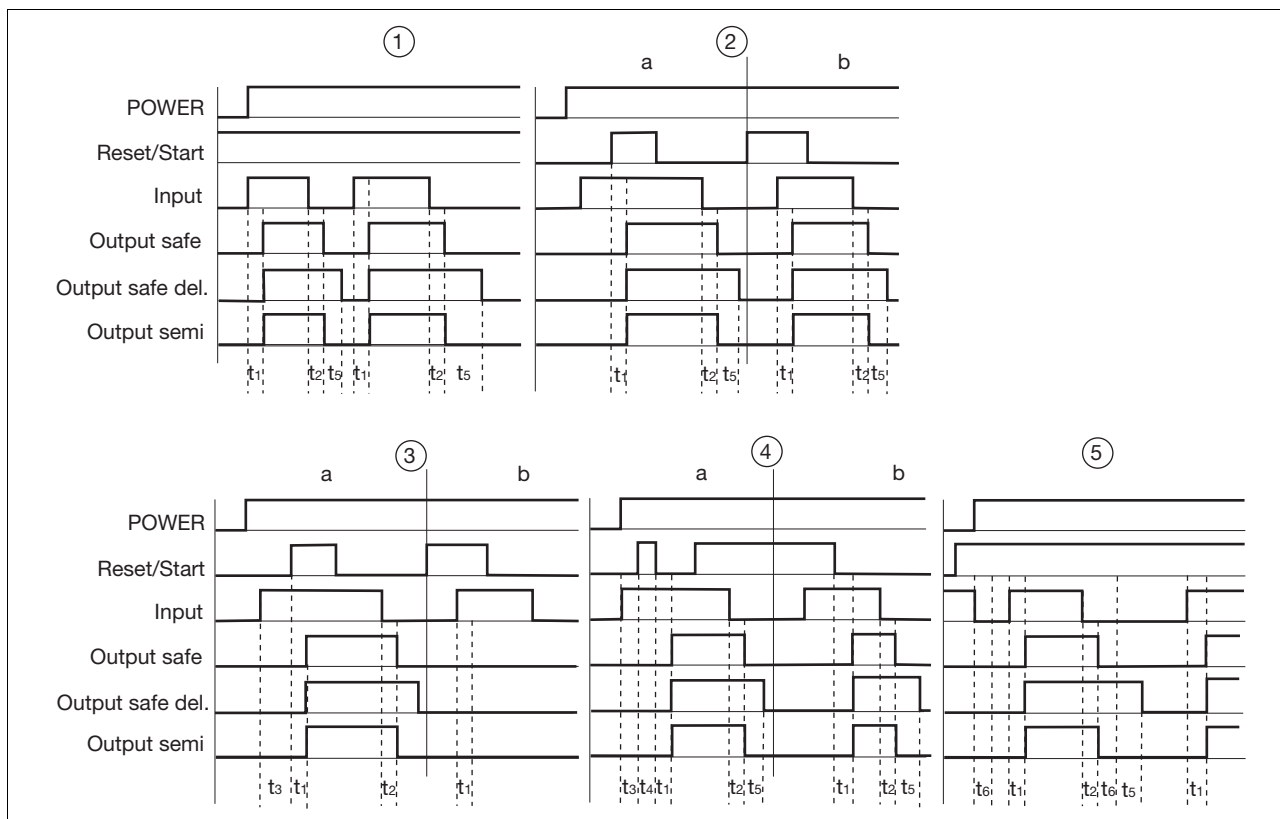


Up to PL e of EN ISO 13849-1 PNOZ s5

Timing diagram



Key

- ▶ Power: Supply voltage
- ▶ Reset/Start: Reset circuit S12-S34
- ▶ Input: Input circuits S11-S12, S21-S22
- ▶ Output safe: Safety contacts 13-14, 23-24
- ▶ Out semi: Semiconductor output Y32
- ▶ ⓪: Automatic reset
- ▶ ②: Manual reset
- ▶ ③: Monitored reset with rising edge
- ▶ ④: Monitored reset with falling edge
- ▶ ⑤: Reset with start-up test
- ▶ a: Input circuit closes before reset circuit
- ▶ b: Reset circuit closes before input circuit
- ▶ t_1 : Switch-on delay
- ▶ t_2 : Delay-on de-energisation
- ▶ t_3 : Waiting period
- ▶ t_4 : Waiting period reset circuit was closed
- ▶ t_5 : Delay time
- ▶ t_6 : Minimum time safety gates open

Wiring

Please note:

- ▶ Information given in the “Technical details” must be followed.
- ▶ Outputs 13-14, 23-24 are instantaneous safety contacts, outputs 37-38, 47-48 are delay-on de-energisation safety contacts.
- ▶ To prevent contact welding, a fuse should be connected before the output contacts (see technical details).
- ▶ Calculation of the max. cable runs l_{max} in the input circuit:

$$l_{max} = \frac{R_{lmax}}{R_l / km}$$

R_{lmax} = max. overall cable resistance (see technical details)
 R_l / km = cable resistance/km

- ▶ Use copper wire that can withstand 60/75 °C.
- ▶ Sufficient fuse protection must be provided on all output contacts with capacitive and inductive loads.
- ▶ With U_B 48 – 240 VAC/DC: Connect S21 to the protective earth system

Up to PL e of EN ISO 13849-1 PNOZ s5

Preparing for operation

► Supply voltage

Supply voltage	AC	DC

► Input circuit

Input circuit	Single-channel	Dual-channel
E-STOP without detection of shorts across contacts		
E-STOP with detection of shorts across contacts		
Safety gate without detection of shorts across contacts		
Safety gate with detection of shorts across contacts		
Light beam device or safety switch with detection of shorts across contacts via ESPE (only when $U_B = 24$ VDC)		