



## Check list: Safety relays PNOZclassic – PNOZsigma

Application examples showing terminal comparisons for replacing safety relays from the PNOZclassic product range with PNOZsigma

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# Why does Pilz offer more?



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Pilz is a solution supplier for all automation functions. Including standard control functions. Developments from Pilz protect man, machine and the environment. That's why all our experience and knowledge goes into individual products as well as consistently sophisticated system solutions.

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- ▶ Networks
- ▶ Drive technology
- ▶ Operator and visualisation systems
- ▶ Software
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- ▶ Training

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**Pilz is a family business that's closer to its customers**

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We are your contact, guide and competency leader en route to an optimum automation solution.

**Support – Technical help round the clock!**

Technical support is available from Pilz round the clock. This service is provided free of charge beyond standard business hours.

**You can reach our international hotline on:**

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Exclusion of liability

Our application manual has been compiled with great care. It contains information about our company and our products. All statements are made in accordance with the current status of technology and to the best of our know-ledge and belief. However, we cannot except liability for the accuracy and entirety of the information provided, except in the case of gross negligence. In particular it should be noted that statements do not have the legal quality of assurances or assured properties. We are grateful for any feedback on the contents.

April 2009

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## Solution supplier for safety and standard

Pilz offers a universal concept for solutions that can be applied right across industry. Whether you need safety or standard control functions, machine or plant, centralised or decentralised, a single product or a total solution: With Pilz you will definitely find a solution for your automation function.

### Are you looking for a flexible solution for your automation functions?

- ▶ **PMD:** Electronic monitoring relays such as voltage or true power monitors, for example.
- ▶ **PNOZ:** Safety relays for simple plant and machinery with up to 4 safety functions. Safe monitoring of E-STOPS, safety gates and light curtains/light grids, for example.
- ▶ **PNOZmulti:** The safety circuit is created using a simple configuration tool. Applicable from 4 safety functions.
- ▶ **PSS:** Programmable control systems for use on complex machinery or distributed plants, to monitor safety-related functions and/or for complete machine control.
- ▶ **Industrial communication:** Transfer input/output signals and control data reliably and safely.

Your requirements:	Our solution:	Supplementary product ranges:
	<p><i>PMD electronic monitoring relays</i></p>	<p><i>Sensor technology</i></p>
	<p><i>PNOZ safety relays</i></p>	<p><i>Drive technology</i></p>
	<p><i>PNOZmulti configurable control system</i></p>	<p><i>Operator and visualisation systems</i></p>
	<p><i>PSS programmable control systems</i></p>	<p><i>Software</i></p>
	<p><i>SafetyBUS p</i> <i>induraNET p</i></p>	<p><i>Services</i></p>
	<p><i>Industrial communication networks</i></p>	

**Sensor technology**, used in conjunction with Pilz safe control technology, offers a coordinated, complete solution that's economical, approved and safe. The focus is always on the protection of man and machine, in compliance with the standards and regulations.

**Drive technology** provides overall solutions for automating your machinery. From controller operation through to movement of highly dynamic drives, including all safety aspects.

**Operator and visualisation systems** provide diagnostic and visualisation devices, plus control and signal devices as part of the Pilz solution. The focus is always on fast, simple configuration. Machine downtimes are clearly reduced thanks to the overall diagnostic concept PVIS.

**Software includes system software**, user software and software tools. Here you'll find the right tool for every task. From product-related software to diagnostic software, through to the PAScal Safety Calculator.

**Services** in the field of machinery safety are covered holistically by Pilz. From risk assessment through to ESPE inspection. Pilz also offers a comprehensive range of training courses and seminars, covering generic issues relating to machinery safety as well as Pilz products.

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## Comparison chart

On 31. December 2010 the PNOZclassic-range will be discontinued for reasons of availability of spare parts and the technical progress. PNOZclassic devices may be replaced by the latest generation of PNOZsigma safety relays. PNOZsigma provides maximum functionality in minimum width. Online information on PNOZsigma is available from [www.pilz.com](http://www.pilz.com), webcode 0994.

The following list is a recommendation of replacement types from the PNOZsigma-range for discontinued types from the PNOZclassic-range. It is necessary to check and ensure that the listed replacement types suit the application, and that they can be used. We are happy to advise you on an alternative solution for your application:  
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<b>PNOZclassic Discontinued type</b>	<b>Supply voltage</b>	<b>Replacement type PNOZsigma</b>	<b>+ Required expansion device PNOZsigma</b>
N2HS	48 - 240 V AC	PNOZ s6 AC	
P1H-1SK	48 - 240 V AC	PNOZ s6 AC	
P1H-1SK	24 V DC	PNOZ s6	
P1HZ 1	48 - 240 V AC	PNOZ s6.1 AC	
P1HZ 1	24 V DC	PNOZ s6.1	
P1HZ 2	48 - 240 V AC	PNOZ s6.1 AC	
P1HZ 2	24 V DC	PNOZ s6.1	
P2HZ 5	24 V DC	PNOZ s6	
P2HZ 5	48 - 240 V DC	PNOZ s6 AC	
P2HZ 6	24 V DC	PNOZ s6 AC	
P2HZ 6	110 V AC	PNOZ s6 AC	
P2HZ 6	230 V AC	PNOZ s6 AC	
PNOZ 1	48 - 240 V AC	PNOZ s4 AC	
PNOZ 1	24 V DC	PNOZ s4	
PNOZ 1-2	48 - 230 V AC	PNOZ s4.1 AC	
PNOZ 1-2	24 V DC	PNOZ s4.1	
PNOZ 2	48 -240 V DC	PNOZ s4 AC	
PNOZ 3	24 V DC	PNOZ s4	PNOZ s7 or PNOZ s9
PNOZ 3	48 - 240 V AC	PNOZ s4 AC	PNOZ s7 or PNOZ s9
PNOZ 4	24 V DC	PNOZ s4	
PNOZ 5	48 - 240 V AC	PNOZ s4 AC	
PNOZ 5	24 V DC	PNOZ s1	
PNOZ 6	48 V AC	PNOZ s4	PNOZ s9
PNOZ 6	24 V DC	PNOZ s4	PNOZ s9
PNOZ 8	24 V DC	PNOZ s4	
PNOZ 8	48 - 240 V AC	PNOZ s4 AC	
PNOZ 9	24 V DC	PNOZ s1	
PNOZ 9	48 - 240 V AC	PNOZ s4 AC	
PNOZ V (3s)	24 V DC	PNOZ s5	
PNOZ V (30 s)	24 V DC	PNOZ s5	
PNOZ V (300 s)	24 V DC	PNOZ s5	

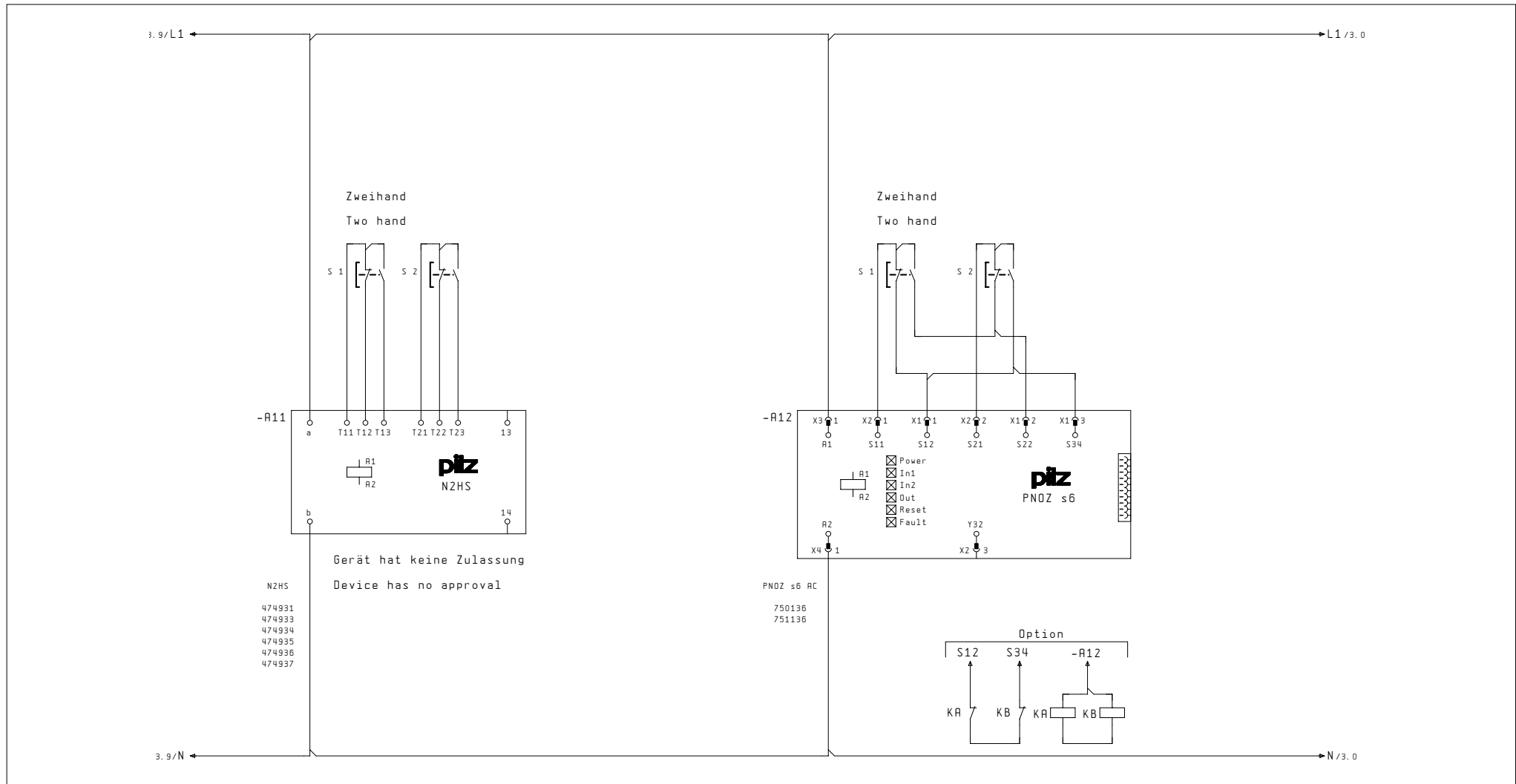
## Comparison chart

<b>PNOZclassic Discontinued type</b>	<b>Supply voltage</b>	<b>Replacement type PNOZsigma</b>	<b>+ Required expansion device PNOZsigma</b>
PST 1	48 - 230 V AC	PNOZ s4 AC	
PST 1	24 V DC	PNOZ s3	
PST 3	24 V DC	PNOZ s4	
PST 3	48 - 230 V AC	PNOZ s4 AC	

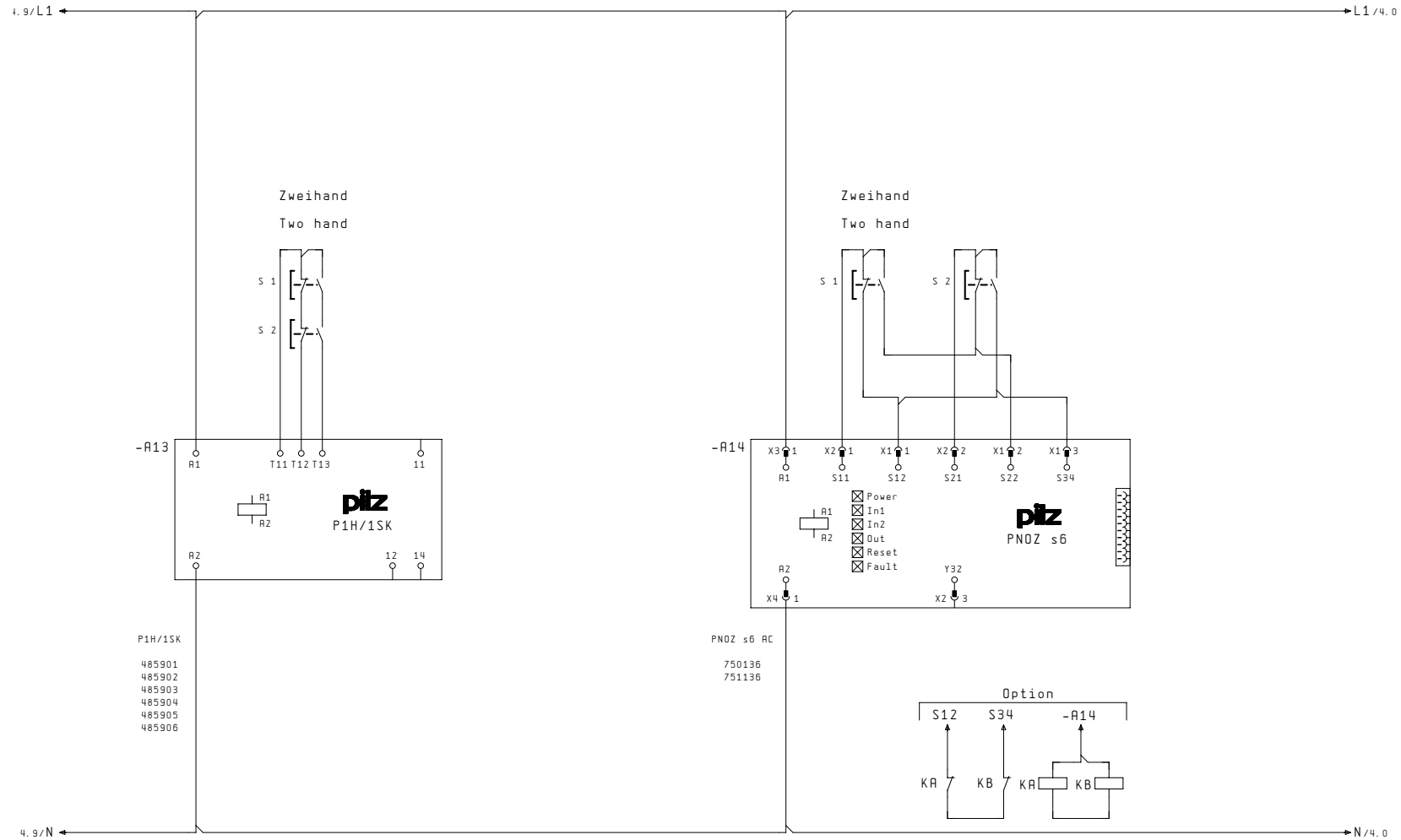
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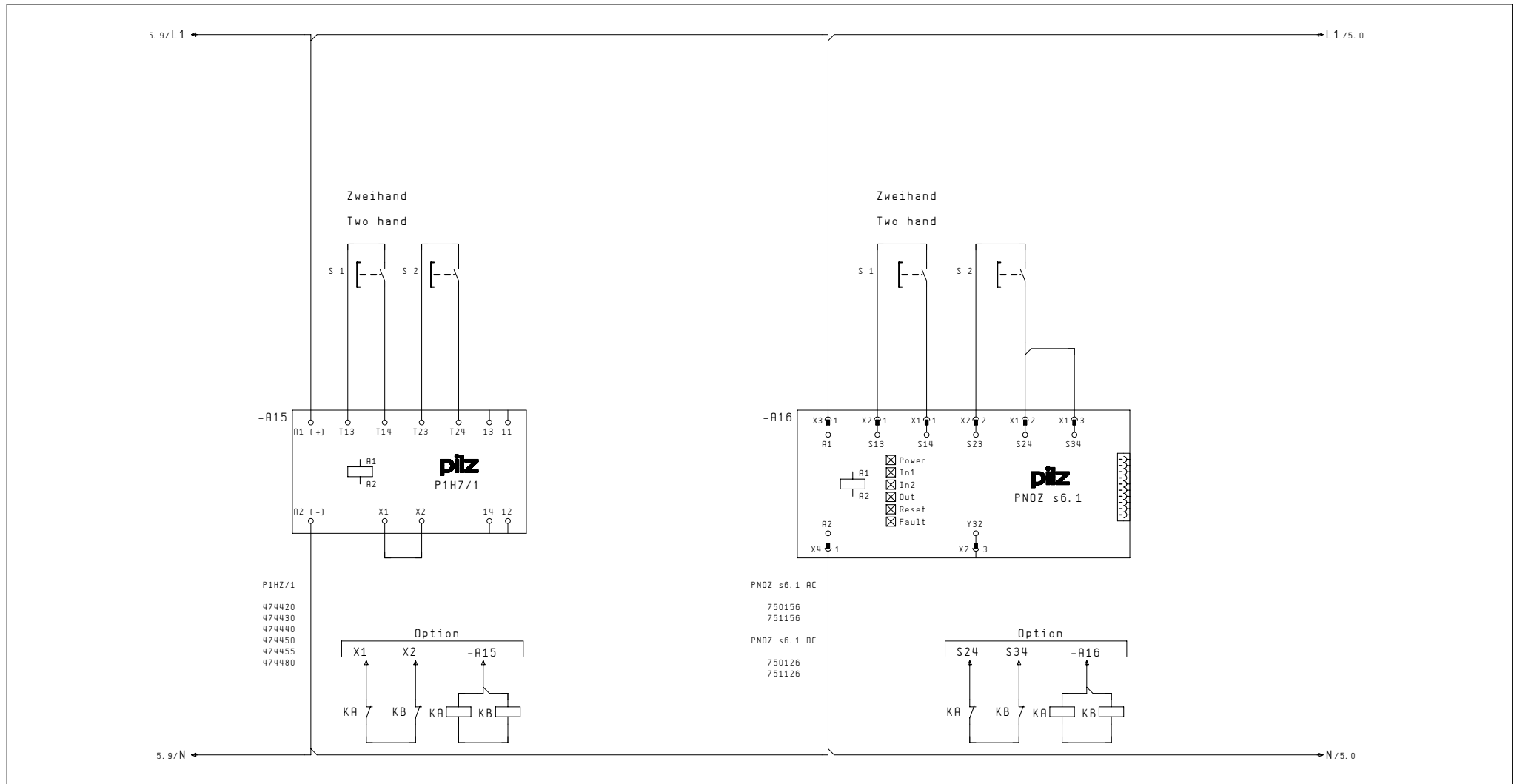
## N2HS (48 - 240 V AC) – PNOZ s6



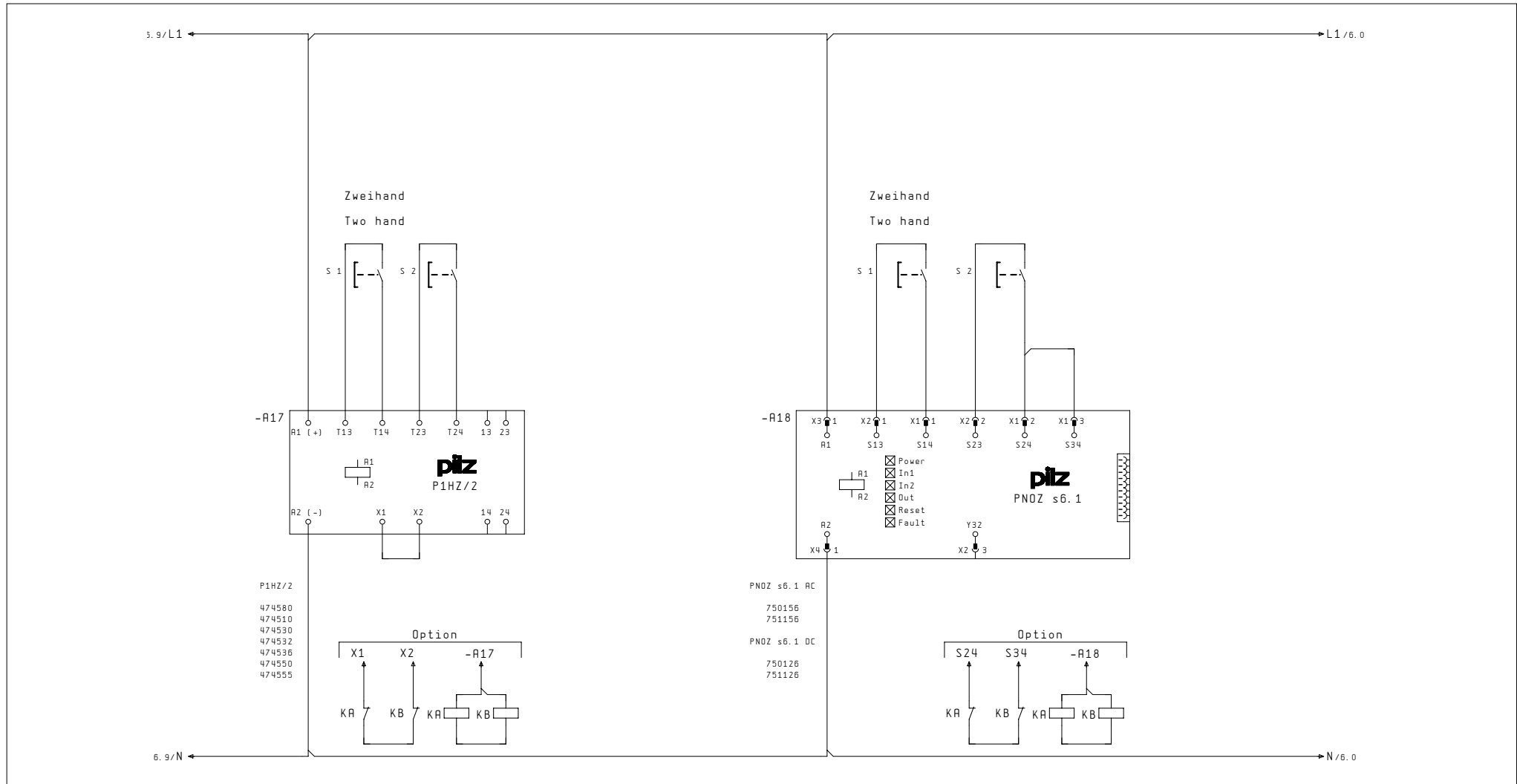
## P1H-1SK (48 - 240 V AC; 24 V DC) – PNOZ s6



## P1HZ 1 (48 - 240 V AC; 24 V DC) – PNOZ s6.1

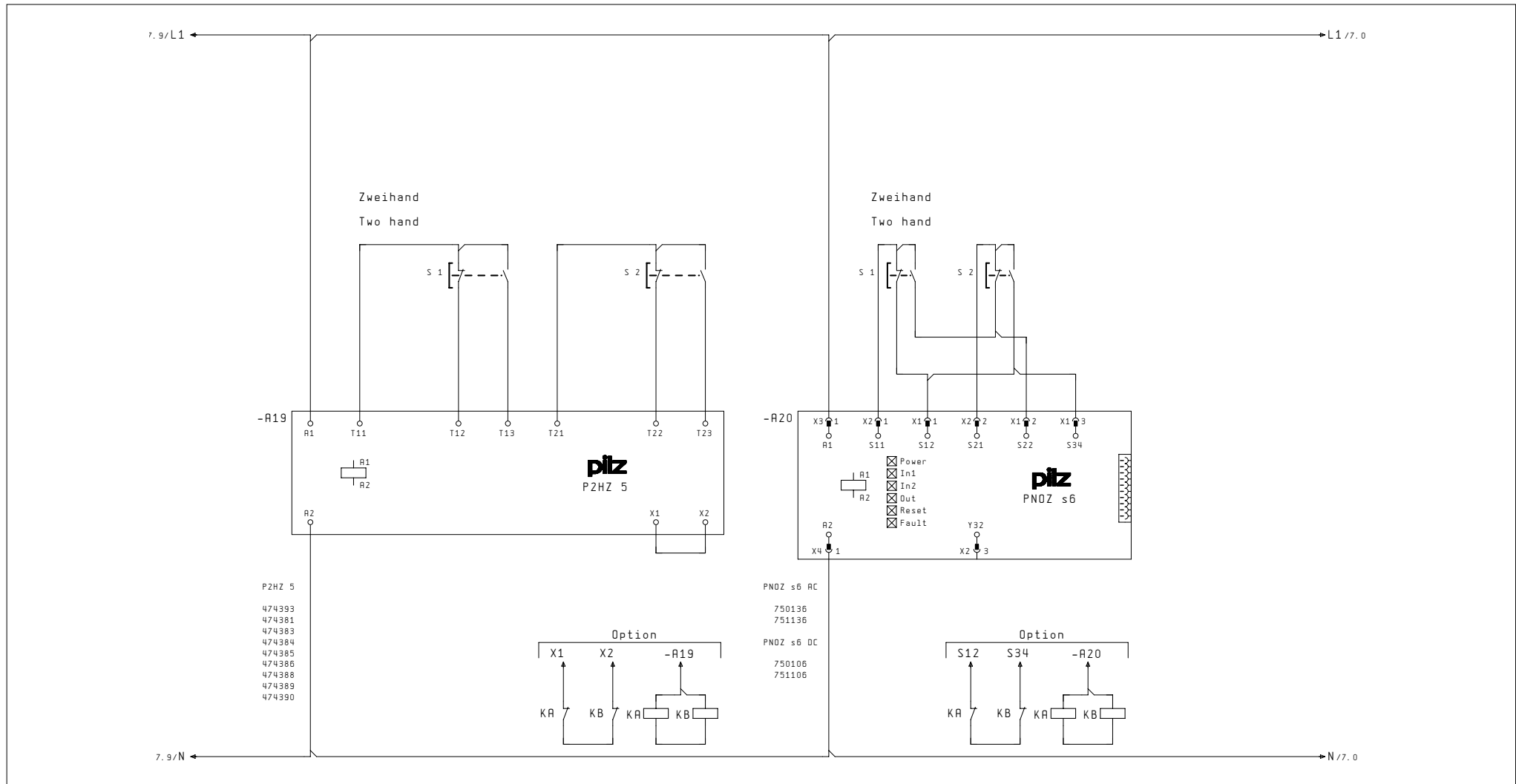


## P1HZ 2 (48 - 240 V AC; 24 V DC) – PNOZ s6.1

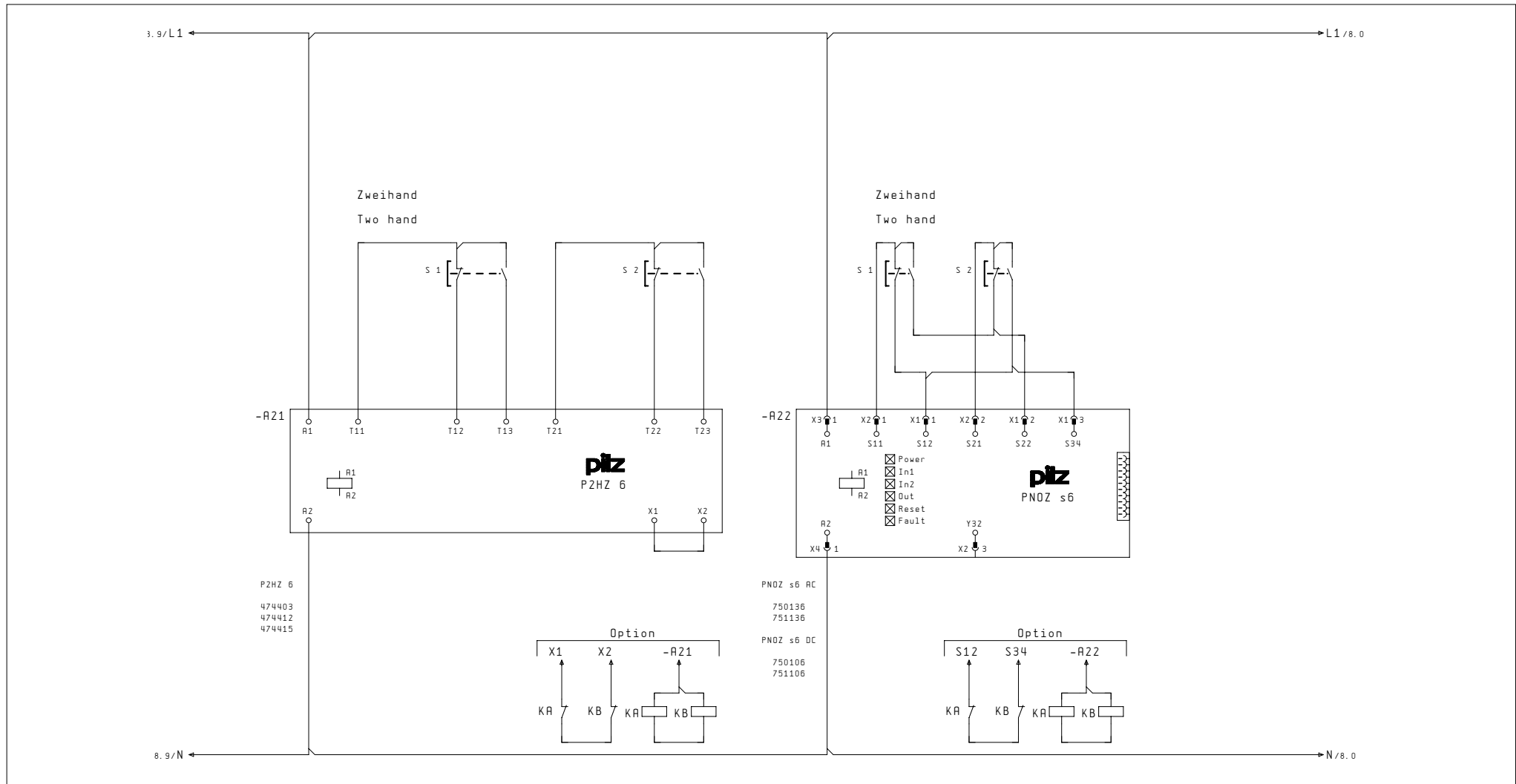


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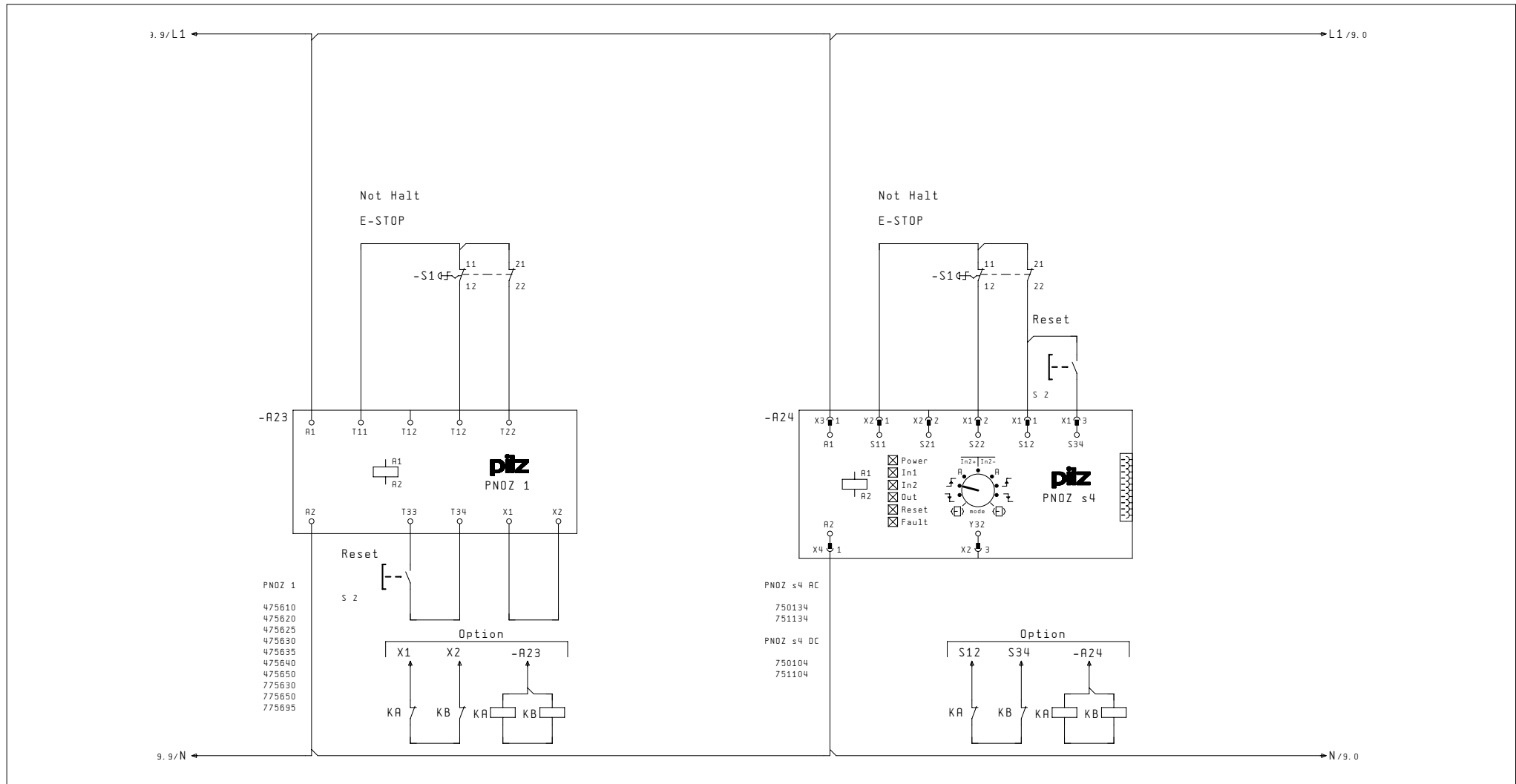
## P2HZ 5 (24 V DC; 48 - 240 V DC) – PNOZ s6



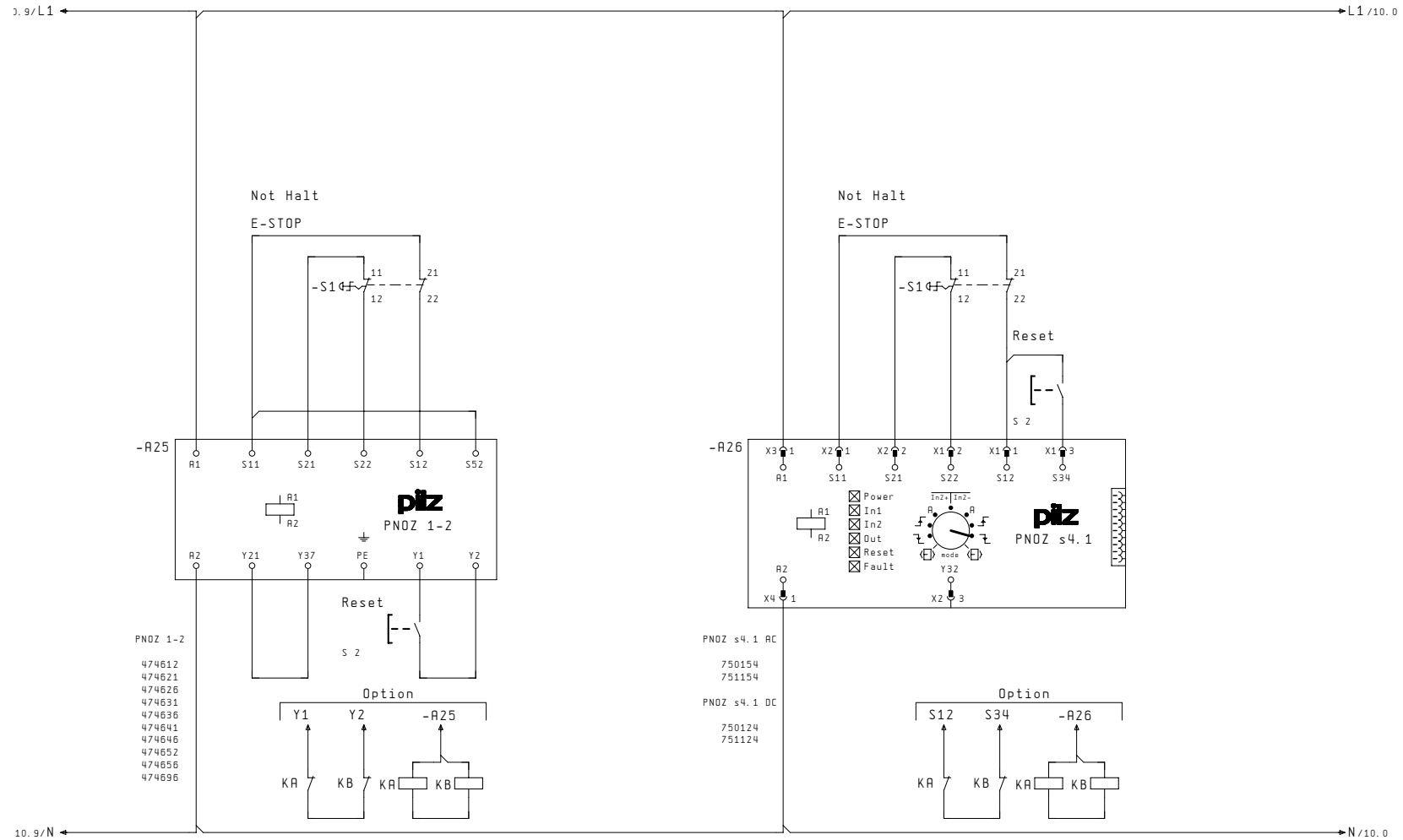
## P2HZ 6 (24 V DC; 110 V AC; 230 V AC) – PNOZ s6



## PNOZ 1 (48 - 240 V AC; 24 V DC) – PNOZ s4

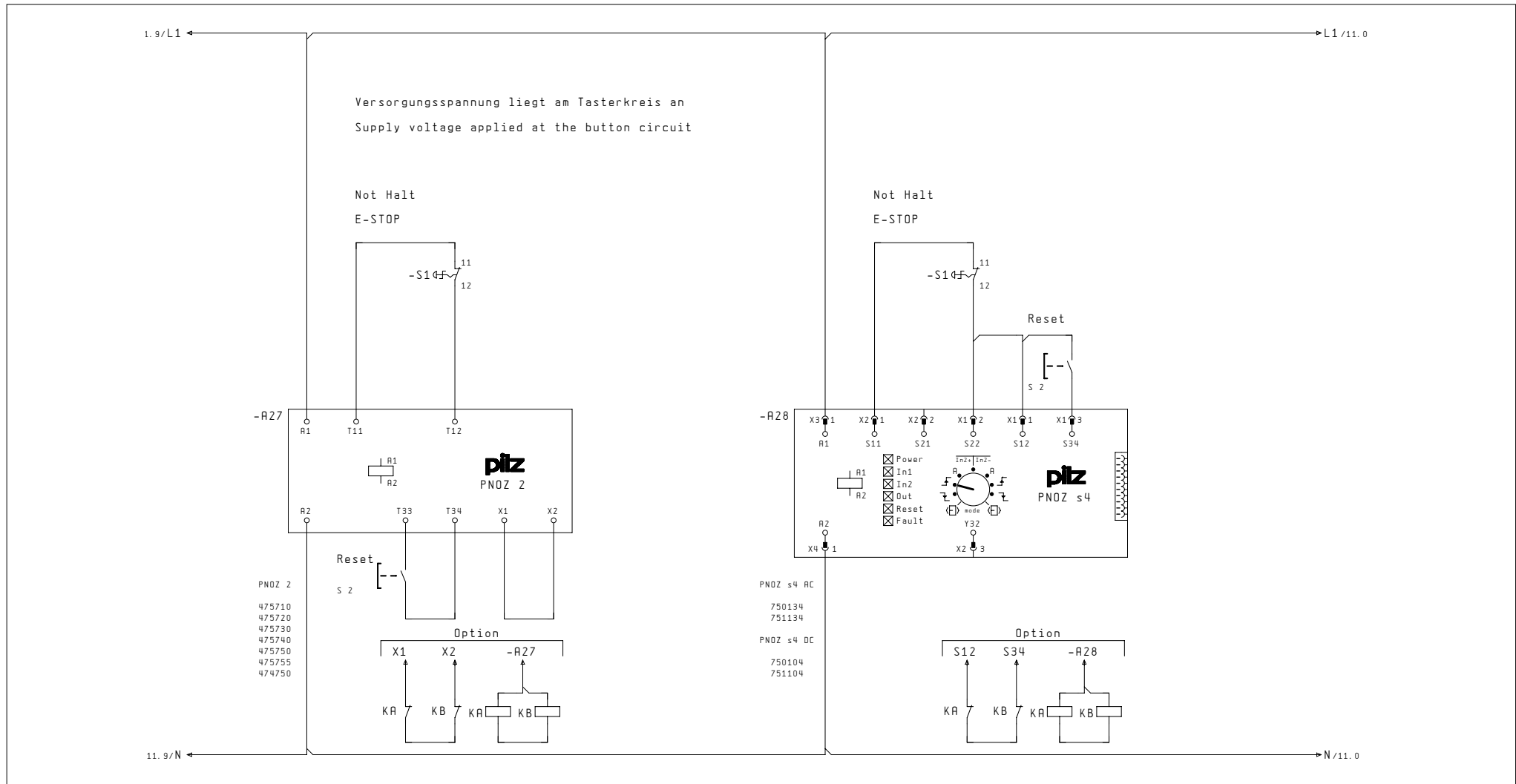


## PNOZ 1-2 (48 - 230 V AC; 24 V DC) – PNOZ s4.1

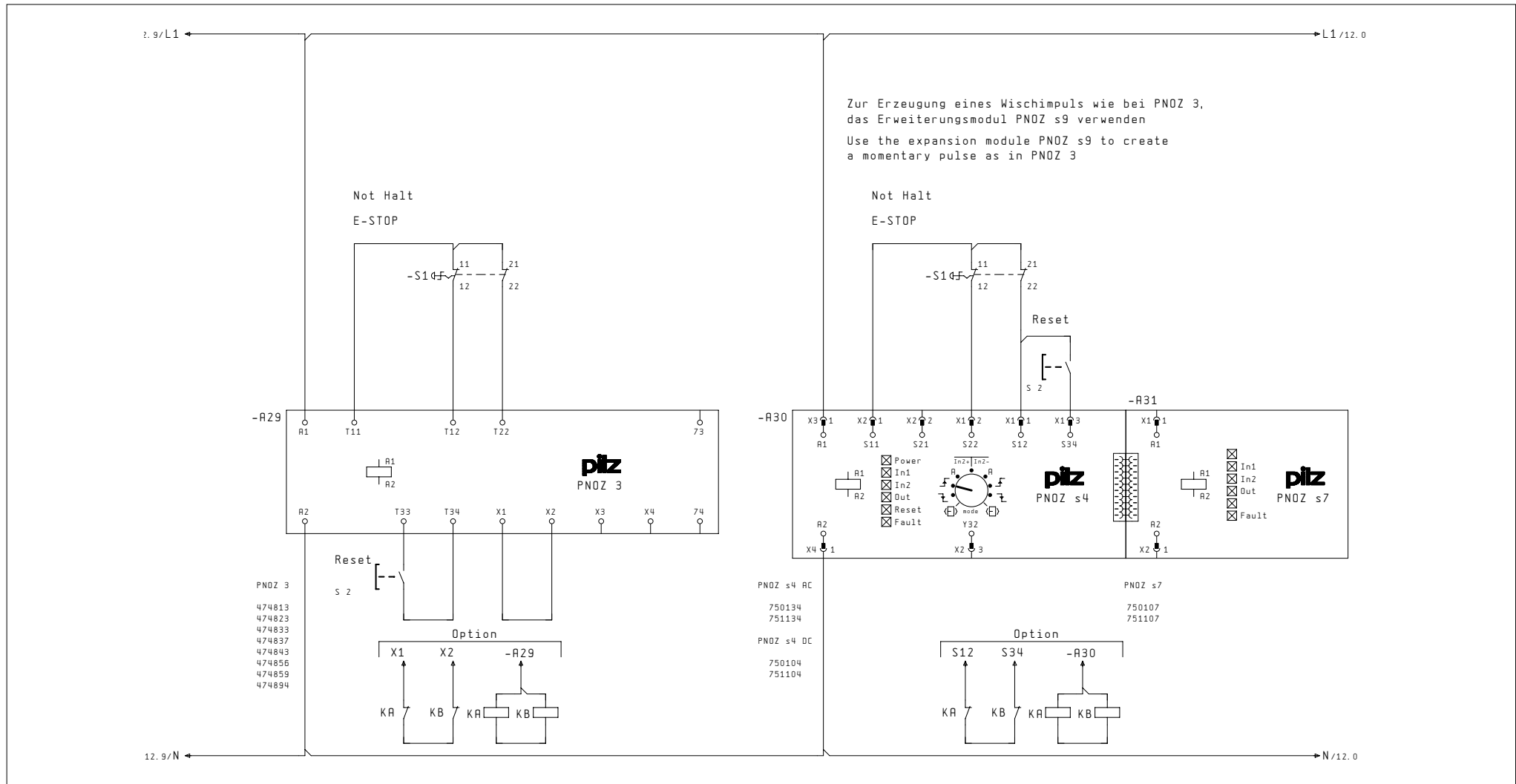




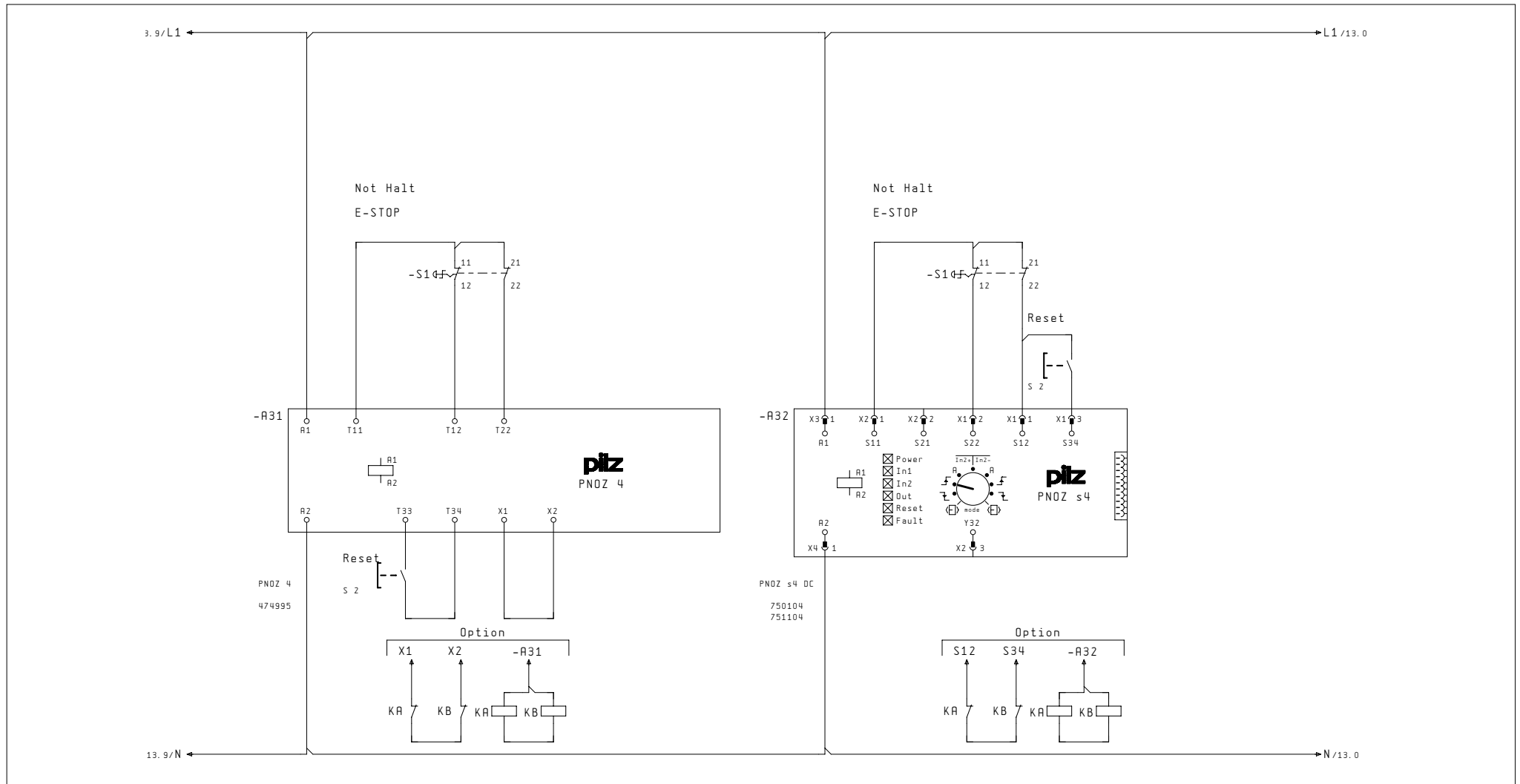
## PNOZ 2 (48 - 240 V DC) – PNOZ s4



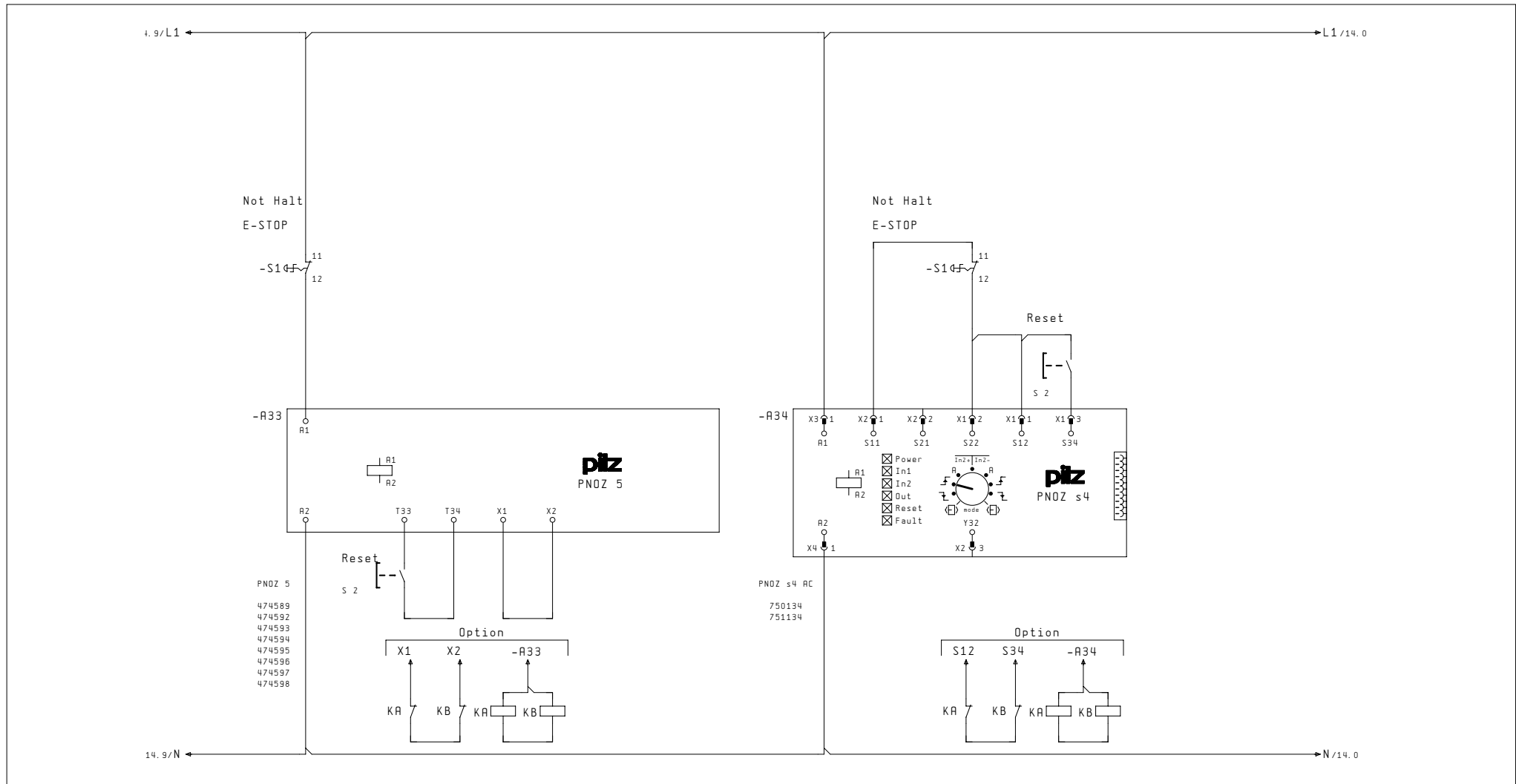
## PNOZ 3 (24 V DC; 48 - 240 V AC) – PNOZ s4 and expander module PNOZ s7



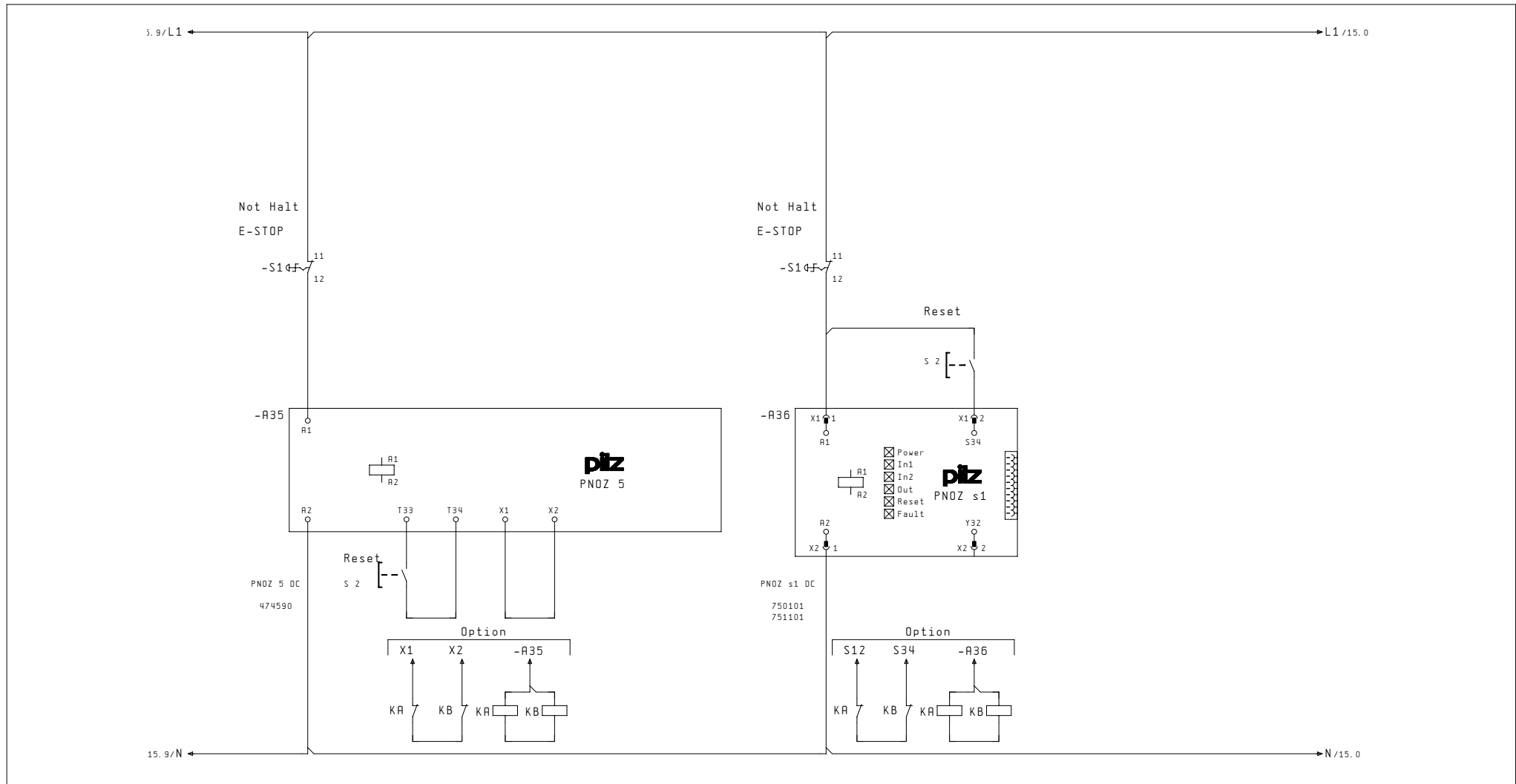
## PNOZ 4 (24 V DC) – PNOZ s4



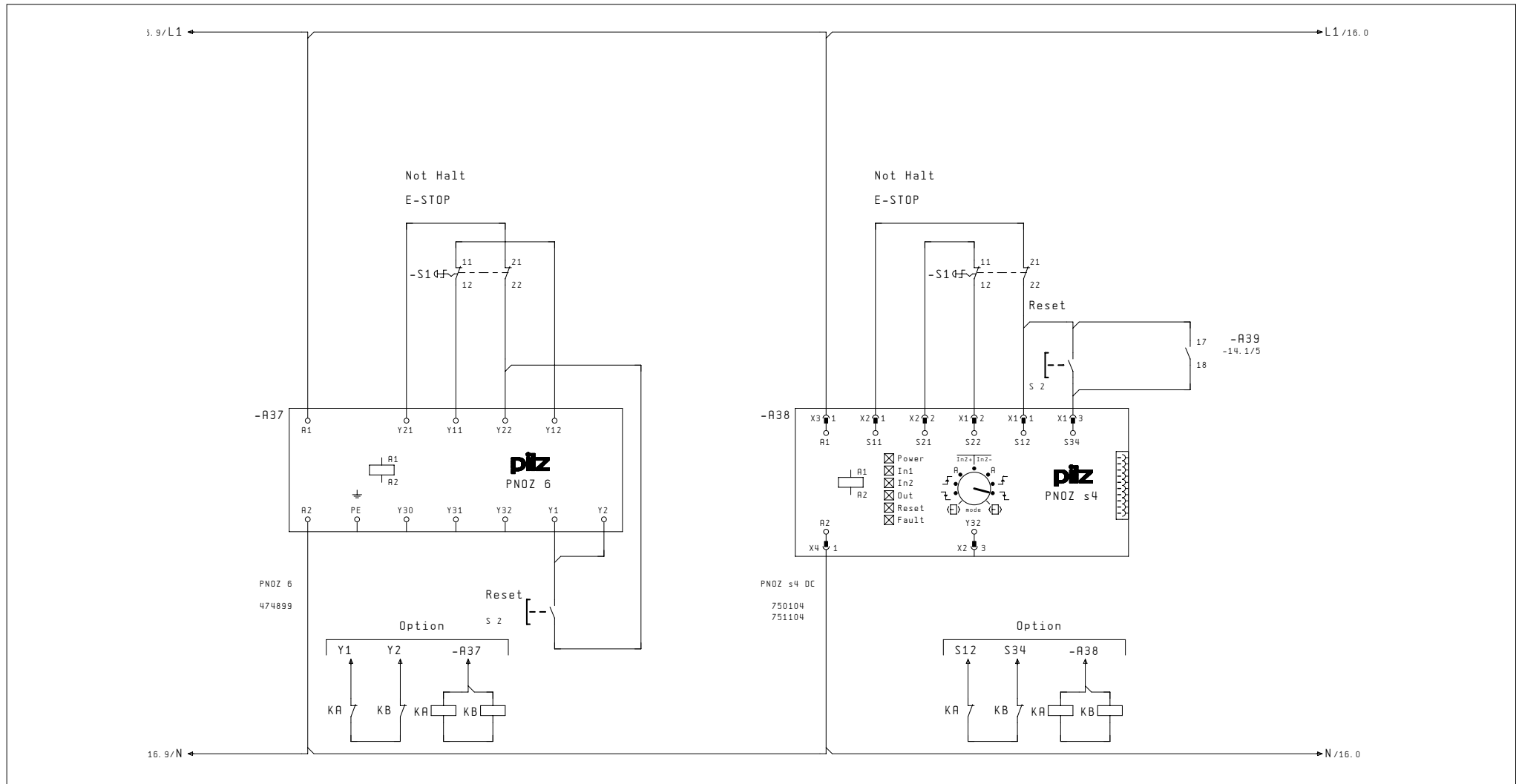
## PNOZ 5 (48 - 240 V AC) – PNOZ s4



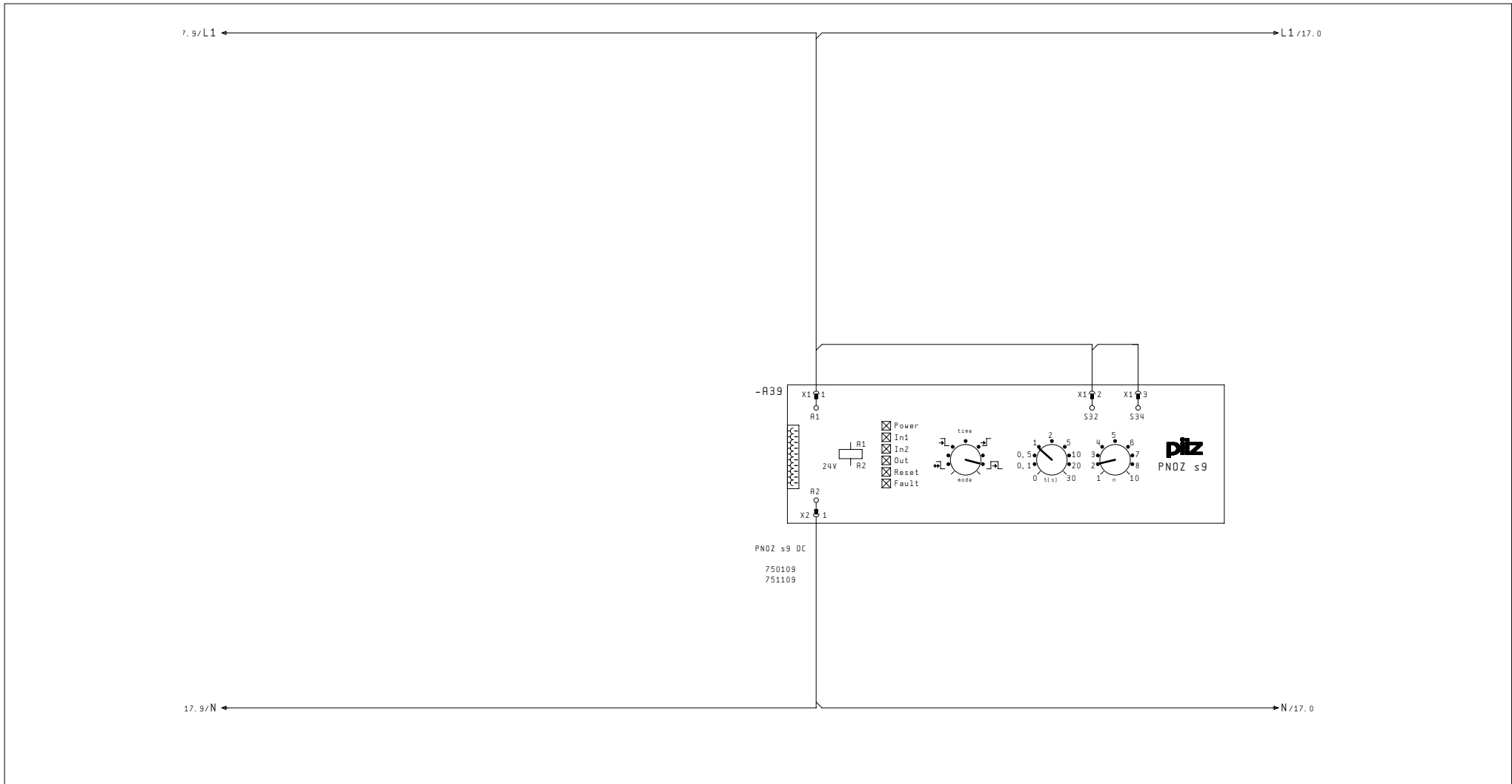
## PNOZ 5 (24 V DC) – PNOZ s1



## PNOZ 6 (48 V AC; 24 V DC) – PNOZ s4 and expander module PNOZ s9

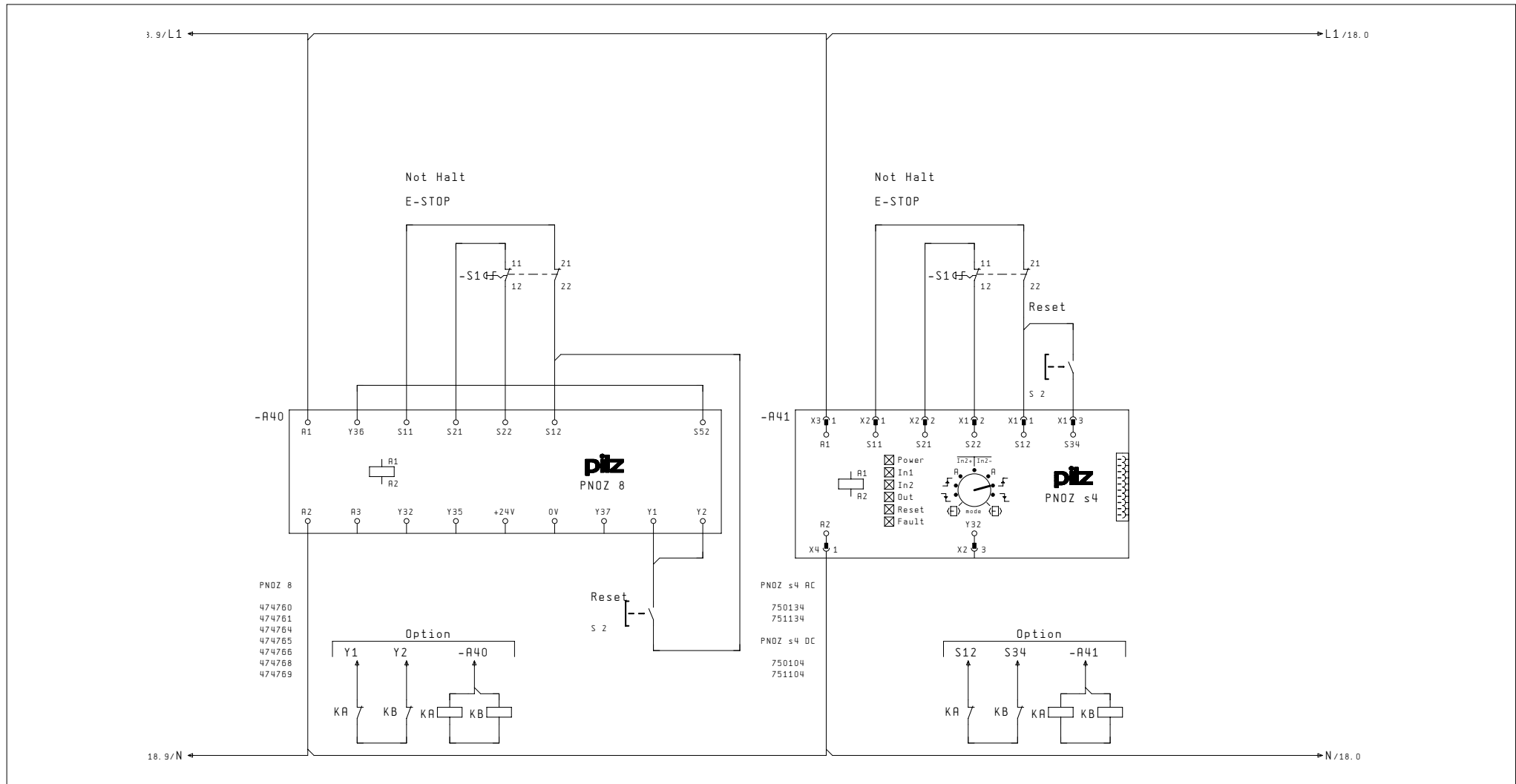


## PNOZ 6 (48 V AC; 24 V DC) – PNOZ s4 and expander module PNOZ s9



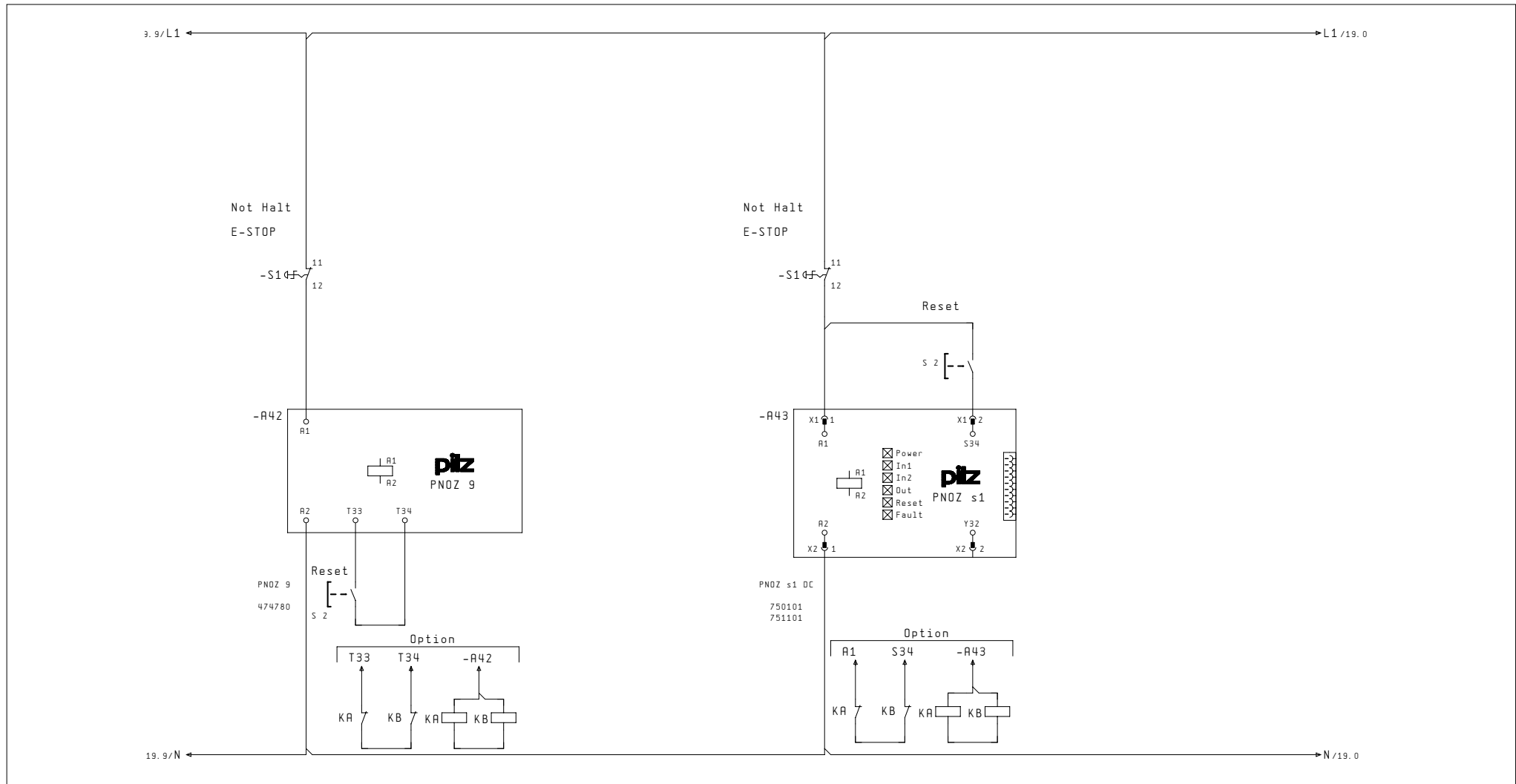
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## PNOZ 8 (24 V DC; 48 - 240 V AC) – PNOZ s4

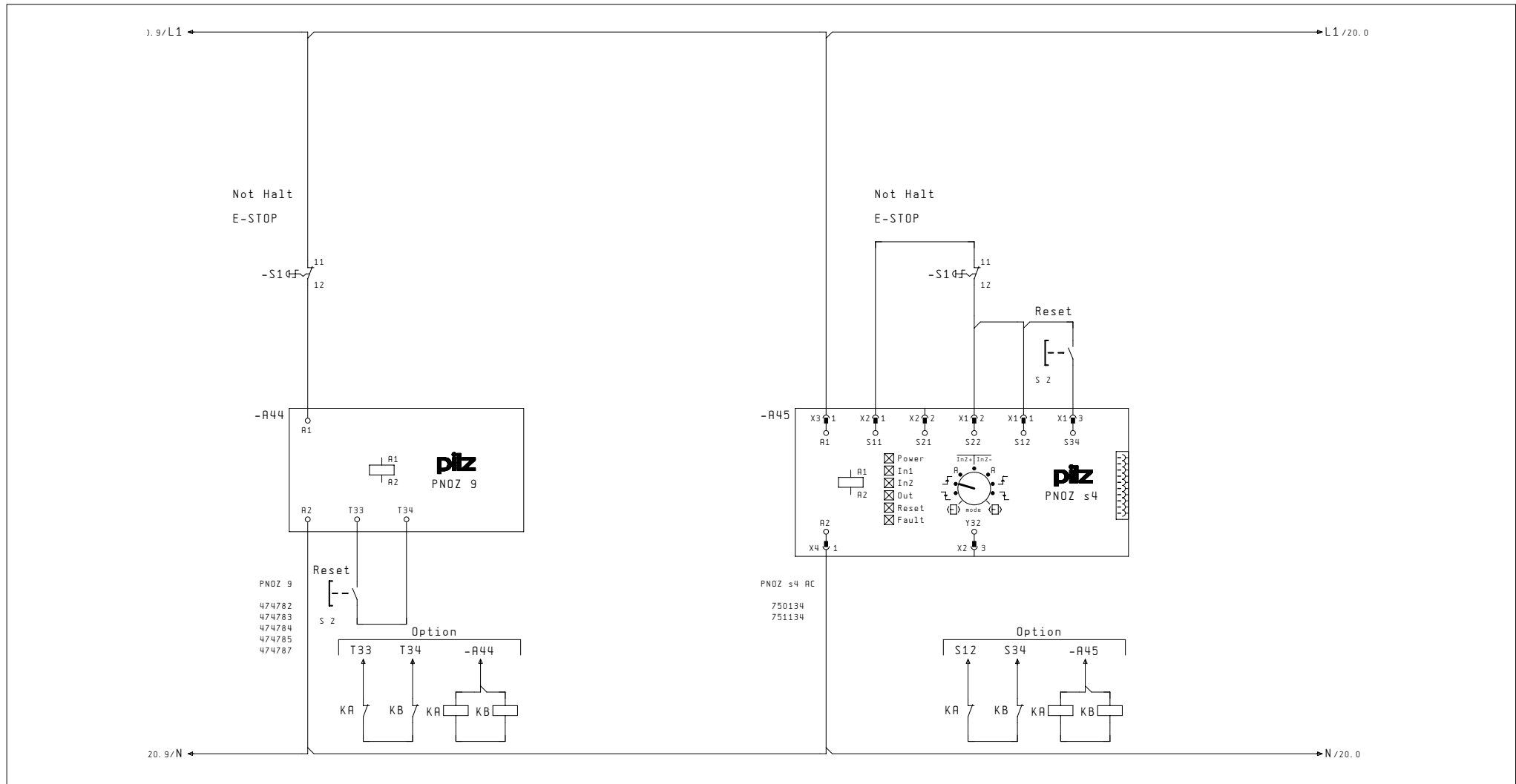




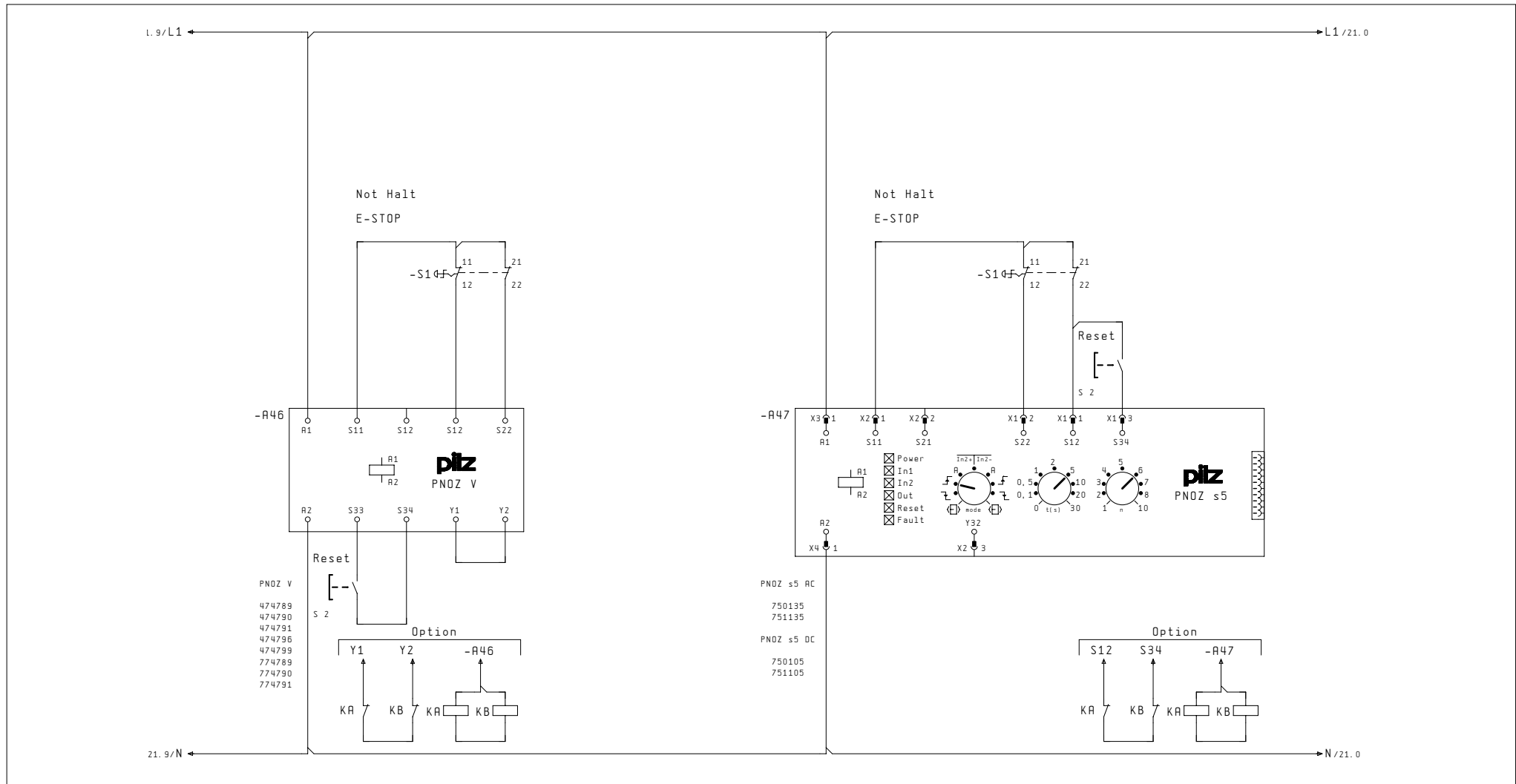
## PNOZ 9 (24 V DC) – PNOZ s1



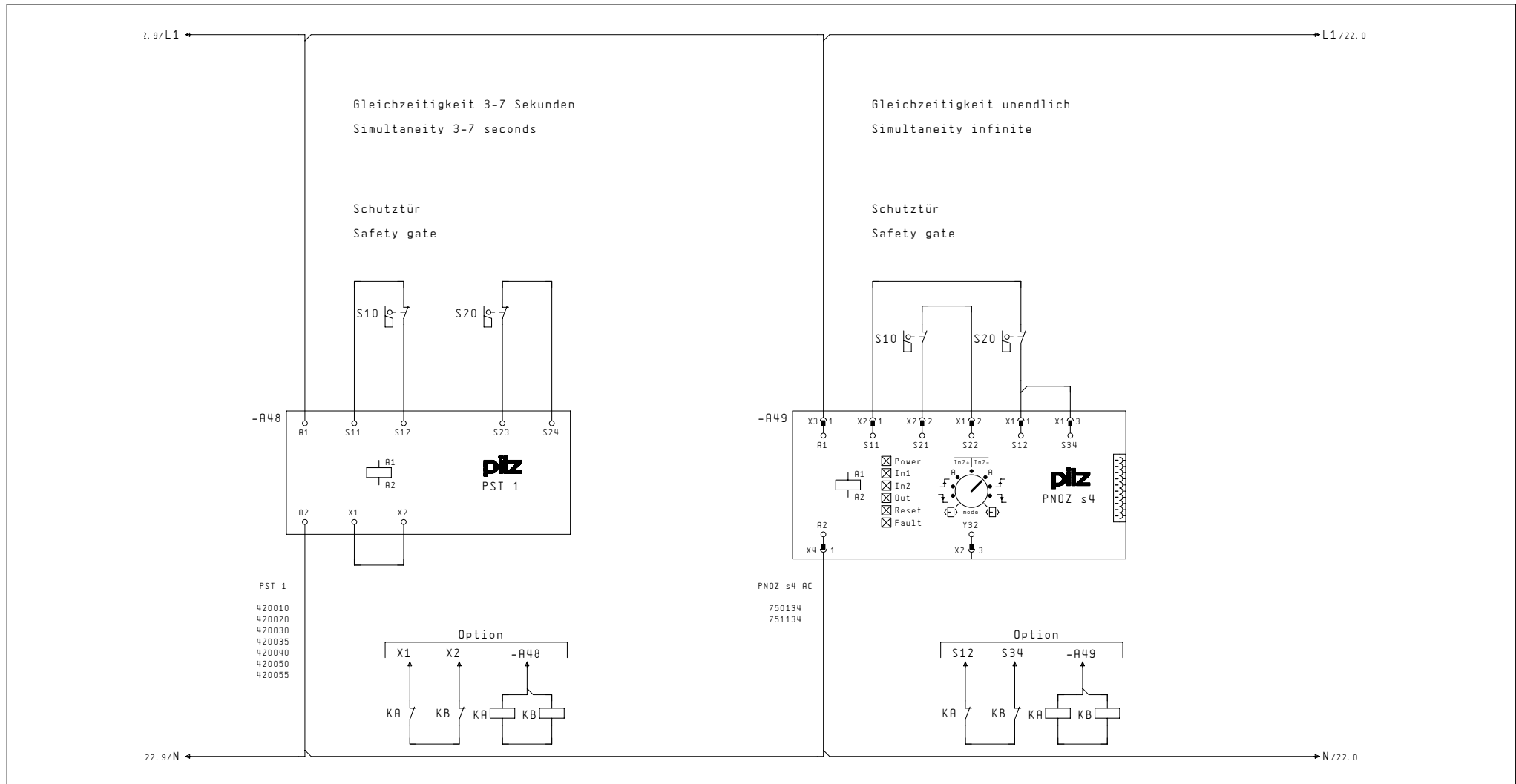
## PNOZ 9 (48 - 240 V AC) – PNOZ s4



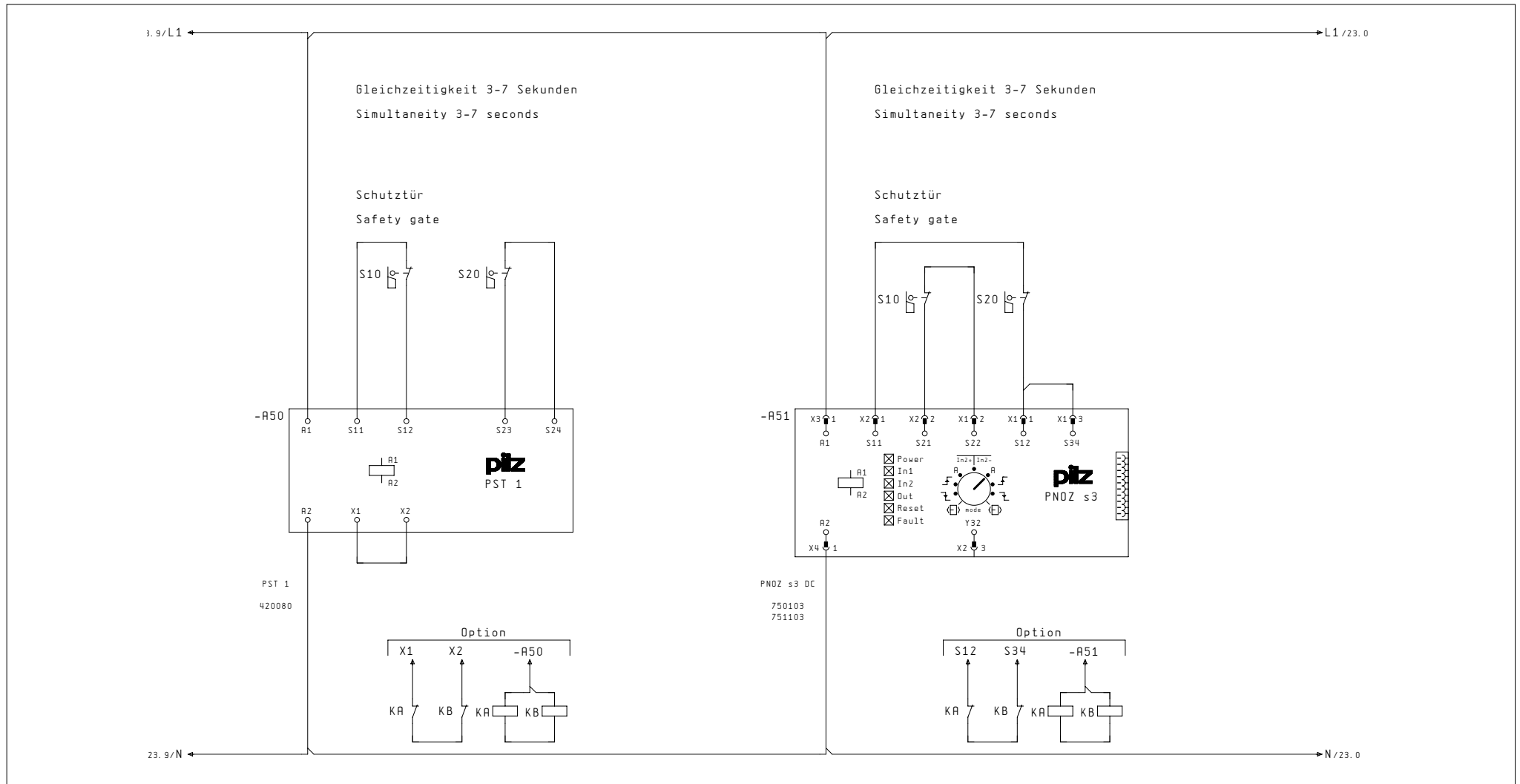
## PNOZ V (24 V DC) – PNOZ s5



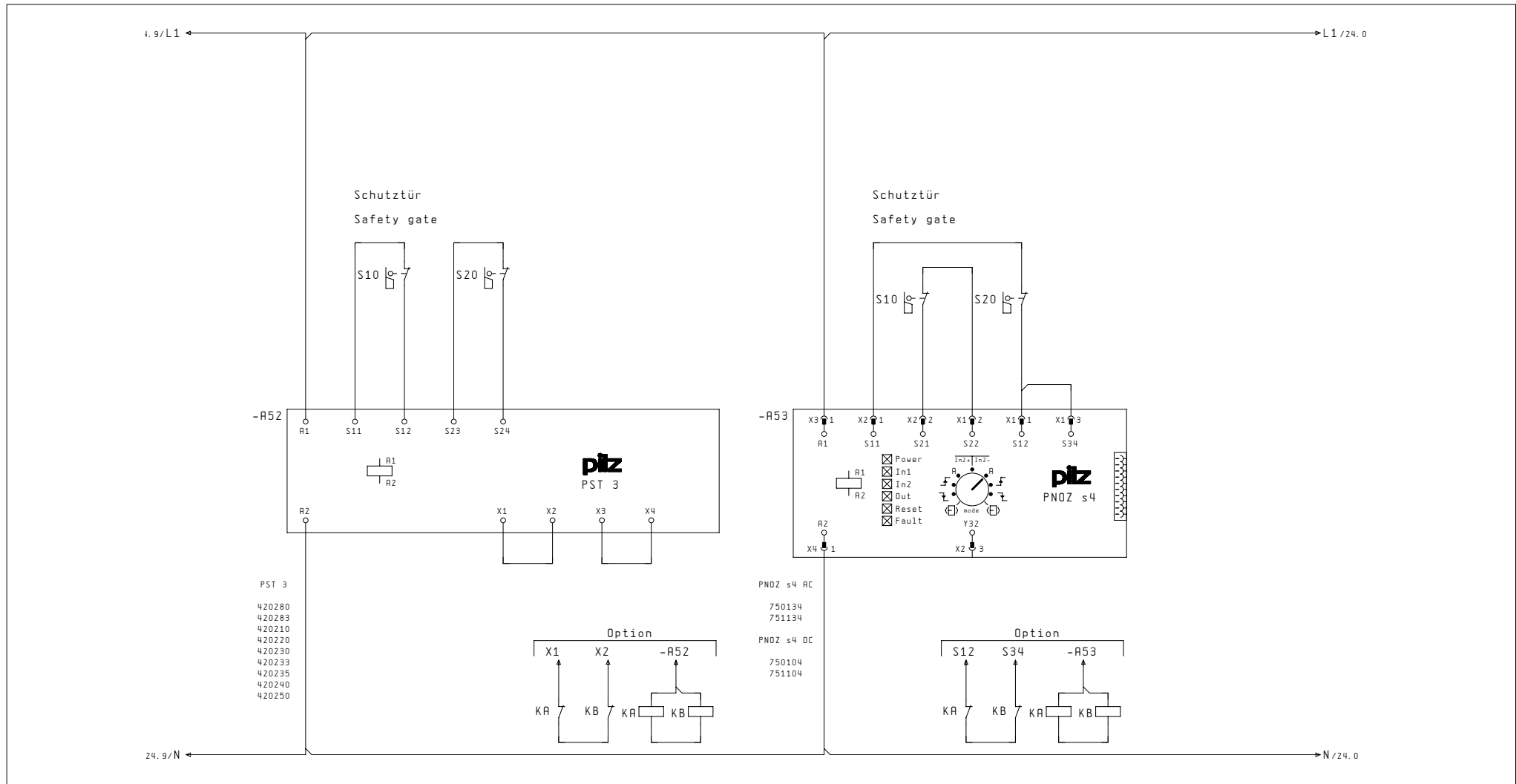
## PST 1 (48 - 230 V AC) – PNOZ s4



## PST 1 (24 V DC) – PNOZ s3



## PST 3 (24 V DC; 48 - 240 V AC) – PNOZ s4



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