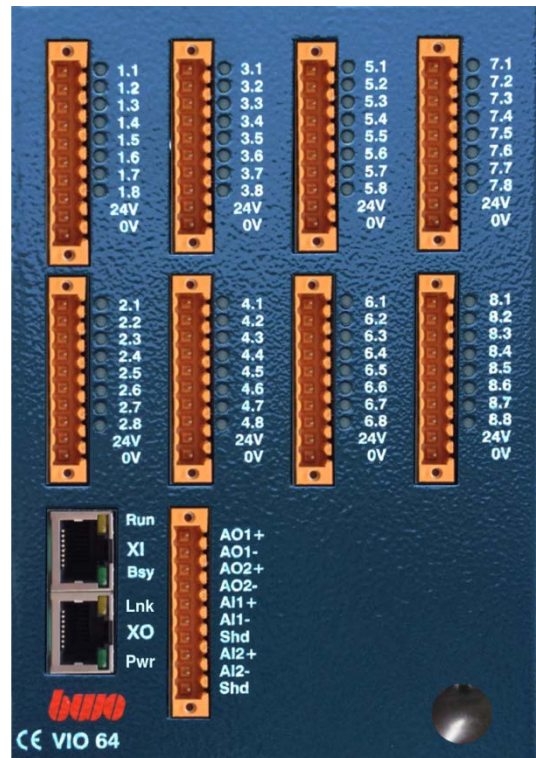
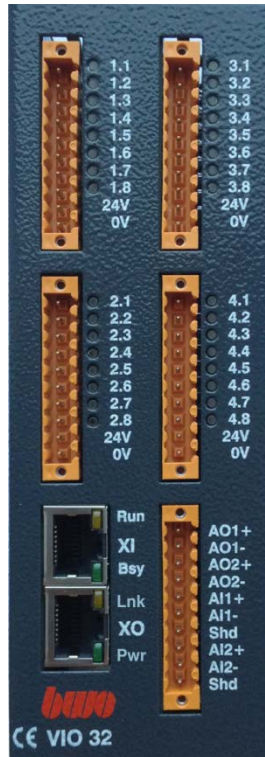
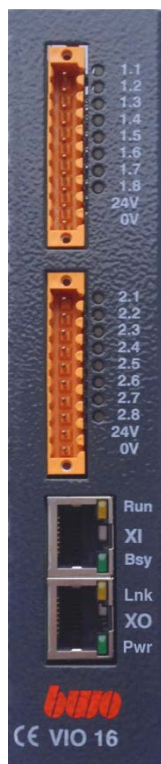
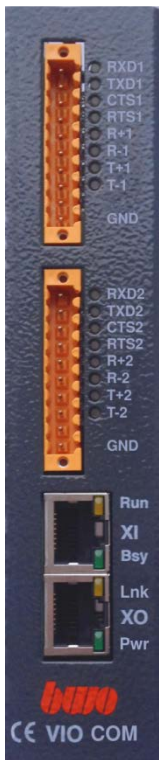


NEW: BWO VEKTOR module VIO

Digital/analog Module VEKTOR Input Output



The smart digital/analog Plug & Play connection system
from BWO ELEKTRONIK GMBH

BWO VIO product data sheet

Description of the various modules VIO:

Versions of the modules with 16, 32 or 64 channels.

VEKTOR Modul VIO COM

Item no.: 800999

VEKTOR Modul VIO 16 digital

Item no.: 800990

VEKTOR Modul VIO 32 digital/analog

Item no.: 800993

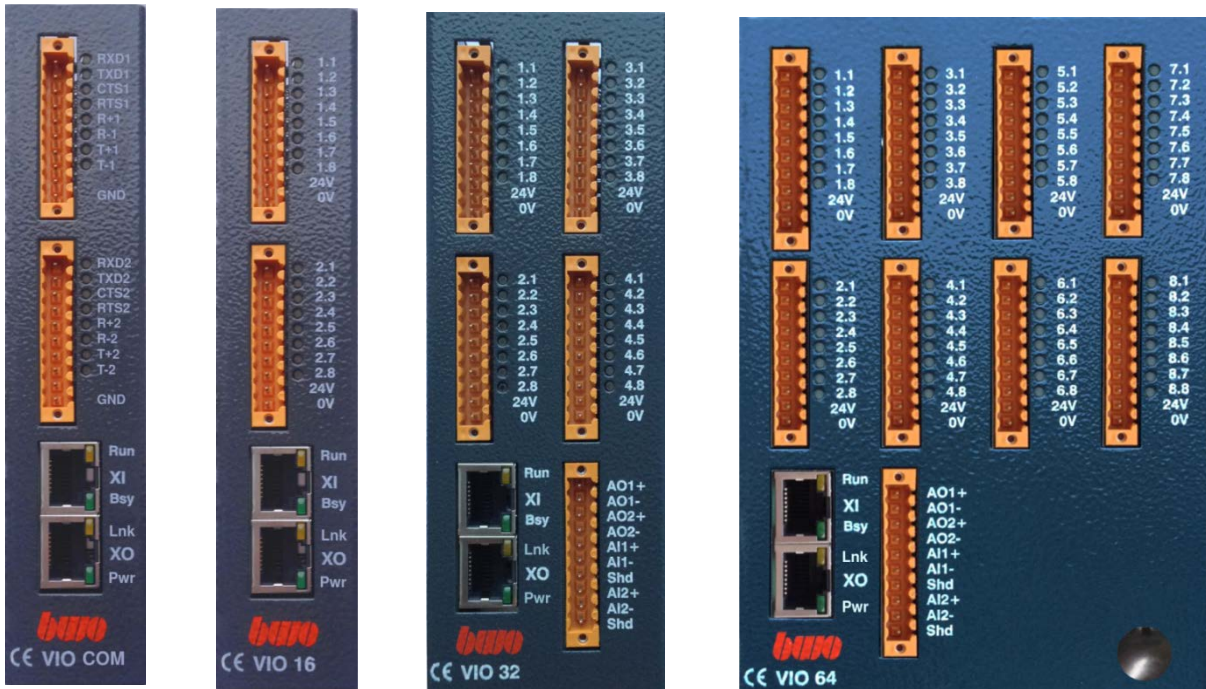
VEKTOR Modul VIO 64 digital/analog

Item no.: 800994

BWO VIO BUS terminator 120 ohms

Item no.: 800623

- Bidirectional: Each channel (pin) is assignable as input or output
- Therefore, each channel is a re-readable output
- **The modules are plug and play (no configuration required)**



Technical specifications

Mounting	DIN EN rail 35mm
Operating temperature min.	0 °C
Operating temperature max.	50 °C
Terminal type	16, 32, 64 Channels either via plug with spring-loaded terminal or bolted contact
Clamp cross section min.	0,2 mm ²
Clamp cross section max.	1,5 mm ²
Dimension / weight (mm / gram)	
Modul VIO 16 w x d x h, weight	32x102x155 mm, 460 gr
Modul VIO 32 w x d x h, weight	57x102x155 mm, 660 gr
Modul VIO 64 w x d x h, weight	106x102x155 mm, 990 gr
Protection class	IP 20
Material of housing	galvanized steel

BWO VIO COM (communication module)

The BWO VIO COM is suitable for connecting external peripherals and can be operated via various interfaces.

Technology: 2 channels

Interfaces: RS 232, RS422, RS485

BWO VIO properties

Inputs or re-readable outputs	16, 32 or 64 per Module
- divided up into blocks of 8 terminals	
- galvanically isolated	
External supply voltage I / O	24V DC
Input voltage	min. 18V / max. 36V DC
Switching level inputs for	5 V DC
Input current	2mA
Protection against negative voltage peaks	yes
Permissible continuous current	1,5A/Pin. maximum 8A/ plug
Galvanic isolation	via optocoupler
Short circuit proof	yes
Current limiter	yes
Thermal shutdown	yes
Hedging	8 outputs on a own supply line for separate external protection
Output delay	2 μ s at power 5 μ s when you turn off
Safety shutdown by watchdog	

Analog (in the module VIO32 and VIO64)

- 2 analog inputs, DC -10V ... + 10V, resolution 16 bit value

- 2 analog outputs, DC -10V ... + 10V, resolution 16 bit value

BWO VIO installation example

The BWO VIO modules are connected to the CNC controls VEKTOR 906, VEKTOR C or VEKTOR CT (housing version) at the BWO VIO BUS socket.



BWO VIO modules in BWO VIO bus 1 2 3 (n)

Socket XI = Input = input connector, Socket XO = Output = output connector

The connected modules are powered by the VIO-bus with the voltage 24V, which is provided by the connection of the Vektor 906, Vektor C or CT. A maximum of 16 BWO VIO modules can be connected via BWO VIO bus system. Thus, a maximum of 1024 I / O terminals provide (PIN). The end of the BWO VIO bus must be terminated with a 120 Ohm resistor terminator.

- No. I) Ethernet cable, at least CAT 6
- No. II) VIO connection cable VEKTOR C / CT or VEKTOR 906, BWO Art.-No. 301096 (5m) or 301097 (10m) or: M12-RJ45 X, e.g. Manufacturer METZ CONNECT No. 142M2X15100 (10m) (The positions no. I and II are not included in delivery.)

BWO VIO installation example

The sequential cable connection (at least CAT6) BWO VIO modules, the modules of the required infrastructure to be adapted and are almost desired to install decentralized.

The BWO VIO modules are plug and play. To configure completely independent. This requires in the CNC control the file **"vioconfig"** in the root directory to be present.

The file "vioconfig" is inherently without content.

Is another terminal arrangement wanted, could here the corresponding Entries are made.

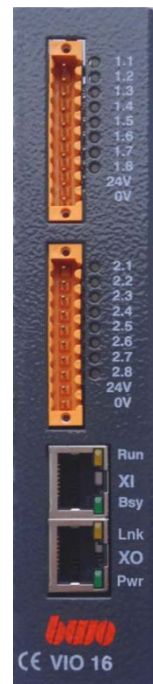
The label of the terminals is 1.1 to 8.8.

Flexible, expandable, future-proof: The BWO VIO bus

For example: retrofitting of I / O port terminals in the existing bus:

It's on:

BWO VIO module no. 2 (2nd module on the bus BWO VIO = 16)



At this point the BWO VIO bus to 16 I / O to be expanded.

Target state:

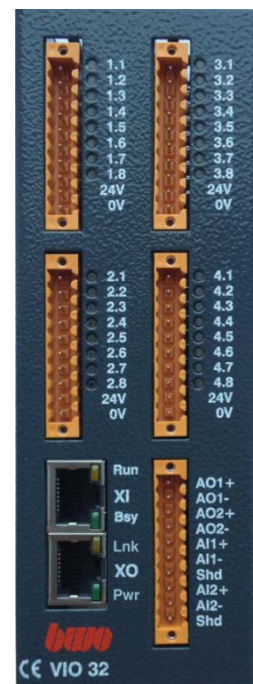
BWO VIO module no. 2 (2nd module on the bus BWO VIO = 32)

Remove the BWO VIO16 module and at the same place by the replace BWO VIO32.

All I / O numbering BWO VIO BUS remain.

The numbers 2.3.1 to 2.4.8 now provide additional new I/O terminals ready.

Declaration on the number keys see section BWO VIO terminals on the next page.



BWO Vektor I/O

BWO VIO terminals

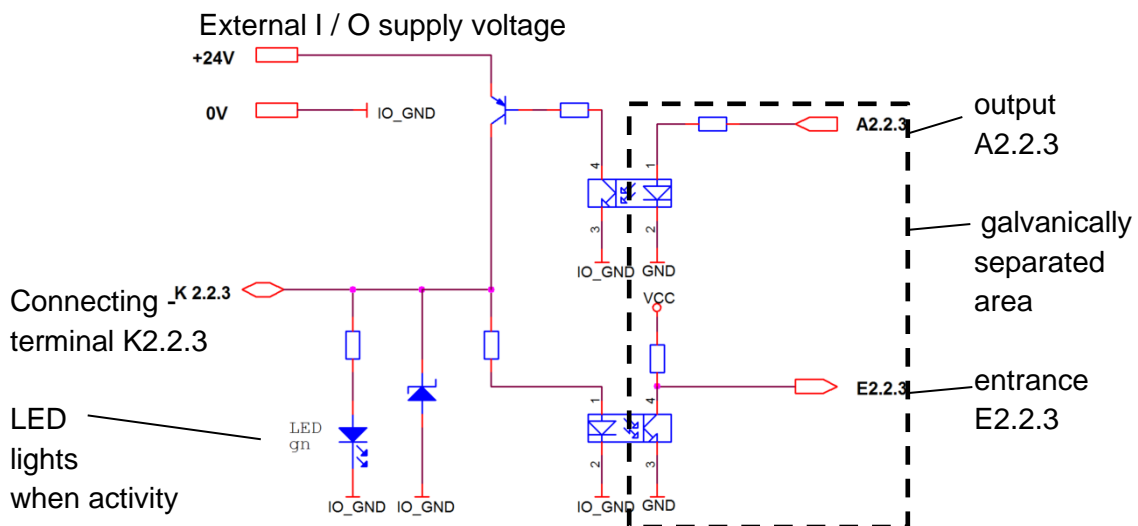
The terminals are numbered with the first connector from terminal 1.1 to terminal 1.8, the second terminal with 2.1 to 2.8 and so on up to the terminal 8.1 to 8.8 terminal. The full address is stored in the CNC.

It is 1.1.1
 | first terminal in the plug module VIO
 | first terminal strip of the module VIO
 | first module VIO on the bus

or 2.4.5
 | fifth terminal in the plug module VIO
 | fourth terminal strip of the module VIO
 | second module VIO on the bus

The arrangement of the terminal strips of the modules VIO (direct front view) is from top to bottom and from left to right.

Basic circuit diagram



The VIO connections are short-circuit proof. In the event of a short circuit, the relevant output switches off and the LED goes out.
ATTENTION: This does not mean that the BWO VIO must be defective.
Resetting the automatic short-circuit protection:
 Turn the relevant output off and on again.



BWO VIO LED indications

	indicator	importance
LED RUN	blinks slowly (1 - 2 x / sec.)	Connection to BWO VIA bus master is established.
LED RUN	blinks rapidly	Connection in the BWO VIO bus to the BWO VIO modules is established
LED Bsy	blinks	Connection to further slave exists
LED Lnk	illuminates	Voltage supply active
LED Lnk	out of	Interrupted voltage supply
LED Pwr	illuminates	An external 24VDC power supply terminals ON



BWO VIO

Notes:

BWO ELEKTRONIK GMBH

Teckstraße 11

D-78727 Oberndorf a.N.

Fon: +49 (0)7423 / 925-0

Fax: +49 (0) 7423 / 925-110

Internet: www.bwo-elektronik.de

E-Mail: bwo@bwo-elektronik.de

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