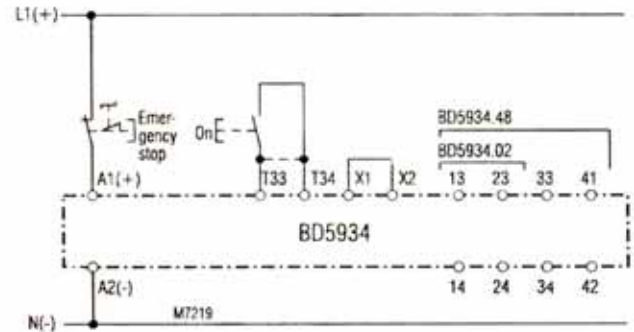


Single-channel emergency-stop circuit. This circuit has no redundancy in the emergency-stop control circuit.

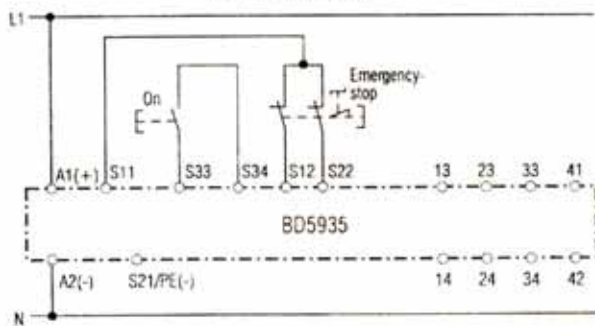
**Please note "Unit programming" !**

Switches in pos.: S1 no cross fault detection  
S2 manual start



Single-channel emergency stop circuit without feedback circuit (X1-X2 jumpered), optionally with or without automatic on feature.

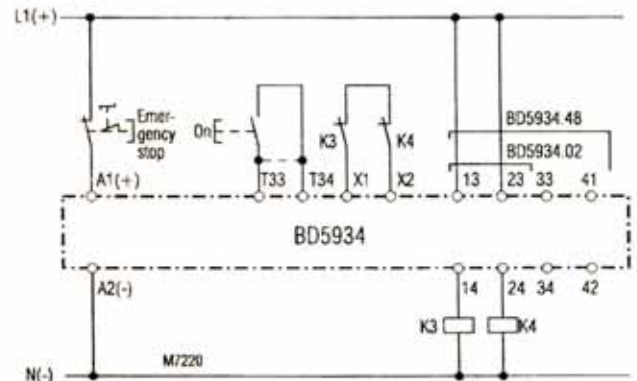
For the automatic on function, the T33-T34 jumper should be closed. No on switch.



Two-channel emergency-stop circuit without cross fault detection.

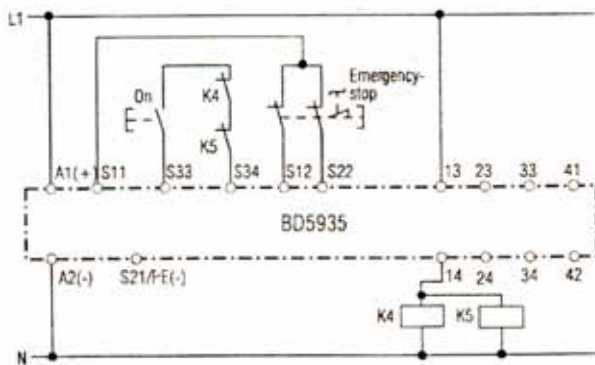
**Please note "Unit programming" !**

Switches in pos.: S1 no cross fault detection  
S2 manual start



Contact reinforcement by means of external contactors.

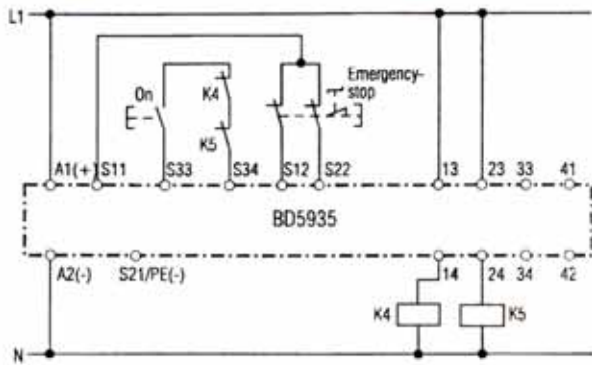
With switching currents greater than 5 A, the output contacts can be reinforced with external contactors with positively driven contacts. The functioning of the external contactors is monitored by looping the NC contacts into the feedback circuit (terminals X1-X2).



Contact reinforcement with external contactors, controlled with one contact path.

**Please note "Unit programming" !**

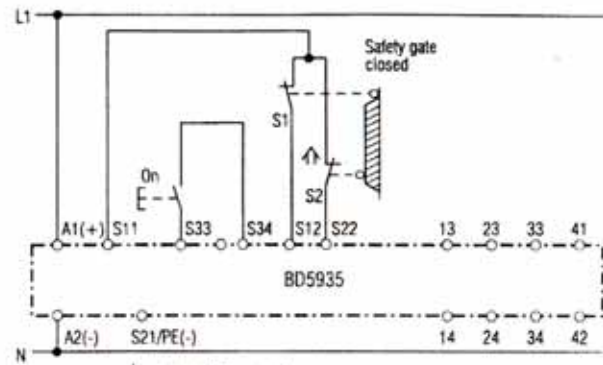
Switches in pos.: S1 no cross fault detection  
S2 manual start



Contact reinforcement by external contactors, controlled with 2 contact paths. With switching current > 10 A, the output contacts can be reinforced by external contactors with positively-driven contacts. The function of the external contactors is monitored by looping the NC contacts into the making circuit (terminals S33-S34).

**Please note "Unit programming" !**

Switches in pos.: S1 no cross fault detection  
S2 manual start



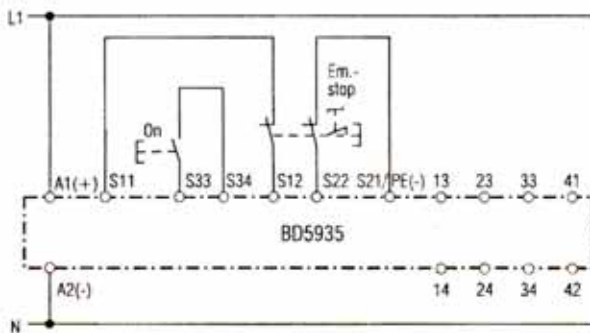
↑ activated NO contact (contact position: closed)

Two-channel monitoring of a safety gate.

The switch of S12 must close simultaneously with S22 or later.

**Please note "Unit programming" !**

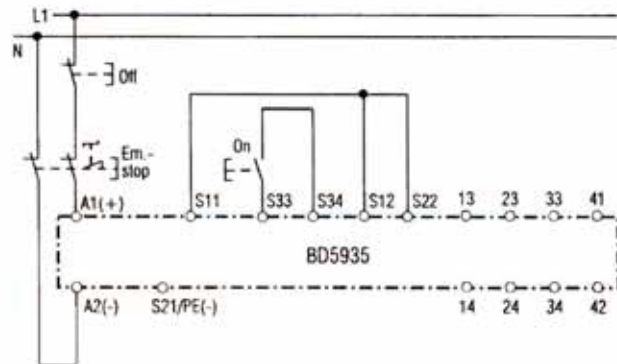
Switches in pos.: S1 no cross fault detection  
S2 manual start



Two-channel emergency-stop circuit with cross fault detection.

**Please note "Unit programming" !**

Switches in pos.: S1 cross fault detection  
S2 manual start



Two-pole emergency-stop with emergency-stop control device in the supply circuit.

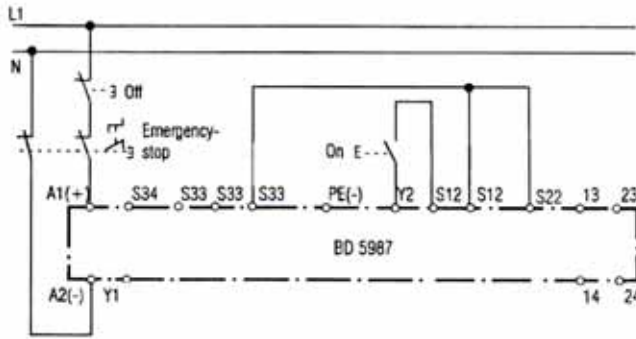
Application for long emergency-stop loops in which the control voltage dropped below the minimum voltage of 21 V.

**Important:**

Single faults (line shorts over the emergency-stop control device) are not identified with this external circuit.

**Please note "Unit programming" !**

Switches in pos.: S1 no cross fault detection  
S2 manual start

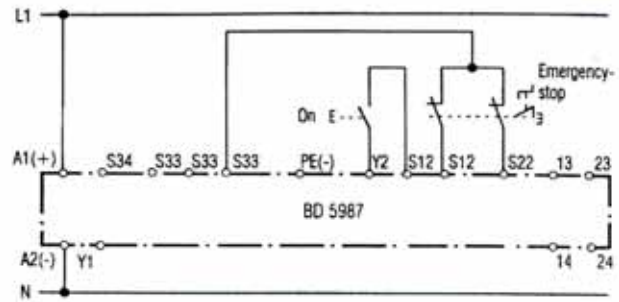


Two-pole emergency stop circuit with emergency stop control device in supply circuit.

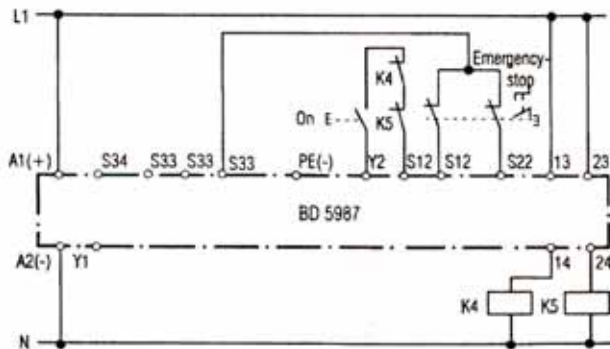
Application for long emergency stop loops where the control voltage drops below the minimum voltage of 21 V.

**Attention:**

Single faults (e.g. line faults at the emergency stop control device) are not detected with this external circuit configuration

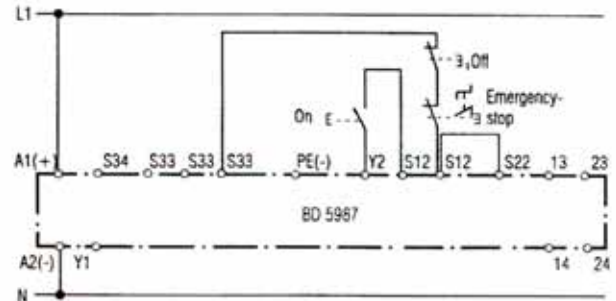


Two-channel emergency stop circuit

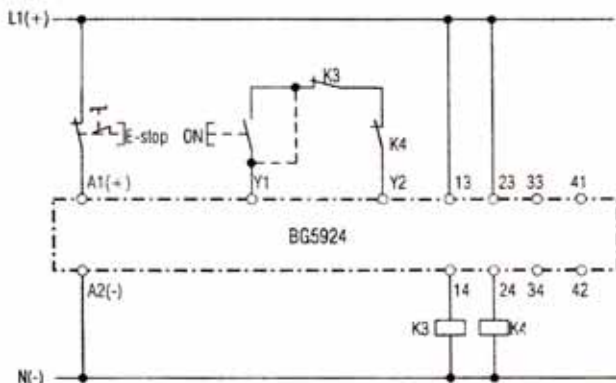


Contact reinforcement by external contactors, 2-channel.

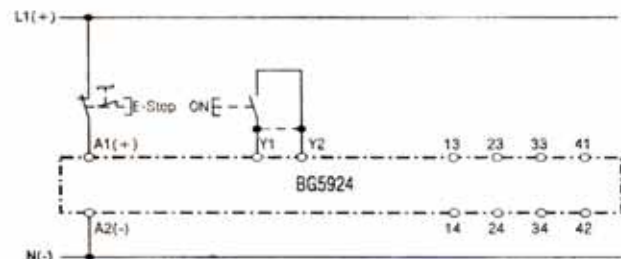
The output contacts can be reinforced by external contactors with positively-driven contacts for switching currents > 10 A. Functioning of



One-channel emergency stop circuit. This circuit does not have any redundancy in the emergency stop control circuit

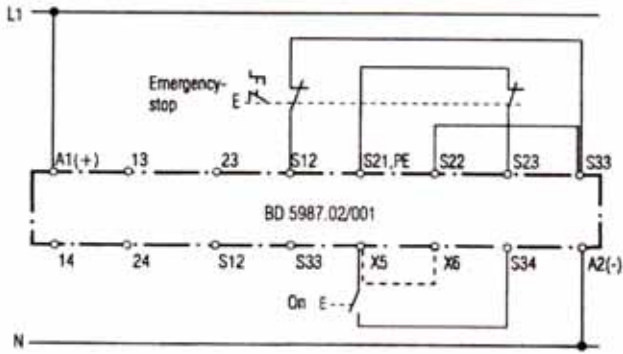


Contact reinforcement by external contactors, 2-channel controlled. For currents > 7 A the output contacts can be reinforced by external contactors. Functioning of the external contactors is monitored by looping the NC contacts into the start circuit (Y1-Y2).

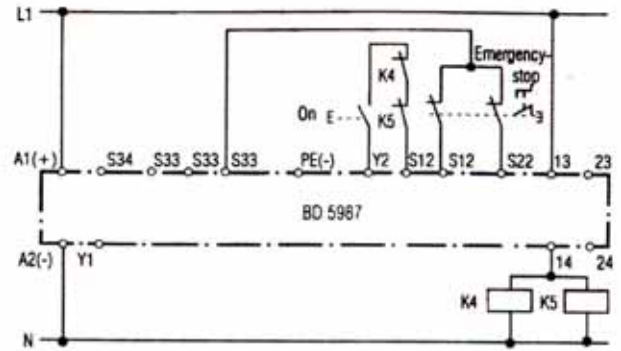


Single channel emergency stop circuit without feed back loop, with or without automatic restart. For automatic restart, terminals Y1-Y2 must be linked. No ON-pushbutton necessary.

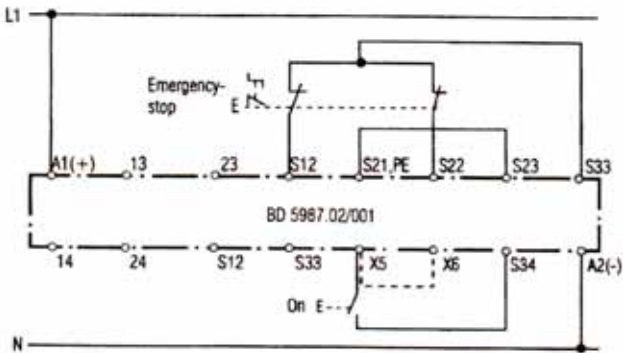
# APPLICATION EXAMPLES



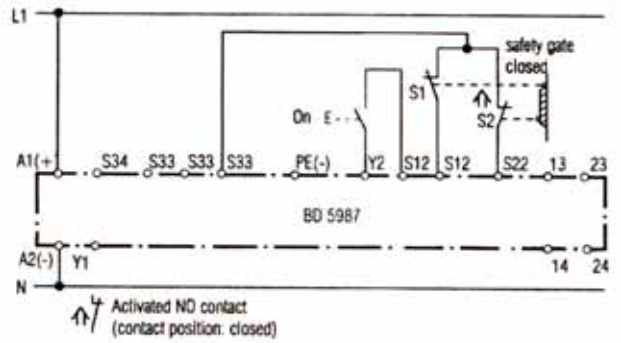
Two-channel emergency stop circuit with cross fault detection. Activation via On pushbutton. ----- Jumper X5 - X6: Jumper X5 - X6 must be fitted for the automatic On function. The On pushbutton is not required



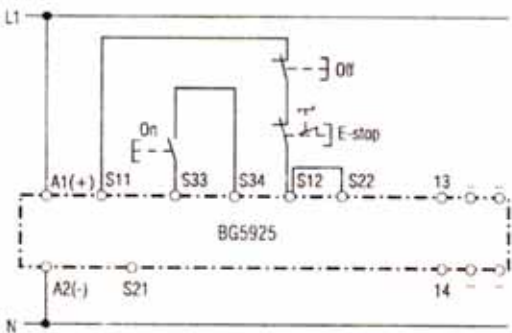
Contact reinforcement by external contactors with reduced safety level



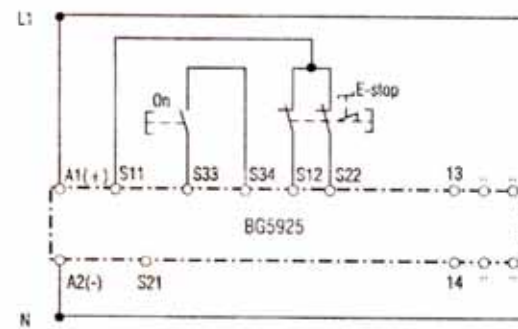
Two-channel emergency-stop circuit without cross fault detection. Activation via On pushbutton. ----- Jumper X5 - X6: Jumper X5 - X6 must be fitted for the automatic On function. The On pushbutton is not required



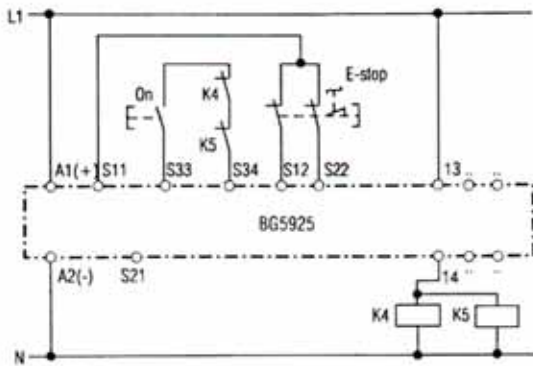
Two-channel monitoring of a safety gate



Single channel emergency stop circuit. This circuit does not have any redundancy in the emergency-stop control circuit. **Note: Refer to "Unit programming"!** Switches in pos.: S1 no cross fault detection S2 manual start



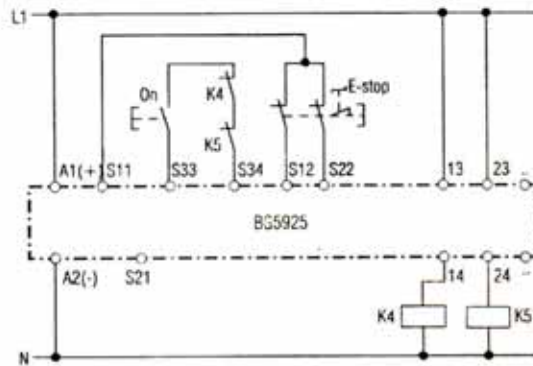
2-channel emergency stop circuit without cross fault monitoring. **Note: Refer to "Unit programming"!** Switches in pos.: S1 no cross fault detection S2 manual start



Contact reinforcement by external contactors controlled by one contact path.

**Note: Refer to "Unit programming"!**

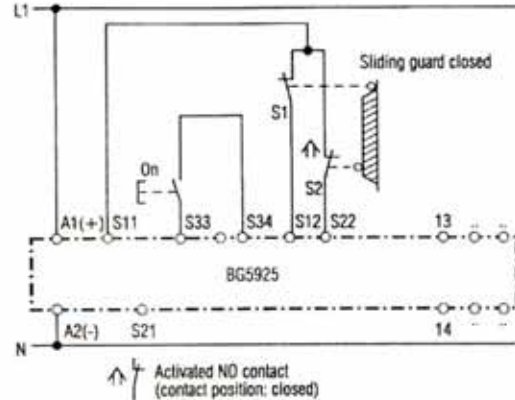
Switches in pos.: S1 no cross fault detection  
S2 manual start



Contact reinforcement by external contactors, 2-channel controlled. The output contacts can be reinforced by external contactors with positive guided contacts for switching currents > 8 A. Functioning of the external contactors is monitored by looping the NC contacts into the closing circuit (terminals S33-S34).

**Note: Refer to "Unit programming"!**

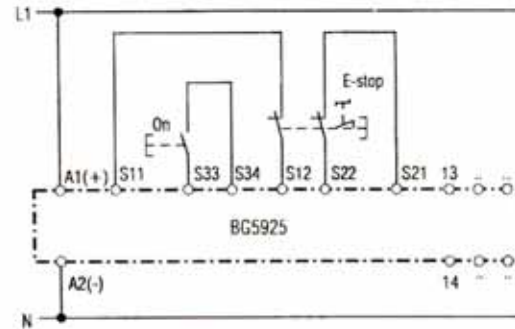
Switches in pos.: S1 no cross fault detection  
S2 manual start



2-channel safety gate monitoring.

**Note: Refer to "Unit programming"!**

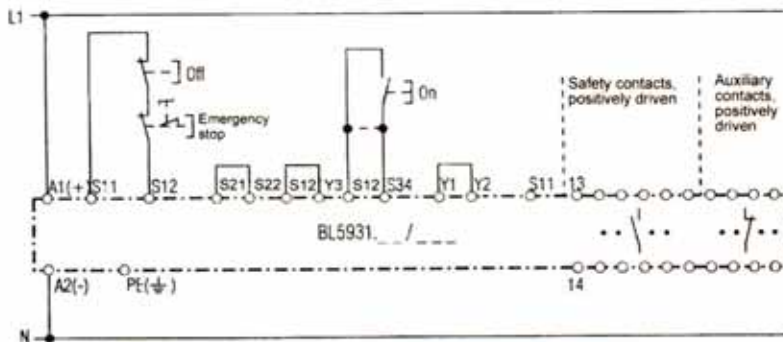
Switches in pos.: S1 no cross fault detection  
S2 manual start



2-channel emergency stop circuit with cross fault detection

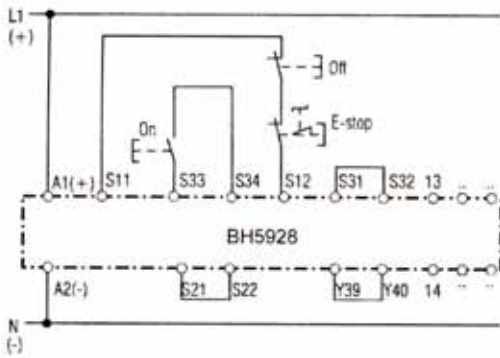
**Note: Refer to "Unit programming"!**

Switches in pos.: S1 cross fault detection  
S2 manual start

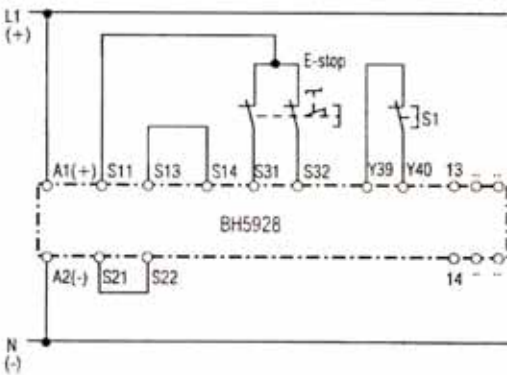


Picture 1: Single-channel emergency stop circuit, activated with On-button.

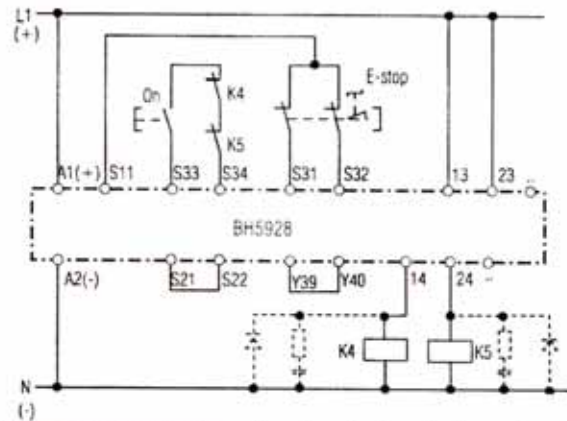
For automatic restart at the BL 5931.64/003 terminals S12-S34 and at the BL 5931.60 and BL 5931.63 terminals S33-S34 have to be linked, the push button is left away.



Single channel emergency stop circuit. This circuit does not have any redundancy in the emergency-stop control circuit

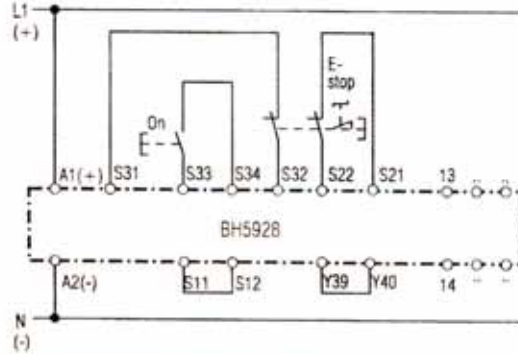


2-channel emergency stop circuit without cross fault monitoring autostart and interruption of time by S1

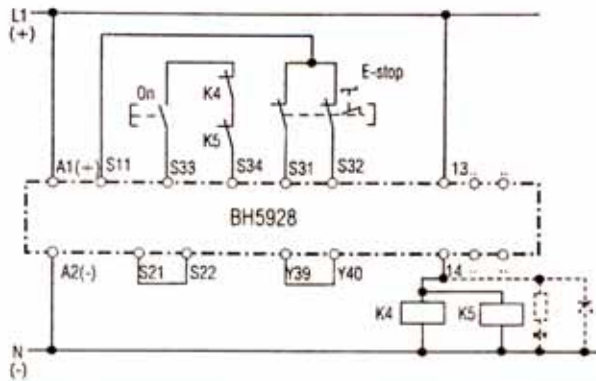


Contact reinforcement by external contactors, 2-channel controlled. The output contacts can be reinforced by external contactors with positive guided contacts for switching currents > 5 A.

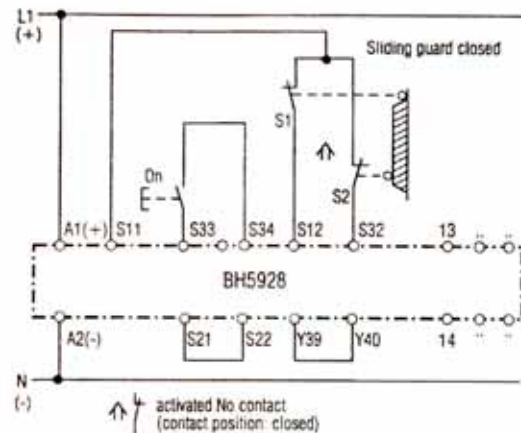
Functioning of the external contactors is monitored by looping the NC contacts into the closing circuit (terminals S13-S14 or S33-S34)



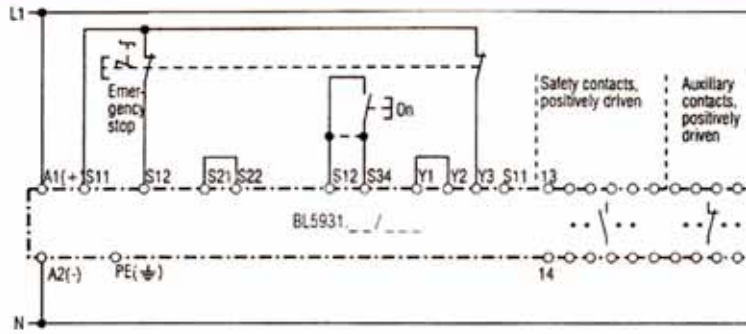
2-channel emergency stop circuit with cross fault detection



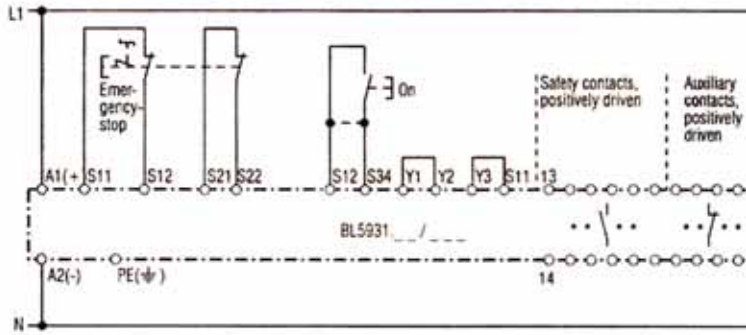
Contact reinforcement by external contactors controlled by one contact path.



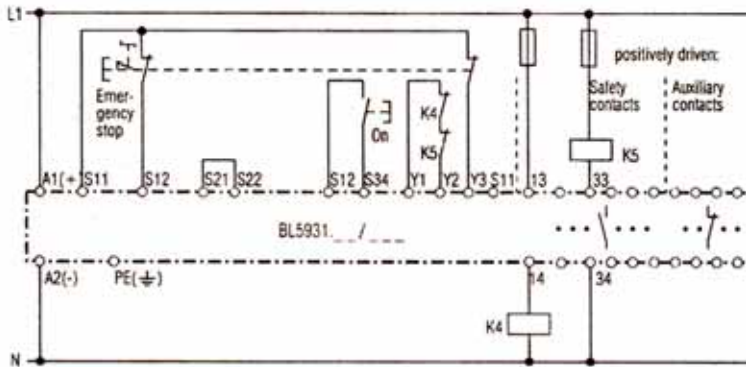
2-channel safety gate monitoring



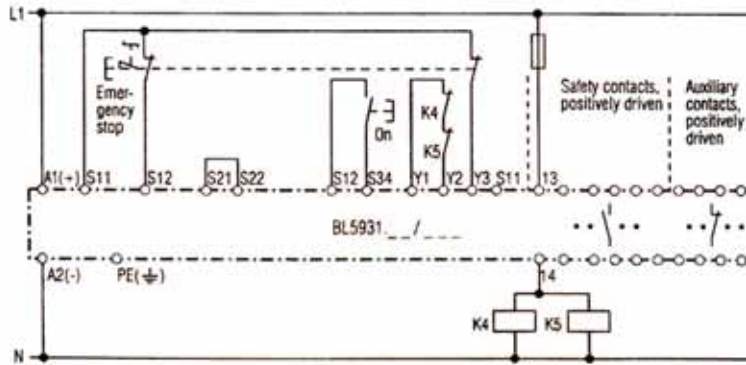
Picture 2: Two-channel emergency stop circuit without cross fault detection, activated with On-button. For automatic restart at the BL 5931.64/003 terminals S12-S34 and at the BL 5931.60 and BL 5931.63 terminals S33-S34 have to be linked, the push button is left away.

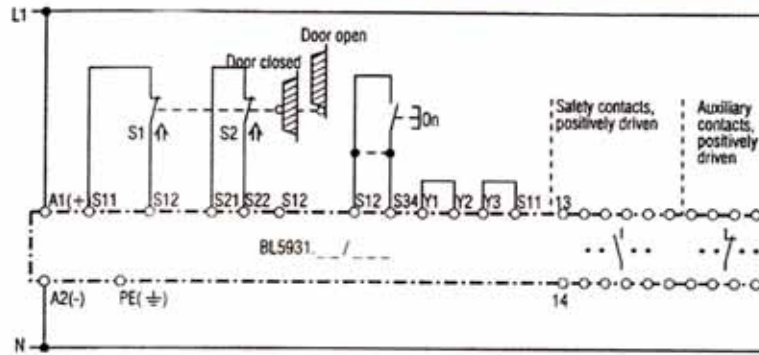


Picture 3: Two-channel emergency stop circuit with cross fault detection. For automatic restart at the BL5931.64/003 terminals S12-S34 and at the BL 5931.60 and BL 5931.63 terminals S33-S34 have to be linked. No On-button.

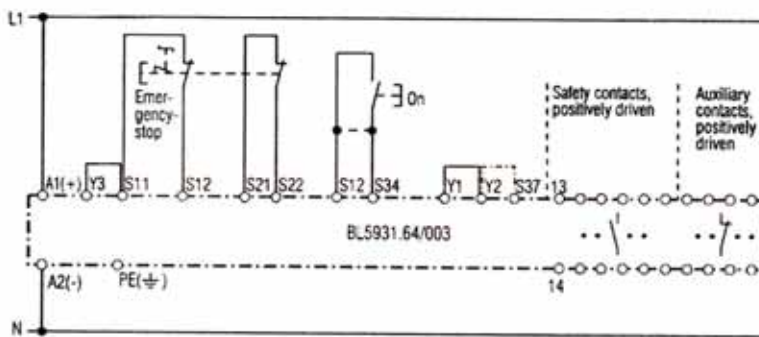


Picture 4: Contact reinforcement with external contactors, 2-channel connection, without cross fault detection. For current > 5 A the output contacts can be reinforced by external contactors with positive guided contacts. The function of the contactors is monitored by connecting the NC-contacts to the feed-back circuit (terminals Y1-Y2).

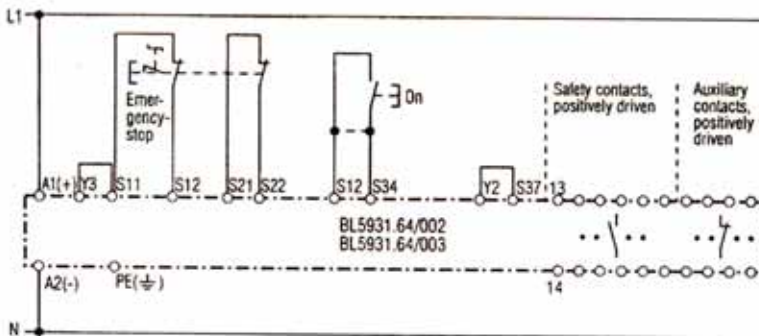




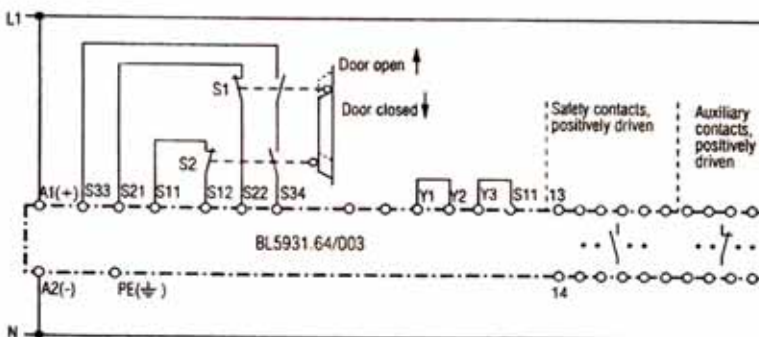
Picture 6: Two-channel monitoring of a safety gate. With manual restart S1 and S2 can be switched without observing a certain sequence. Activated with On-button. For automatic restart at the BL 5931.64/003 the terminals S12-S34 and at the BL 5931.60 and BL 5931.63 terminals S33-S34 have to be linked, the push button is left away.



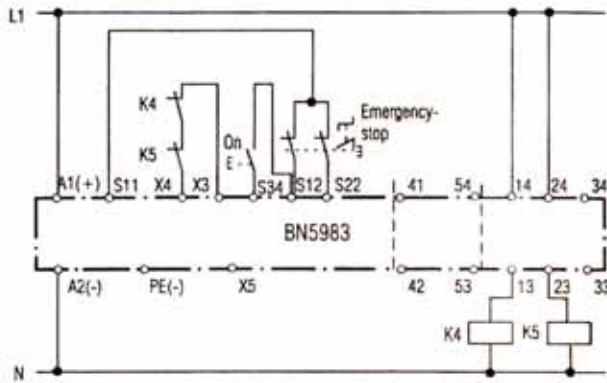
Picture 7: Two-channel emergency stop circuit with cross fault detection and automatic restart



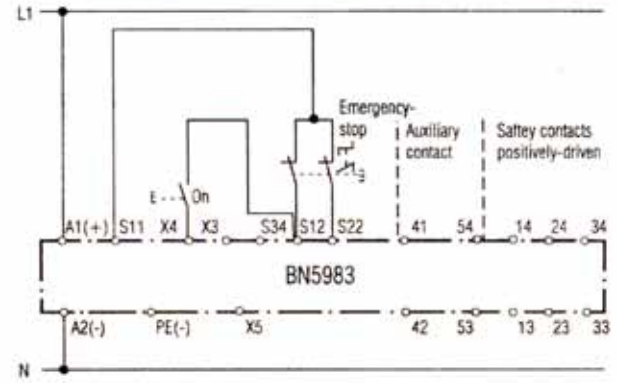
Picture 8: Two-channel emergency stop circuit with cross fault detection, activated with On-button without line fault detection on On-button. With link on S37-Y2 line fault detection is activated.



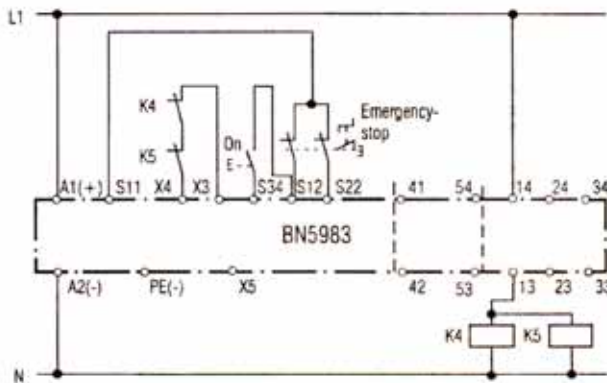
Picture 9: Monitoring of a safety gate by limit switches with 1 NO and 1NC contact and automatic restart



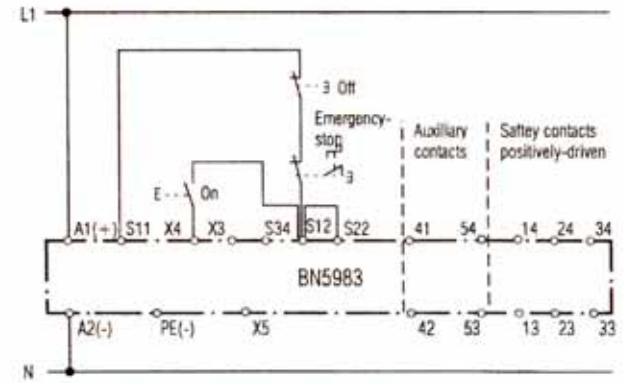
**Contact reinforcement by external contactors, 2-channel.**  
The output contacts can be reinforced by external contactors with positively-driven contacts for switching currents > 10 A. Functioning of the external contactors is monitored by looping the NC contacts into the closing circuit (terminals X3 - X4).



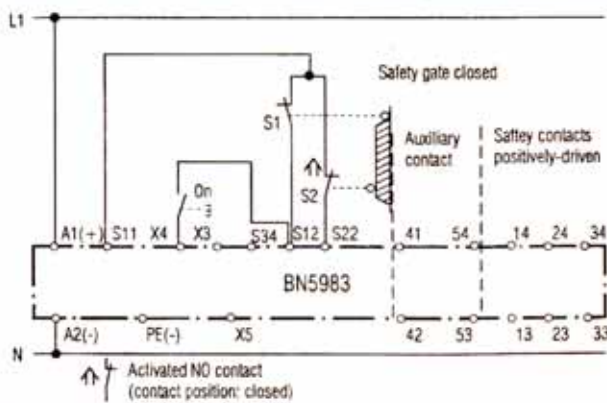
**Two-channel emergency stop circuit**



**Contact reinforcement by external contactors with reduced safety level**

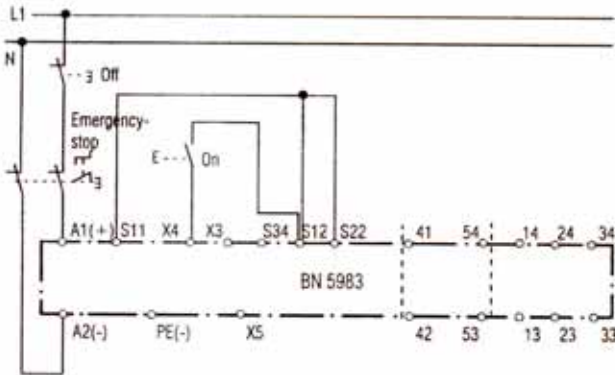


**One-channel emergency-stop circuit. This circuit does not have any redundancy in the emergency-stop control circuit**



**Two-channel monitoring of a safety gate**

# APPLICATION EXAMPLES

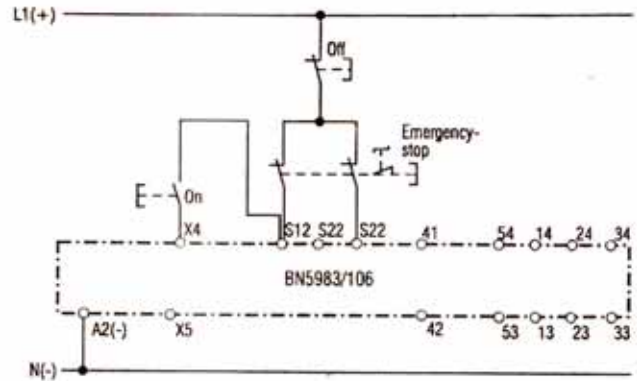


Picture M 6797:  
Two-pole emergency-stop circuit with emergency stop control device in supply circuit.

Application for long emergency stop loops where the control voltage drops below the minimum voltage of 21 V.

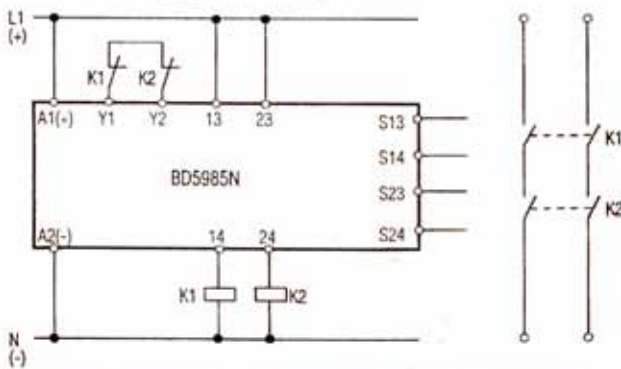
**Attention:**

Single faults (e.g. line faults at the emergency stop control device) are not detected with this external circuit configuration

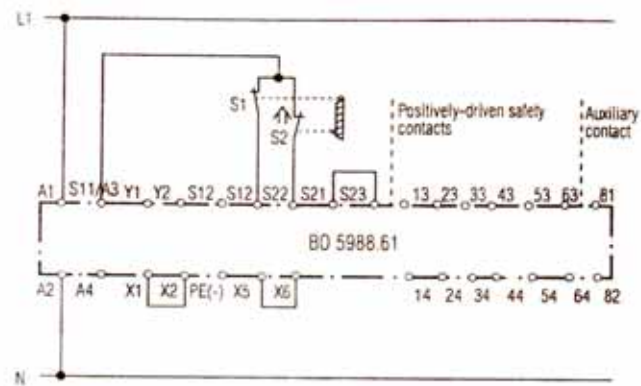
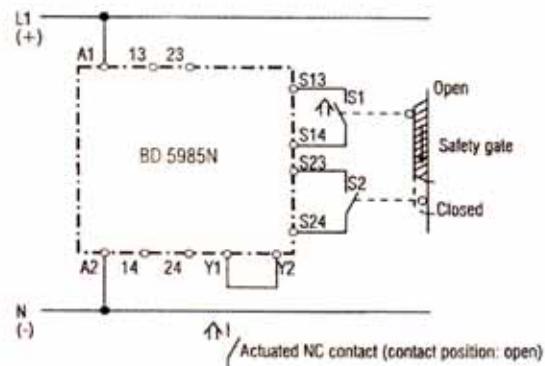


Two-channel emergency stop circuit with BN 5983/106.

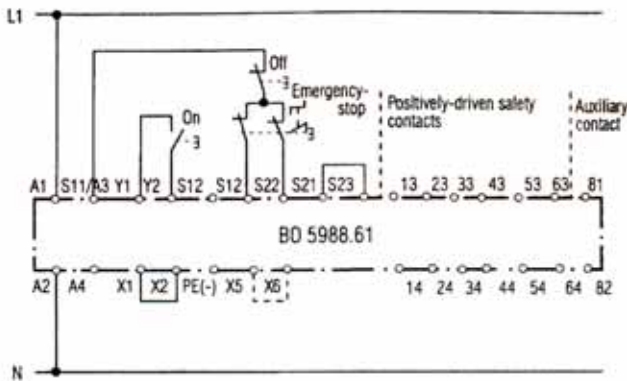
Two-channel safety gate monitoring



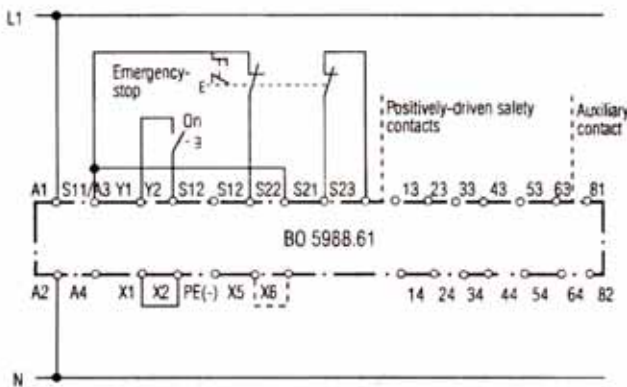
Contact multiplication via external positively-driven contactors



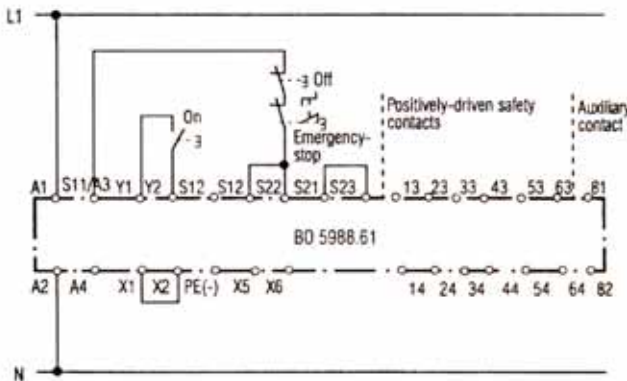
Two-channel monitoring of a safety gate. S1 must not close before S2



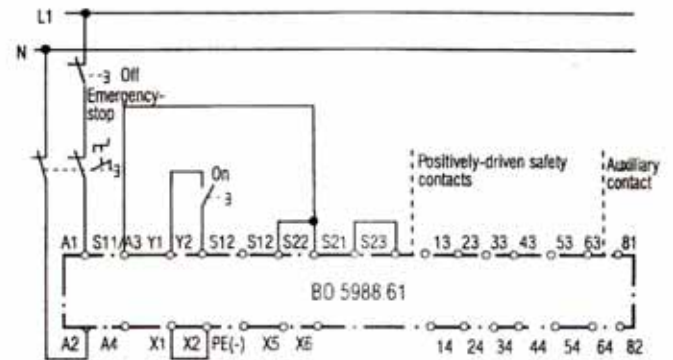
Two-channel emergency stop circuit without cross fault detection. Activation via On pushbutton. - - - Jumper X5 - X6: A jumper must be fitted X5 - X6 for the automatic On function. The On pushbutton is not required.



Two-channel emergency-stop circuit with cross fault detection. Activation via On pushbutton. - - - Jumper X5 - X6: A jumper must be fitted X5 - X6 for the automatic On function. The On pushbutton is not required.



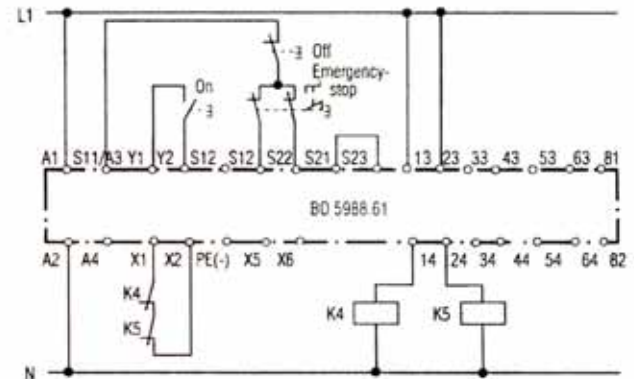
One-channel emergency stop circuit. This circuit does not have any redundancy in the emergency stop control device circuit.



Two-pole emergency stop circuit with emergency stop control device in the supply circuit. Application for long emergency stop loops where the control voltage drops below the minimum voltage of 21 V.

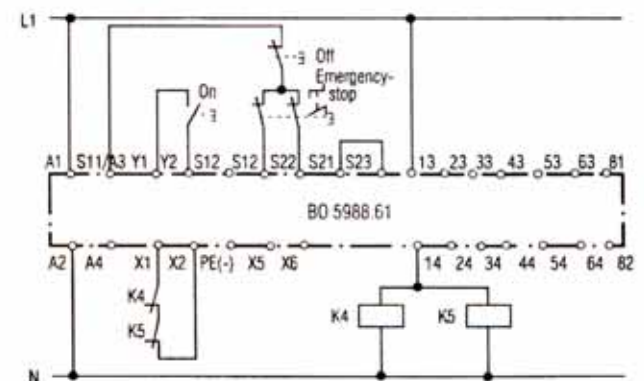
**Attention:**

Single faults (e.g. line faults at the emergency stop control device) are not detected with this external circuit configuration.

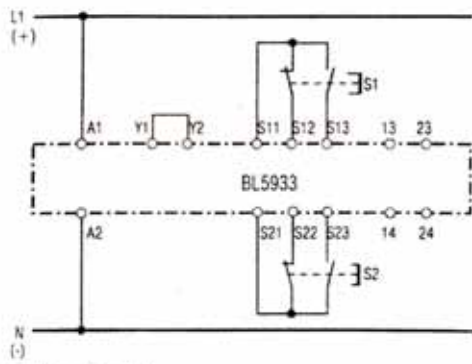


**Contact reinforcement by external contactors, two-channel.**

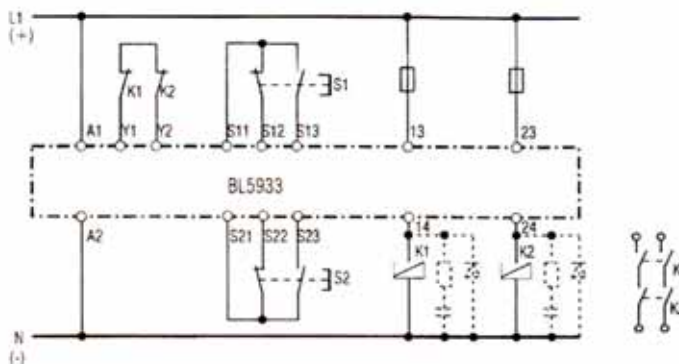
The output contacts can be reinforced by external contactors with positively-driven contacts for switching currents > 8 A. Functioning of the external contactors is monitored by looping the NC contacts into the closing circuit (terminals X1 - X2).



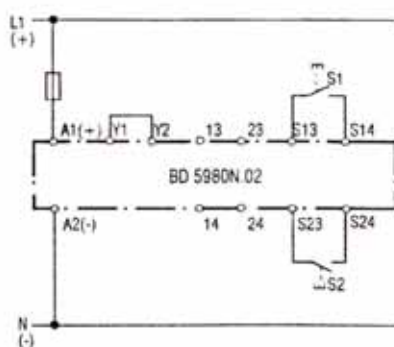
Contact reinforcement by external contactors with reduced safety level.



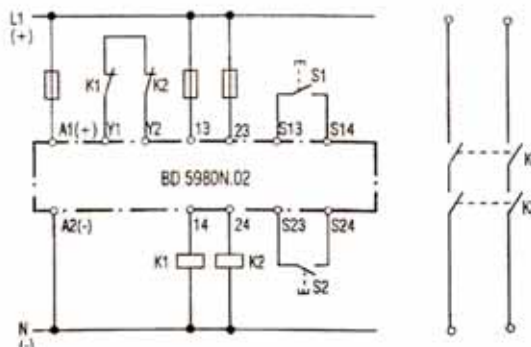
Two-hand control



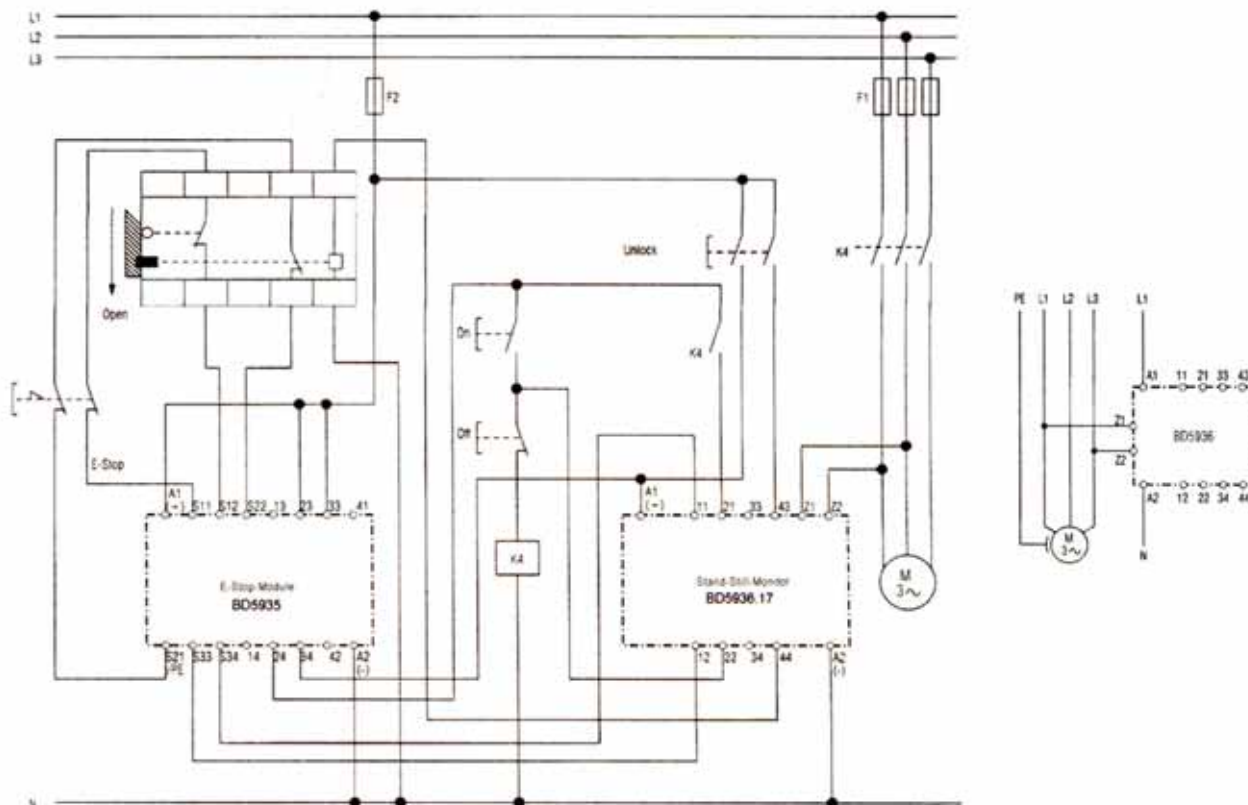
Two-hand control with contact reinforcement via external positively-driven contactors. When switching inductive loads spark absorbers are recommended.

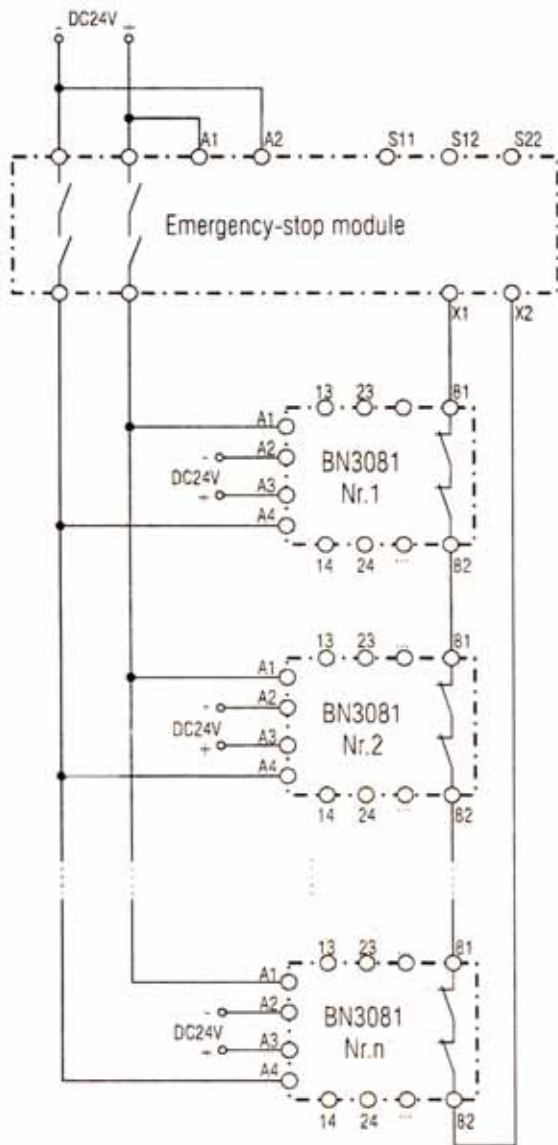


Two-hand control

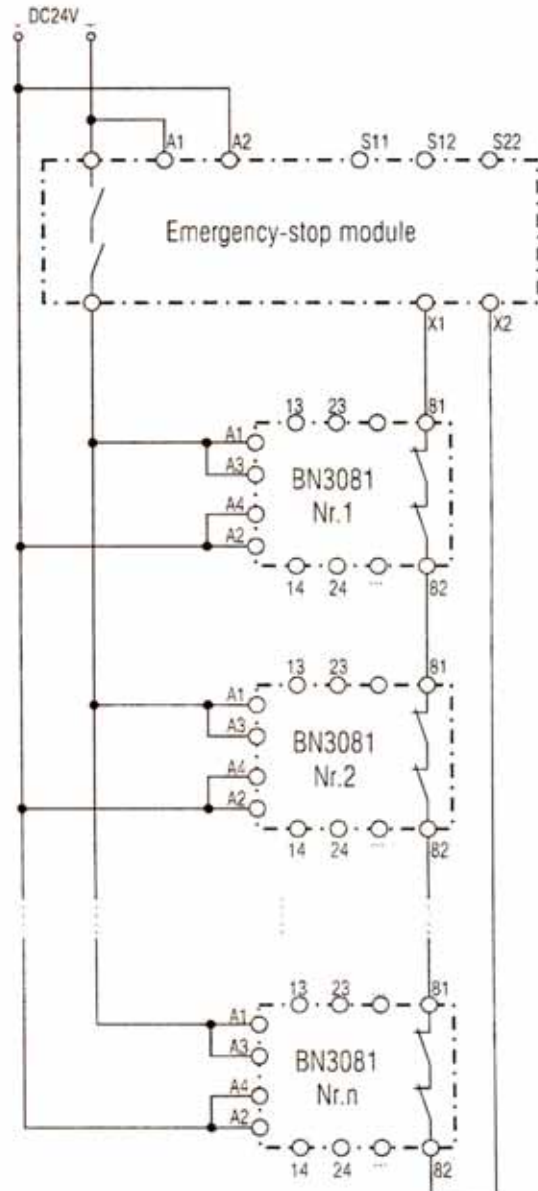


Two-hand control with contact reinforcement via external positively-driven contactors





Contact multiplication with several extension moduls 1-channel



Contact multiplication with several extension moduls 2-channel with cross fault monitoring