

BEZBEDNOŠNA TEHNOLOGIJA  
ZA ZAŠTITU ŽIVOTNE SREDINE

SAFETY AND  
ENVIRONMENTAL  
TECHNOLOGY

**E.L.B.**  
FÜLLSTANDSGERÄTE

10-07-01E

## Modul releja za zaštitu veze KR-164/B

**Bistabilni/monostabilni  
Magnetna reza**

Modul releja za zaštitu veze KR-164/B može da se koristi kao univerzalni pojačivač za uključivanje za kontrolore nivoa ili druge senzore sa malim kapacitetima uključivanja.

KR-164/B može da se koristi i kao monostabilni ili bistabilni pojačivač za uključivanje u zavisnosti od specifičnih zahteva sistema.

Bistabilni pojačivači za uključivanje su neophodni kada ili signal "ON" (uključeno) ili signal "OFF" (isključeno) treba da se dobiju iz dva pojedinačna signala uključivanja na dva senzora. Individualni signali za uključivanje koji su neophodni u ove svrhe su jedino dostupni na kratko; KR-164/B "skladišti" ove signale.

U ovom stanju, izlazni relej KR-164/B je uspostavljen aktivacijom prve NO veze i ponovo se uspostavlja aktivacijom druge NO veze.

Monostabilni pojačivači za uključivanje su čisti pojačivači signala za uključivanje koje kontroliše signal za uključivanje niskog kapacitet uključivanja i oni omogućavaju znatno većim tovarima da se uključe na izlazu.

Jedna ili dve plutajuće promenljive veze su dostupne kao KR-164/B izlaz. KR-164/B je dizajniran da održava svoje kontrolno stanje takodje i u slučaju nestanka struje.

Kolo KR-164/B sastoji se u osnovi iz tri funkcionalne grupe: "Izvor struje", "Releji" i "Evaluator signala sa ulaznim kolom".

## Contact Protection Relay Module KR-164/B

**bistable / monostable  
Magnetic latching**

The KR-164/B contact protection relay module can be used as a universal switching amplifier for level controllers or other sensors with low switching capacity.

The KR-164/B can be used both as a monostable/or bistable switching amplifier depending on the specific requirements.

Bistable switching amplifiers are required when one "ON"/"OFF" signal is to be obtained from two individual switching signals of two sensors. The individual switching signals required for this purpose are only available for a short time; the KR-164/B "stores" these signals.

In this mode, the output relay of the KR-164/B is "set" by activation of the first NO contact and "reset" by activation of the second NO contact.

Monostable switching amplifiers are pure switching signal amplifiers which are controlled by a switching signal of low switching capacity and enable considerably higher loads to be switched at the output.

One or two floating changeover contacts are available as a KR-164/B output.

The KR-164/B is designed to maintain its respective control state also in the event of a power supply failure.

The circuitry of the KR-164/B consists essentially of three functional groups: "Power supply", "Relay" and "Signal evaluator with input circuit".



KR-164/B

## Detalji o sistemu

Releji za zaštitu veze KR-164/B se koriste, uz ostale uređaje, u vezi sa našim plutajućim prekidačima (vidite sekciju 5) i sa našim uronjenim sondama (vidite sekciju 6).

## System Details

The contact protection relay KR-164/B is used among others in connection with our float switches (see section 5) and with our immersible probes (see section 6).

SCHALTVERSTÄRKER / MEASURING TRANSDUCERS



## Tehnicki podaci

<b>Sistem zaštite EN 60529</b>	Spone: IP20 Kucište: Ip40
<b>CE oznake</b>	Prema uputstvima za niske voltaže (73/23/EWG), regulativama EMV(89/336/EWG)
<b>Operativna temperatura</b>	-20... +60 °C
<b>Temperatura skladištenja</b>	-30... +80 °C
<b>Glavno napajanje:</b>	
<b>Procenjena voltaža</b>	Vidite ključ tipa
<b>AC procenjena</b>	48... 62 Hz
<b>frekvencija</b>	
<b>Utrošnja struje</b>	Max. 1 VA
<b>Ulaz(NAMUR) :</b>	DIN EN 60947
<b>Voltaža otvorenog kola</b>	Max. 20 VDC
<b>Struja kratkog spoja</b>	Max. 4 mA
<b>Otpor senzora</b>	Max. 500 Ω
<b>Izlaz:</b>	
<b>Veza</b>	2 promenljive veze
<b>Voltaža uključivanja</b>	Max. 150 VAC
<b>Struja uključivanja</b>	Max. Cosφ=1 3A Cosφ=0,7 1A/AC
<b>Kapacitet uključivanja</b>	Max. Cosφ=1 750 VA 150 W (30 V DC / 5A) 18 W (150 V DC / 0,12A)
<b>Težina</b>	Pribl. 200g

Imunitet na ometanja KR-164/B urađjen po zahtevima VDE 0843, deo 4 (enviromentalna klasa 4)

## Elektricne veze

KR-164/B mora biti povezan u saglasnosti sa sledećim krajnjim odredbama terminala:

<b>Oznake</b>	Terminali
<b>Napajanje strujom</b>	A1/A2 AC (DC: A1=+ / A2=-)
<b>Ulaz Bistabilni Monostabilni</b>	On= E5/E6 Off=E6/E7 E6/E7 premošćeno On/Off= E5/E6
<b>Izlaz</b>	
<b>1. prom. veza</b>	11/12/14
<b>2. prom. veza</b>	21/22/24

Za instalaciju KR-164/B moraju se pratiti posebni standardi.

## Ključ tipa

Osnovne oznake	Tip
	Kucište
	<b>B = uključene sponne (snaga opruge)</b>
	<b>C = uključene sponne (za zavrtanj)</b>
	Voltaža napajanja
	0 = 24 VDC
	1 = 24 VAC
	2 = 42 VAC
	3 = 48 VAC
	5 = 127 VAC
	6 = 230 VAC
	7 = 240 VAC
	8 = 115 VAC
	9 = 12 VDC

KR-164

## Technical Data

<b>System of protection</b>	clamps: IP 20 housing: IP 40
<b>EN 60529</b>	according to low-voltage guideline (73/23/EWG), EMV guideline (89/336/EWG)
<b>CE marking</b>	
<b>Operating temp.</b>	-20... +60 °C
<b>Storing temperature</b>	-30... +80 °C
<b>Mains supply:</b>	
<b>Rated voltage</b>	see type key
<b>AC rated frequency</b>	48... 62 Hz
<b>Power consumption</b>	max. 1 VA
<b>Input (NAMUR):</b>	
<b>Open circuit voltage</b>	DIN EN 60947
<b>Short circuit current</b>	max. 20 VDC
<b>Sensor resistance</b>	max. 4 mA max. 500 Ω
<b>Output:</b>	
<b>Contact</b>	2 change-over contacts
<b>Switching voltage</b>	max. 150 VAC
<b>Switching current</b>	max. cosφ=1 5 A cosφ=0,7 1,5 A/AC L/R<40 ms 1,5 A
<b>Switching capacity</b>	max. cosφ=1 1250 VA 150 W (30 V DC / 5 A) 18 W (150 V DC / 0,12 A)
<b>Weight</b>	app. 200 g

The interference immunity of the KR-164/B complies with the requirements of VDE 0843, part 4 (environmental class 4)

## Electrical Connections

The KR-164/B must be connected in accordance with the following terminal assignment:

<b>Designation</b>	Terminals
<b>Power supply</b>	A1/A2 AC (DC: A1=+ / A2=-)
<b>Input</b>	
<b>Bistable</b>	On = E5/E6 Off = E6/E7
<b>Monostable</b>	E7/E8 bridged On/Off = E5/E6
<b>Output</b>	
<b>1<sup>st</sup> change-over contact</b>	11 / 12 / 14
<b>2<sup>nd</sup> change-over contact</b>	21 / 22 / 24

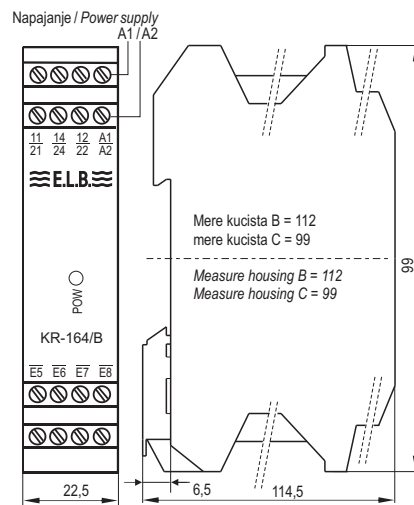
For installation of the KR-164/B the respective standards must be observed.

## Type Key

Basic designation	Type
	Housing
	B = plugged clamps (spring force)
	C = plugged clamps (for screwing)
	Supply voltage
	0 = 24 VDC
	1 = 24 VAC
	2 = 42 VAC
	3 = 48 VAC
	5 = 127 VAC
	6 = 230 VAC
	7 = 240 VAC
	8 = 115 VAC
	9 = 12 VDC

KR-164

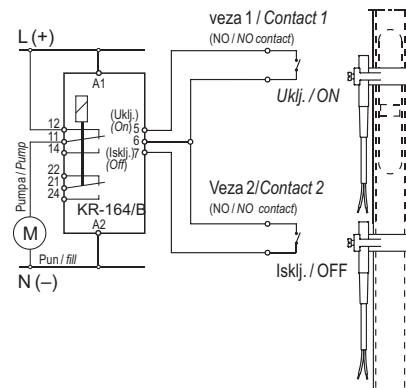
## Dimenzioni crtez Dimensional Drawing



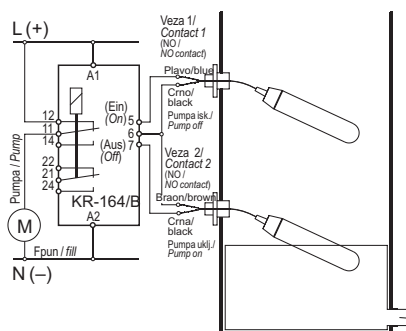
Dimenzije u mm / Dimensioning in mm

## Primer veze Connection Examples

Primer povezivanja 1 / Wiring Example 1



Primer povezivanja 2 / Wiring Example 2 (QFS)



Moguće izmene bez prethodne najave.

Subject to change without prior notice, errors excepted.