

# UNIMA-KS

Development & production of control equipment  
Visualization, measurement and regulation SW

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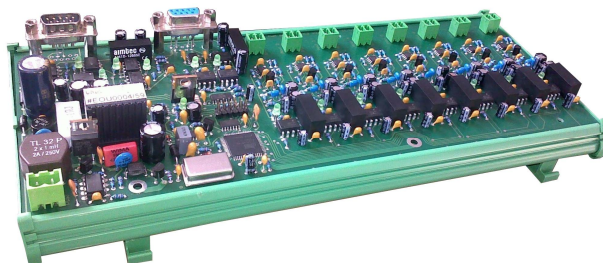
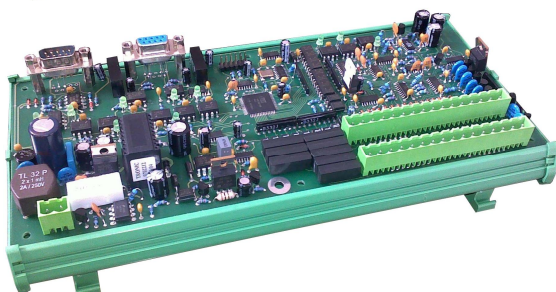
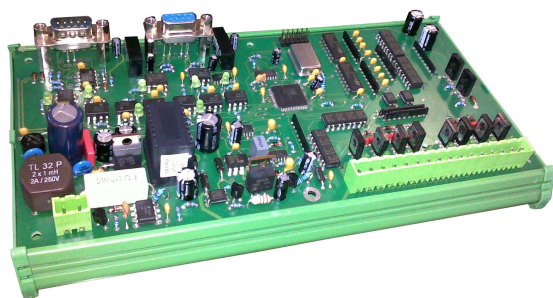
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## Expansion modules Specification



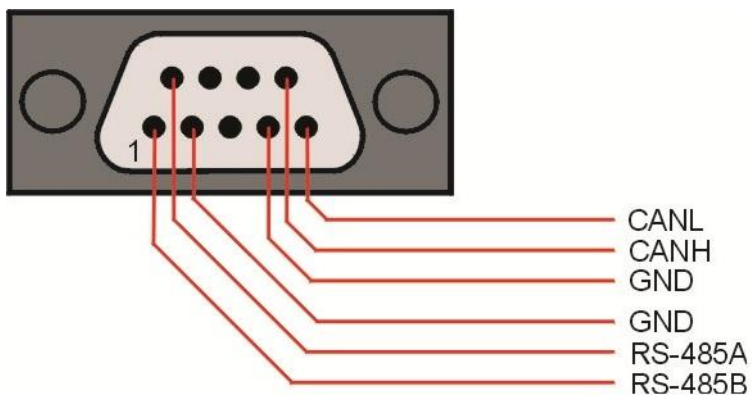
August 2011

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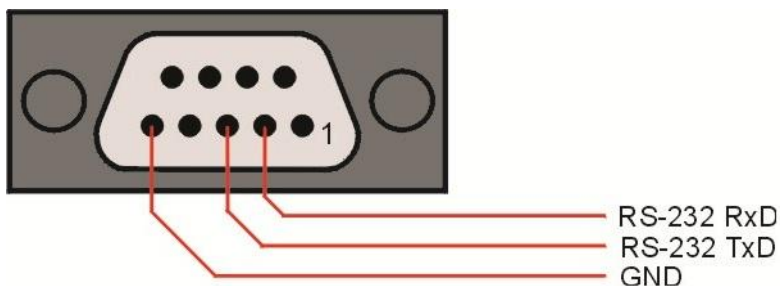
## 1. Communication interfaces

### 1.1 RS-485, CAN



|        | Name | Meaning | Levels                          |
|--------|------|---------|---------------------------------|
| SCOM.1 | 485B | RS-485  | Compatible with RS-485 a<br>CAN |
| SCOM.2 | GND  |         |                                 |
| SCOM.3 | NC   |         |                                 |
| SCOM.4 | GND  | CAN     |                                 |
| SCOM.5 | CANL |         |                                 |
| SCOM.6 | 485A | RS-485  |                                 |
| SCOM.7 | NC   |         |                                 |
| SCOM.8 | NC   |         |                                 |
| SCOM.9 | CANH | CAN     |                                 |

### 1.2 RS-232



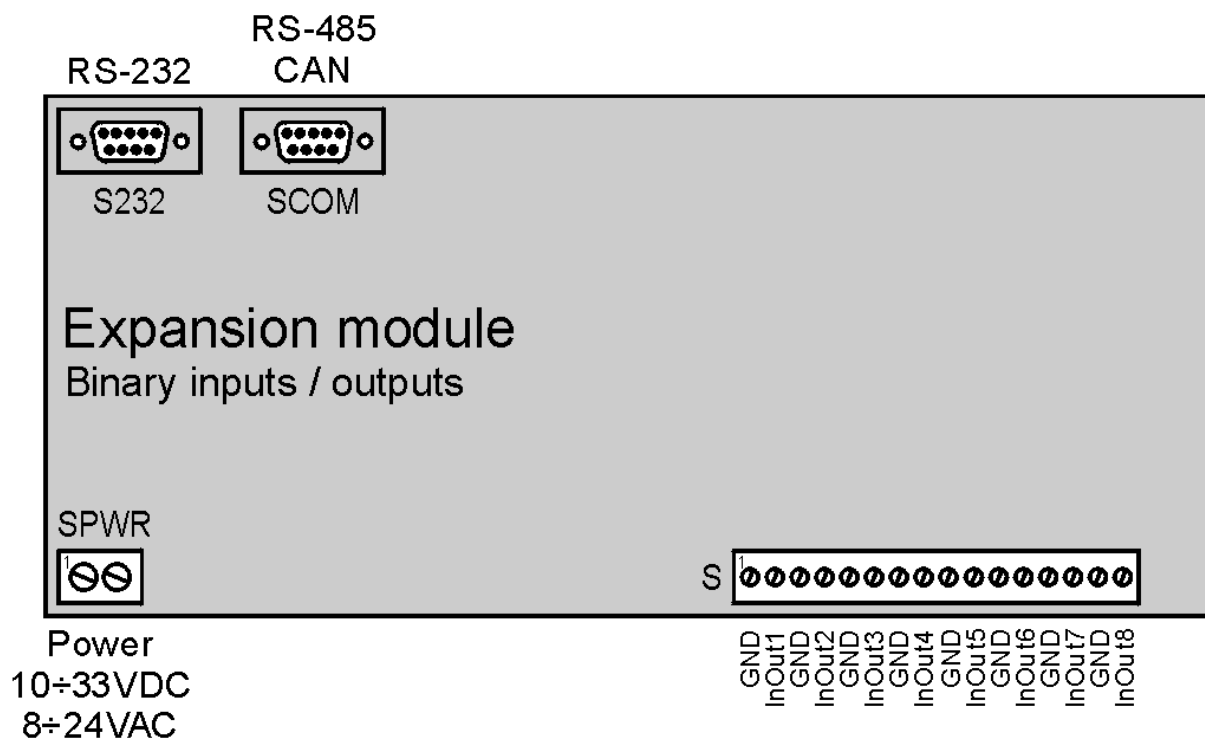
|      | Name | Signification            | Working values                |
|------|------|--------------------------|-------------------------------|
| S5.1 | NC   |                          | Levels compatible with RS-232 |
| S5.2 | RxD  | Receive of serial data   |                               |
| S5.3 | TxD  | Broadcast of serial data |                               |
| S5.4 | NC   |                          |                               |
| S5.5 | GND  | Ground                   |                               |
| S5.6 | NC   |                          |                               |
| S5.7 | NC   |                          |                               |
| S5.8 | NC   |                          |                               |
| S5.9 | NC   |                          |                               |

## 2. EBinInOut8 (binary input/outputs expansion module)

8-channel binary input/output module, independent configuration for input (with or without route checking) or output. Some of channels is possible to configure for additional purposes:

- PWM output 100Hz (channels 7 and 8)
- Period and frequency measurement (channels 1,2,3 and 4)
- Input with 1s monostable flip-flop circuit (channel 1)

Construction to DIN molding, width 250mm.



| Pin    | Name  | Note                                |
|--------|-------|-------------------------------------|
| SPWR.1 | POWER | Power supply 10÷33V DC or 8÷24V AC. |
| SPWR.2 |       |                                     |

Connector pitch: 5,04mm  
Max.wire section 2,5mm<sup>2</sup>

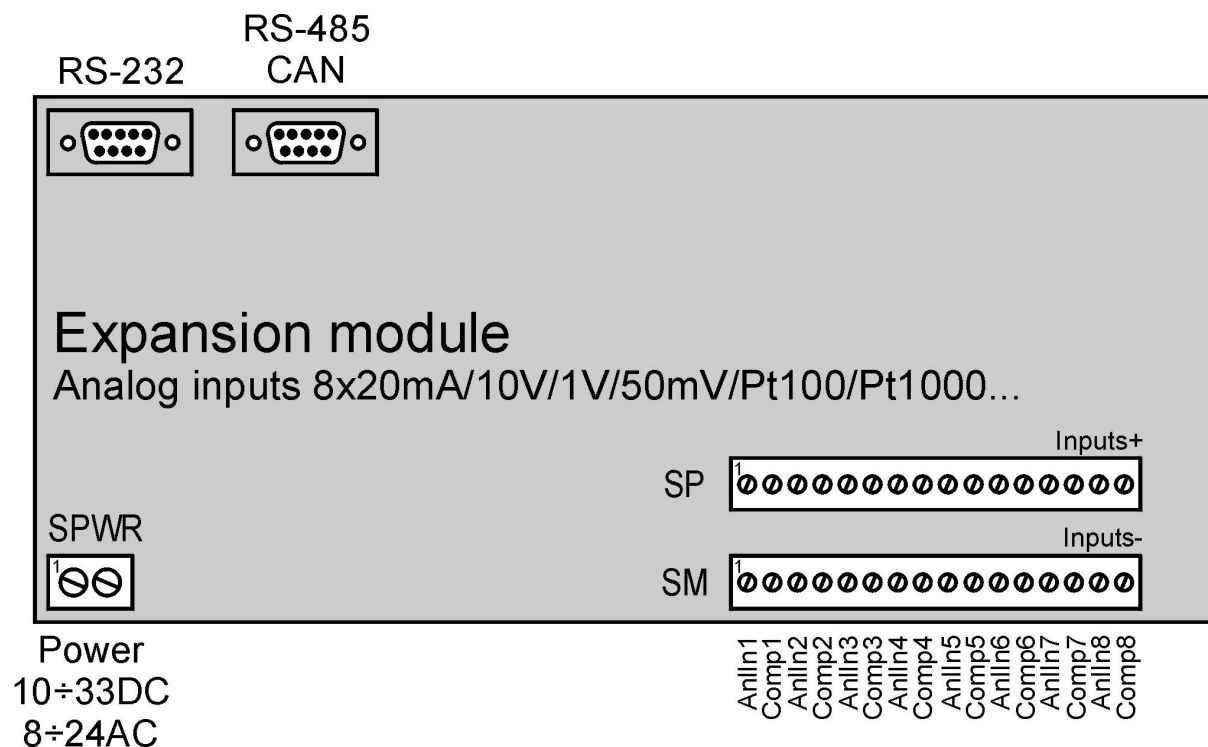
| Pin  | Name   | Note                    |
|------|--------|-------------------------|
| S.1  | GND    | Binary input / output 1 |
| S.2  | BinIO1 |                         |
| S.3  | GND    | Binary input / output 2 |
| S.4  | BinIO2 |                         |
| S.5  | GND    | Binary input / output 3 |
| S.6  | BinIO3 |                         |
| S.7  | GND    | Binary input / output 4 |
| S.8  | BinIO4 |                         |
| S.9  | GND    | Binary input / output 5 |
| S.10 | BinIO5 |                         |
| S.11 | GND    | Binary input / output 6 |
| S.12 | BinIO6 |                         |
| S.13 | GND    | Binary input / output 7 |
| S.14 | BinIO7 |                         |
| S.15 | GND    | Binary input / output 8 |
| S.16 | BinIO8 |                         |

Connector pitch: 3,81mm  
Max.wire section 1,5mm<sup>2</sup>

### 3. EAnlIn8 (analog inputs expansion module)

8-channels input, independent configuration for  $\pm 20\text{mA}$ ,  $\pm 10\text{V}$ ,  $\pm 1\text{V}$ ,  $\pm 50\text{mV}$ , Pt100, Pt1000, Potenciometer  $100\Omega$  or frequency input. Inputs are differential with possibility to switch input  $-\text{IN}$  to ground and with possibility of 4-wire measurement.

Construction to DIN molding, width 250mm.



| Pin    | Name  | Note                                |
|--------|-------|-------------------------------------|
| SPWR.1 | POWER | Power supply 10÷33V DC or 8÷24V AC. |
| SPWR.2 |       |                                     |

Connector pitch: 5,04mm

Max.wire section 2,5mm<sup>2</sup>

| Pin   | Name     | Note            |
|-------|----------|-----------------|
| SP.1  | AnlOut1+ | Analog input 1+ |
| SP.2  | Comp1+   |                 |
| SP.3  | AnlOut2+ | Analog input 2+ |
| SP.4  | Comp2+   |                 |
| SP.5  | AnlOut3+ | Analog input 3+ |
| SP.6  | Comp3+   |                 |
| SP.7  | AnlOut4+ | Analog input 4+ |
| SP.8  | Comp4+   |                 |
| SP.9  | AnlOut5+ | Analog input 5+ |
| SP.10 | Comp5+   |                 |
| SP.11 | AnlOut6+ | Analog input 6+ |
| SP.12 | Comp6+   |                 |
| SP.13 | AnlOut7+ | Analog input 7+ |
| SP.14 | Comp7+   |                 |
| SP.15 | AnlOut8+ | Analog input 8+ |
| SP.16 | Comp8+   |                 |

Connector pitch: 3,81mm

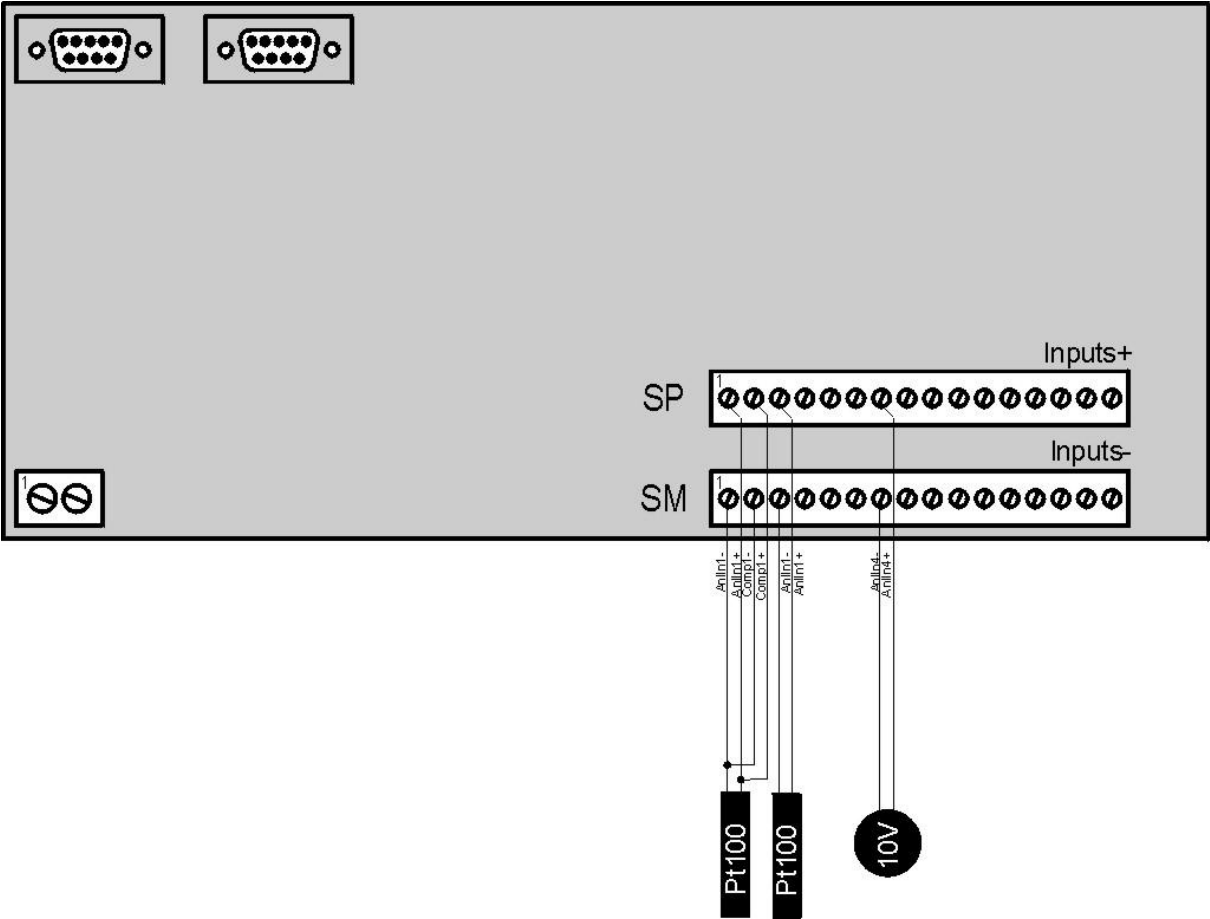
Max.wire section 1,5mm<sup>2</sup>

| Pin   | Name     | Note            |
|-------|----------|-----------------|
| SM.1  | AnlOut1- | Analog input 1- |
| SM.2  | Comp1-   |                 |
| SM.3  | AnlOut2- | Analog input 2- |
| SM.4  | Comp2-   |                 |
| SM.5  | AnlOut3- | Analog input 3- |
| SM.6  | Comp3-   |                 |
| SM.7  | AnlOut4- | Analog input 4- |
| SM.8  | Comp4-   |                 |
| SM.9  | AnlOut5- | Analog input 5- |
| SM.10 | Comp5-   |                 |
| SM.11 | AnlOut6- | Analog input 6- |
| SM.12 | Comp6-   |                 |
| SM.13 | AnlOut7- | Analog input 7- |
| SM.14 | Comp7-   |                 |
| SM.15 | AnlOut8- | Analog input 8- |
| SM.16 | Comp8-   |                 |

Connector pitch: 3,81mm

Max.wire section 1,5mm<sup>2</sup>

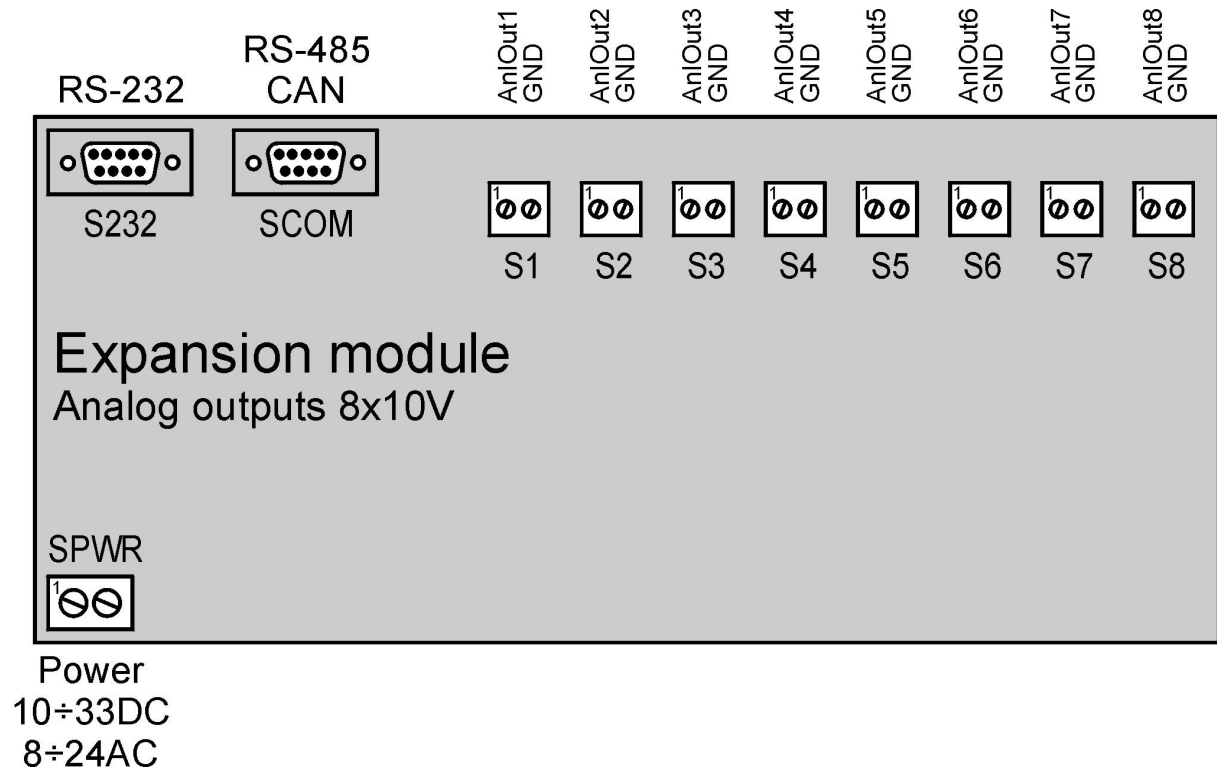
Example of 2-wire and 4-wite input connection:



#### 4. EAnlOut8x10V (10V analog output expansion module)

8-channels output  $\pm 10V$ . AnlOut1÷AnlOut6 are fast (100ms standstill) and output accuracy is identical to 12-bit convertor, outputs AnlOut7÷AnlOut8 are slow (1s standstill) and identical to 8-bit convertor.

Construction to DIN molding, width 275mm.



| Pin    | Name  | Note                                |
|--------|-------|-------------------------------------|
| SPWR.1 | POWER | Power supply 10÷33V DC or 8÷24V AC. |
| SPWR.2 |       |                                     |

Connector pitch: 5,04mm

Max.wire section 2,5mm<sup>2</sup>

| Pin  | Name    | Note               |
|------|---------|--------------------|
| SN.1 | AnlOutV | Analog output ±10V |
| SN.2 | GND     |                    |

Connector pitch: 3,81mm

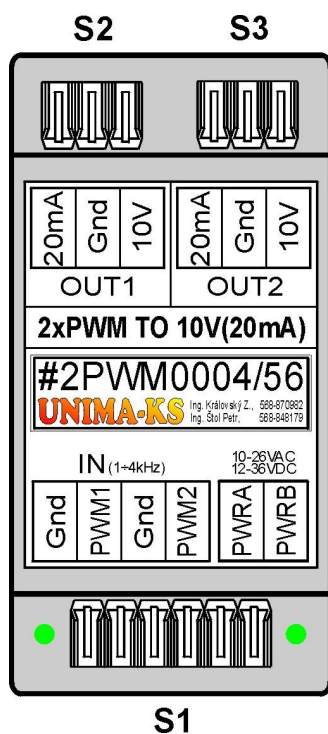
Max.wire section 1,5mm<sup>2</sup>

## 5. EpwmTo10V(20mA) (external convertor of PWM signal)

Convertor can be used to convert input PWM signal 1÷4kHz to voltage  $\pm 10V$  or current  $\pm 20mA$ .

Construction to DIN molding, width 48mm.

|            |              |          |            |
|------------|--------------|----------|------------|
| D.C. Input | 0%           | 50%      | 100%       |
| Output     | -10V (-20mA) | 0V (0mA) | 10V (20mA) |



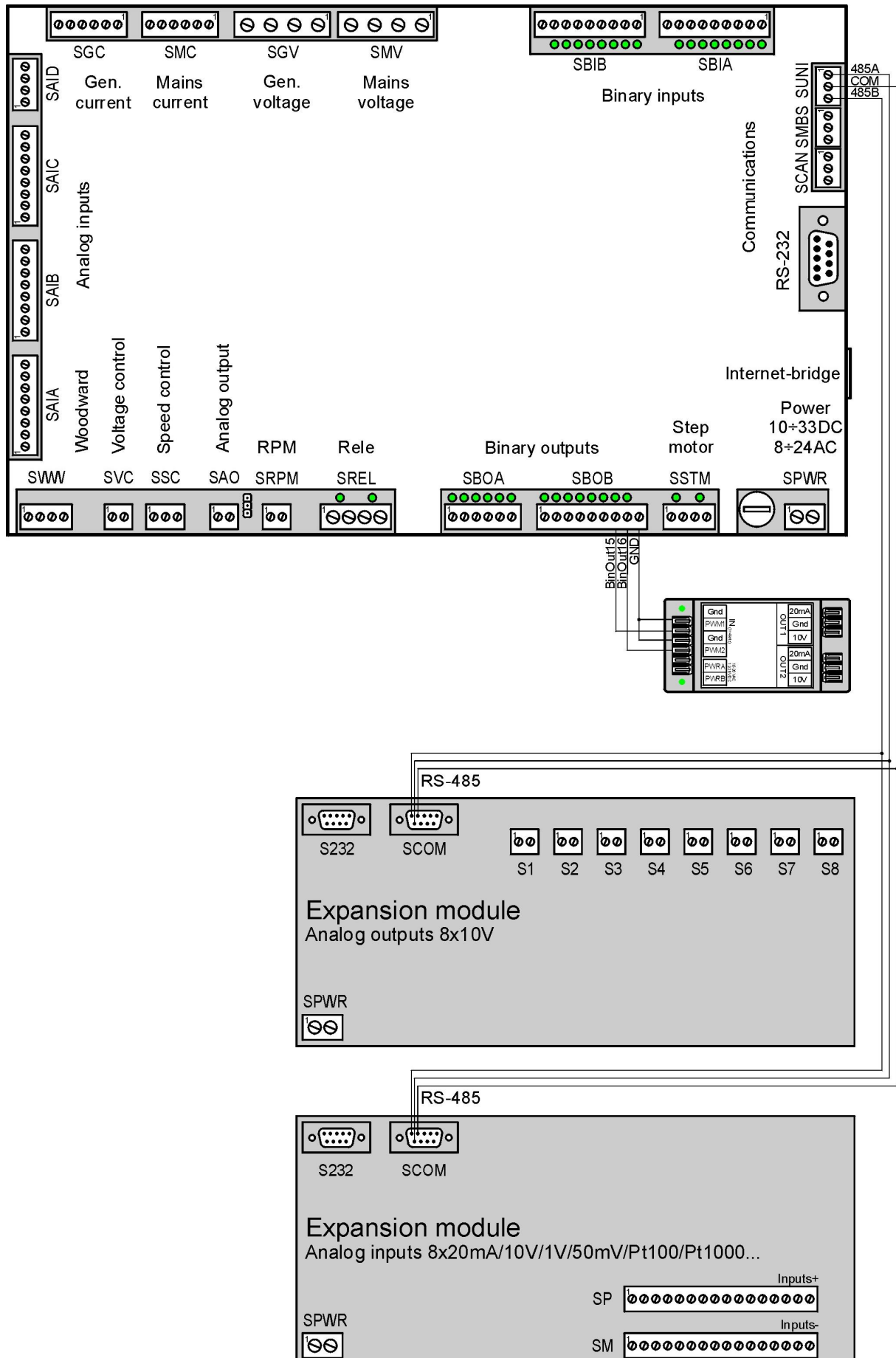
| Pin  | Name | Note                                 |
|------|------|--------------------------------------|
| S1.1 | GND  | Drive input PWM1                     |
| S1.2 | PWM1 |                                      |
| S1.3 | GND  | Drive input PWM2                     |
| S1.4 | PWM2 |                                      |
| S1.5 | PWRA | Power supply<br>10÷26V AC, 12÷36V DC |
| S1.6 | PWRB |                                      |

| Pin  | Name | Note                       |
|------|------|----------------------------|
| S2.1 | 10V  | Analog output 1 (-10÷10V)  |
| S2.2 | GND  | Common GND                 |
| S2.3 | 20mA | Analog output 1 (-20÷20mA) |

| Pin  | Name | Note                       |
|------|------|----------------------------|
| S3.1 | 10V  | Analog output 1 (-10÷10V)  |
| S3.2 | GND  | Common GND                 |
| S3.3 | 20mA | Analog output 1 (-20÷20mA) |

## 6. Connection of expansion modules to UniGEN

### 6.1 Connection of modules via RS-485



## 6.2 Connection of modules via CAN

