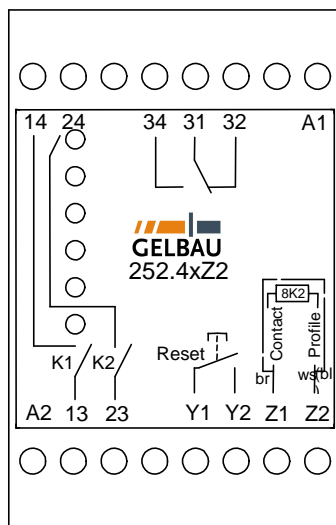


Features

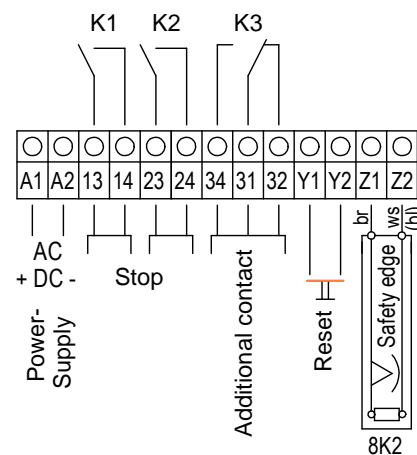
The Resistance evaluator 252.4xZ2 is a Safety-switching unit, designed for monitoring a GELBAU Contact-Duo Safety edge with an end terminating 8,2 KOhm Resistor. The Typ-Serie 252.4xZ2 has a full redundant evaluation with redundance monitoring. The Safety edge controlled the STOP relay outputs (13,14,23,24) with 2 forced safety relays. A reset function is available about the terminals Y1,Y2. The additional two-way contact (31,32,34) is an auxiliary contact.

The safety system conforming to the standards according **ZH1/494** and **EN 954-1 Cat.3** (Machine-safety components in control units), **EN 1760-2** (Pressure-sensitive safety devices).

Construction



Terminal view



Function

The safety-contact edge is connected to the terminals Z1-Z2. A closed-circuit current in the sensor is monitored by an evaluator with safety switch outputs. The control unit can work with an automatic reset (Terminal Y1,Y2 wire-connected) or manual reset (Y1,Y2 shorttime-connected). By correct connections in ready-mode the safety-contacts (13,14,23,24) are closed and the green LED's on. If the safety-contact edge is activated (pressed), the relays K1,K2 de-energizing, the safety contacts (13,14,23,24) are open and the red LED's shows this status.

By an interrupted loop-current (Sensor on Z1,Z2 not connected) the red and (only in reset mode) the yellow LED's are in on-state. The safety contacts (13,14,23,24) are open.

The additional two way-contact (31,32,34) is switching synchron to the STOP-contact (13,14).

Important: The additional two-way contact (31, 32, 34) only is an auxiliary-contact and not designed for safety switch circuits.

function table (status indication)

Sensor-profile condition	LED red (2x)	LED yellow (2x)	LED green (2x)	Outputs 13,14,23,24
Correct connected; not activated			on	closed
Sensor activated (pressed)	on			open
Sensor interrupted (disconnected or break)	on	on *1		open

*1 = in reset mode only.

Assembly , Application

1. The build-in housing is ready for mounting on 35mm DIN rail (TS35) according to DIN EN50022.
For an instrument panel installation, a 26mm wide rail-segment with 2 drillings stands to disposal.
2. The GELBAU Contact-Duo Safety edge with an end-terminated resistor become connected to the terminals Z1,Z2 .
In this configuration,important is that the brown wire is connected to terminal Z1 and the white (blue) connected to terminal Z2.
3. The Safety-relay outputs 13, 14,23,24 and the additional auxiliary-contact 31,32,34 may be loaded with max. 4A (AC). The max. switching voltage for all contacts is 250V (AC).
4. Power supply must be connected to terminals A1 and A2. The phase-wire (+) is connected to A1.

The installation of this device may be implemented only by adept persons who dispose of the correspondending qualifications.

Problems and mistake search

1. no LED shines
is the power supply correct?
2. both red + yellow LEDs shines in manual or automatic-reset mode constantly.
is the contact edge connected correctly or is a break in the connection cable?
Test: switch shortly 8,2K resistor between Z1–Z2 .
if function o.k. then ⇒ connection cable break.
3. both red LEDs shines constantly
disconnect contact edge and examine with an ohm-measuring device the contact edge resistance.
if the value is lower then 8K2, a short-circuit in the connection cable is possible.
4. both channels shows different status.
⇒device back to your dealer for control and repair.

Technical data

Housing:

Material: Polyamid 6.6-RF
 Protection class: terminals **IP20**; housing **IP40**
 Dimensions 45 x 75 x 120 mm
 Mounting on 35 mm DIN rail
 according to DIN EN 50022
Weight: 390 g

Supply voltages AC:

Typ **252.40Z2:**
 Nominal operating voltage: 230 V -15% +10%
 Nominal frequency: 50 Hz 40 - 60 Hz
 Typ: **252.41Z2:**
 Nominal operating voltage: 115 V -15% +10%
 Nominal frequency: 50 Hz 40 - 60 Hz
 Typ: **252.44Z2:**
 Nominal operating voltage: 24 V -15% +10%
 Nominal frequency: 50 Hz 40 - 60 Hz

Power consumption: max. 5VA
Supply-device insulation acc. VDE 0551

Supply voltages DC:

Typ **252.46Z2:**
 Nominal operating voltage: 24 V -15% +10%
 Max ripple: 10%

Power consumption max. 5 W
Potential-insulation **DC/DC-Converter**

Typ **252.46UZ2: (without potential insulation!)**
 Nominal operating voltage: 24 V -15% +10%
 Max ripple: 10%
Power consumption max. 3 W

Attention! Supply voltage must have potential Insulation,regarding to VDE 0551(Transformer)

Input terminals (Z1, Z2):

End-terminal resistor 8,2K
 Terminal voltage by break 8V DC
 In activated condition (pressed) < 4V DC
 In ready mode (not activated) <> 5V DC
 closed-circuit current (not activated) 0,6mA
 switching-resistance for activation < 5,5K
 switching-resistance for break > 11,5K

max. contact-edges-length 100m
 max. connection-cable-length 50m
 connecting wires min. 0,5mm²
 (solid or with sleeves)

Safety-contacts 13,14,23,24:
 Contact-type **2 forced Safety-relays**
 each normally open
 separat out
 Load **max. 4 A**

Reaction-time max. 15ms
 Contact-edge activated to relays contact-output

Relays-contact data (13,14,23,24) (31,32,34):

Switching-voltage max. 250 V AC
 Switching-capacity max. 1200 VA;
 max. 120 W / 24 V DC
 Switching-current 4A AC11 220V
 2A DC11 24V
 mech. durability: 3 x 10⁷ switchings
 elektr. durability: 2 x 10⁵ switchings

Operation temperatur: -20°bis + 55°C
Operation time 100%

Testing guidelines, standards:

- **EN 1760-2** "Pressure-sensitive safety devices"
 (specific sections relating to the
 output-switching device)
- **EN 954-1** "Machine-safety components in
 Control units"
- **ZH 1/494**

Technical modifications reserved.