally closed contact (NC); opens in the event of ground fault
- max. V_{switch} AC 25V or DC 60V
- max. I_{switch} 0.5A

Operating and environmental data

Non-operating temperature range -25°C...+85°C

Operating temperature range -10°C...+70°C (measured at 25mm below the unit)

Derating from 60°C onwards 3W/K power reduction necessary (see diagram)

Cooling natural convection, no forced air-cooling necessary

Over-temperature protection not implemented

Humidity protect from moisture and condensation

Vibration
- 2 – 17.8Hz ±1.6mm (IEC 60068-2-6)
- Sinus 17.8Hz – 500Hz 2g (IEC 60068-2-6)
- Random 2...800Hz 0.5m² (s³) (IEC 60068-2-64)

Shock 15g (6ms), 10g (11ms), IEC 60068-2-27

Degree of pollution 2 (EN 60950)

Overvoltage category II (IEC 60950; IEC 60664), III (EN 50178)

Electromagnetic Compatibility (EMC)

Emissions EN 61000-6-3 (also includes EN 61000-6-4)
Class 8 (EN 55011, EN 55022)
EN 61000-3-2 and EN 61000-3-3

Immunity
- Electrostatic Discharge (ESD)
  - EN 61000-6-2 (also includes EN 61000-6-1),
  - EN 61000-4-2, Level 4
  (withstands 8 kV direct discharge, 15 kV air discharge)
- Electromagnetic radiated fields
  EN 61000-4-3, Level 3 (10 V/m)
- Burst, coupled to:
  - ACin lines
  - DCout lines
  - Signal lines
  Level 4 (4 kV)
  Level 3 (2 kV)
  Level 3 (1 kV)
- Surge transients
  - Differential mode (L→PE, N→PE)
  Installation class 4 (4 kV)
  Installation class 4 (2 kV)
- Conducted noise immunity
  EN 61000-4-6,
  Level 3 (10V, 150 kHz-80 MHz)
- Voltage dips EN 61000-4-11
- Transient immunity
  Transient resistance acc. to VDE 0160 / W2 over entire load range

Efficiency, Reliability

Efficiency typ. 90% (AC 230V, 4A)
Power dissipation typ. 13.5W (AC 230V, 4A)

Schematic
Operating indicators and elements

Plastic slider:
- Mounting: Place the unit onto the DIN-rail and push it downwards against the lower front edge until it snaps into place.
- Detachment: Push downwards and detach the unit from its DIN-rail mounting bracket.

Ground fault relay output:
- Closed: no ground fault
- Open: ground fault

Output terminals:
- Dual terminals for AS-Interface + and AS-Interface –

Green LED:
- ON: AS-Interface voltage is within the limits
- OFF: at overload or missing input voltage

Plug-in jumper:
- Pos. 1-2: regular AS-Interface communication
- Pos. 2-3: Data communication is interrupted. IR-addressing can be carried out

Red LED:
- ON: Jumper position 2-3
- OFF: Jumper position 1-2

Button:
- Push <2s: test function
- Push >2s: ground fault is reset

Red LED:
- ON: ground fault or stored ground fault
- OFF: faultless operation

115/230V switch:
- Slide switch to select the input voltage range

Connectors and terminals

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Finger-touch-proof terminals with captive screws for 5.5mm slotted screwdriver or Philips cross-recessed screwdriver No. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Easy to reach terminals on the front panel; input and output clearly separate from each other</td>
</tr>
<tr>
<td>Tightening torque</td>
<td>0.8Nm</td>
</tr>
<tr>
<td>Wire gauge</td>
<td>Flexible cable: 0.5-4mm² (20-10AWG), Solid cable: 0.5-6mm² (20-10AWG)</td>
</tr>
<tr>
<td>Ferrules</td>
<td>Admissible</td>
</tr>
<tr>
<td>Stripping length</td>
<td>7mm</td>
</tr>
</tbody>
</table>

Front elements

- PE terminal
- N: Input neutral
- L: Input phase
- GF ok: Ground Fault (GF) output (twice); normally closed contact relay type, signals ground fault
- brown: Positive AS-Interface output voltage (twice)
- blue: Negative AS-Interface output voltage (twice)
- Shield: Connection of machine ground (Functional earth for balancing the AS-Interface output. Connection is recommended for EMC)

Construction / Mechanics

| Housing | Robust metal housing for built-in installation |
| Degree of protection | IP20 (EN 60529) |
| Class of protection | 1 (IEC 60536); do not use without protective earth (PE) |
| Width w | 73 mm |
| Height h | 124 mm |
| Depth d | 102 mm (without DIN rail) |
| Weight | 650g |

Installation notes

- External fusing: not necessary (internal fuse)
- observe national regulations
- circuit breaker with B-characteristic min. 6A or slower action, or alternatively 6A HBC fuse
- Mounting position: vertical; input below, output above
- Free space for cooling: above / below 25mm recommended, left / right 15mm recommended

Always connect PE before operating the unit!

Operation without AS-Interface: This AS-Interface PSU has an inductive output. When operating without AS-Interface structure (e.g. in a laboratory test) you should connect a 470µF / 35V capacitor between AS-Interface + and AS-Interface – as commercial electronic loads in combination with the data decoupling often tend to oscillate, and the oscillation may exceed the permitted modulation voltage. Otherwise, equipment may be destroyed.
Functional diagrams

Start behaviour

Hold-up time

Efficiency / Power dissipation

Output characteristic / Overload behaviour

Insulation diagram

Derating

Unless otherwise stated, specifications are valid for AC 230V input voltage, +25°C ambient temperature, and 5 min. run-in time. They are subject to change without prior notice.

Your partner in power supply: