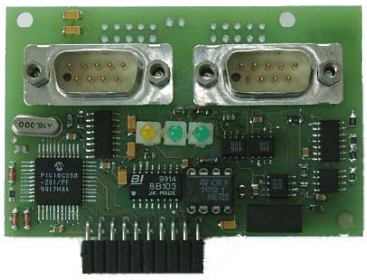
The plug-in cards V-ESI and B-ESI offer the possibility to build an inexpensive fieldbus system in simplest way over a standard-RS232-interface. Up to 32 modules can be attached to a fieldbus system, per module 8 digital inputs and 8 digital outputs are available. These are led on a plug-in connection, which is compatible to the remaining ZANDER fieldbus plug-in cards (e.g. B-DP, B-IS, B-CAN). V-ESI and B-ESI thus can be put into the ZANDER industrial fieldbus module ESB.



- *Efficient, simple and inexpensive fieldbus system*
- *No additional hardware at PC or PLC are necessary*
- *Simple installation, low wiring costs*
- *Simple programming, 2 protocoll variants*
- *Parameters by software via PC selectable*
- *Automatic recognition of the data transmission rate*
- *Configurable self-monitoring (Watchdog)*
- *Fieldbus length depending upon cable and data transmission rate:1000m*
- *Employment in manufacturing plants, storage systems, inspection stations, house installation etc.*



5

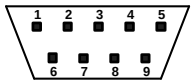
Connection to the fieldbus

If a PC or a PLC with RS232-interface is used as a fieldbus master, the first fieldbus participant must be equipped with the plug-in card V-ESI. This possesses an integrated RS232/RS485-interface, which makes the connection possible to **the following** B-ESI plug-in cards via RS485-connection. If the fieldbus master already has a RS485-interface, it can be done without the V-ESI.

For a fault-free operation the RS232-connection from the PC to the V-ESI should not be longer than 15m. The RS485-fieldbus can be used against it up to a distance of more than 1000m depending upon kind of the cable (optimum: shielded twisted pair line, as large a cross section as possible) and transmission rate .

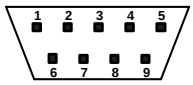
The RS232-interface is connected with the fieldbus master by a standard zero-modem cable (TxD ↔ RxD, RxD ↔ TxD, GND ↔ GND) which is available as an accessory of ZANDER. The RS485-interface connection conforms to the usual standard.

For the production of the RS485-data line the pins 3 and 7 of each fieldbus participant must be interconnected in each case. A voltage of 5V rests at the pins 6 and 5, which can be used for an external RS485-interface if necessary. It is to be considered that the RS485-fieldbus at the beginning and at the end will provide with a terminal resistance, which must be identical to the line resistance (typically: 180Ω). This is soldered between the contacts 3 and 7 of the SubD socket. Additionally at the beginning and the end of the bus, in each case two resistances of 470Ω are necessary, which are soldered between the contacts 3 and 6 and 7 and 5. (see wiring diagramm)



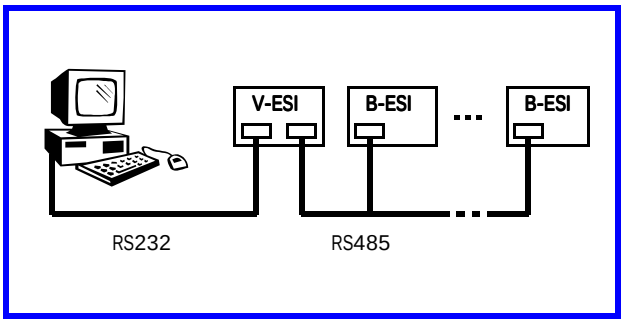
RS-232-interface (V-ESI)

2: RxD
3: TxD
5: 0V (GND1)
other pins: not connected



RS-485-interface (V-ESI, B-ESI)

3: Tx+/Rx+
7: Tx -/Rx -
6: +5V
5: 0V (GND2)
other pins: not connected



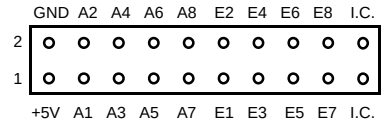
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RS232/RS485 Plug-in Cards V-ESI/B-ESI

I/O-port - plug-in connection

At a 20-pin socket strip the input/output signals are available as TTL level (5V).



Signal name of the pin:

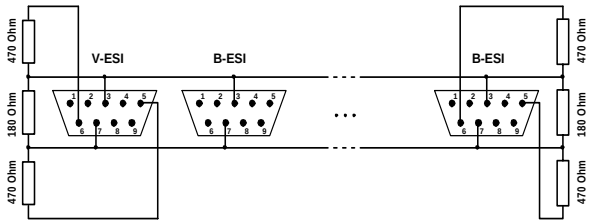
+5V, GND: power supply
A1..A8: digital outputs
E1..E8: digital inputs
I.C.: do not wire! Internally connected

Software

Download our free of charge installation software B-ESI from our homepage www.zander-aachen.de! It simply configures your fieldbus from the PC.

Existing Windows DLL functions make the integration of the B-ESI-fieldbus into all Windows programs possible (e.g. Visual basic, Delphi, C++..) with few lines of program code. The entire bus handling is taken over automatically by the DLL functions. Various demo programs with source code are likewise present. You find a detailled description in the assistant system of the B-ESI-software.

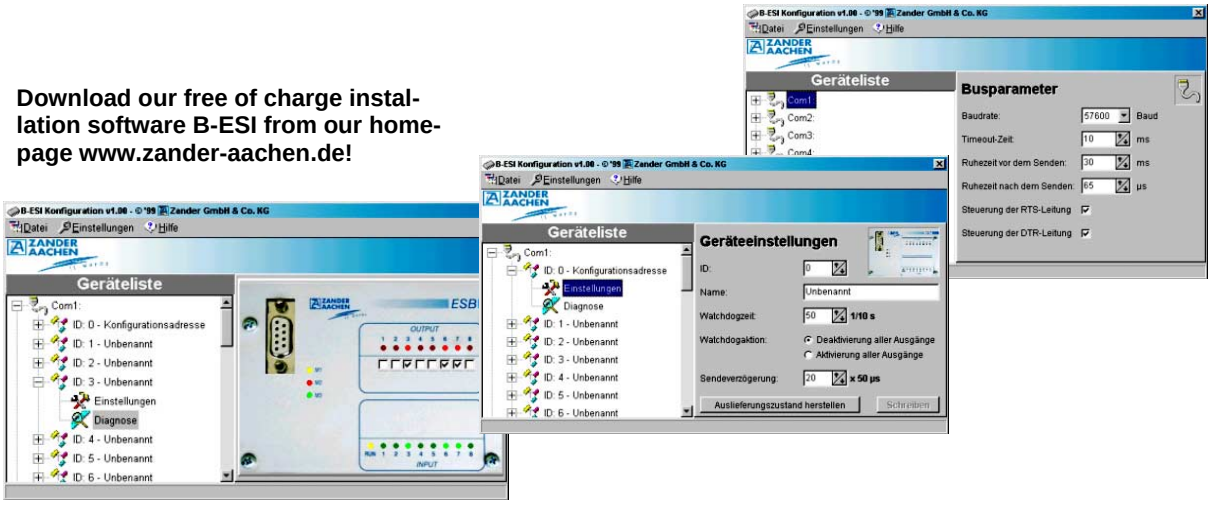
Order-No	Type
586193	B-ESI / RS485-plug-in card ESI-protocoll
586194	V-ESI / RS232/RS485 plug-in card ESI-protocoll
586171	RS232-cable PC-> V-ESI 2x9 pin, 2m
586174	RS485-cable open end -> B-ESI 1x9-pin, 2m
586175	Wiring 586174 to 586174 incl. terminal resistance, each station
586179	each additional meter cable RS232/RS485



Wiring diagramm (with external terminal resistors at the first and last unit)

Specifications	
Operating voltage	DC 5V ±5%, stabilized
Power consumption	approx. 150mA
LED-display	Watch-Dog (M3, yellow), RS485-Receive (M2, red), RS232-RxD/TxD (V-ESI) / RS485-Send (B-ESI) (M1, green)
Data transmission rate	max. 57600 Baud
RS232-interface (only V-ESI)	9pin SubD
RS485-interface	9pin. SubD, electrically isolated
I/O-interface	20-pin plug-in connection

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