PCD7.H104S interface for transmission of S0 counting pulses via the S-Bus to the billing location

S-Bus S0 modules greatly reduce the costs of installing energy meter networks with Saia PCD / Saia PCS

Low installation costs through transmission of individual consumption values via S-Bus
- Clear, simple installation building
- Up to 100 S-Bus S0 modules per Saia PCD/PCS billing location
- Up to 400 energy meters (4 per S-Bus S0 module)
- 4 S0 pulse inputs (S01+…S04+) per S-Bus S0 module
- The definition of the S0 interface is in the DIN43864

For precise energy management and individual billing in locations with communal installations, such as:
- Shopping centres, airports and railways
- Groups of offices, factories, shops, air conditioned areas, advertising and lighting
- Rental and holiday homes, houses, bungalows, hotels, hospitals and schools
- Exhibitions, markets, etc.
Technical data PCD7.H104S

Protection type as DIN40050
- IP 40 | connections IP 20

Operating voltage Un
- 230 VAC (-20/+15%)

Current draw
- < 12 mA

Power draw
- < 3 W

Mounting
- On 35 mm DIN top-hat rail (EN50022) any mounting position

Connections
- For Pozidrive, Philips or slot-head screwdriver N°1
- S0, S-Bus, 230 VAC 0.5 … 2.5 mm²

Temperature
- Operation: –20°C … +55°C
- Storage: –25°C … +70°C

EMC / noise immunity
- Surge voltage according to IEC61000-4-5 on main electric circuit, 4 kV 1.2 / 50 μs
- Surge voltage according to IEC61000-4-5 at S0 inputs, 1 kV 1.2 / 50 μs
- Burst voltage according to IEC61000-4-4,
- Main electric circuit 4 kV direct
- S0 inputs 2 kV capacitive
- S-Bus connections 1 kV capacitive
- ESD according to IEC61000-4-2,
- Contact 8 kV, air 8 kV

Insulation characteristics
- 4 kV/50 Hz test according to VDE0435
- 6 kV 1.2 / 50 μs surge voltage according to IEC61000-4-5
- Device protection class II

LEDs
- Run indication by green LED (On)
- Function indication by red LED when bus active

Technical data S-Bus

Bus system
- SBC S-Bus

Transmission rate
- 9600-19'200-28'800-33'600-57'600

Transmission mode
- Data

Bus length (max.)
- 1200 m (without repeater)

Response time:
- Write: 30 ms
- Read: 10 ms

Data transmission:
Only «read/write» register instructions are recognized. Only one register can ever be read/written at a time. The device will not respond to any unknown query. The «automatic transmission rate» is set by default. The module has a voltage monitoring system. In case of voltage loss, registers are stored in EEPROM (50 number of registers, transmission rate etc.)

Registers

<table>
<thead>
<tr>
<th>Register</th>
<th>Instruction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>R</td>
<td>S-Bus address</td>
</tr>
<tr>
<td>1</td>
<td>R</td>
<td>Module type</td>
</tr>
<tr>
<td>2</td>
<td>R</td>
<td>Software version</td>
</tr>
<tr>
<td>3</td>
<td>RW</td>
<td>Transmission rate</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>57600</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>33600</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>28800</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>19200</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>9600 (default)</td>
</tr>
<tr>
<td>4</td>
<td>RW</td>
<td>Automatic transmission rate</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>ON (default)</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>OFF</td>
</tr>
<tr>
<td>10</td>
<td>RW</td>
<td>Identity (ID) of S01</td>
</tr>
<tr>
<td>11</td>
<td>RW</td>
<td>Identity (ID) of S02</td>
</tr>
<tr>
<td>12</td>
<td>RW</td>
<td>Identity (ID) of S03</td>
</tr>
<tr>
<td>13</td>
<td>RW</td>
<td>Identity (ID) of S04</td>
</tr>
<tr>
<td>14</td>
<td>RW</td>
<td>Number of pulses for S01</td>
</tr>
<tr>
<td>15</td>
<td>RW</td>
<td>Number of pulses for S02</td>
</tr>
<tr>
<td>16</td>
<td>RW</td>
<td>Number of pulses for S03</td>
</tr>
<tr>
<td>17</td>
<td>RW</td>
<td>Number of pulses for S04</td>
</tr>
<tr>
<td>18</td>
<td>RW</td>
<td>Factor n: Impulses per unit for S01</td>
</tr>
<tr>
<td>19</td>
<td>RW</td>
<td>Factor n: Impulses per unit for S02</td>
</tr>
<tr>
<td>20</td>
<td>RW</td>
<td>Factor n: Impulses per unit for S03</td>
</tr>
<tr>
<td>21</td>
<td>RW</td>
<td>Factor n: Impulses per unit for S04</td>
</tr>
</tbody>
</table>

R = Read RW = Read + Write

32 Bit, unsigned

SBC S-Bus S0 module PCD7.H104S | Technical information
Connections and display elements
Centralized meter reading and billing with Saia PCD/PCS

Connections and display elements

Connections

<table>
<thead>
<tr>
<th>S-Bus</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

PCD7.H104S

S0 input:
- Complies with SO standard 62053-31
- Counts pulses as 0 when R < 800 Ω
  counts pulses as 1 when R > 1 MΩ
- Voltage max. (GND-S0) 13 VDC
- Current max. (with 0 Ω) 6 mA
- Pulses low min. 30 ms
- Pulses high min. 30 ms
- Frequency max. 17 Hz

S-Bus, Supply

U = 230 VAC 50/60 Hz

Centralized meter reading and billing with Saia PCD/PCS

Management of up to 400 S0 connections between AAD or AAE energy meters and Saia PCD/PCS controllers via S-Bus. This network of meters can be conveniently programmed with Saia PG5® FBoxen.

- Consumption data collected, stored and transmitted – including via Internet – to other systems
- Billing data output and automatic invoice printing
- Transmission of metered data via modem, TCP/IP, and all other commonly used protocols
- Data visualization by direct access, using the PCD’s integral web server

Connections and display elements

Centralized meter reading and billing with Saia PCD/PCS

Application example

3 phases (3P+N-E)
3 × 230/400 VAC, 50 Hz

Up to 400 Energy meters

Up to 100 S-Bus S0 modules per PCD communication channel

Note: If the S0-S-Bus module is used in the S-Bus as last device, then the sliding switch «RS-485 Terminate» need to be in the position «On».
...lower installation costs for a wealth of applications

Up to 100 S-Bus S0 modules
Concentration of up to 400 lines on RS-485 2-wire bus

H104S FBoxes. Download from www.sbc-support.com
Efficient parameter setting for S-Bus S0 modules with Saia PG5® Fupla FBoxes

Energy distribution and consumption in billing centre
Individual billing of power consumption for shared business premises in offices or industry.

Novotel, Bern | BEA Expo
Knowledge of the user’s energy requirement is important for energy management in hotels, motels, hostels, hospitals, etc.

Ordering information

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCD7.H104S</td>
<td>SBC S-Bus S0 module for the connection of up to 4 meters</td>
<td>35 × 85 × 58.2 mm</td>
<td>170 g</td>
</tr>
</tbody>
</table>

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