

### 5.6.1 PCD2.B100, 2 inputs + 2 outputs + 4 digital inputs/outputs (selectable)

#### Application

Economical combined input/output module with:

- 2 inputs 24 VDC/8 ms for source operation, electrically connected
- 2 transistor outputs 0.5 A/5... 32 VDC, electrically connected, not short circuit protected, and
- 4 combined inputs/outputs 24 VDC/8 ms or 0.5 A/5... 32 VDC on common I/O terminals.

5

#### Technical data on inputs

Number of inputs:	6 (2 + 4), electrically connected, source operation
Input voltage:	24 VDC smoothed or pulsed
2 inputs E0 and E1 low-range: high-range:	-30... +5 V +15... +32 V
4 inputs E/A2... E/A5 low-range: high-range:	-0.5... +5 V *) +15... +32 V
All 6 inputs: low-high switching threshold: high-low switching threshold: hysteresis: input current (24 VDC): switching delay 0-1 (24 VDC): switching delay 1-0 (24 VDC):	13 V typically 6 V typically 7 V typically  7 mA typically 8 ms typically 8 ms typically
*) Negative voltage is restricted by the protective diode ( $I_{max} = 0.5 \text{ A}$ )	

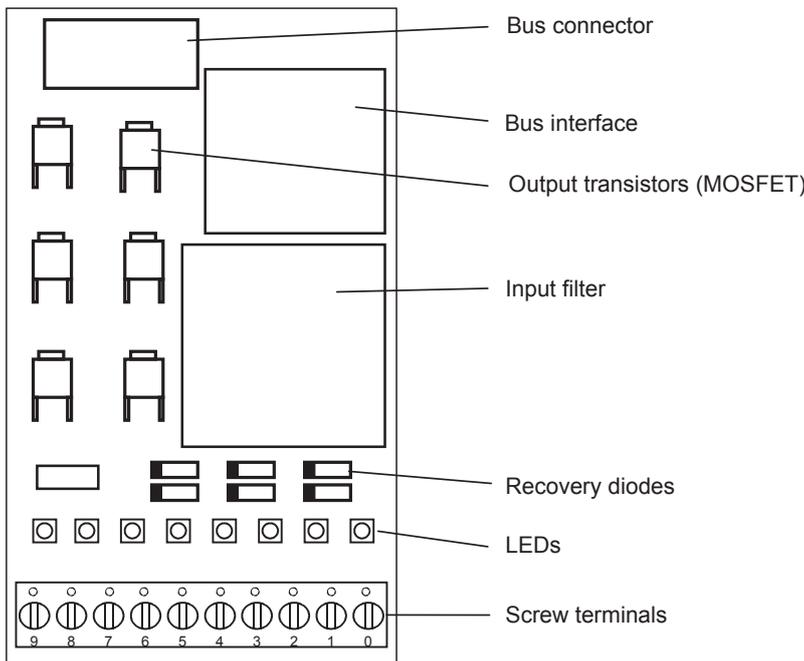
#### Technical data on outputs

Number of outputs:	6 (2 + 4) electrically connected, source operation not short circuit protected
Current:	5... 500 mA steady load
Voltage range:	5... 32 VDC *)
Voltage drop:	< 0.3 V at 500 mA for A6 and A7 < 0.7 V at 500 mA for E/A2... E/A5
Total current per module:	3 A steady load
Switch-on delay:	10 $\mu\text{s}$ typically
Switch-off delay:	50 $\mu\text{s}$ typically (100 $\mu\text{s}$ max.), (ohmic load 5... 500 mA), longer for inductive load because of protective diode.
*) If it is intended to read the status of a combined output, the external voltage must be at least 17 VDC, as both the status and the LED are displayed via the input.	

**General technical data on inputs and outputs**

Resistance to interference: acc. to IEC 801-4	4 kV under direct coupling 2 kV under capacitive coupling (whole trunk group)
Internal current consumption: (from +5 V bus)	1 ... 25 mA typically 15 mA
Internal current consumption: (from V+ bus)	0 mA
External current consumption:	Load current
Terminals:	Pluggable 10-pole screw terminal block (4 405 4847 0), for wires up to 1.5 mm <sup>2</sup>

**LEDs and connection terminals**



The module contains 8 LEDs:

- 2 LEDs are directly triggered by the pure inputs.
- 2 LEDs are directly triggered by the pure outputs.
- 4 LEDs are triggered by the inputs of the combined inputs/outputs and therefore always indicate voltage status at the I/O terminal.

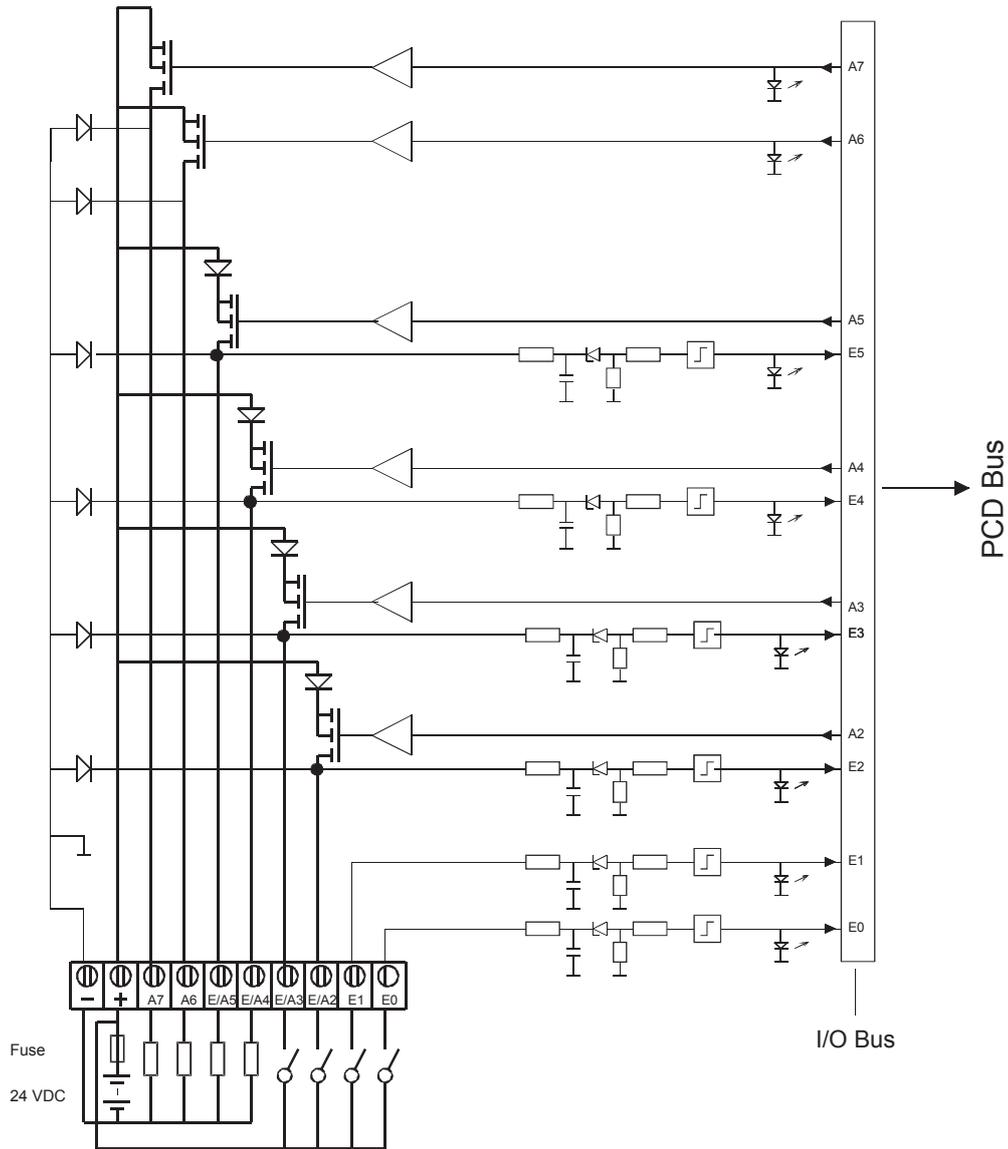


If the combined I/Os are used as outputs, the following should be noted:  
The LEDs of combined outputs E/A2... E/A5 only light up when the output is high and a supply voltage of 24 V is connected.

**Mixing the combined inputs/outputs**

If combined I/Os are used as inputs in source operation, i.e. with sending devices which either apply +24 V to the input or are open, the low status of an open input can be overwritten as high if the corresponding output at the same address is set in error. However, if the input is shifted to 0 V with a changeover contact and the corresponding output is set in error, the MOS-FET can be destroyed, as it is not short circuit protected. For this reason, only positive-switching contacts should be used.

Input/output circuits and terminal designation



5

The example shows E/A2 and E/A3 used as inputs and E/A4 and E/A5 used as outputs

The following applies for the inputs:

- Switch closed (input positive): Signal state = "1" = LED on
- Switch open: Signal state = "0" = LED off

**Fuse:** It is recommended that each module should be separately protected with a fast-blow 3.15 A fuse.



**Watchdog:** This module can be used on all base addresses; there is no interaction with the watchdog on the CPUs. For details, please refer to the [section A4 "Hardware Watchdog"](#), which describes the correct use of the watchdog in conjunction with PCD components.