

# DRIVECONTROL

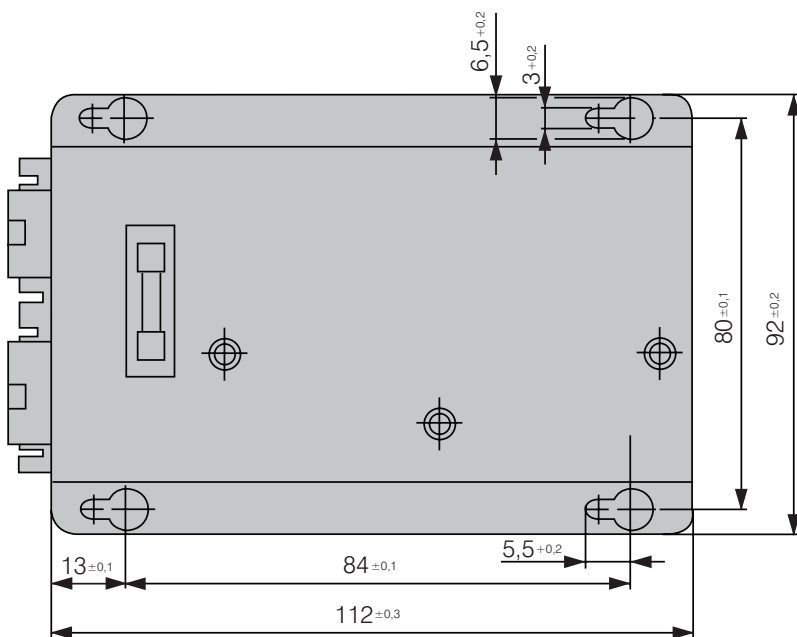
## VT-A series



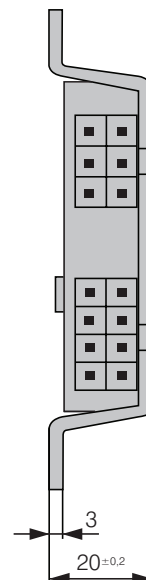
Operating electronics for driving 3-phase motors of the VARIODRIVE series. Simple OEM electronics for use in series applications. The DRIVECONTROL VT-A is available in 4 different performance levels for speed-controlled or voltage-controlled operation. Only one supply voltage is required for motor and electronics.

### Nominal Data

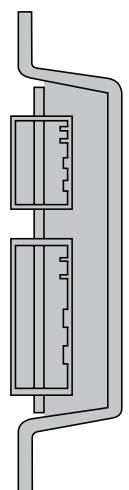
Data	Unit	Voltage controlled	Speed controlled
Nominal voltage	V	24	24
Nominal voltage Range	V	10 ... 30	14 ... 28
Max. output voltage	V	UB - 2 V	UB - 2 V
Output current, peak	A	2 - 5	2 - 5
Set value input	V DC	0 ... 10	0 ... 10
Speed control range	min <sup>-1</sup>	–	300 ... 4 000 / 300 ... 10 000
Speed control	Type	–	P
ACTUAL speed value		–	yes
Operating temperature range	°C	0 ... 40 °C	0 ... 40 °C
Temperature monitoring		no	no
Mass	kg	0.2	0.2
Protection class		IP 00	IP 00



MOLEX-Plug



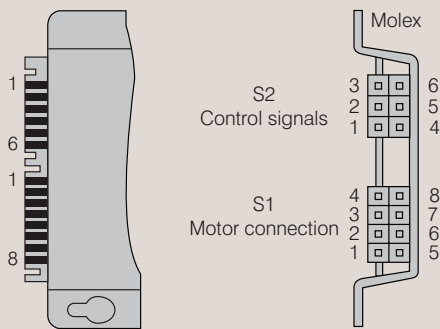
AMP-Plug



### Functions and performance features

- 1 quadrant controller. Positive set value alterations are adjusted by acceleration. Negative set value alterations cause short-circuit braking via the motor winding (increase in intermediate circuit voltage possible!).
- Speed setting via set value input (interface 0...10 V DC).
- Setting of operating modes via 2 control inputs.
- Speed-controlled version with evaluation of Hall signals for ACTUAL speed value monitoring via MF-pin.
- With voltage-controlled (= uncontrolled) version, no braking function and ACTUAL speed value monitoring.
- Fixed limits for current and voltage.
- Voltage supply with input filter, filtering and generation of auxiliary voltage.
- Equipped with PCB plug or Molex plug depending on type of motor.

### Pin connection



### 1. Control inputs

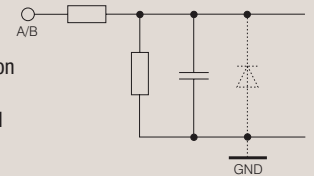
#### Speed controlled Version

A	B		A	
0	0	Power stage disabled	0	Counterclockwise rotation
0	1	Counterclockwise rotation	1	Clockwise rotation
1	0	Clockwise rotation		Input B is not connected
1	1	Brake function*		

low (0)      0 ... 0.8 V  
high (1)     2.4 ... 30 V

\* Brake function:

The braking function serves to slow down the motor only. It has no holding brake function for the static duty.



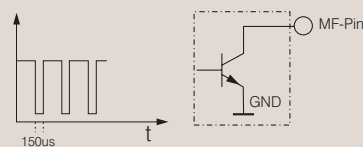
### Plug S2

Pin	Type MOLEX	Type AMP
1	GND	MF-Pin
2	A	B
3	ncommand	A
4	+U <sub>B</sub>	ncommand
5	B	Gnd
6	MF-Pin	+U <sub>B</sub>

### 2. Actual speed value output (MF-Pin)

Only with speed-controlled version, open collector that transmits a short pulse at every flange edge of the motor Hall signals!

The illustrated signal sequence for standard assembly is the speed value output.



Voltage range U <sub>CE</sub> :	< 30 V
Max. current I <sub>C</sub> :	10 mA
Pull-up resistor:	> 2000 Ohm by 24 V
Puls length:	150 µs
U <sub>CEsat</sub> :	< 0.8 V

### Plug S1

Pin	Type MOLEX	Type AMP
1	L 3	+U <sub>Hall</sub>
2	+U <sub>Hall</sub>	Gnd <sub>Hall</sub>
3	RLG 2	RLG 3
4	RLG 1	RLG 2
5	L 2	RLG 1
6	L 1	L 3
7	Gnd <sub>Hall</sub>	L 2
8	RLG 3	L 1

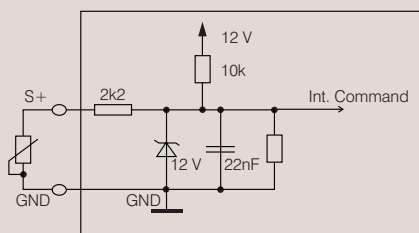
### 3. Set value

The speed selection is normally made externally with a voltage in the range of 0...10 V DC. A voltage of 10 V is equivalent to the maximum speed determined internally.

With the voltage controlled version of the VT-A, the set value is internally fixed at the maximum value.

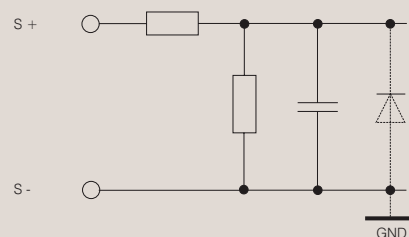
For reducing the set value an external potentiometer can be connected or an external set value voltage can be applied.

### Voltage controlled version



Typical wiring of the reference input with the voltage controlled version. Special features are described in the relevant data sheets.

### Speed controlled version



The interpretation of the set value and the corresponding level are described in the relevant data sheet.

For detailed information, please refer to the corresponding specification data sheets. The instructions and safety notes in the operating manual must be kept at all times.