Application, characteristics and technical data have to be taken from the hardware data sheet:

520AOD01 data sheet 1KGT 150 813

Operation

The 520AOD01 board has two analog output channels, which can be configured individually to one of the following parameters:

- ± 2.5 mA
- ± 5 mA
- ± 10 mA
- ± 20 mA (4... 20 mA)
- ± 1.25 V DC
- ± 2.5 V DC
- ± 5 V DC
- ± 10 V DC

The output format unipolar, bipolar or live zero (4 ... 20 mA) can be configured by software parameters.

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Default</th>
<th>Parameter location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output signal range</td>
<td>20 mA</td>
<td>ASO / FSO – PDP parameters</td>
</tr>
</tbody>
</table>

Use the output signal range configuration parameter to specify the hardware setting of the analog output module.

<table>
<thead>
<tr>
<th>Output signal type</th>
<th>Bipolar</th>
<th>ASO / FSO – PDP parameters</th>
</tr>
</thead>
</table>

select Bipolar, Unipolar or Live Zero signal type

Processing functions

The micro-controller on the module processes all time critical tasks of the parameterized processing functions. Moreover it carries out the interactive communication with the RTU I/O bus. All configuration data and processing parameters are loaded by the communication unit via the RTU I/O bus.

Settings

The output range of both channels will be defined by the DIP switches S1 and the jumpers S2 (channel 2) and S3 (channel 1).

The DIP switch S1 sets the maximum voltage/ current output range.

Jumpers S2 and S3 select the output type:

- S2 / S3 at Position 1-2: Current Output
- S2 / S3 at Position 2-3: Voltage Output

Connections

I/O bus connection

The module is connected to the RTU I/O bus via the connectors X1 and X2.

DIL switch S1 with current output (S2 / S3 at Position 1-2)

<table>
<thead>
<tr>
<th>Current [mA]</th>
<th>Channel 1</th>
<th>Channel 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>5</td>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td>10</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>20</td>
<td>On</td>
<td>On</td>
</tr>
</tbody>
</table>

DIL switch S1 with voltage output (S2 / S3 at Position 2-3)

<table>
<thead>
<tr>
<th>Voltage [V]</th>
<th>Channel 1</th>
<th>Channel 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.25</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>2.5</td>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td>5</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>10</td>
<td>On</td>
<td>On</td>
</tr>
</tbody>
</table>

Signaling

LED ERR

The module monitors and checks the own functionality as well as the dialog via the I/O bus. Detected errors are indicated by the red LED ERR on the front plate and transmitted via the I/O bus to the communication unit (CMU). Additional diagnostic messages are available using the Web-Server on the CMU.

The LED ERR indicates module errors or I/O bus errors:

- module runs initialization procedure
- module is performing a cold or warm start
- module has detected a memory error (RAM or PROM)
- micro-controller is faulty
- no dialog via the I/O bus for at least 2 minutes. The module is not polled by the CMU.
ADVICE

To prevent damage on the connected modules de-energize the system before plugging or unplugging the I/O bus connectors.

ADVICE

To prevent unintended disconnection of the I/O bus connectors end stops (e.g., BAM3 15NK900001R0000) shall be used at both ends of the I/O assembly.

Process connections

The process signals are connected to the screw terminals X3 and X4.

The electronic circuits on the process side are supplied by an external voltage input $U_E (V_{in})$. The voltage input $U_E$ is connected at X5.

For the operation of the module addition 24 V DC ($U_E$) is required (e.g., from 560PSU40/41). This voltage $U_E$ has to be supplied from external and wired to the $U_E$ connector.

![Figure 1: 520AOD01 Process connections](image)

![Figure 2: 520AOD01 front plate](image)

![Figure 3: 520AOD01 label](image)
1 Insert upper edge into DIN rail and push downwards
2 Push lower edge towards DIN rail and snap in the module

3 + 4: Shift one module connector into the other starting from right to left
5 + 6: Mount end stops at the left and right side
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