Switching Amplifier

IV 5.10 MW

FEATURES

■ *Input, max. 400 Hz/
at continuous pulse max. 10 kHz:
2-wire proximity switch (NAMUR) or
potential-free contact or
reflecting light barrier or
24 V DC signal/ tacho generator*

■ *Output, simultaneously:
1 optocoupler (max. 10 kHz), 1 relay*

■ *Adjustable via DIP switches:
- function
- pulse duration*

■ *Parameterization without
auxiliary power via PC-interface:
- wipe time, inverse, memory, etc.*

■ *Galvanic 3-way isolation*

FUNCTION

The Switching Amplifier IV 5.10 MW is being used for binary signal transmission out of control circuits into signal circuits.

The activation has to be carried out by a 2–wire pro–ximity switch according to EN 50227 (NAMUR) or potential-free contacts. A reflecting light barrier or a 24 V DC signal/ tacho generator can also be used for this.
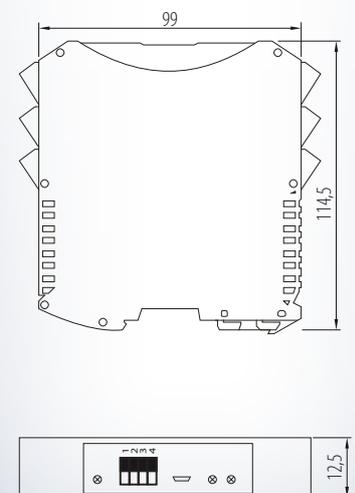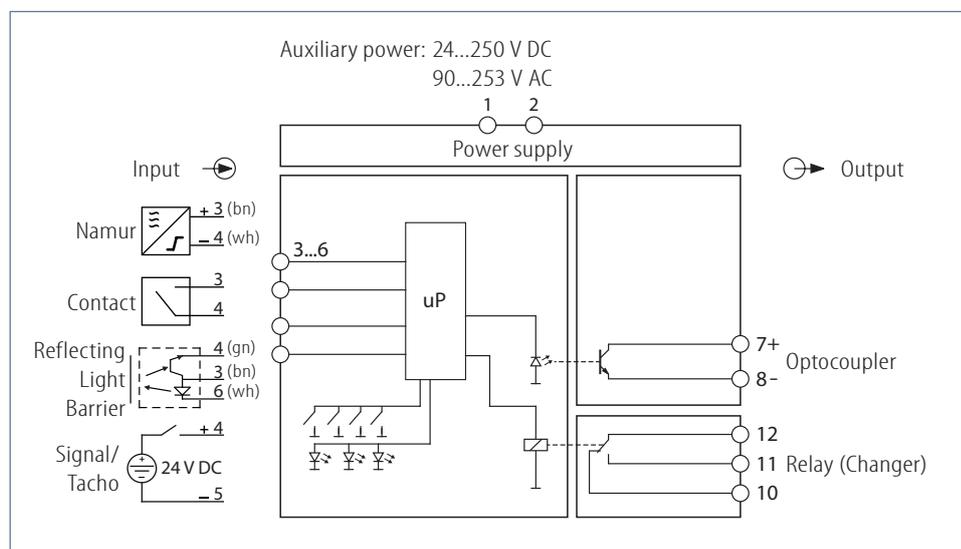
It is possible to specify different operating modes by the KALIB–Software, e.g. specific wipe times. Additional functions such as starting characteristics, input filter, pulse memory and limits for short circuit or wire break detection can be set.

The simultaneous outputs can be parameterized separately and also be used as an alarm contact for wire break or short circuit.

The change between pulse contact (max. 400 Hz) and continuous pulse (max. 10 kHz) is made via DIP-switch S1. The pulse duration can be changed with the DIP-switch S2 or the KALIB-Software.
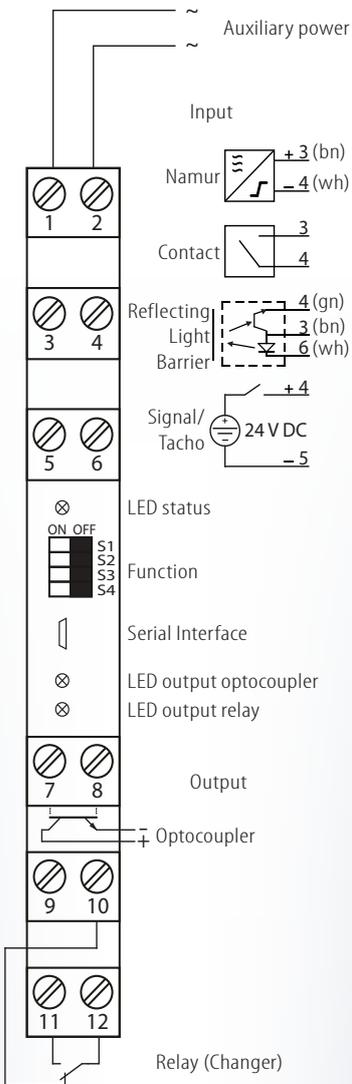
The IV 5.10 MW has an optocoupler (max. 10 kHz) and a relay output (1 changer). At higher frequencies the relay can be deactivated via DIP-switch S3 or the KALIB-Software.

Factory setting:
wipe pulse, duration: 0,1 sec., relay active.

Auxiliary power: 24...250 V DC
90...253 V AC

Input

Namur

Contact

Reflecting Light Barrier

Signal/ Tacho

Power supply

uP

Output

Optocoupler

Relay (Changer)

IV 5.10 MW

Connection diagram:

Input:

Namur EN 50227 or potential free contact or reflecting light barrier:

maximum current, voltage:	$I_{max} = 8$ mA; $U_{max} = 8$ V
min. impulse duration:	> 25 µs (default filter 1 ms, changeable via KALIB-Software)
connection:	terminal 3 +, 4 -

24 V DC signal/ tacho, connect.: terminal 4 +, 5 -

Output:

Optocoupler output:

load:	max. 50 V/ 50 mA/ <10 kHz
connection:	terminal 7+, 8-

Relay output: 1 changer

load:	max. 250 V AC/ 5 A
connection:	common 12, normally closed 10, normally open 11

Adjustment:

Switch	Function	ON	OFF
S1	output	pulse contact	continuous pulse (1:1)
S2	output	pulse contact 100 msec. (S1=ON)	pulse contact 10 msec. (S1=ON)
S3	relay	relay active	relay not active
S4	function select.	DIP-switch values (S1...S3) active	

ON   OFF

Switch	Function	ON	OFF
S1			
S2		KALIB-Software values active*[1], DIP – switch S1...S3 without function.	
S3			
S4	function select.		KALIB-Software values active

ON   OFF

The extended parameterization is being made via PC and the interface adapter **USB2**/ **USB-Simulator** in connection with the **KALIB-Software** (DIP-switch S4=OFF).

*[1]Each output can be configured separately (DIP-switch S4=OFF, DIP-switch S1...S3 without function):

input filter:	off; 0,5 - 20 msec. frequency input filter (factory setting: 1 ms)	
wire break limits:	10,00...46,99 %	adjustable in 0,02 % steps
short circuit limits:	52,99...94,99 %	adjustable in 0,02 % steps
mode:	off/ contin. pulse/ pulse contact*/ Namur wire break and short circuit/ pulse memory overflow (only relay)/ pulse failure/ impulse generator	
*wipe time ON/ OFF:	each 0,002...30,000 sec.	adjustable in 1 msec. steps
*pulse memory:	2...10000 pulses	
extended functions:	inverse operation, start state (on/ off), start time (0...30 sec.)	

Display:

LED status:	green, active	input signals are in standard range, device ready for use
	green, flashing	Namur wire br. or short circ./ pulse mem. overfl./ pulse failure
LED's output:	yellow, active	output active

Environmental conditions:

Storage temperature:	–40...+70 °C
Operating temperature:	0...55 °C

Isolation voltage:

1 kV eff. 1 sec.	input/ output
3,75 kV eff. 1 sec.	auxiliary power

Auxiliary power:

Wide range:	24...250 V DC
	90...253 V AC
	< 3 W
Influence of Aux. power:	< 0,1 %

Directive:

EMC Directive:	2014/30/EU*
Low Voltage Directive:	2014/35/EU

*minimum deviations possible during HF–radiation influence

Mounting details:

Housing for top hat rail

Type of protection:	IP 40 housing
	IP 20 clamps

Mounting rail fixed according to

	EN 50022-35 x 7,5mm
Width:	12,5 mm
Weight:	100 g
Material:	Polyamide (PA)
Flammability class:	V0 (UL94)
Approval:	CE
Connection:	plugg. screw clamps
	≤ 2 x 2,5 mm²

For safety reasons we recommend to mount the housing for top hat rail with a distance of approx. 5 mm to each other. Please check switch position before initial operation!

Ordering information:

Type:	**IV 5.10 MW** wide range
Accessories:	USB2/ USB-Simulator with KALIB-Software

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Schuhmann Messtechnik