

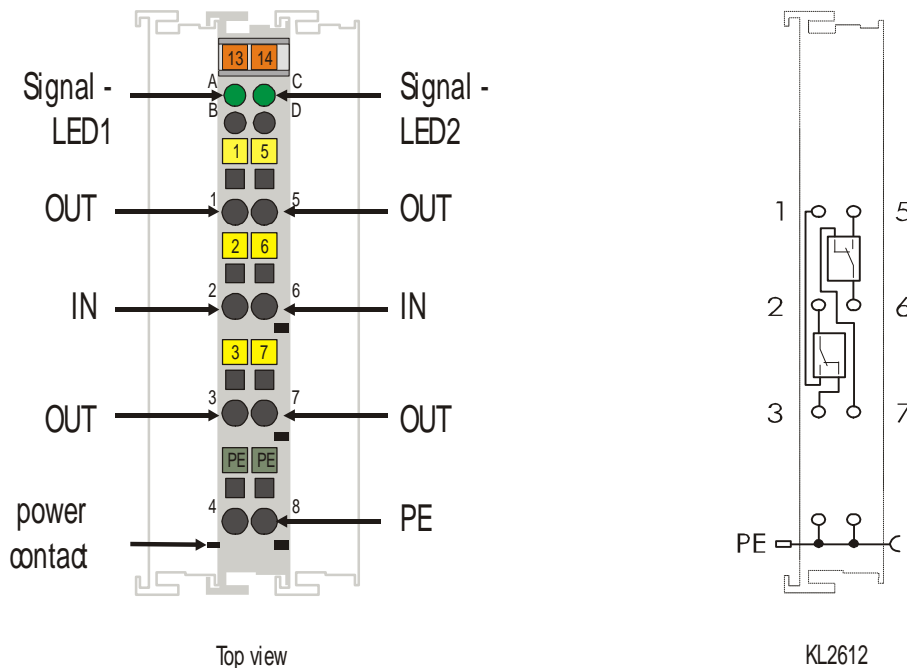
KL2612

2-Channel 125 V AC Relay Output Terminal Configuration Instructions

**Version 1.1
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BECKHOFF

Introduction KL2612



Functional Description

The KL2612 output terminal switches two relays, each having one changeover contact, under control of the automation device. The signal state of the bus terminal is indicated by an LED. If the LED is on, it means that the contact between 2 and 1 or, in the case of the second relay, between 6 and 5, is closed. The KL2612 Bus Terminal does not have a power contact, which means that a voltage that has been passed on through earlier terminals via the power contacts PE must be fed in again after a KL2612.

LED display

The signal LEDs indicate the operational state of the associated terminal channel.

- On: Changeover between 2-1 (6-5) closed
- Off: Changeover between 2-3 (6-7) closed

Or:

A watchdog timer overflow has occurred. If no process data is handled by the bus coupler for 100 ms, the green LED goes out and the outputs are set to 0.

Process data

The bit-width in the process image is 2 bits.

Technical data

Technical data	KL2612
Number of outputs	2 x change-over
Contact material	Gold-clad silver alloy
Switched voltage max.	125 V AC / 30 V DC
Switched current max.	2 A
Switched power max. with resistive load	alternating voltage 0,5 A 125V AC direct voltage 2 A 30V DC
Minimum permitted load (approximate)	10 μ A at 10mV
Reaction times at rated load	Max. reaction time 4 ms Max. release time 4 ms max. bounce time 4 ms
Electrical isolation	500 V _{eff} (K-bus/mains voltage)
K-bus current consumption	60 mA
Bit width in the process image	2 A
Service life (operating cycles) mechanical	10 ⁸ cycles
Operating cycles electr. (min.)	10 ⁵ resistive load switches at 30 V DC, 2 A or 125 V AC, 0,5 A
Permitted operating frequency at maximum contact load	20 cycles / min
Contact resistance max. (new)	< 40 mOhm
Insulation resistance (min.)	100 MOhm at 500 V DC
Test voltage between open contacts	750 V (1 min. between open contacts)
Configuration	No address or configuration settings
Weight approx.	80 g
Operating temperature	0°C ... +55°C
Storage temperature	-25°C ... +85°C
Relative humidity	95% without dew formation
Vibrations/Shock resistance	according to IEC 68-2-6 / IEC 68-2-27
EMC resistance burst / ESD	According to EN 50082 (ESD, burst) / EN 50081
Installation position	any
Type of protection	IP20

Notes on the Correct Use of Relay Terminals

i Note
Smooth operation

It is extremely important to observe the technical specifications if fault-free operation is to be guaranteed. Any time that the stated parameters are exceeded, damage ranging from premature contact ageing up to fused contacts can result.

If relays are to be used in a control system the expected operating conditions must be analysed with great care.

Switching capacity, service life (operating cycles) and the number of switches per minute must be considered.

Appropriate protective circuits must be used to protect the relay contacts from excessive voltage peaks such as can occur when switching inductive loads (contactors, motors etc.). This allows switching frequencies nearly equal to those appropriate to resistive loads to be achieved. Arcing time when switching DC loads are significantly longer than those for comparable AC voltages (where there is a zero-voltage transition); melting of the material can result.

If the terminal is used to change the direction of inductive loads, adequate dead-times during the switch-over must be provided, in order to avoid temporary short-circuits.

! Warning!

It is the maximum values that are to be expected that are critical to selection of the right terminal rather than the technical figures for normal operation!

Service life

