Manufacturer's Declaration

This product is intended for installation in a machine or system, based on the machine directive 2006/42/EC.
It is forbidden to start use of the product until the machine or system into which it should be built is operating in accordance with the EC directives.
The product corresponds to the low voltage directive 2006/95/EC.

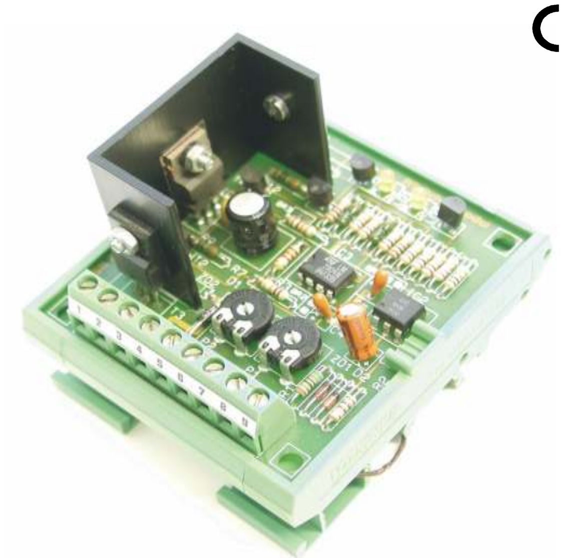
Safety Regulations

Danger!
To prevent injury or damage, only professionals and specialists should work on the devices, following the relevant standards and directives. Please read the Installation and Operational Instructions carefully before installation and initial operation of the device.

Warning:
Without a conformity inspection, this product is not suitable for use in areas where there is a high danger of explosion. This statement is based on directive 94/9 EC (ATEX directive).

Application

This device is used to start and stop mayr® ROBA®-takt circuit modules and mayr®-clutch brake combinations.
It can be used for alternating 24 VDC coil switching, if a 24 VDC power supply is available.



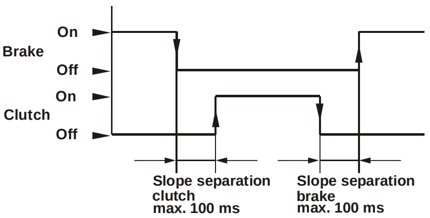
Function

1-sensor operation: -activated- clutch is energised
-deactivated- brake is energised

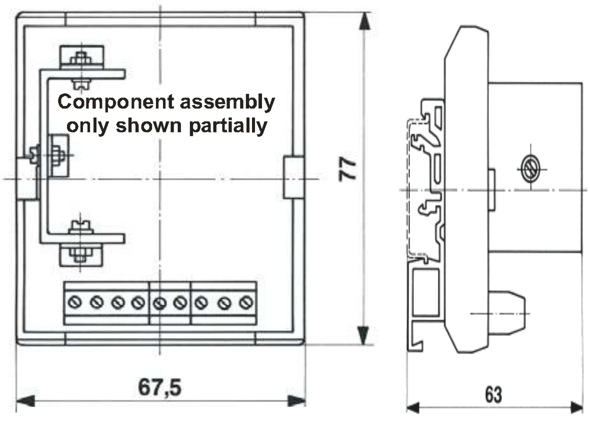
The respective control of the clutch or brake is indicated via LED. The ROBA®-takt circuit module has no over-excitation function.

The brake has priority: The brake is energised independently of the sensor position when the 24 VDC power supply is switched on. The coil is energised with the 24 VDC power supply.

Slope separation: To avoid simultaneous clutch and braking torques, a slope separation of 0 - 100 ms between clutch and brake can be set, which acts according to the respective rise time and drop-out time of the coils (see switching time table). This adjustment is carried out via the potentiometers Ku = clutch (P2) and Br = brake (P1). The factory default setting is 0 ms.



Dimensions with Mounting Frame (mm)



Technical Data

Input voltage	24 VDC **SELV/PELV** ripple content ≤5%
Recommended fuse	T 4A
Output voltage	24 VDC
Output power	max. 79 W
Slope separation	0 - 100 ms (factory default setting is 0 ms)
Ambient temperature	0 °C - +70 °C
Storage temperature	-20 °C - +85 °C
Conductor cross section	0.14 - 1.5 mm² / AWG 26-14
Protection	IP 00
Design	Printed board with screw-on attachment part or a mounting frame for 35 mm standard mounting rails.

Max. cycle frequencies:	45 °C	70 °C	
up to 1 A / sizes 3 + 4	600	600	cycles / min
approx. 2 A / sizes 5 + 6	240	180	cycles / min
approx. 3 A / size 7	120	75	cycles / min

Please Observe:
Higher cycle frequencies will lead to ROBA®-takt circuit module overload and failure.

Electrical Connection (Terminals)

1	24 VDC input voltage
2	GND input voltage
3+4	brake
5+6	clutch
7	12 VDC control voltage for switches or sensors
8+9	control inputs, see Wiring Diagram

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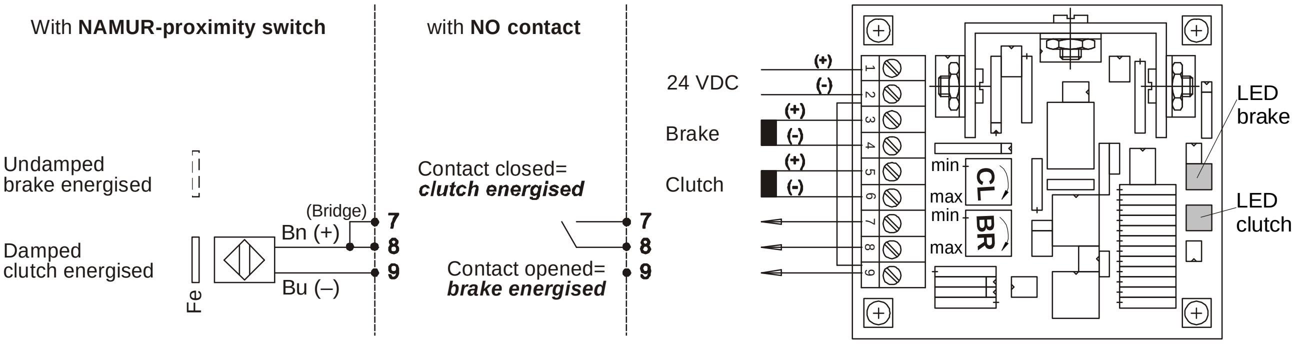
Wiring Example



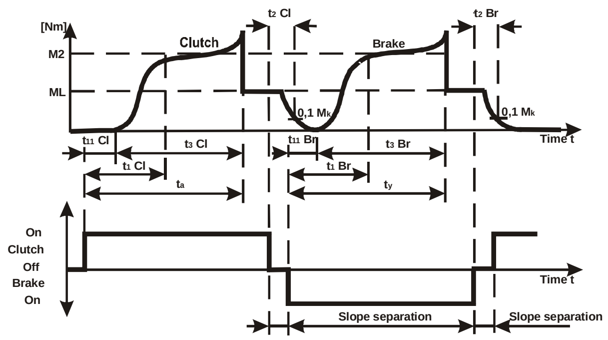
(Terminals 2 and 9 bridged)

Table Switching Times

ROBA®-takt size		3	4	5	6	7
Switching times [s] Without overexcitation	t_{11} Cl	0.010	0.015	0.020	0.030	0.045
	t_1 Cl	0.045	0.065	0.080	0.150	0.200
	t_{11} Br	0.006	0.008	0.010	0.015	0.025
	t_1 Br	0.035	0.040	0.055	0.100	0.150
	t_2 Cl	0.012	0.020	0.045	0.060	0.090
	t_2 Br	0.010	0.018	0.030	0.060	0.090
With overexcitation (only switch-on time)	t_{11} Cl	0.003	0.005	0.007	0.010	0.015
	t_1 Cl	0.025	0.035	0.040	0.075	0.100
	t_{11} Br	0.002	0.003	0.004	0.006	0.008
	t_1 Br	0.020	0.022	0.030	0.050	0.075
Recommended overexcitation period [ms]		10 *	10 *	10	15	20
Min. required slope separation [ms]	with overexcitation	20	25	30	80	120
	without overexcitation	0	0	15	50	80
Magnitude of overexcitation c. 10 x nominal voltage (limited current)						
Permitted friction work for one single switching QE [J]		$3.8x10^3$	$6.2x10^3$	$9x10^3$	$15x10^3$	$25x10^3$
Total friction work $Q_{tot.}$ [J]		$22.5x10^7$	$44x10^7$	$87x10^7$	$171x10^7$	$340x10^7$

The switching times are valid for DC-switching with a heated coil. Deviations are possible depending on the installation, ambient temperature and the rectifier Type with which the aggregate is operated.

* For operation with overexcitation and high switching frequencies (80-100 % of the diagram value), the recommended period of overexcitation according to the Table must not be exceeded.



EMC-compatible Installation

In order to comply with the interference resistance for individual components acc. EN 61000-6-2, the DC current input is either shielded or not longer than 3m. The line for the switch on terminals 7 and 8 must not be longer than 30m.

Standards

DIN EN 61000-6-2:2006-03	Interference immunity
DIN EN 61000-6-4:2002-08	Noise emissions
DIN EN 60664-1:2003-11	Insulation coordination

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