

SAFETY PRODUCTS

# Connection diagrams

## Sentry safety relays



## **Important information**

### **Sentry connection diagrams**

The connection diagrams in this document are only general recommendations from ABB. The conditions of a specific application could make alternative connections more suitable.

With regards to the stated functional safety levels, they apply under the assumption that the installation complies with all other relevant functional safety requirements in EN ISO 13849-1/-2, such as product selection, product placement, cable installation, environmental effects on the system etc.

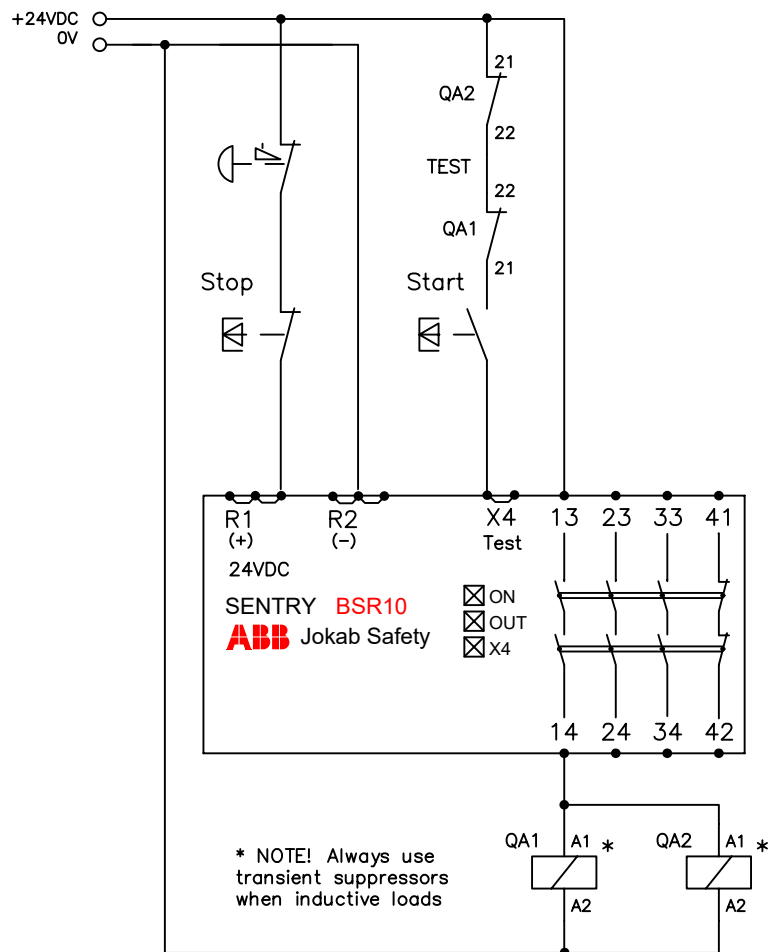
ABB does not accept any liability and/or responsibility whatsoever for any errors or lack of information in this document. It is the responsibility of the machine builder to make a risk assessment and make sure the appropriate functional safety levels are achieved.

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## Sentry connection diagrams

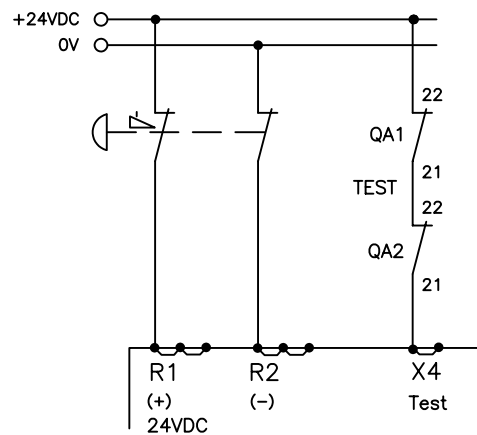
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A) One signal from +24VDC, Start\*\* and Stop

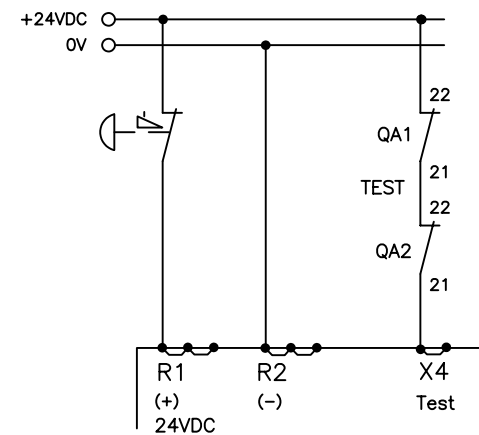


\*\* The Start function should not be used as Reset

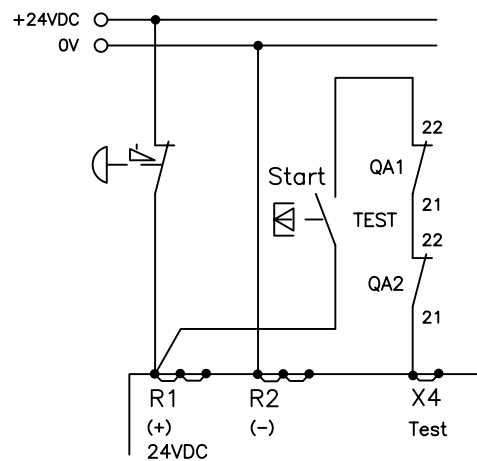
B) Two signals from +24 VDC/0 V



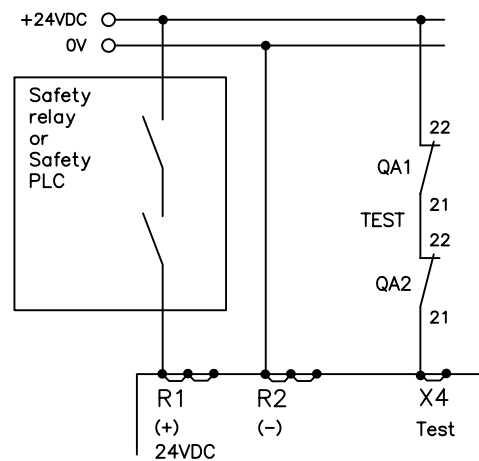
C) One signal from +24VDC



C) One signal from +24 VDC and Start\*\*



E) Expansion of safety relay/safety PLC



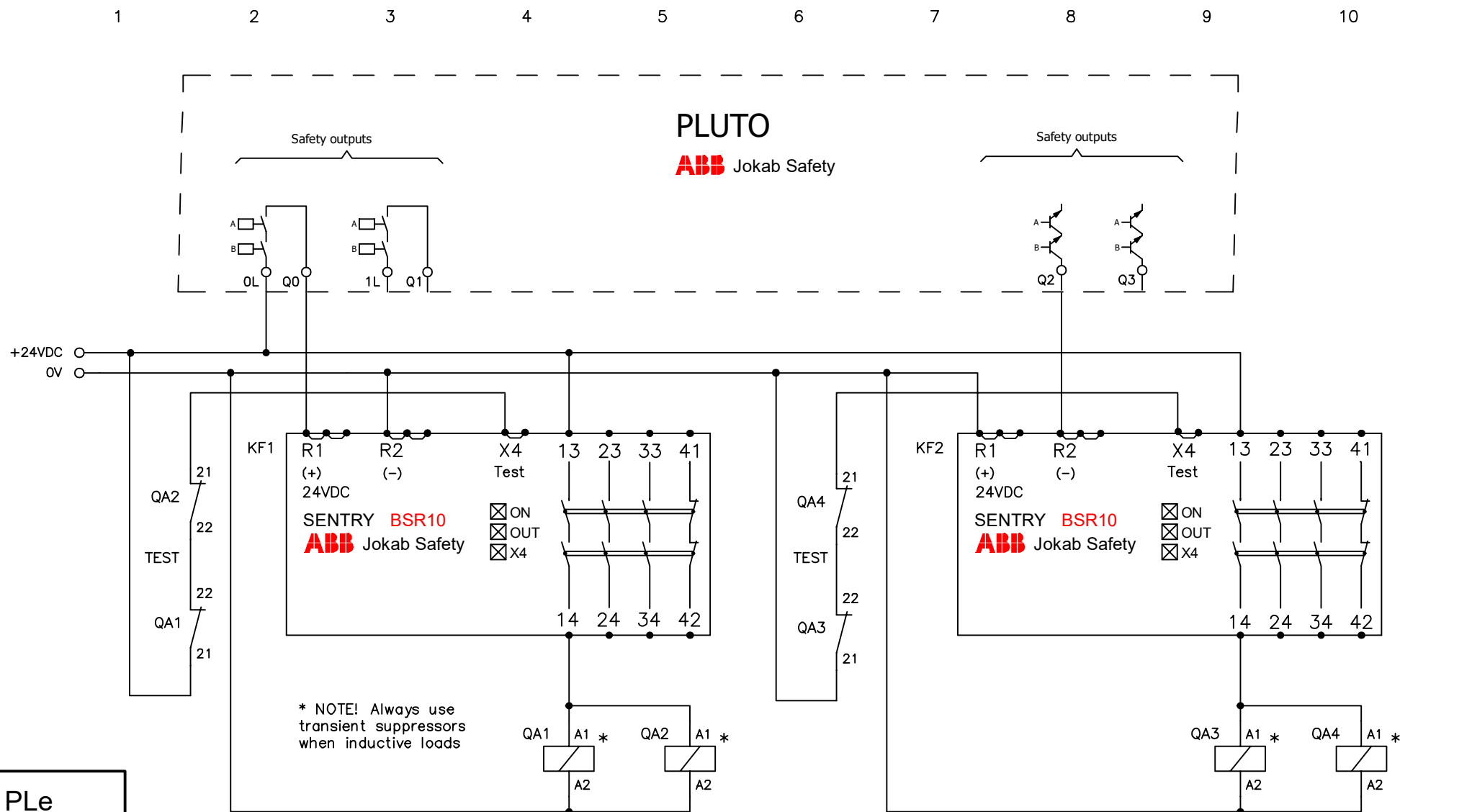
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

BSR10 general

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210707	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010004T0001	Forts Cont

**PLe**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

BSR10 as PLUTO expansion

**ABB** Safety Products
Konstr Design  
ABB

Godk Appr

Datum Date  
20210705

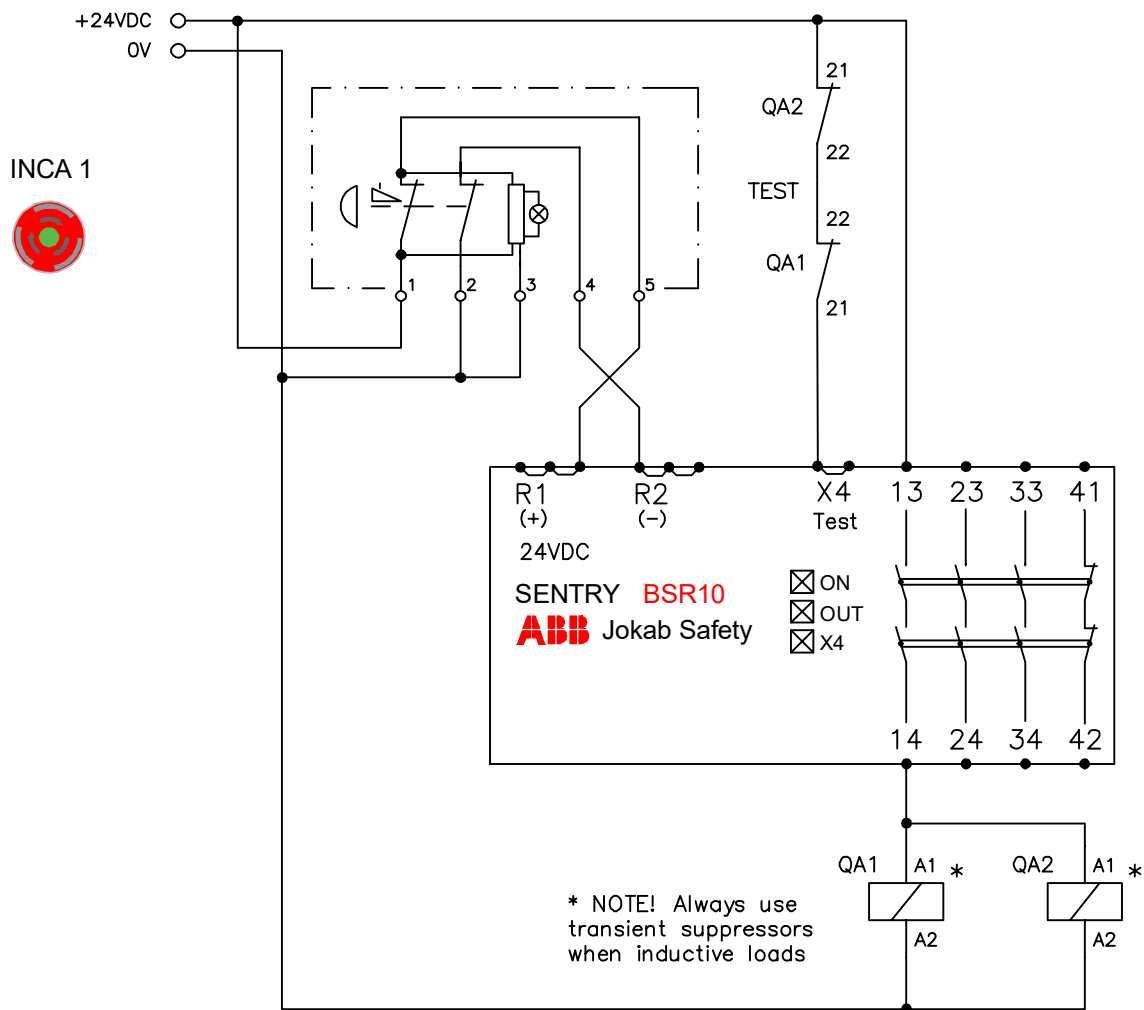
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Ritad Drawn  
ABB

Sidor Pages

Ritn nr Drawing no  
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Forts Cont



**PL<sub>e</sub>**

According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

BSR10 with INCA1



**Safety Products**

Konstr Design

ABB

Godk Appr

ABB

Datum Date

20210705

Blad Sheet

Ritad Drawn

ABB

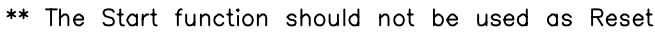
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Ritn nr Drawing no

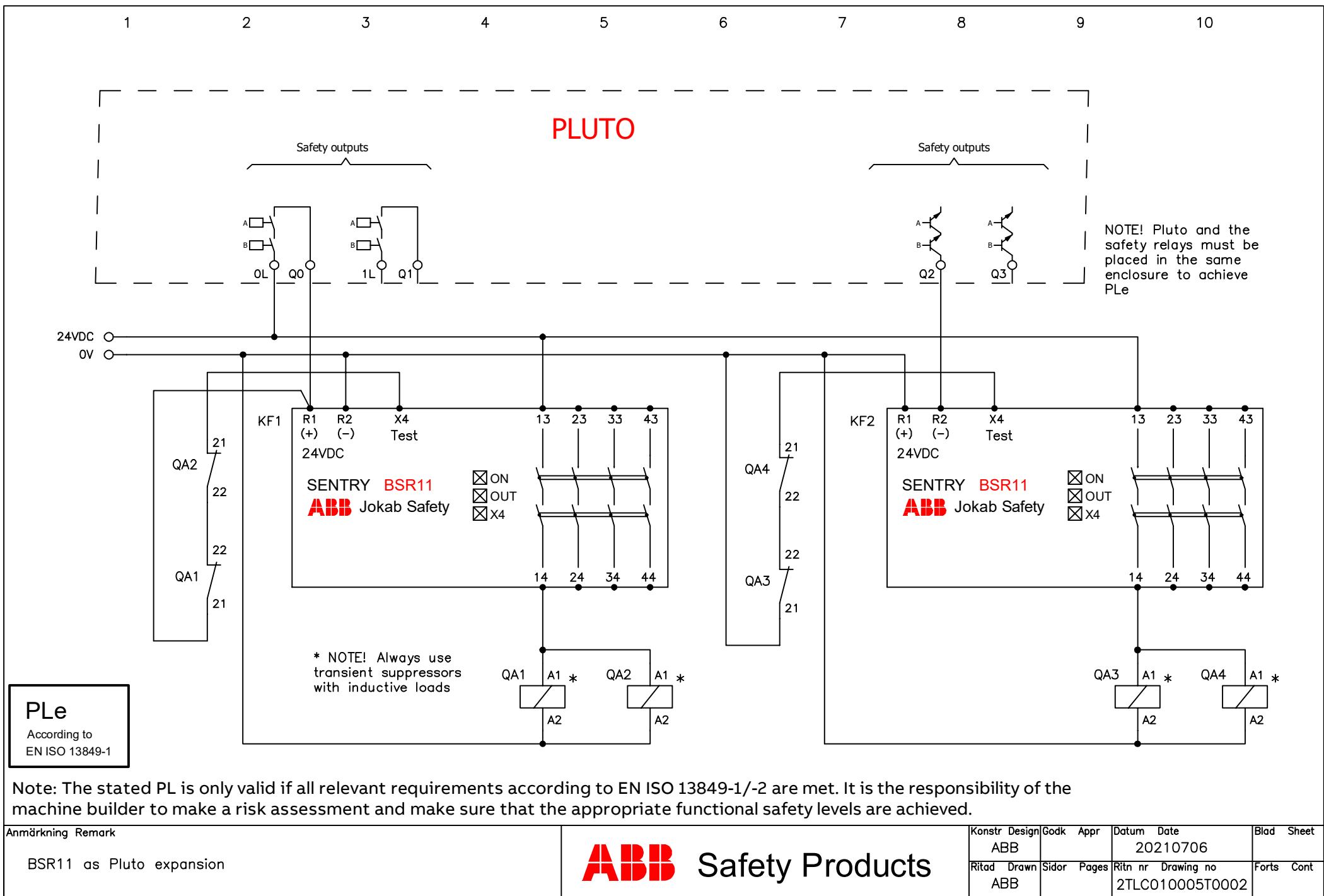
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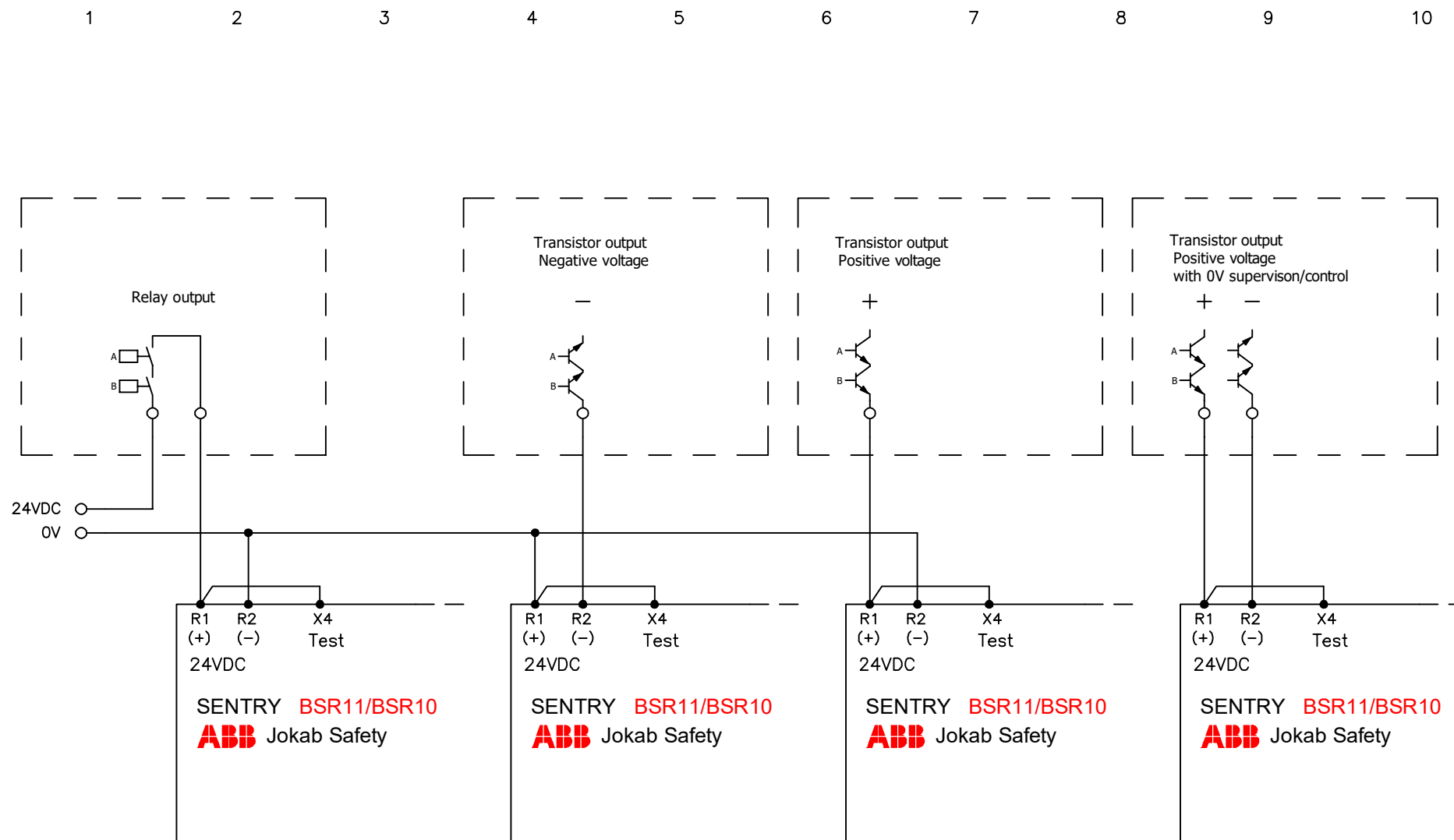


**ABB** Safety Products

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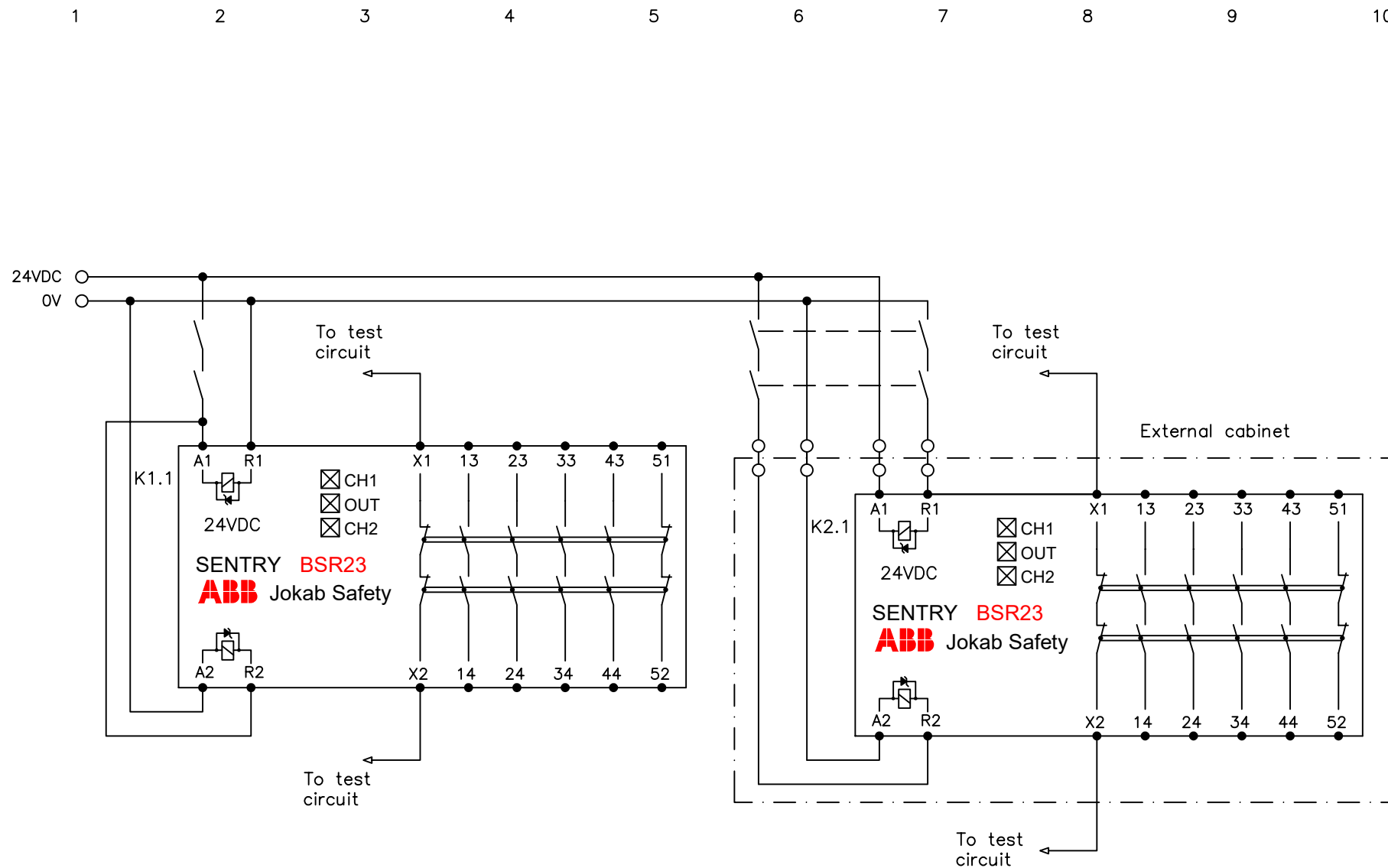
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

BSR11/BSR10 as expansion relay

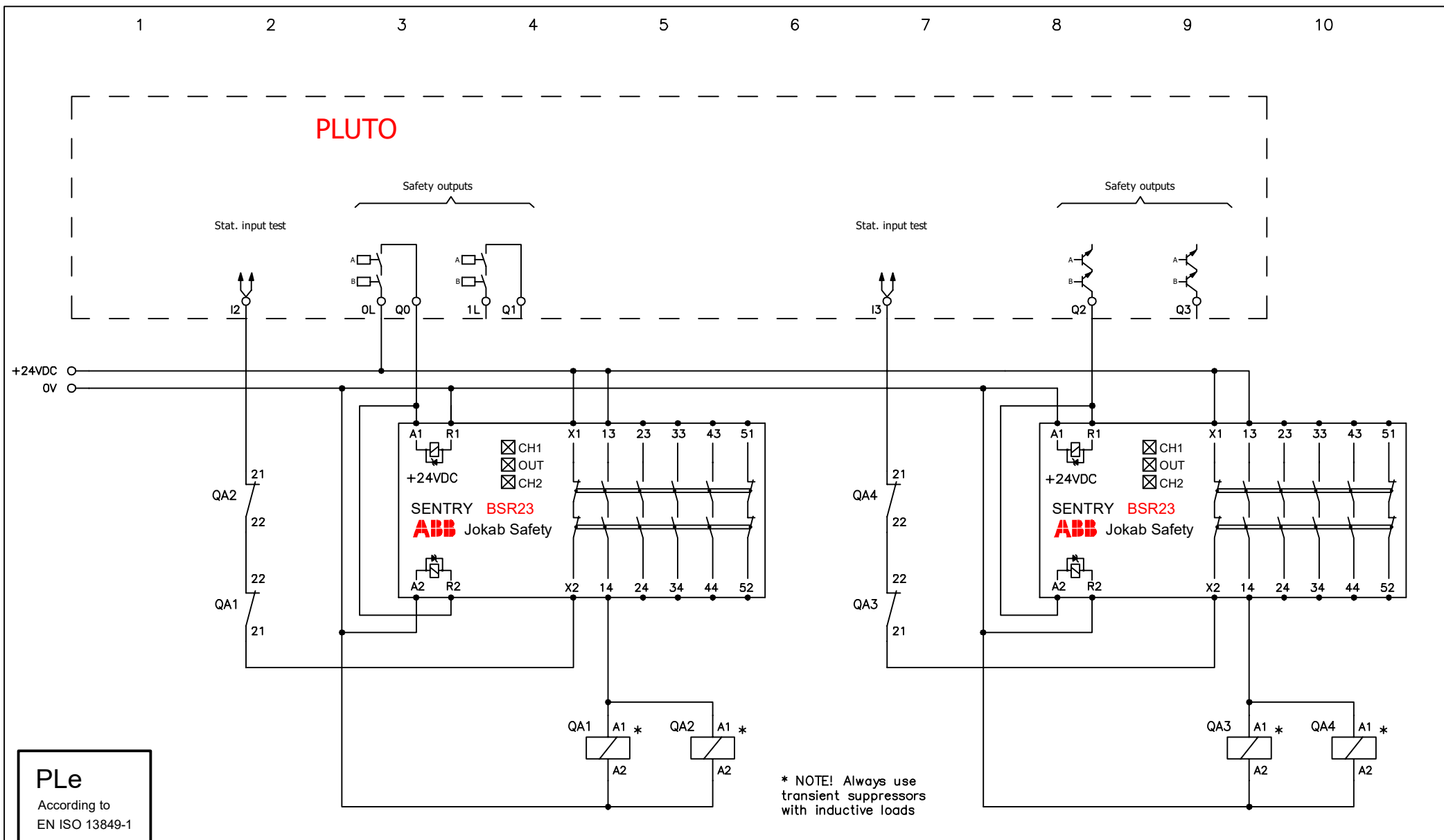
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Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark	 <b>Safety Products</b>	Konstr Design	Godk Appr	Datum Date	Blad Sheet
BSR23 general		ABB	ABB	20210707	
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**PLe**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

BSR23 to Pluto Q0 and Q2 outputs

**ABB** Safety Products
Konstr Design  
ABBGodk Appr  
SidorDatum Date  
20210706

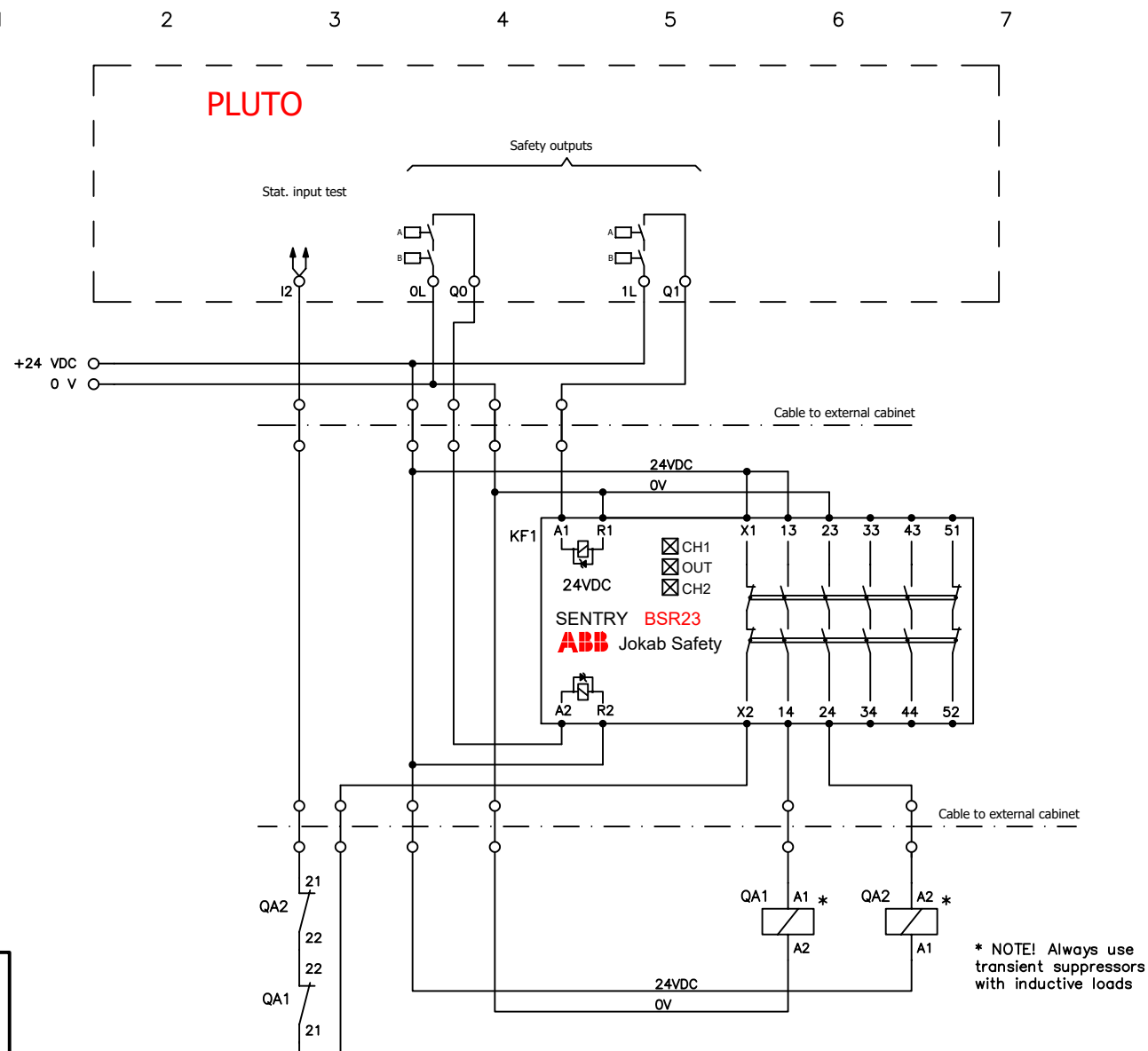
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Pages

Ritn nr Drawing no  
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Forts Cont

**PLe**According to  
EN ISO 13849-1

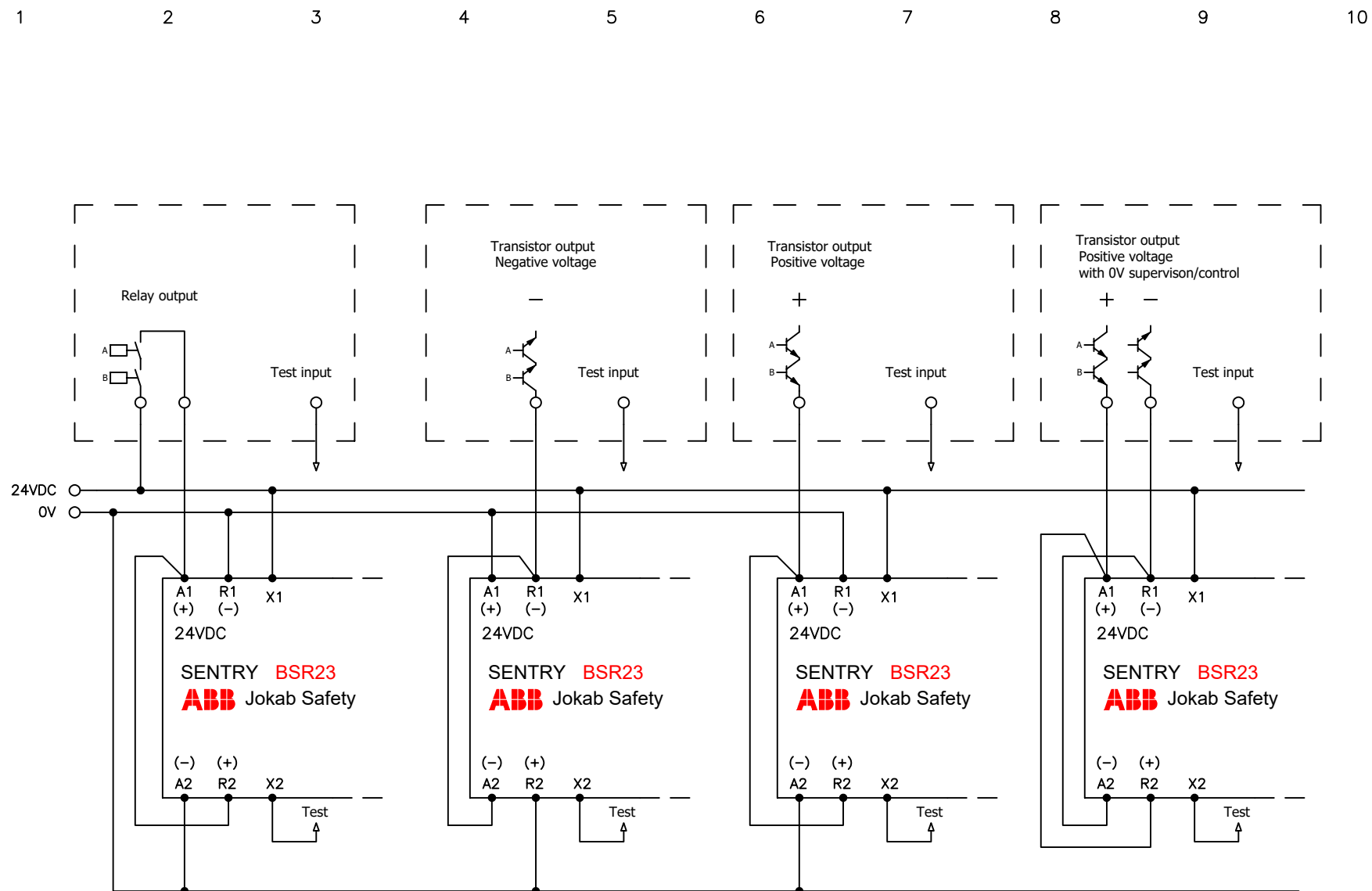
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

BSR23 to Pluto Q0 and Q1 outputs

**ABB** Safety Products

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Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010006T0003	Forts Cont



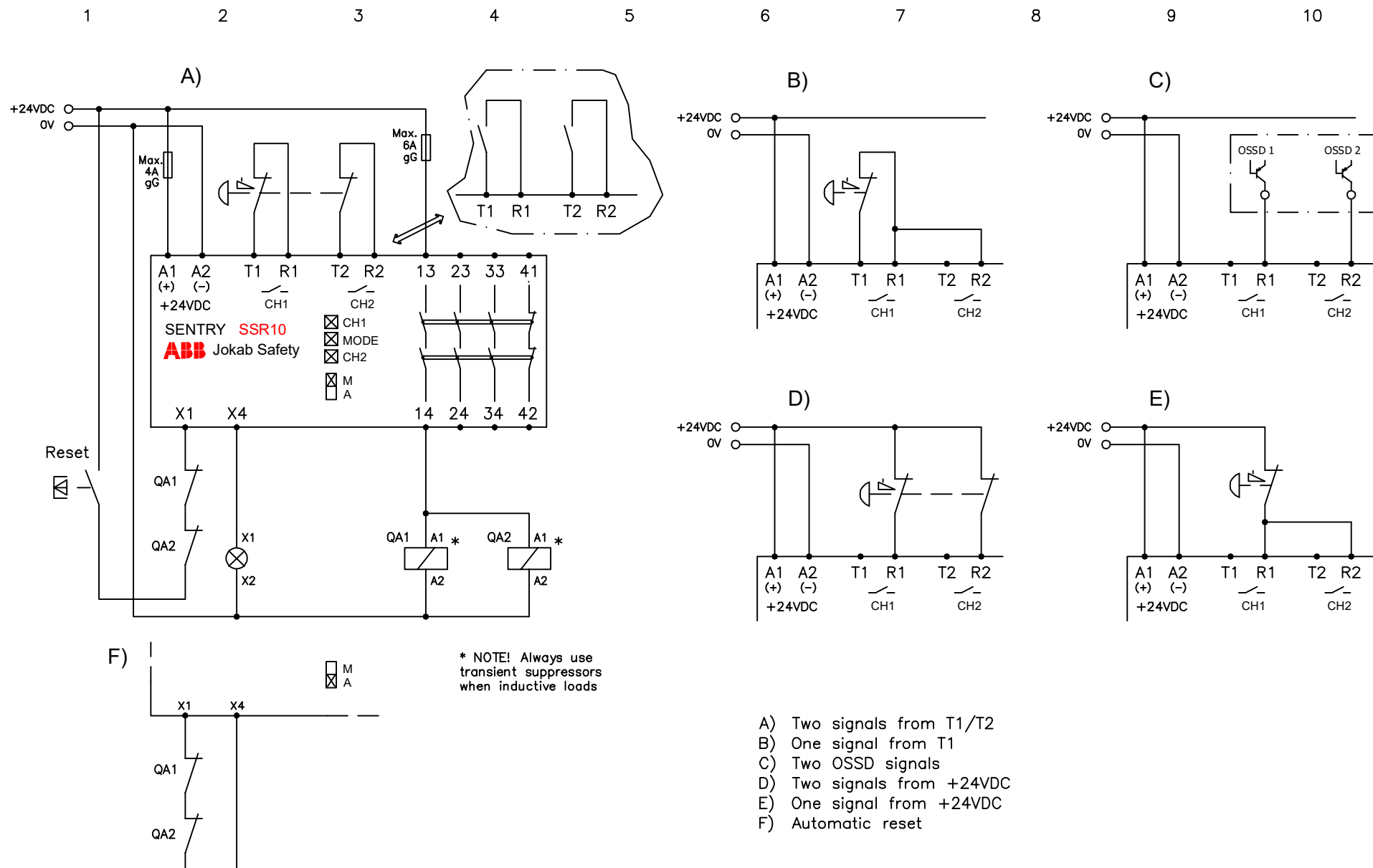
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

BSR23 as expansion relay

**ABB** Safety Products

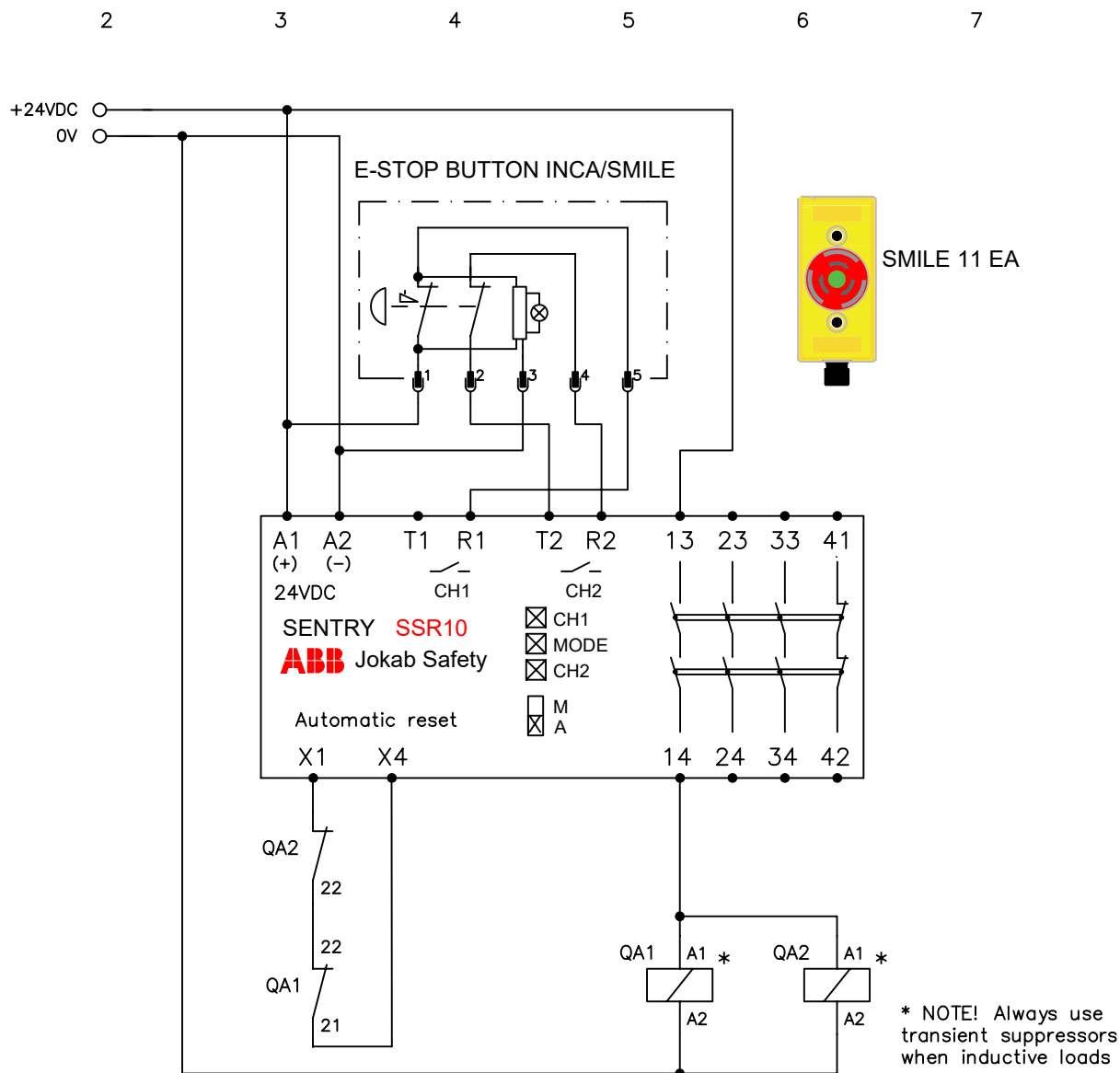
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ABB		20210707	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010006T0004	



- A) Two signals from T1/T2
- B) One signal from T1
- C) Two OSSD signals
- D) Two signals from +24VDC
- E) One signal from +24VDC
- F) Automatic reset

Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark	<b>Safety Products</b>	Konstr Design	Godk Appr	Datum Date	Blad Sheet
SSR10 general		ABB		20210707	
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**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 with SMILE

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

20210706

Ritad Drawn

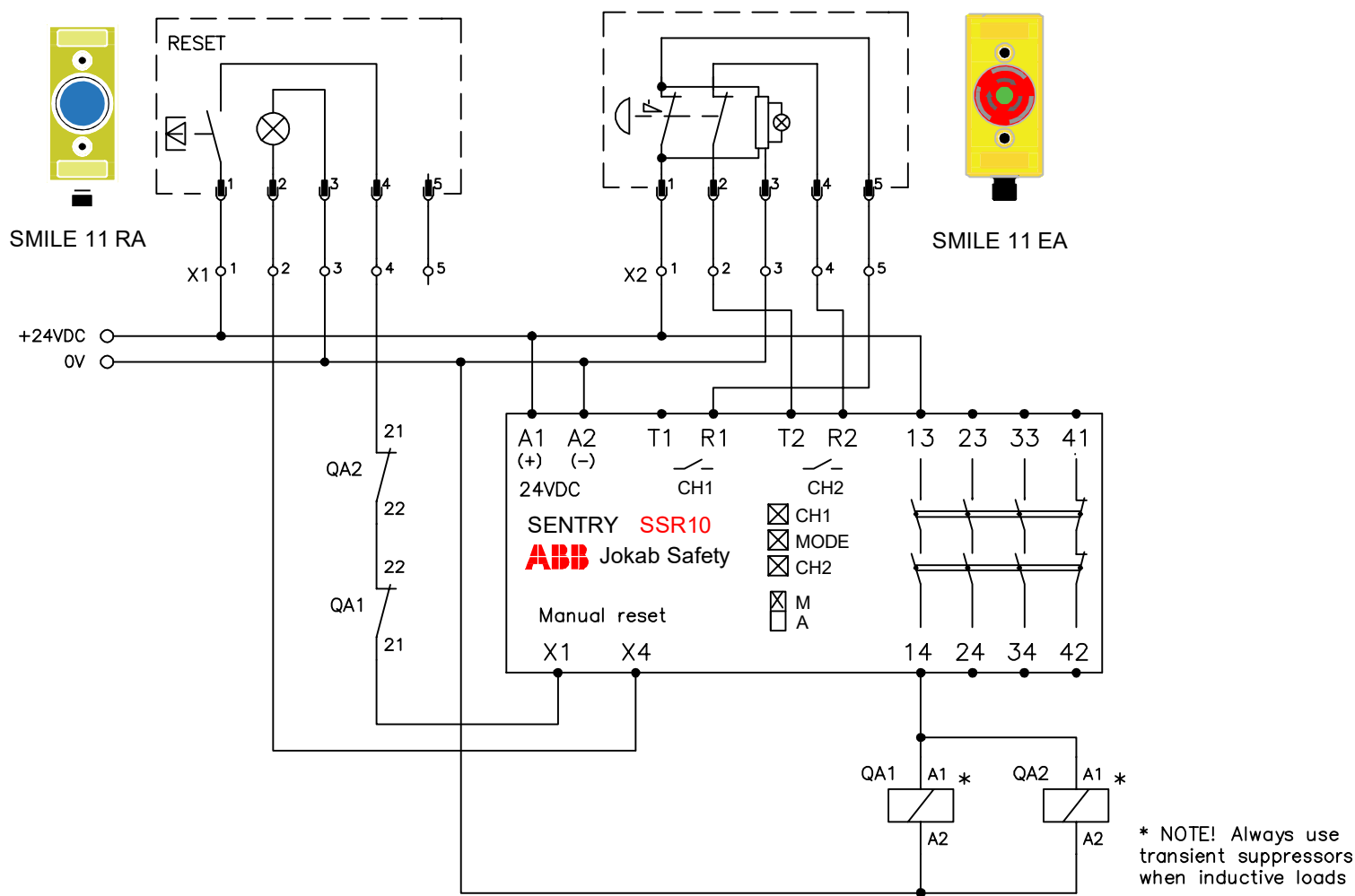
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Ritn nr Drawing no

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Blad Sheet

Forts Cont

**PL<sub>e</sub>**According to  
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Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

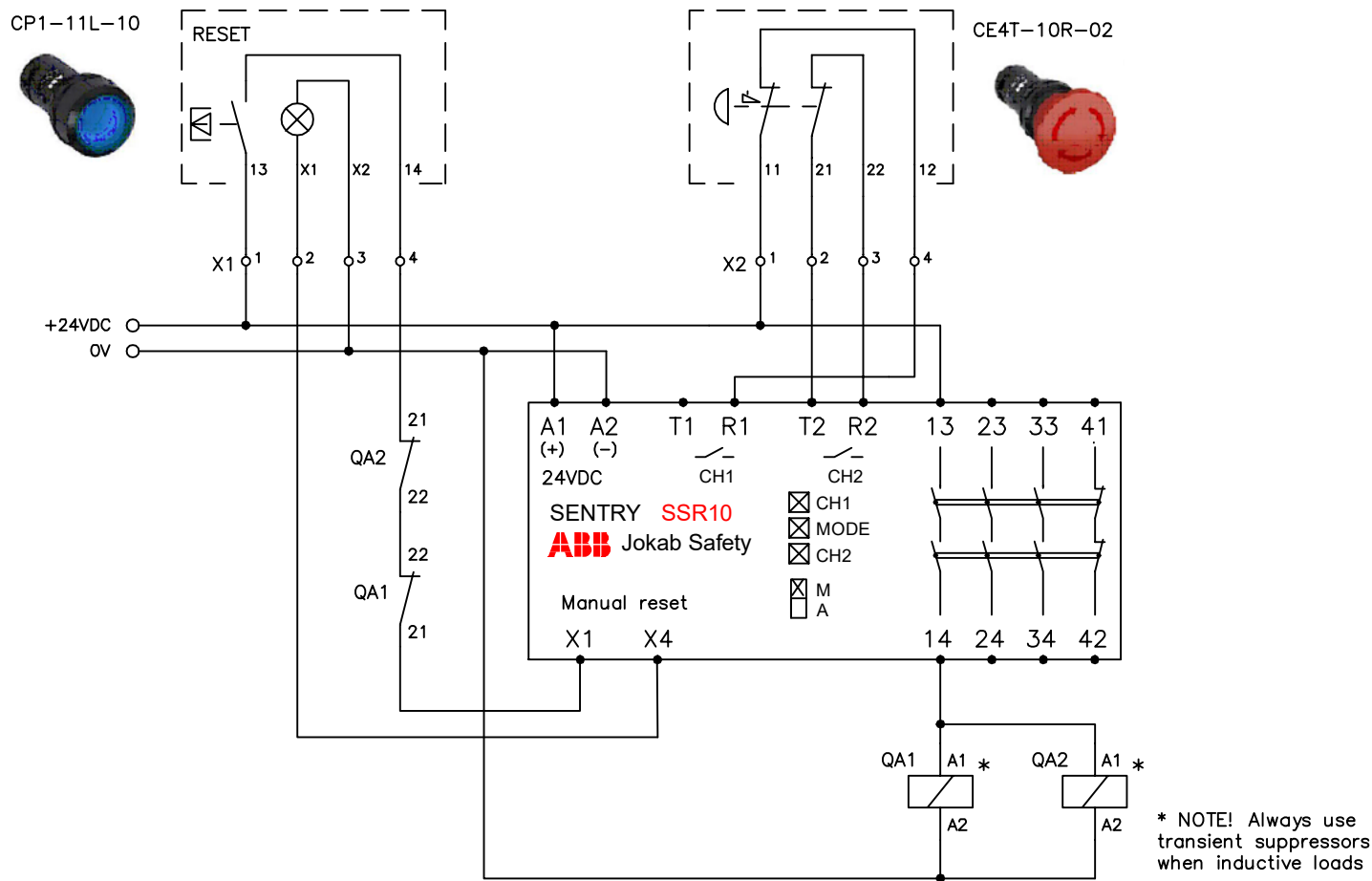
Anmärkning Remark

SSR10 with SMILE and RESET

**ABB** Safety Products

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Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
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**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

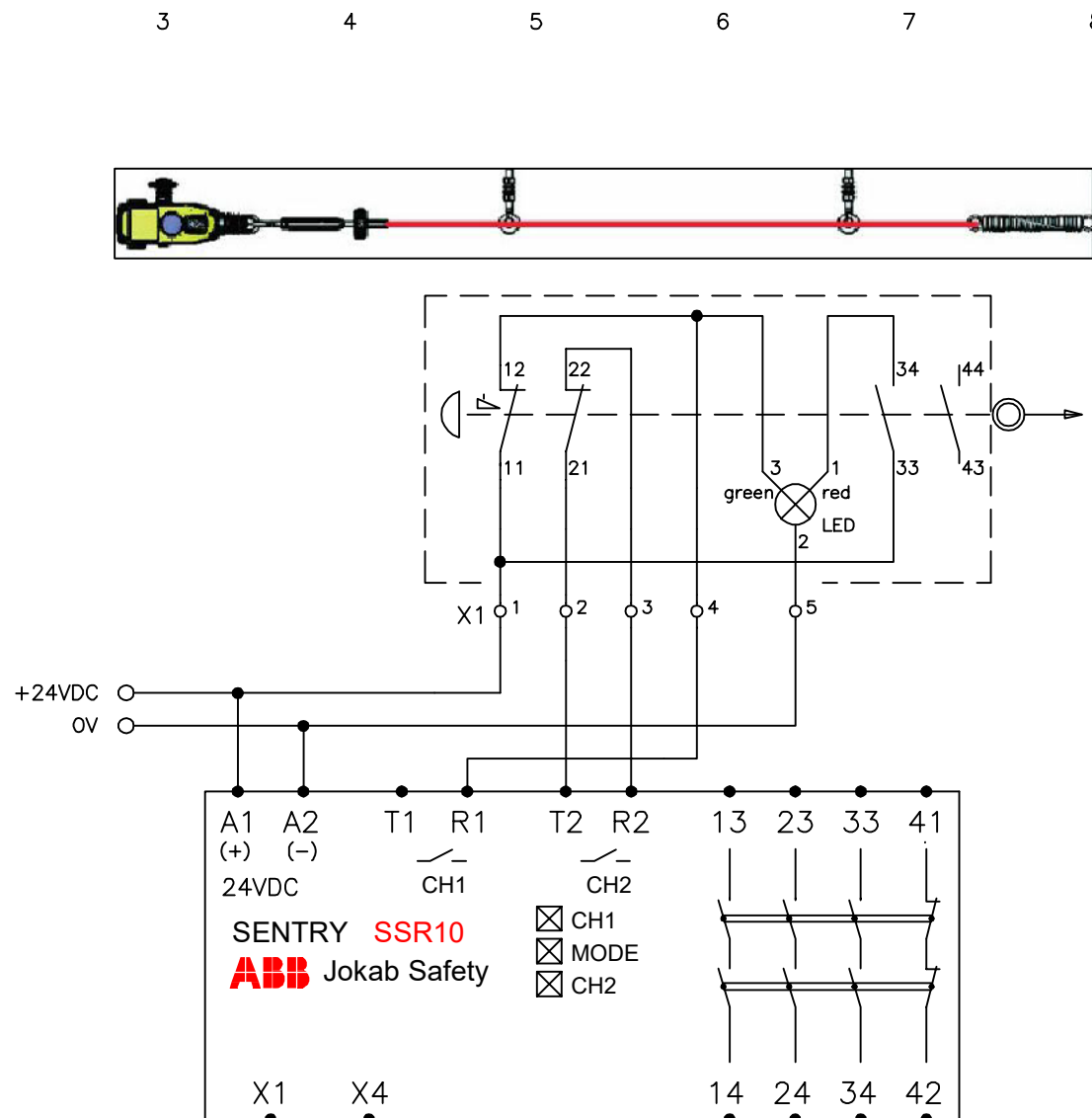
Anmärkning Remark

SSR10 with compact pilot devices

**ABB** Safety Products
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ABBGodk Appr  
Sidor PagesDatum Date  
20210706Ritn nr Drawing no  
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Blad Sheet

Forts Cont

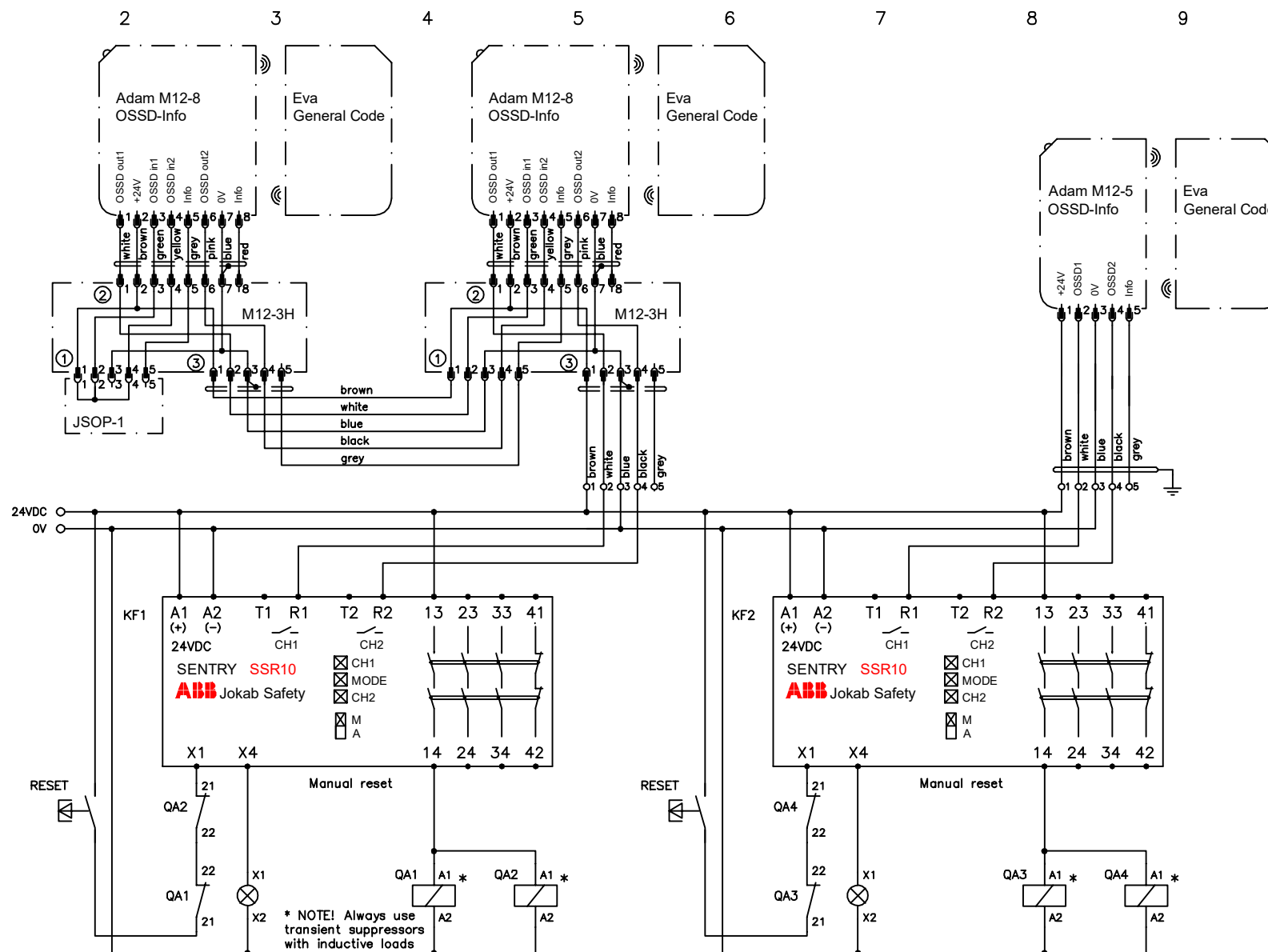
**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 with LineStrong

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Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010007T0018	Forts Cont

**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 with Eden OSSD

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

20210706

Ritn nr Drawing no

2TLC010007T0005

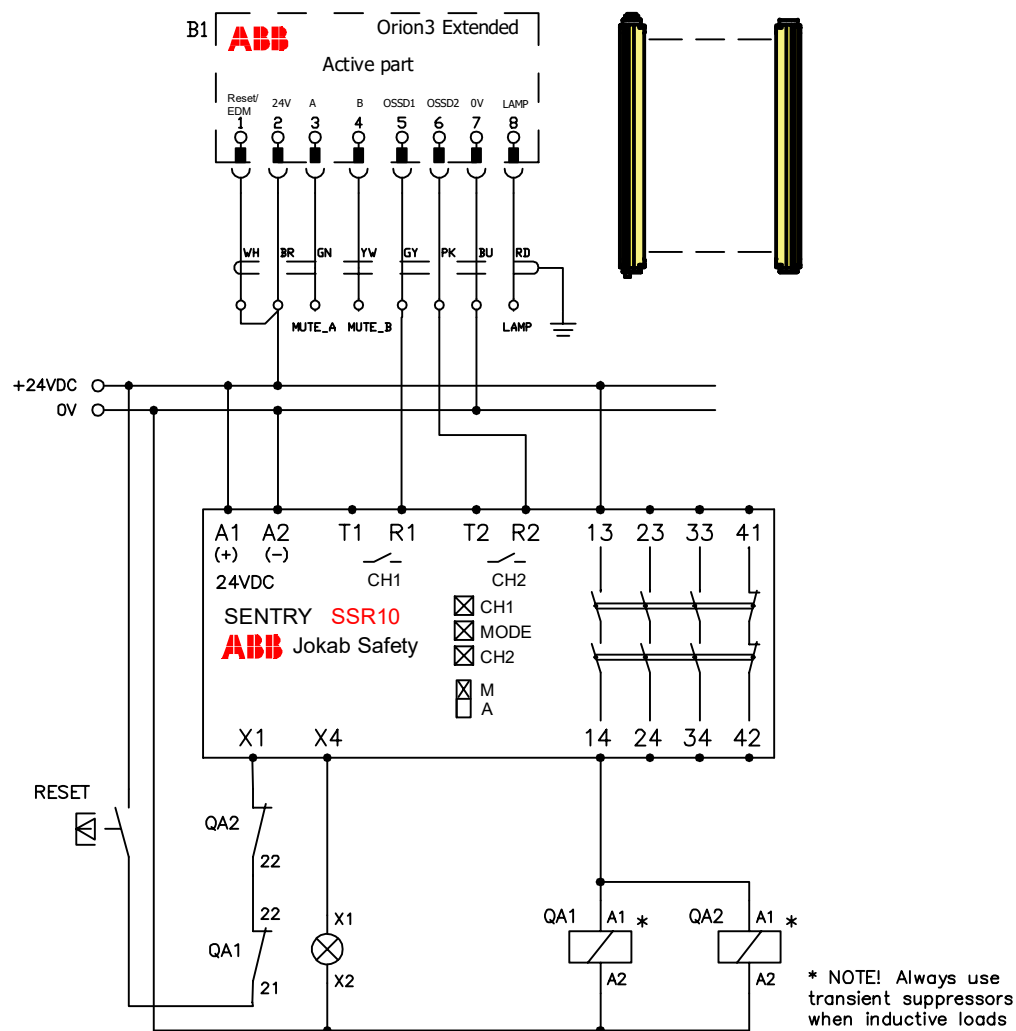
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Forts Cont



**ABB** Safety Products

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Ritad Drawn ABB	Sidor Pages	Ritr nr Drawing no 2TLC010007T0013	Forts Cont

**PL<sub>e</sub>**According to  
EN ISO 13849-1

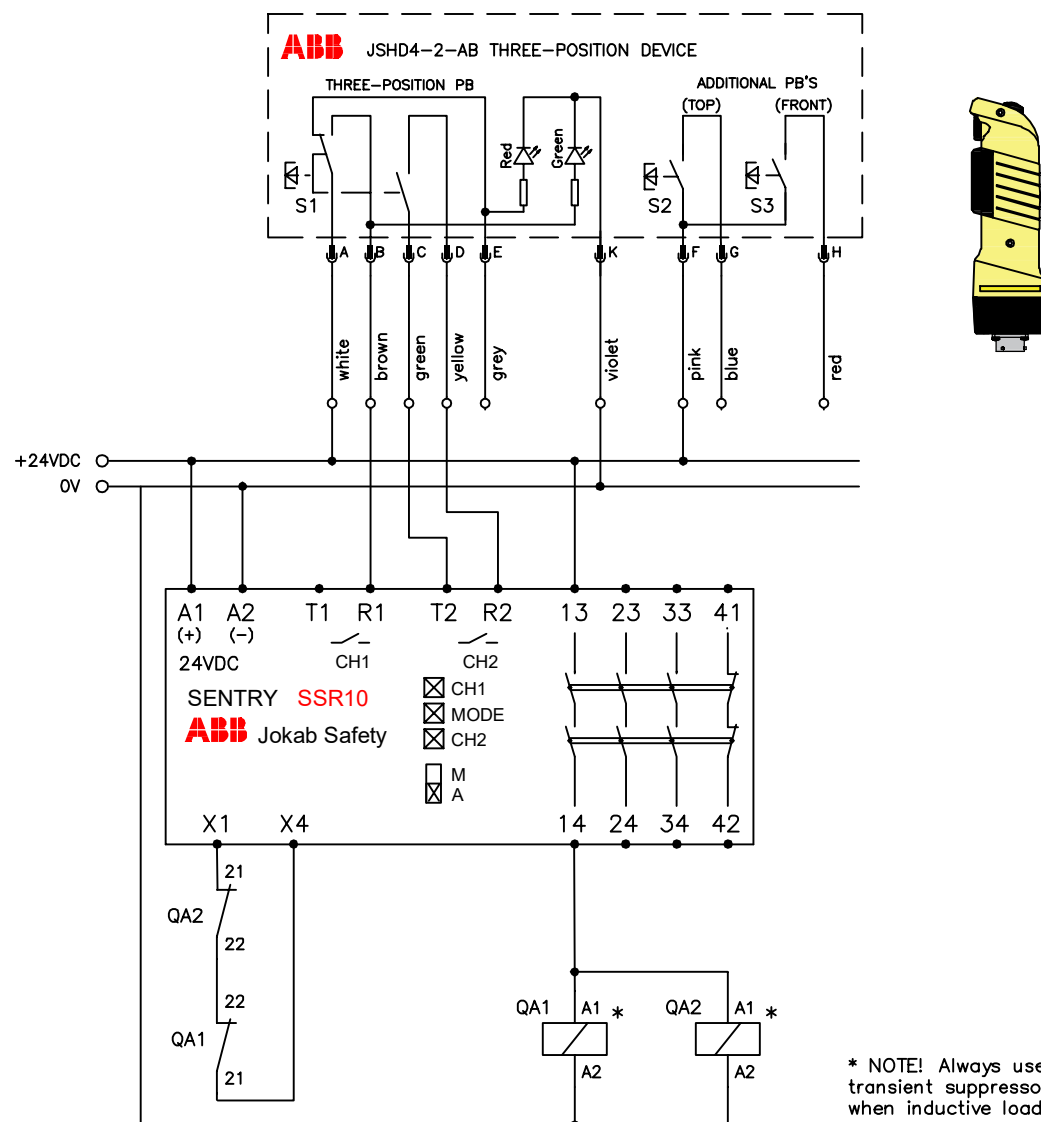
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 with ORION3 Extended

**ABB** Safety Products

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ABB		20210706	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
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**PLe**According to  
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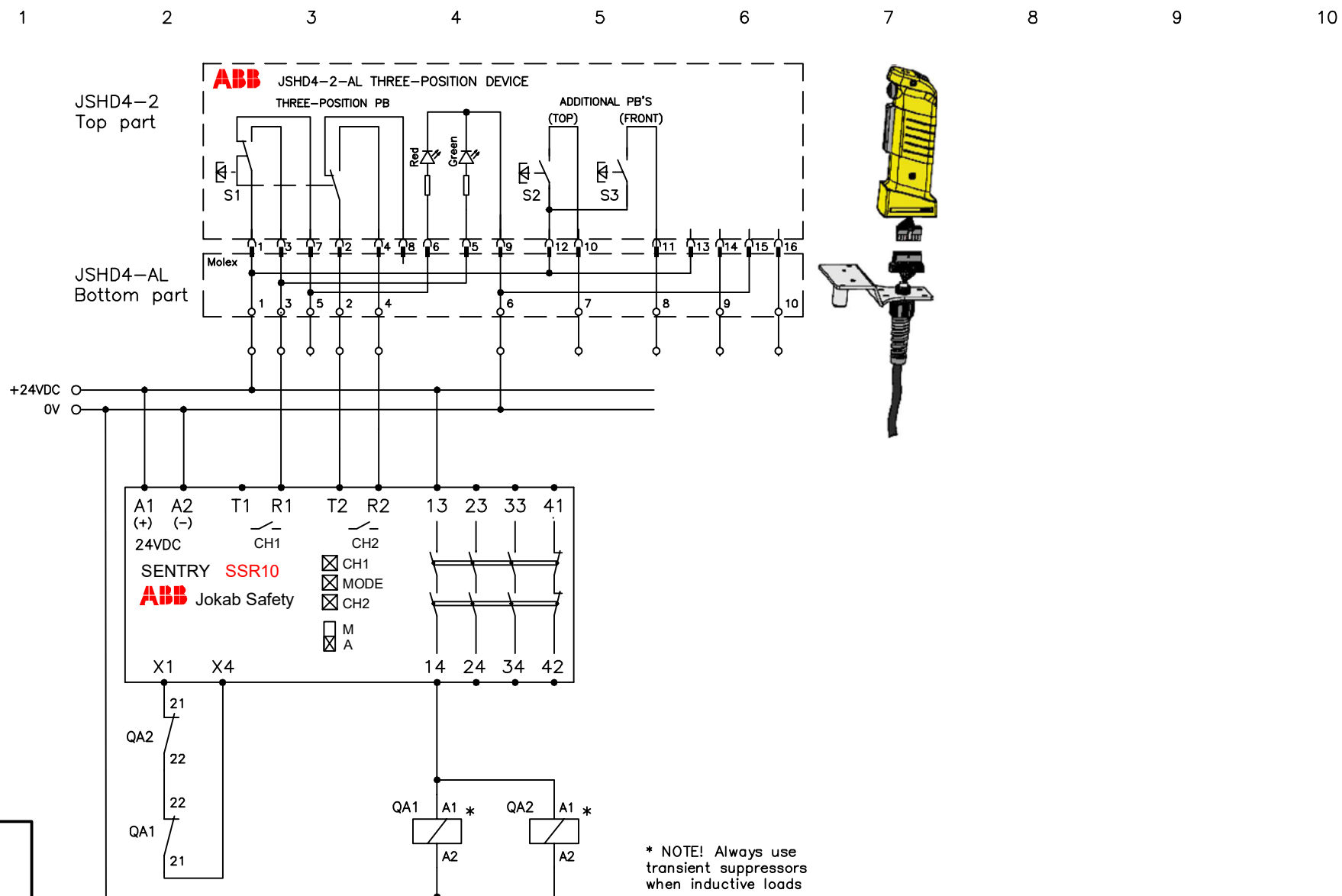
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 with JSHD4-2-AB

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210706	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010007T0006	Forts Cont

**PL<sub>e</sub>**According to  
EN ISO 13849-1

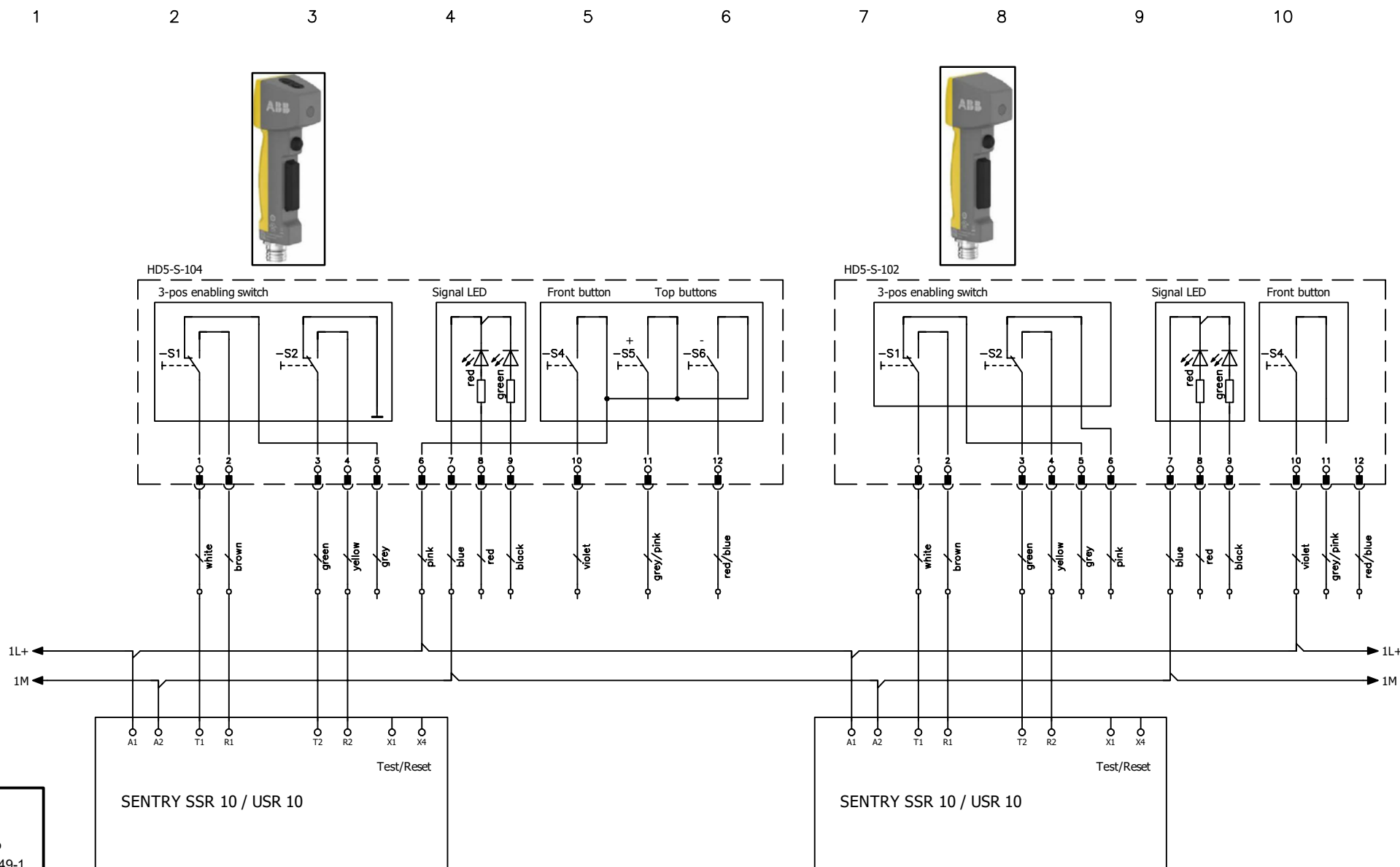
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 with JSHD4-2-AL

**ABB** Safety Products

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Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
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**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

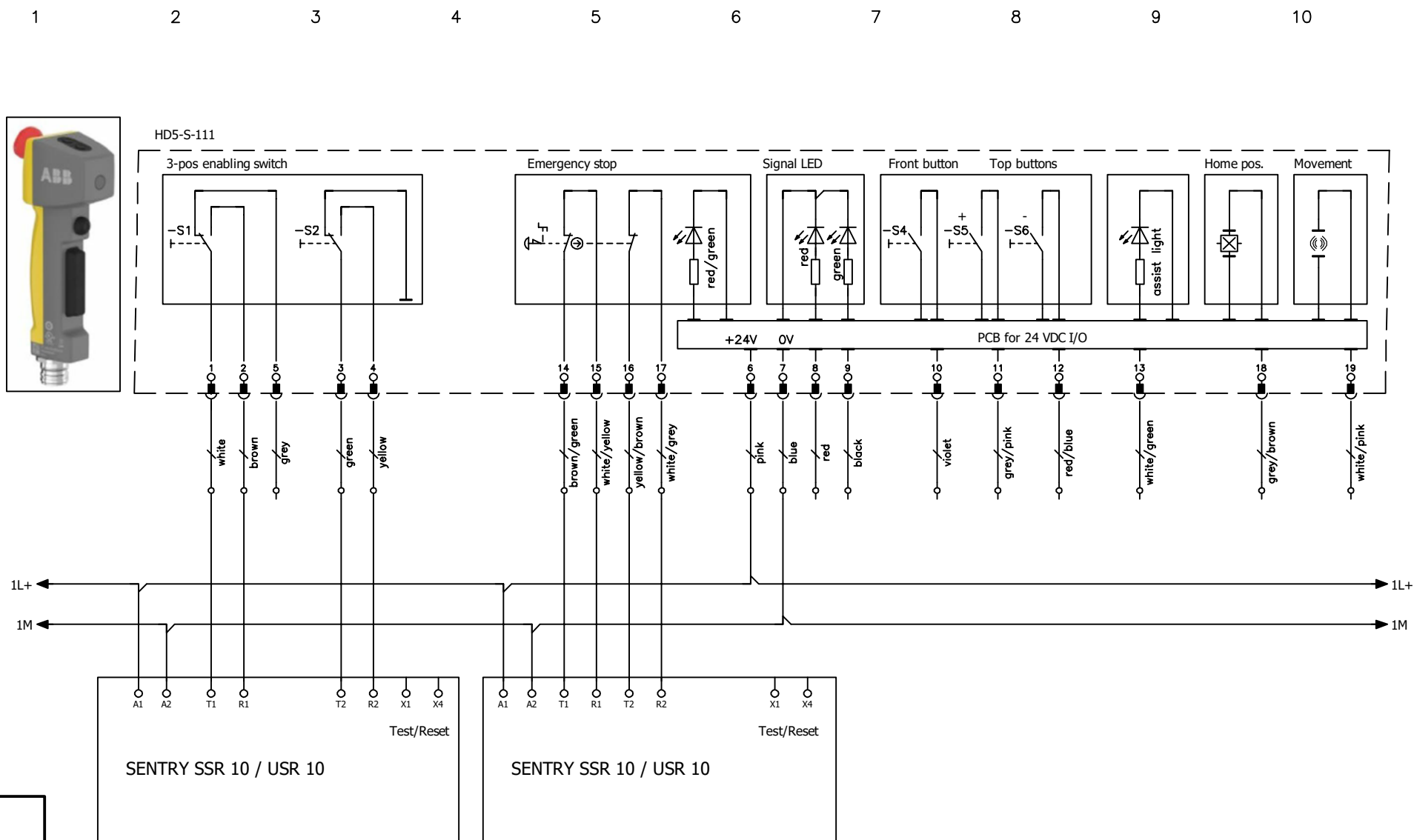
Anmärkning Remark

SSR10/USR10 with HD5-S-104 and -102

**Safety Products**

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Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010007T0105	Forts Cont



**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10/USR10 with HD5-S-111

**Safety Products**

Konstr Design

ABB

Godk Appr

Sidor

Pages

Datum Date

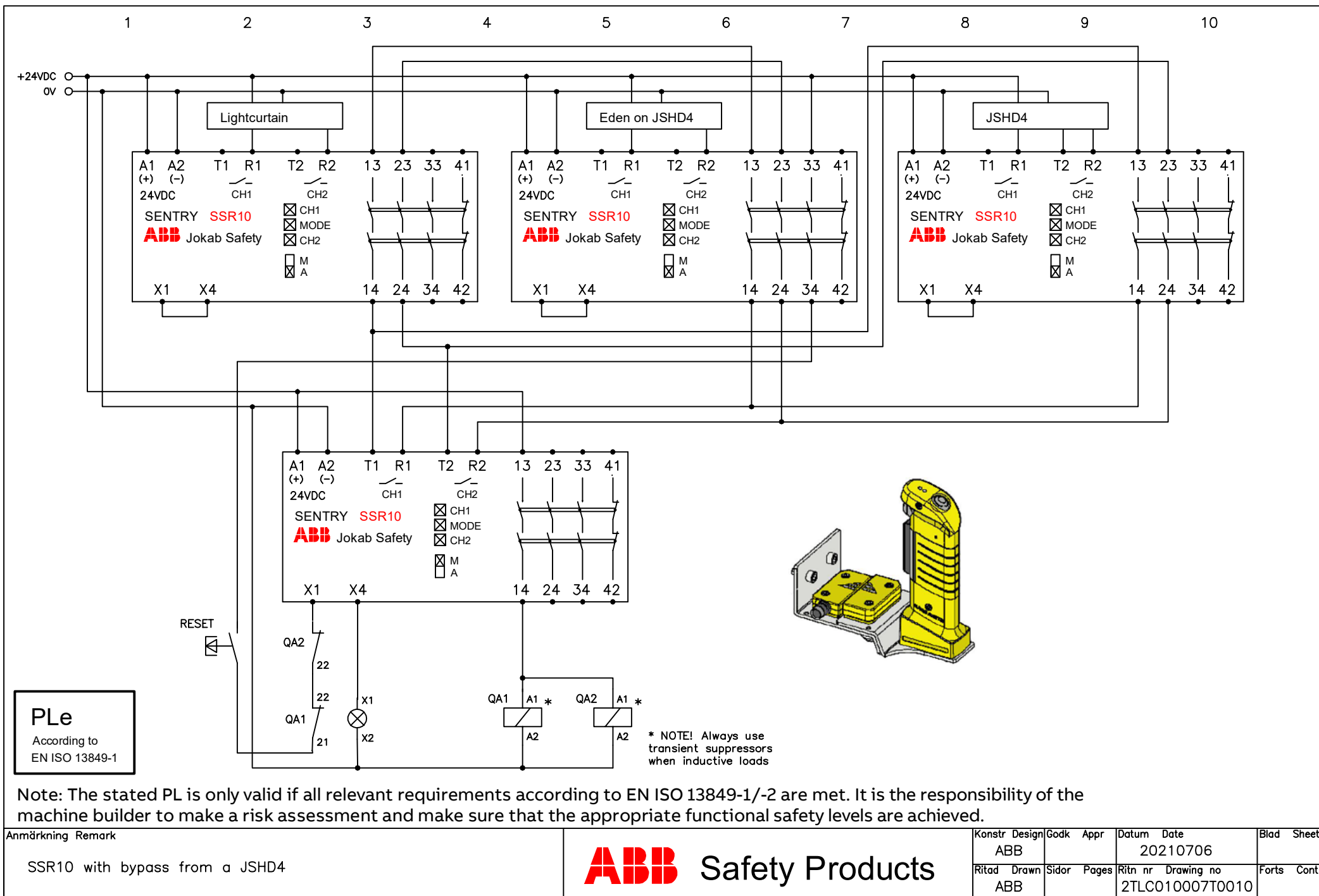
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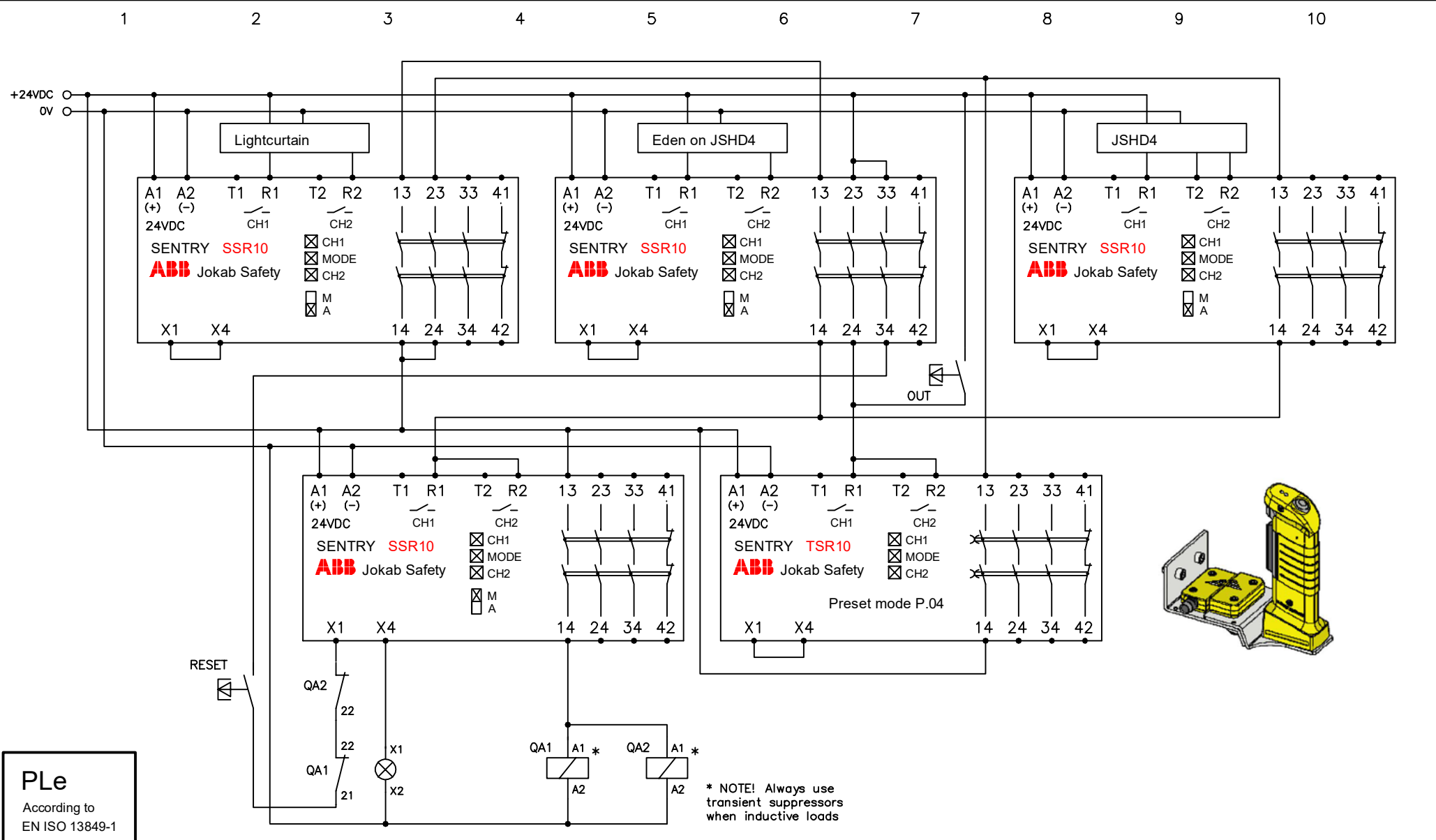
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Forts Cont





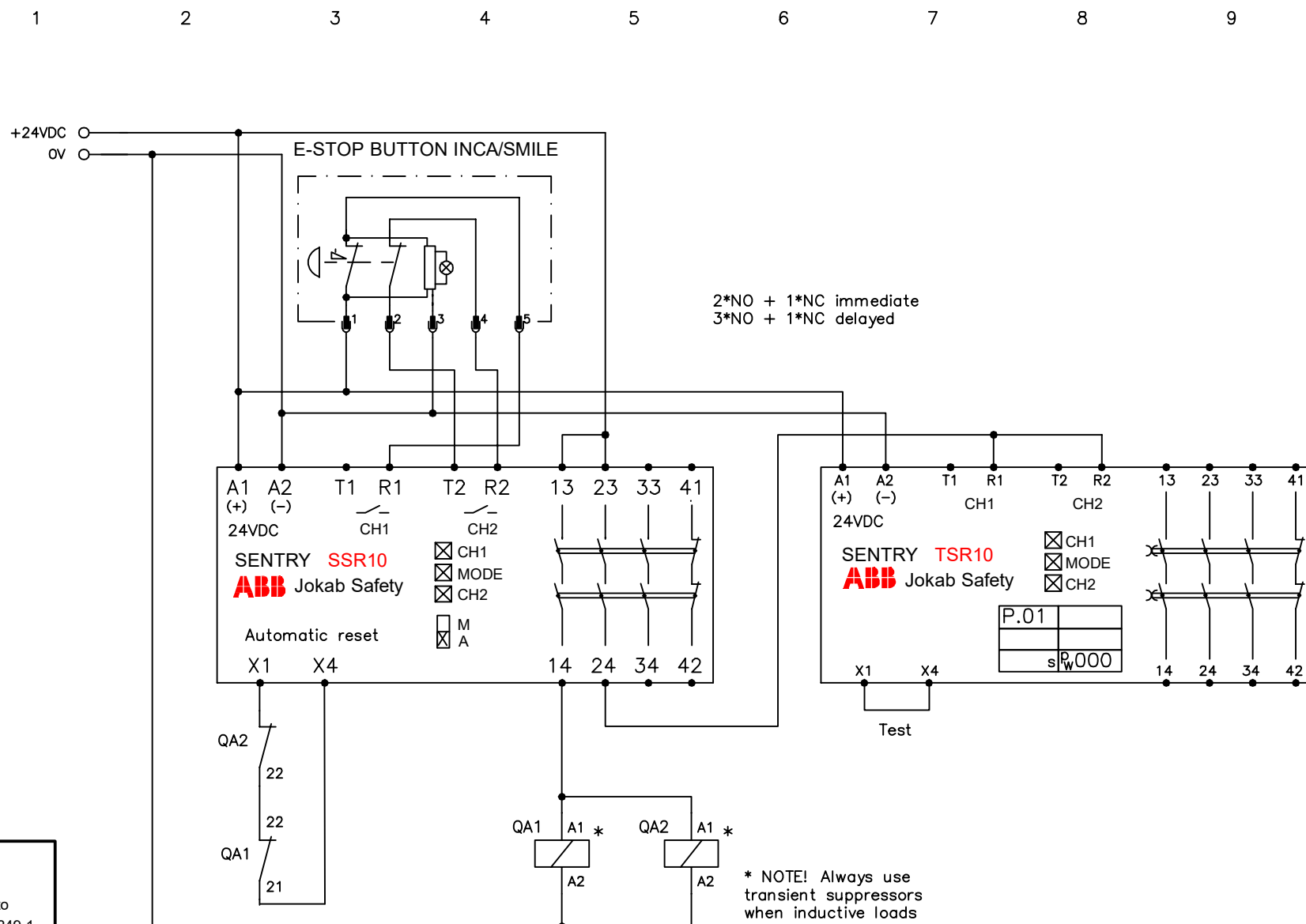
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 with time limited bypass

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210706	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010007T0011	Forts Cont



PLe

According to  
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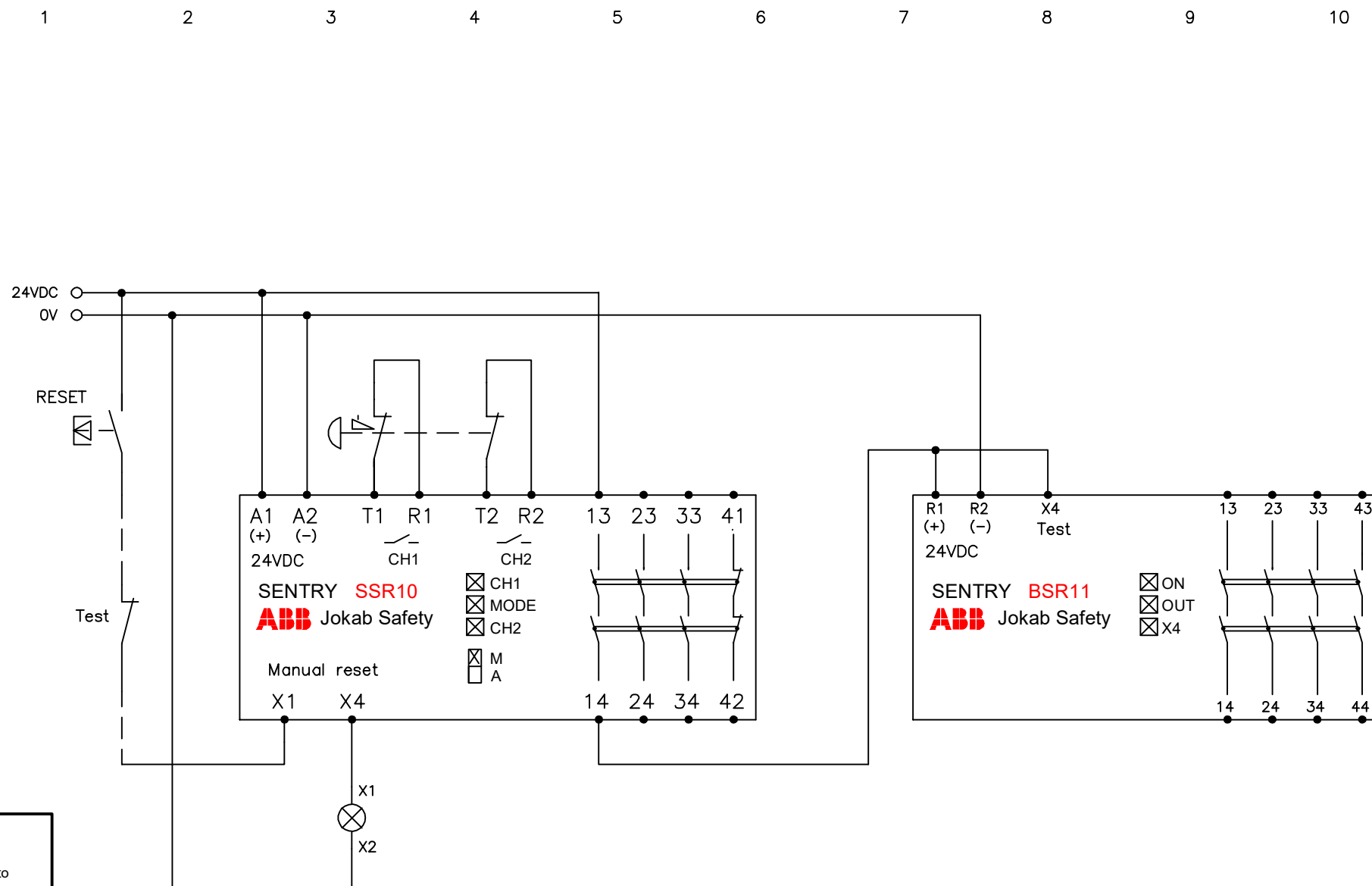
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 expansion TSR10

**ABB** Safety Products

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Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
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**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10 expansion BSR11

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

20210706

Blad Sheet

Ritad Drawn

ABB

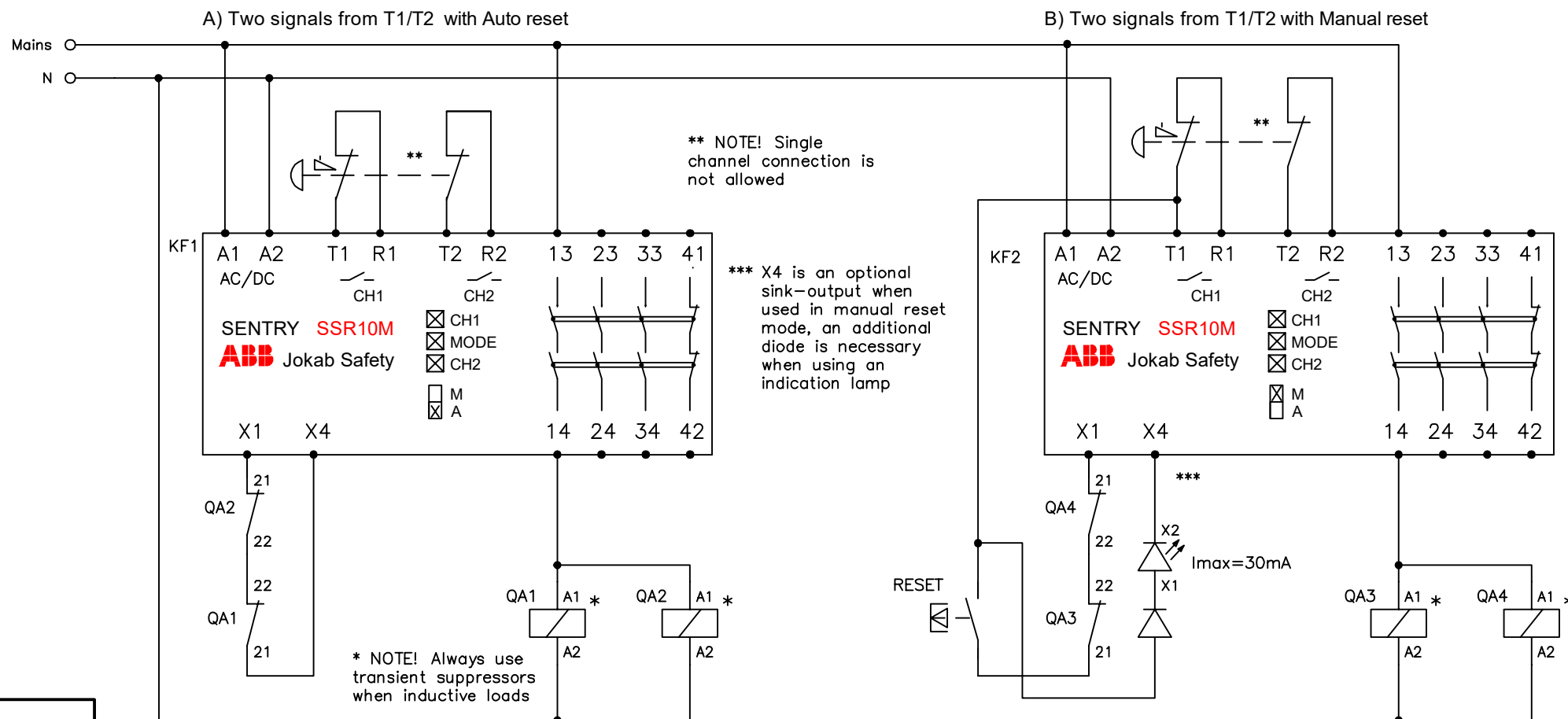
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Ritn nr Drawing no

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Forts Cont

**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR10M general

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

Ritad Drawn

ABB

Sidor Pages

Datum Date

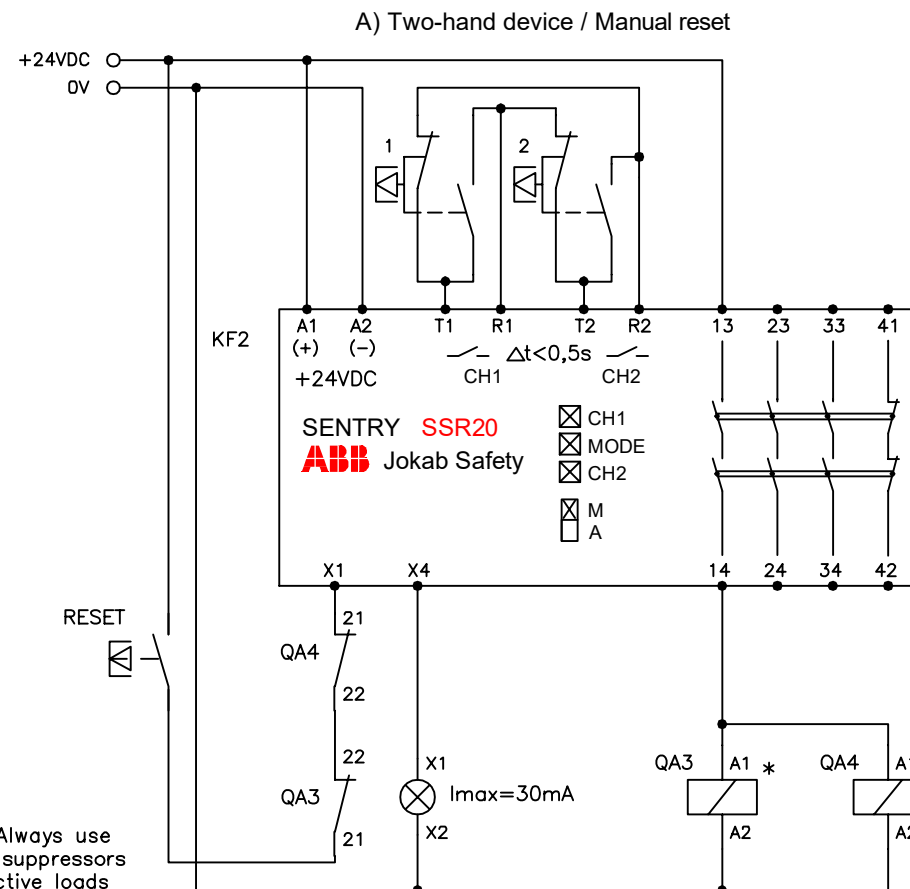
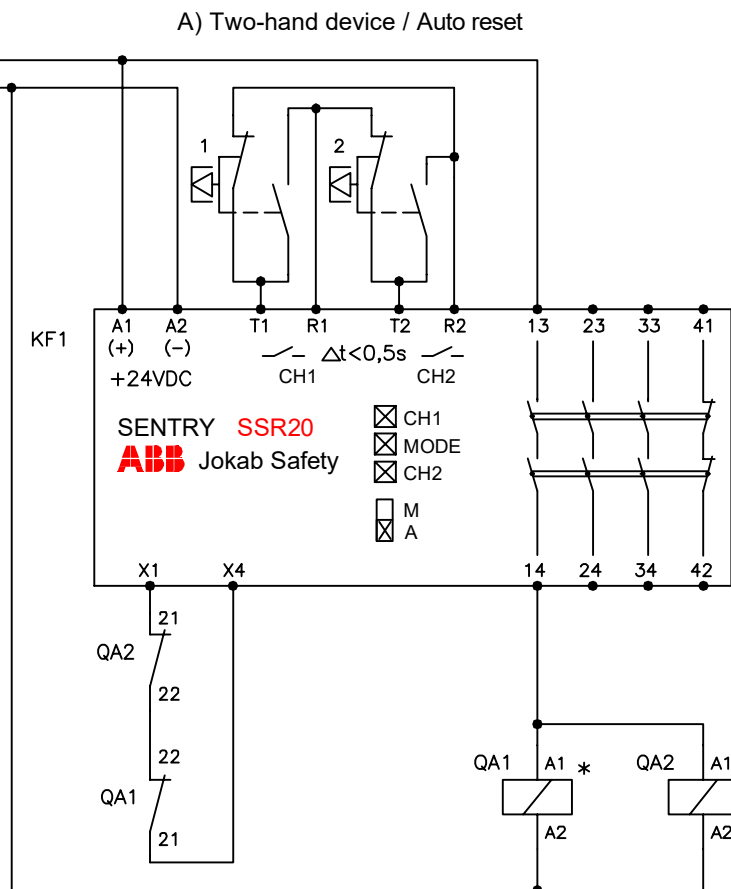
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Forts Cont



**PL<sub>e</sub>**

According to  
EN ISO 13849-1

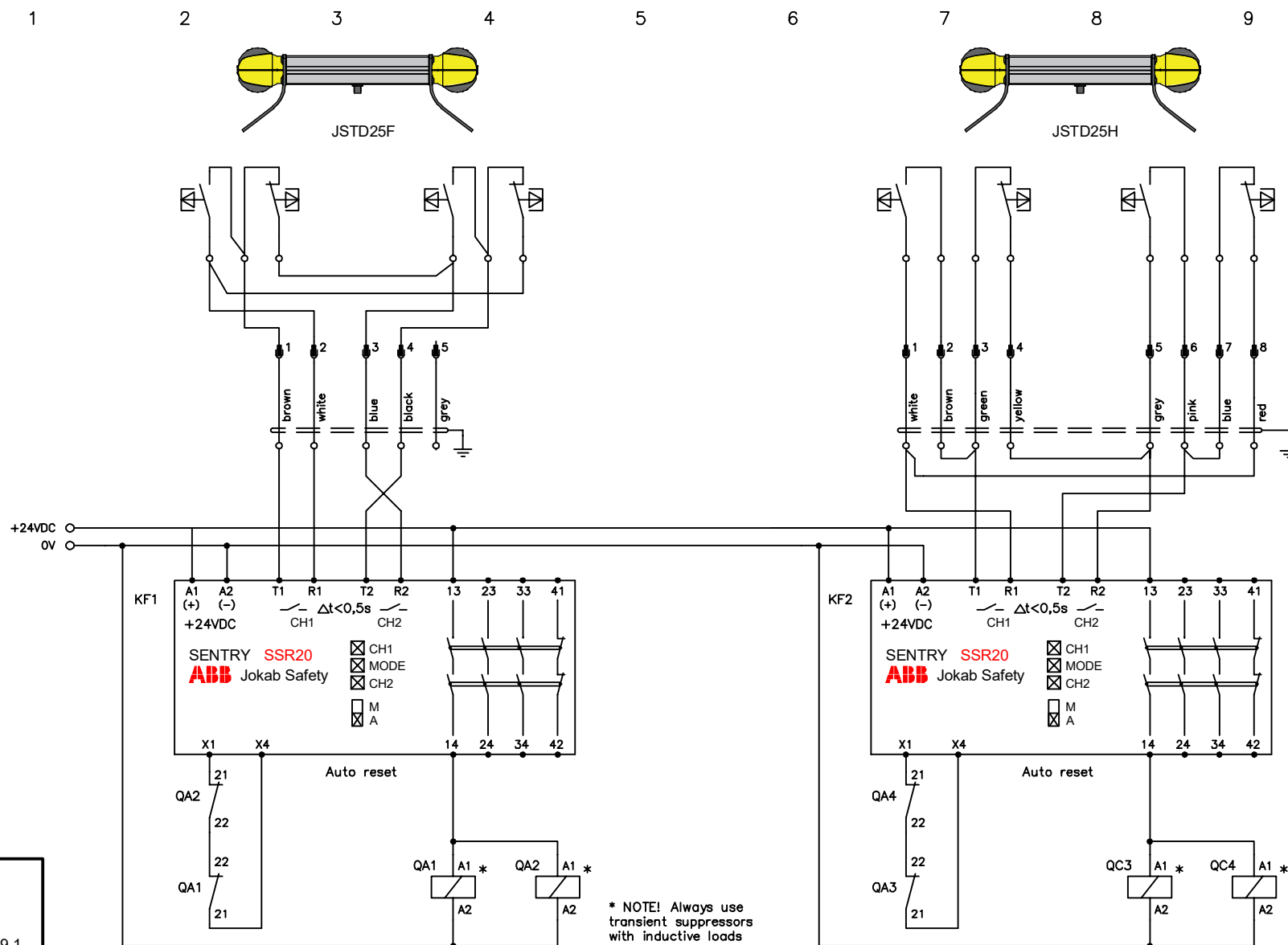
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR20 general

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210706	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010009T0001	Forts Cont

**PLe**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

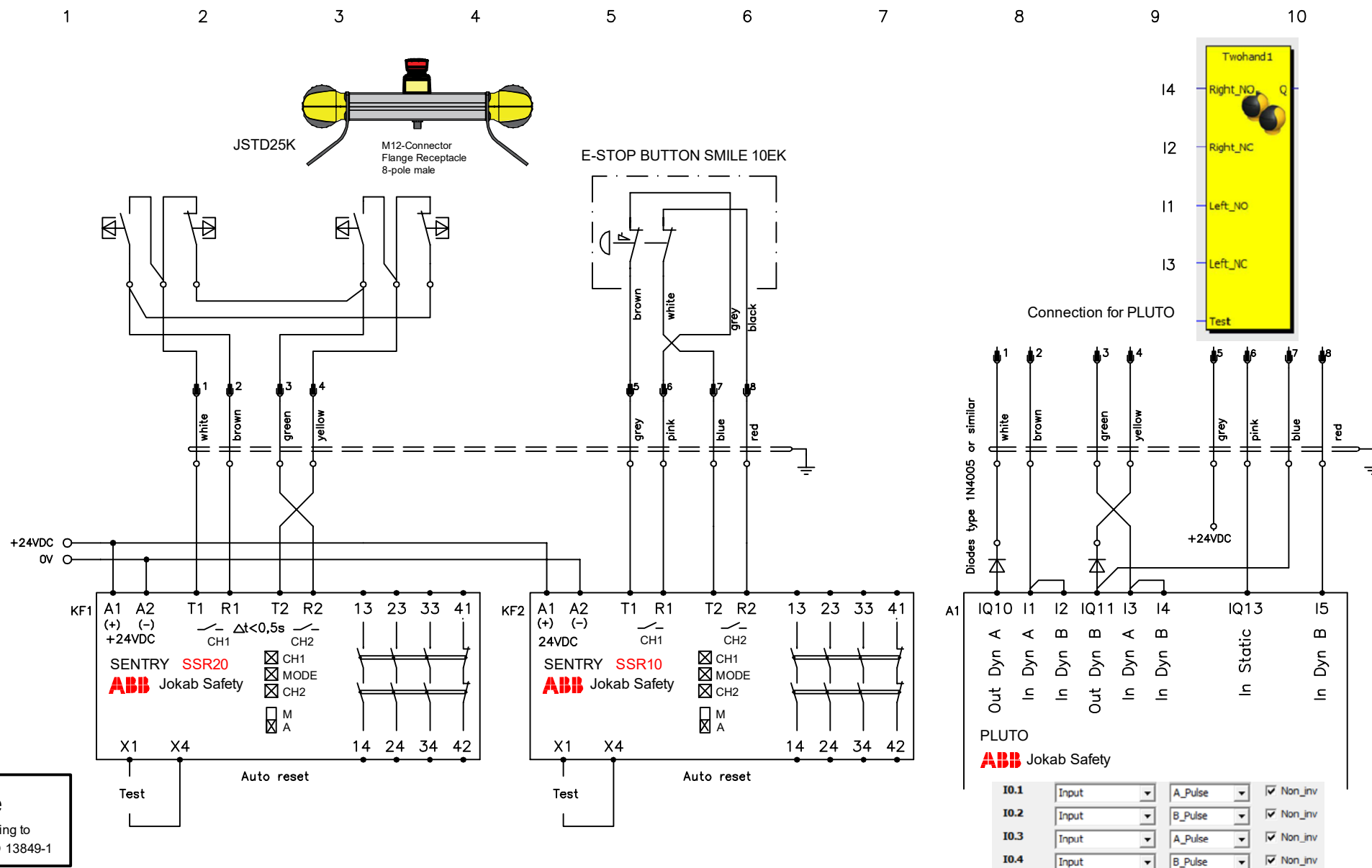
Anmärkning Remark

SSR20 with JSTD25F and H

**ABB** Safety Products

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Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
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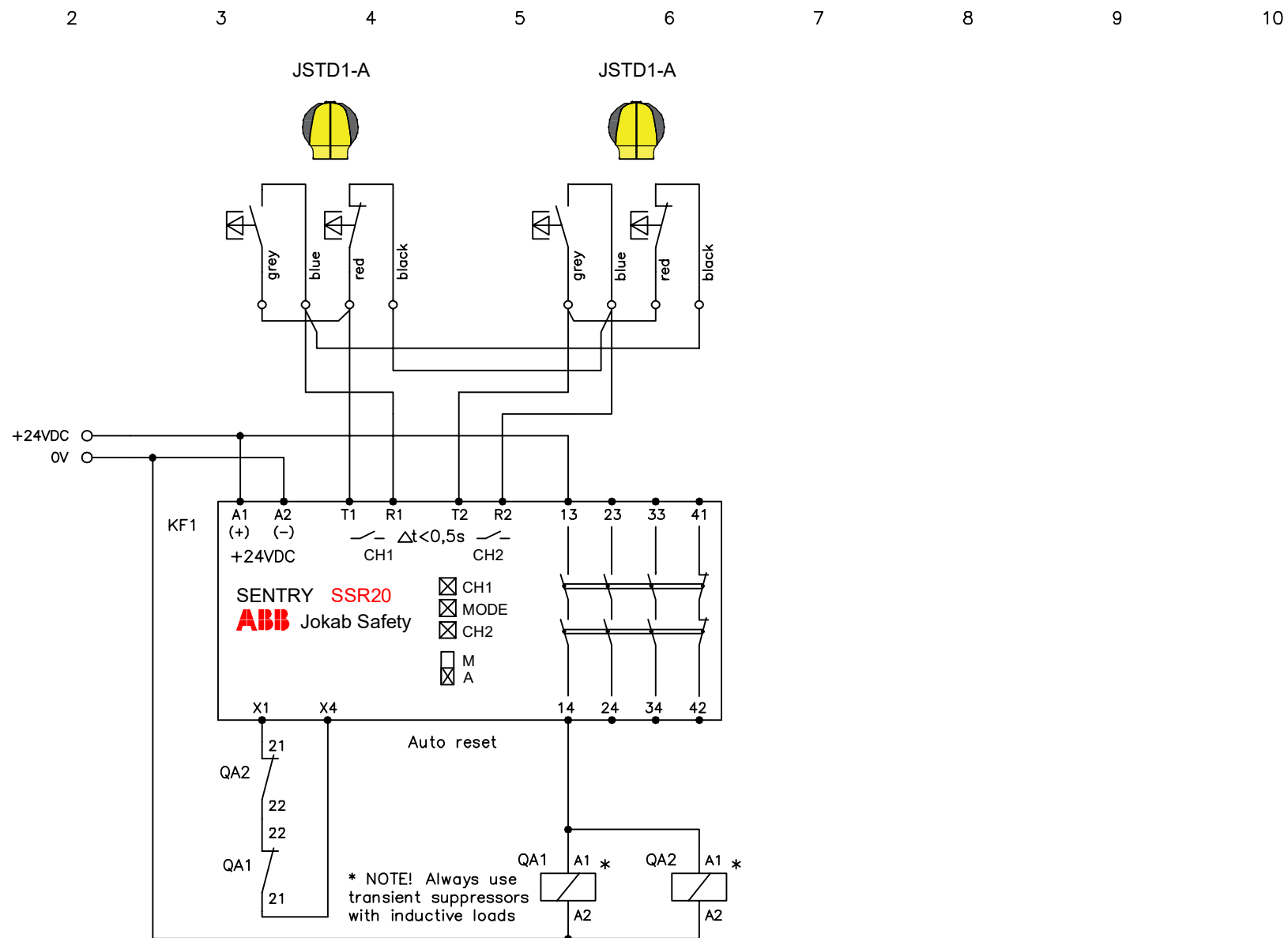
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR20 with JSTD25K

**ABB** Safety Products

Konstr Design	ABB	Godk Appr	Datum Date	20210706	Blad Sheet
Ritad Drawn	ABB	Sidor Pages	Ritn nr Drawing no	2TLC010009T0005	Forts Cont

**PL<sub>e</sub>**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR20 with JSTD1-A

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

20210706

Ritad Drawn

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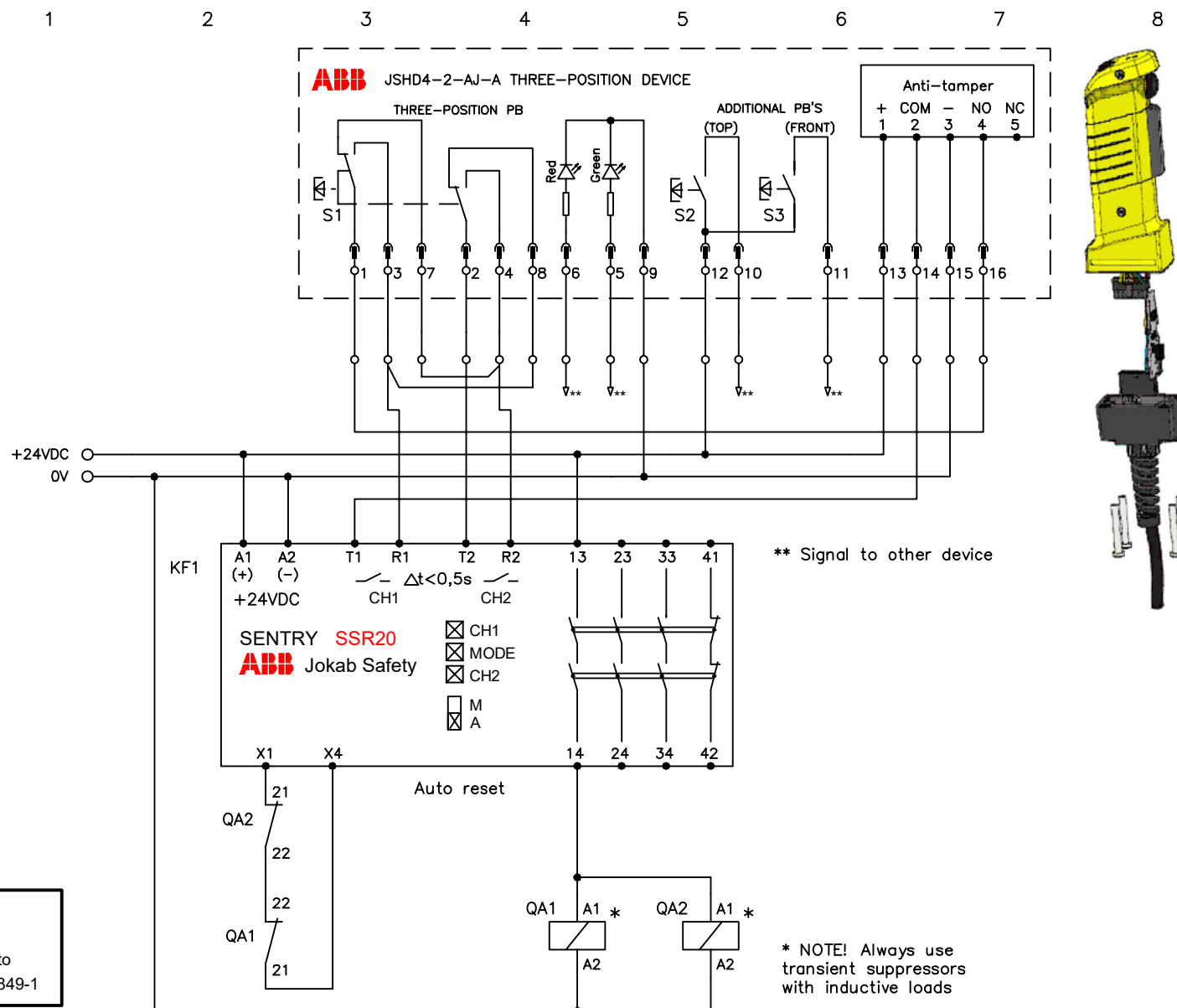
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Ritn nr Drawing no

Forts Cont

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Forts Cont

**PL<sub>e</sub>**According to  
EN ISO 13849-1

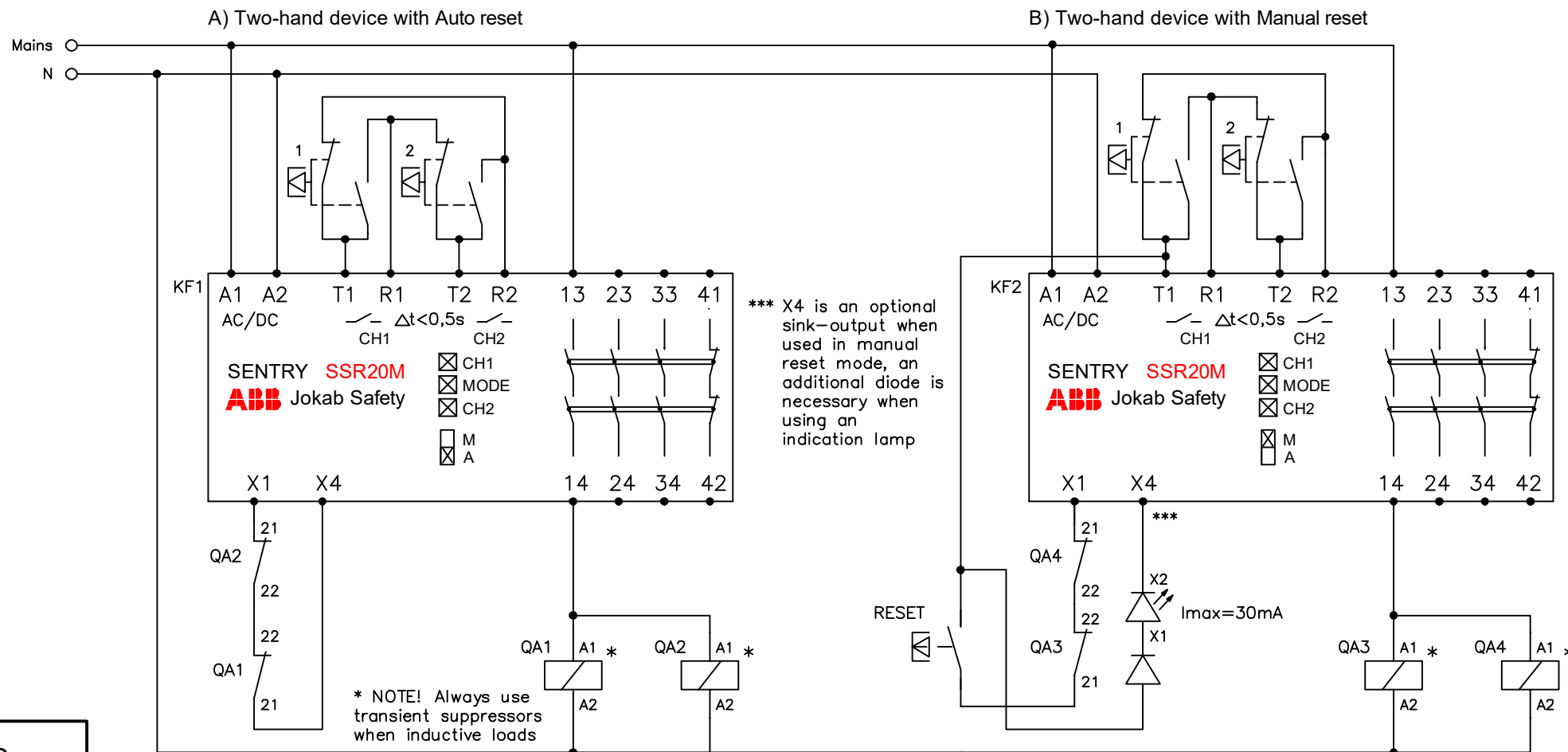
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR20 with JSHD4-2-AJ-A

**ABB** Safety Products

Konstr Design	Godk Appr	Datum Date	Blad Sheet
ABB		20210706	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010009T0003	

**PLe**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR20M general

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

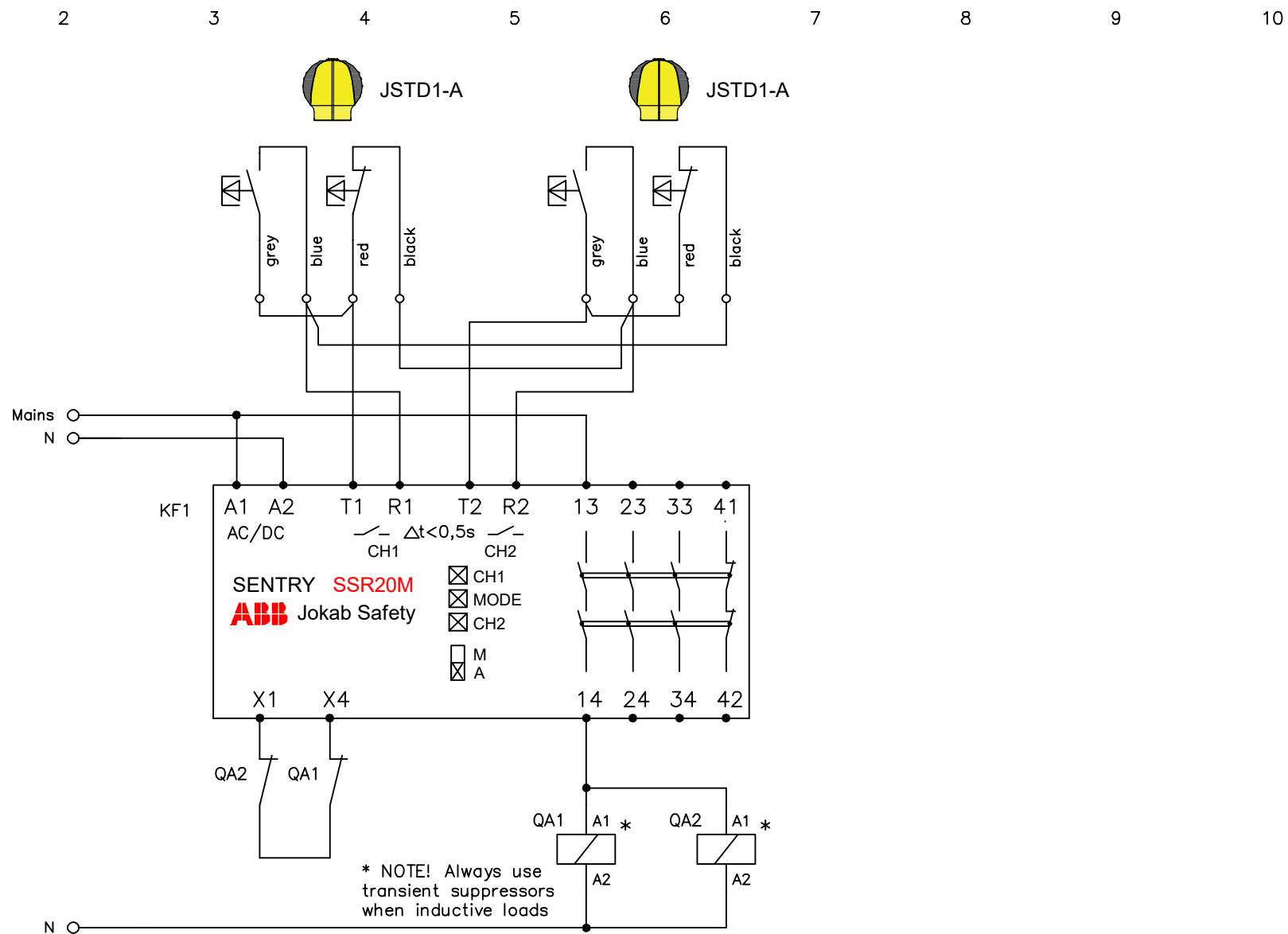
20210706

Blad Sheet

Ritn nr Drawing no

2TLC010010T0001

Forts Cont

**PL<sub>e</sub>**According to  
EN ISO 13849-1

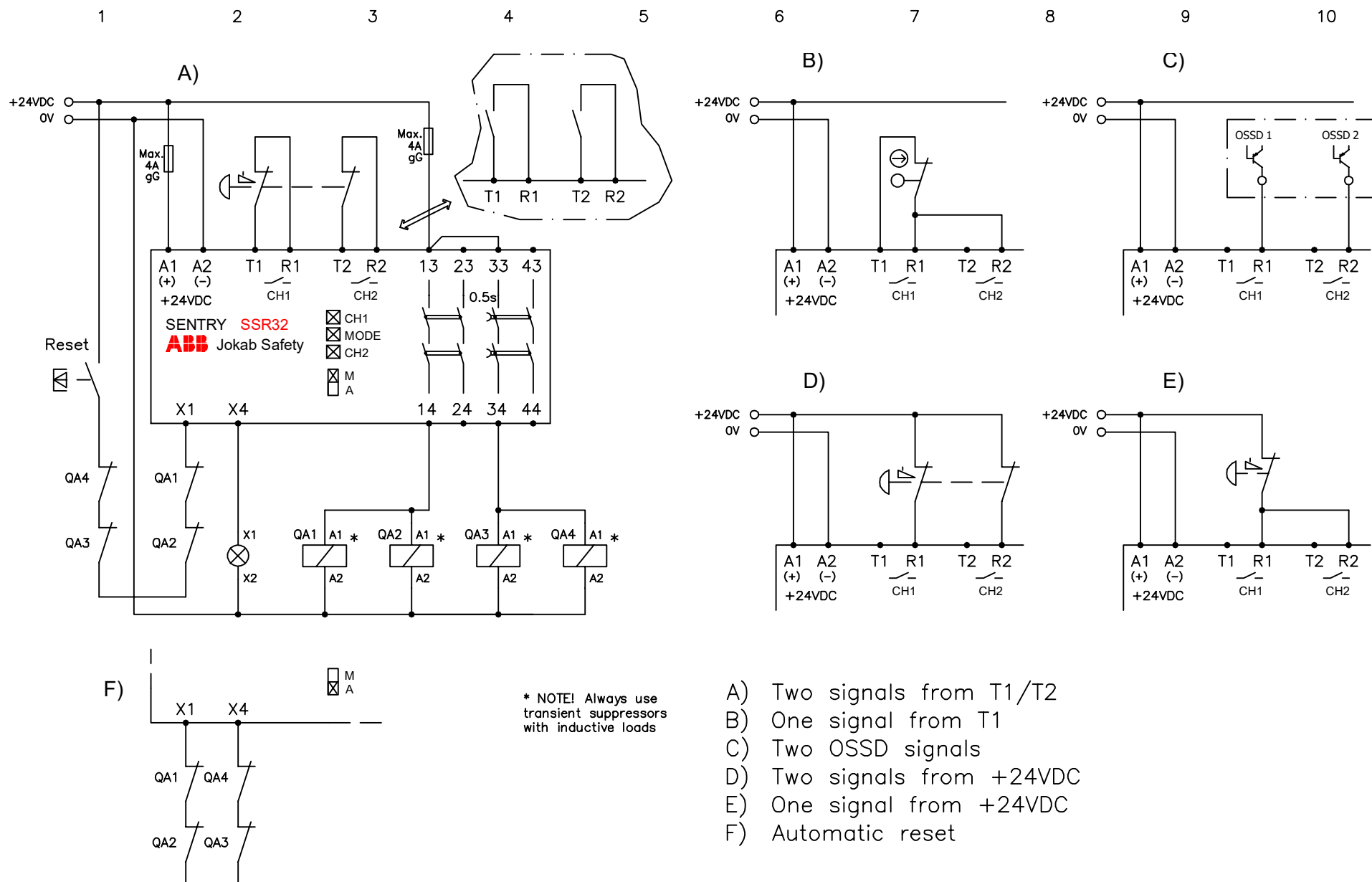
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR20M with JSTD1-A

**ABB** Safety Products

Konstr Design	ABB	Godk Appr	Datum Date	Blad Sheet
Ritad Drawn	ABB	Sidor Pages	20210706	
			Ritn nr Drawing no	Forts Cont
			2TLC010010T0002	



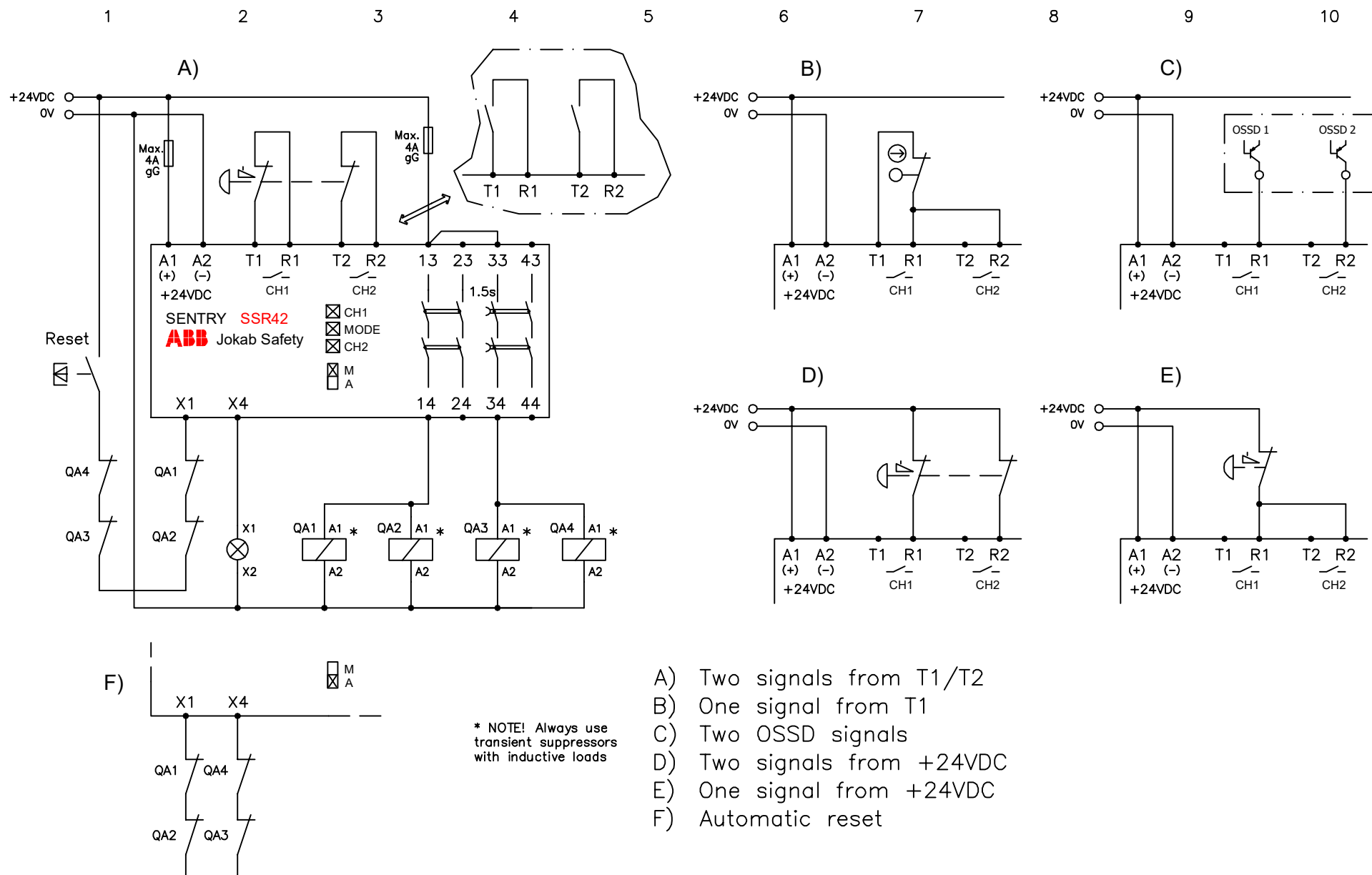
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR32 general

**ABB** Safety Products

Konstr Design ABB	Godk Appr ABB	Datum Date 20210707	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010011T0001	Forts Cont



- A) Two signals from T1/T2  
 B) One signal from T1  
 C) Two OSSD signals  
 D) Two signals from +24VDC  
 E) One signal from +24VDC  
 F) Automatic reset

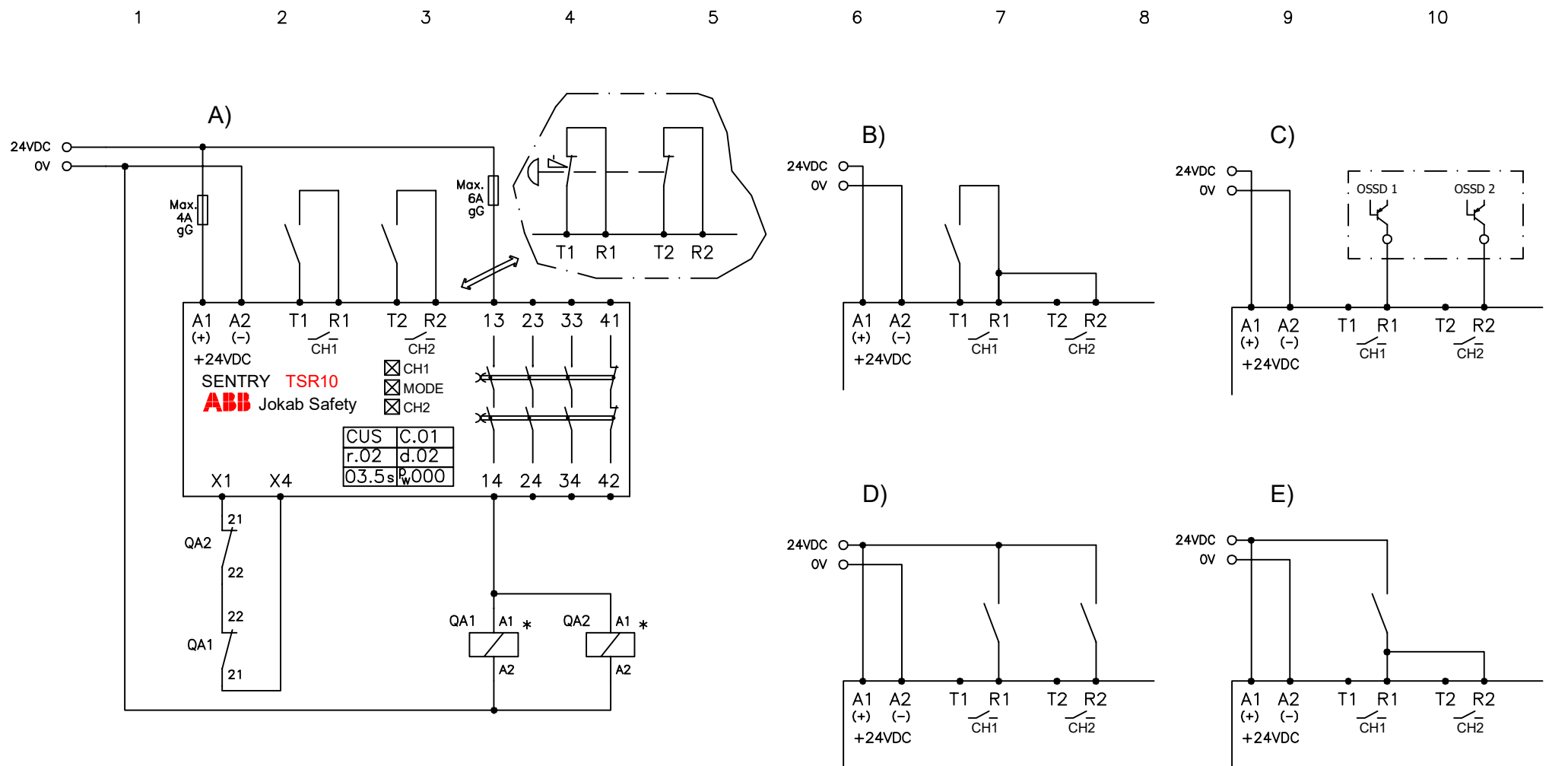
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

SSR42 general

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210707	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010012T0001	Forts Cont



- A) Two signals from T1/T2  
 B) One signal from T1  
 C) Two OSSD signals  
 D) Two signals from +24VDC  
 E) One signal from +24VDC

\* NOTE! Always use transient suppressors with inductive loads

Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

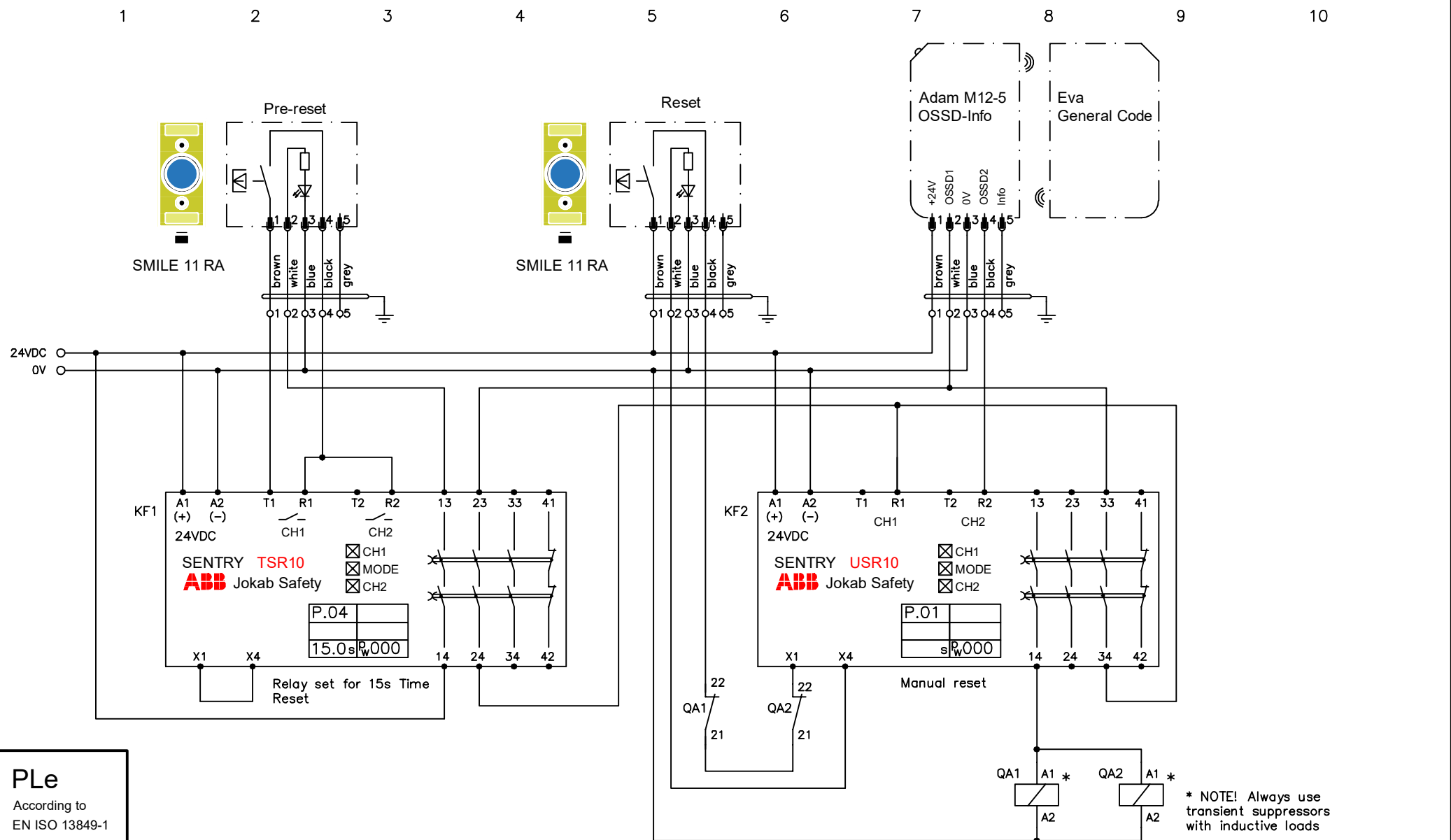
Anmärkning Remark

TSR10 general

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210707	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010013T0001	Forts Cont





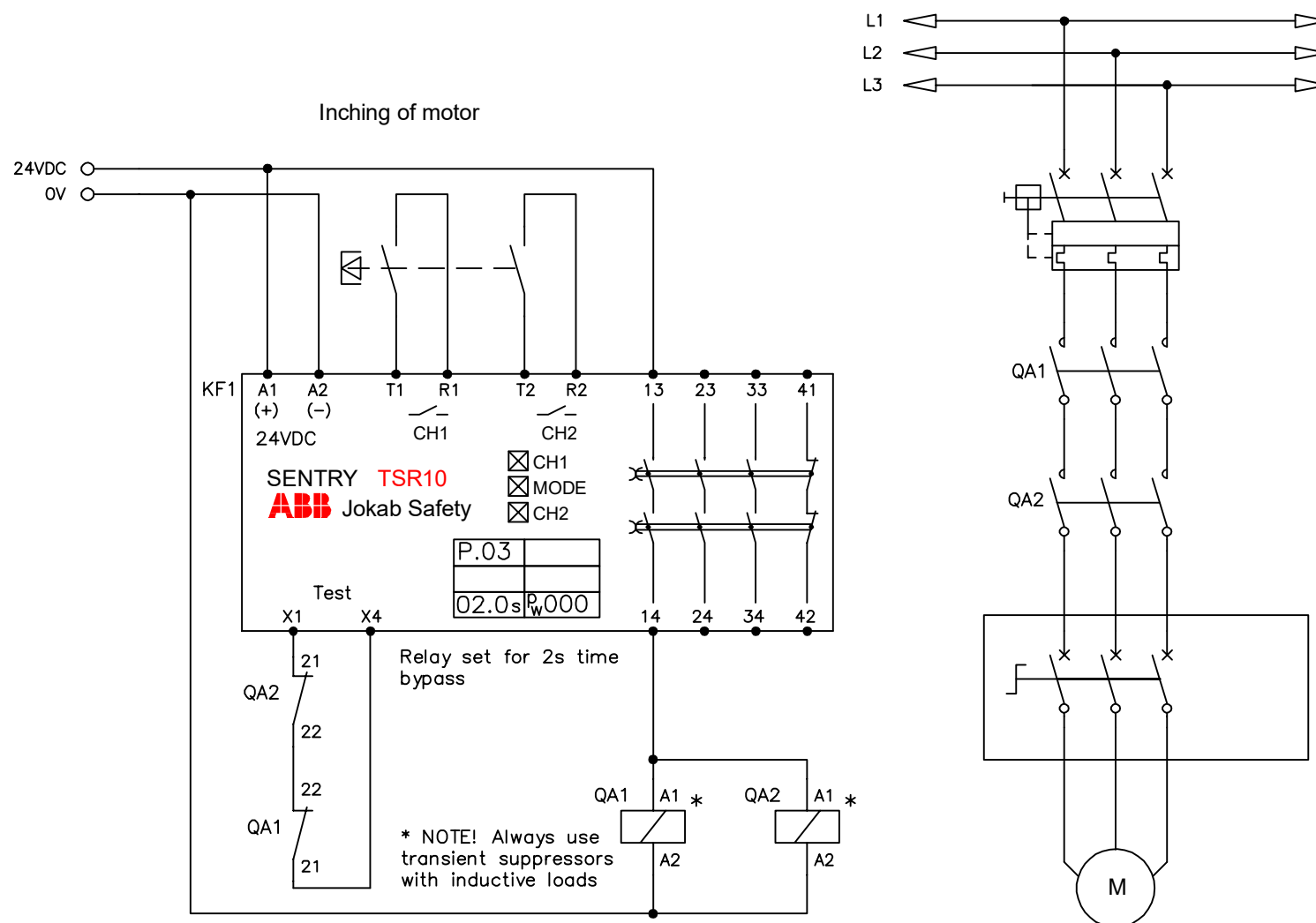
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

TSR10 pre-reset

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210706	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010013T0002	Forts Cont

**PLe**According to  
EN ISO 13849-1

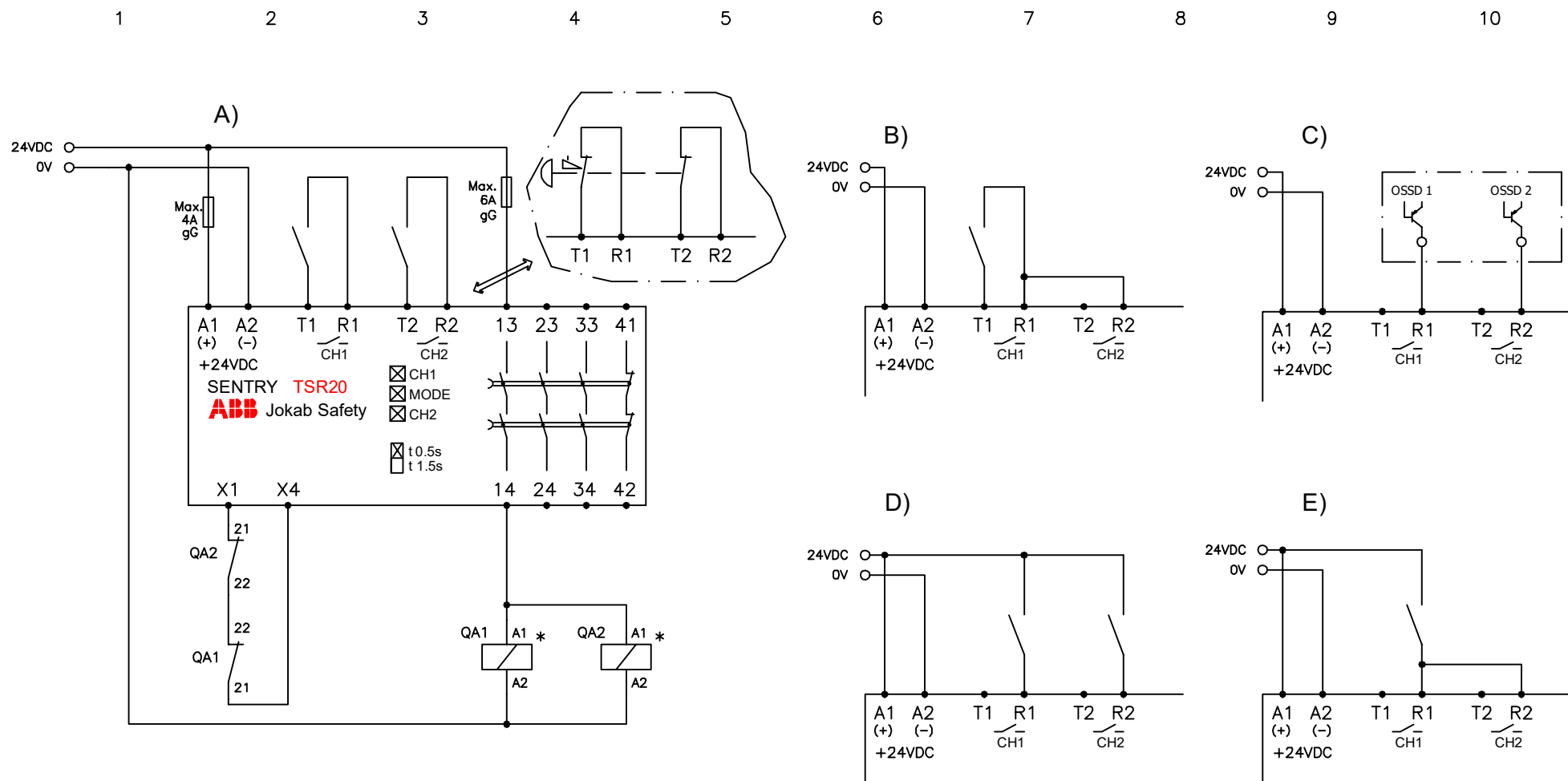
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

TSR10 inching

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210706	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010013T0003	Forts Cont



- A) Two signals from T1/T2  
 B) One signal from T1  
 C) Two OSSD signals  
 D) Two signals from +24VDC  
 E) One signal from +24VDC

\* NOTE! Always use  
transient suppressors  
with inductive loads

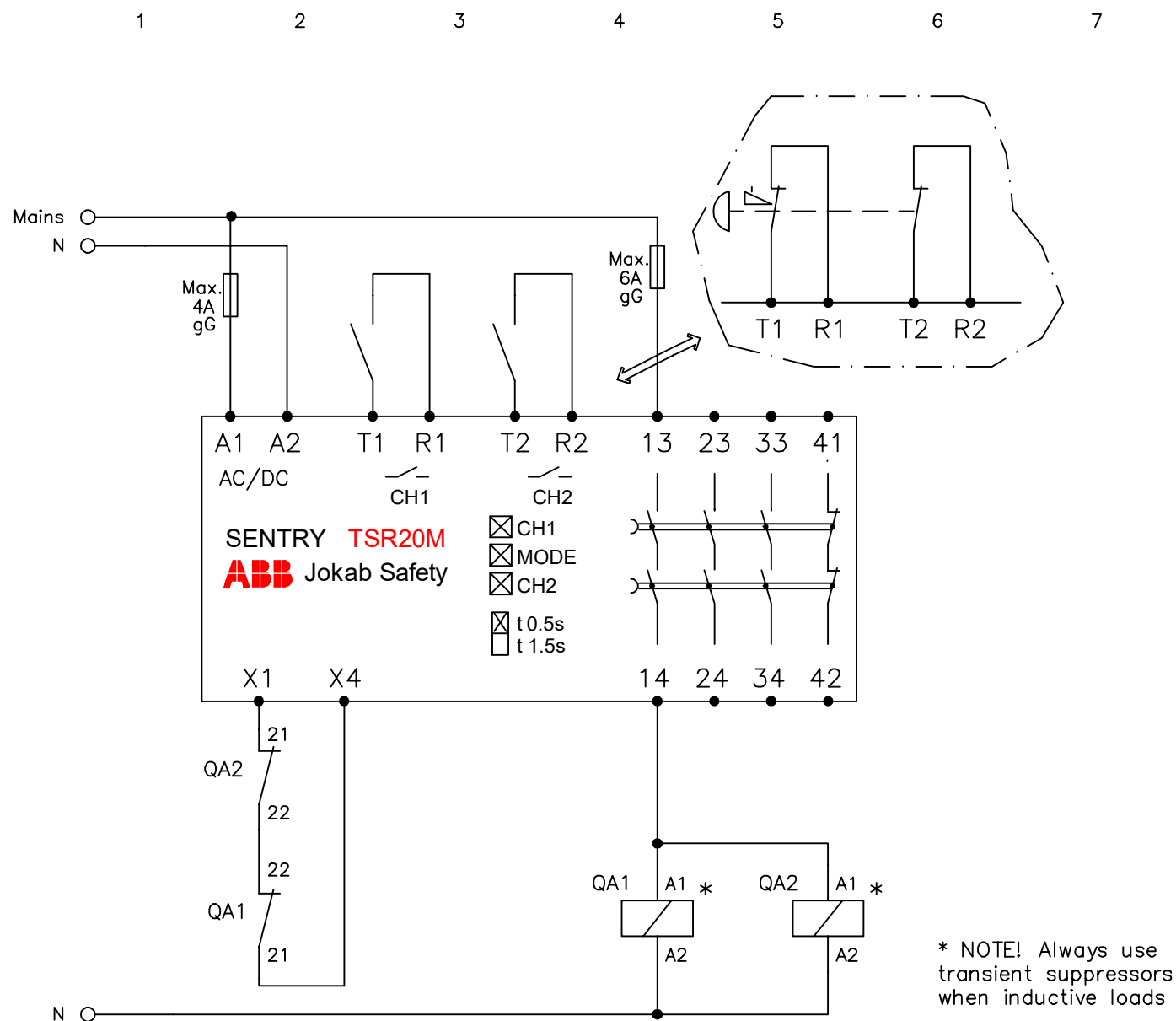
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

TSR20 general

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210707	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010014T0001	Forts Cont



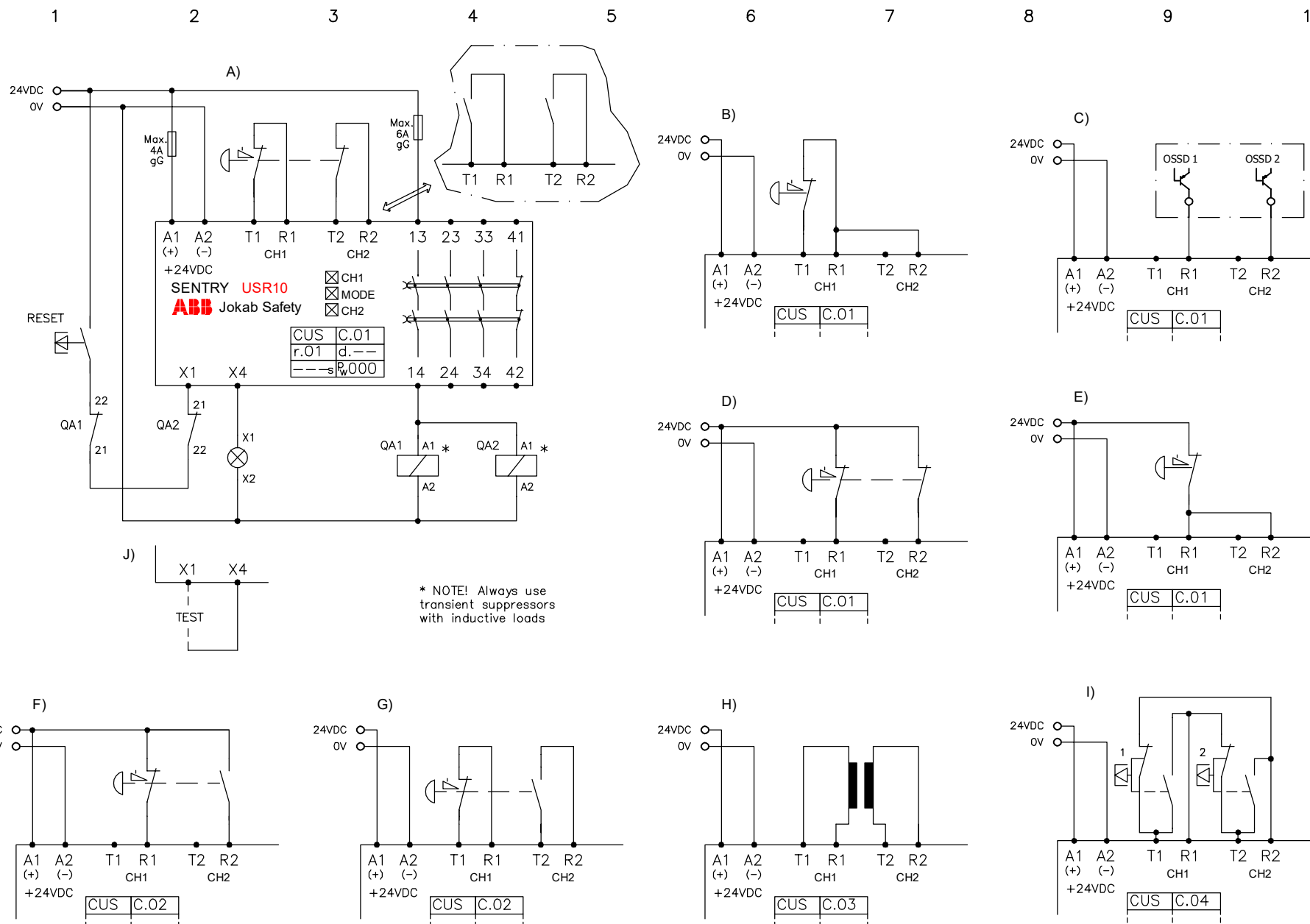
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

TSR20M general

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210707	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010015T0001	Forts Cont



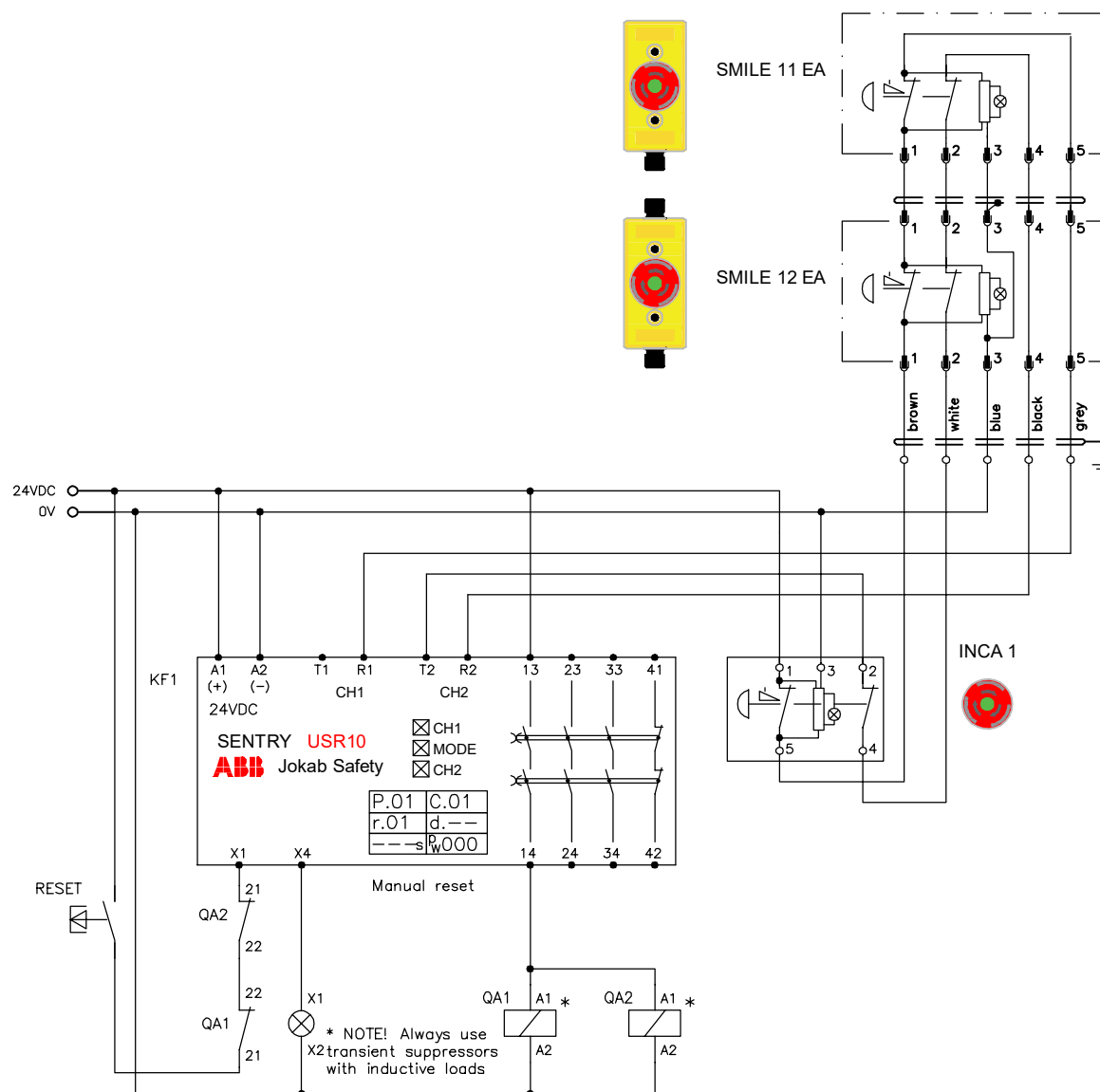
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 general

**ABB** Safety Products

Konstr Design	Godk Appr	Datum Date	Blad Sheet
ABB		20210707	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010016T0001	

**PL<sub>e</sub>**According to  
EN ISO 13849-1

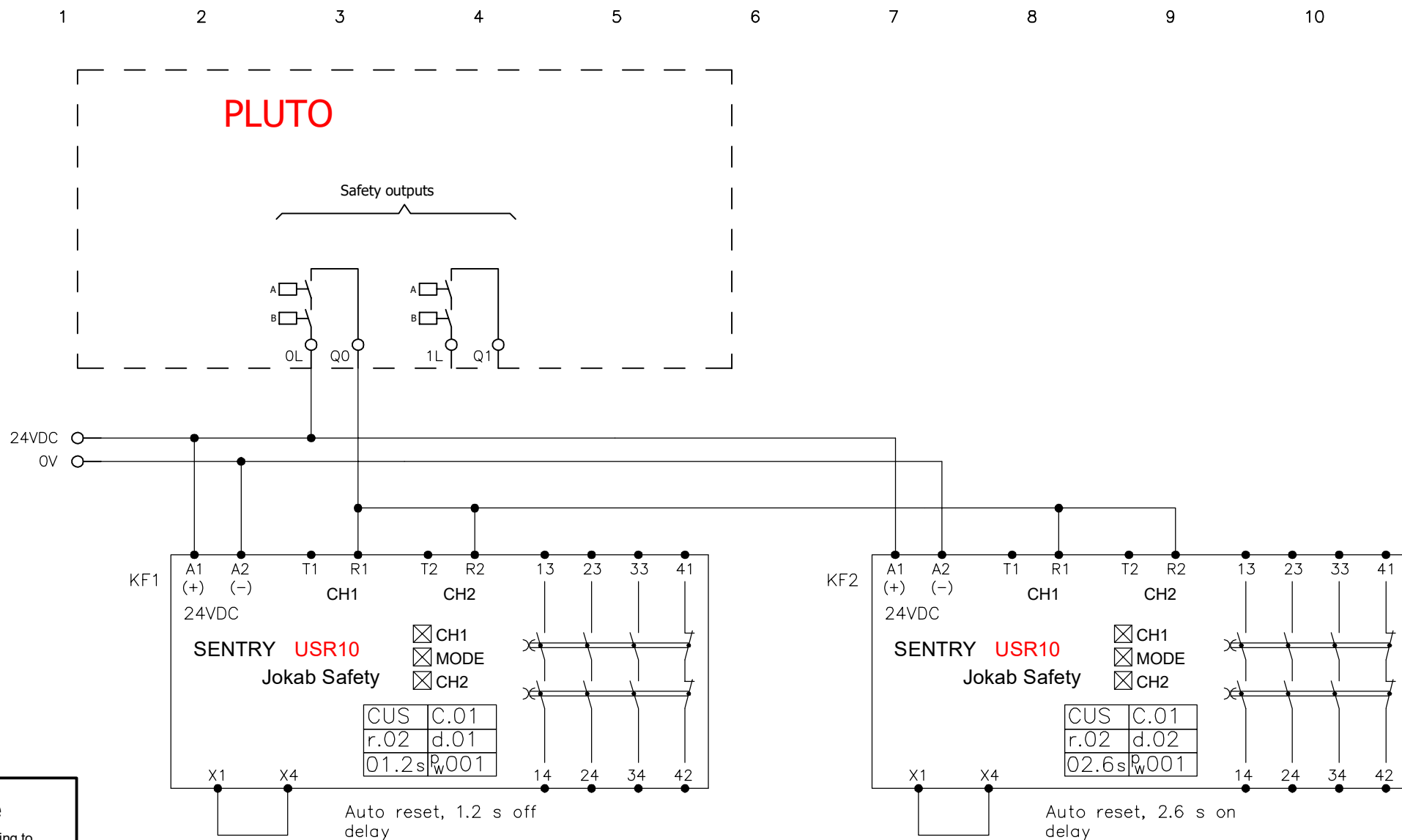
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 with INCA 1/SMILE EA

**Safety Products**

Konstr Design	Godk Appr	Datum Date	Blad Sheet
ABB		20210706	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010016T0002	

**PLe**According to  
EN ISO 13849-1

**Note:** The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 as expansion

**Safety Products**

Konstr Design

ABB

Godk Appr

ABB

Datum Date

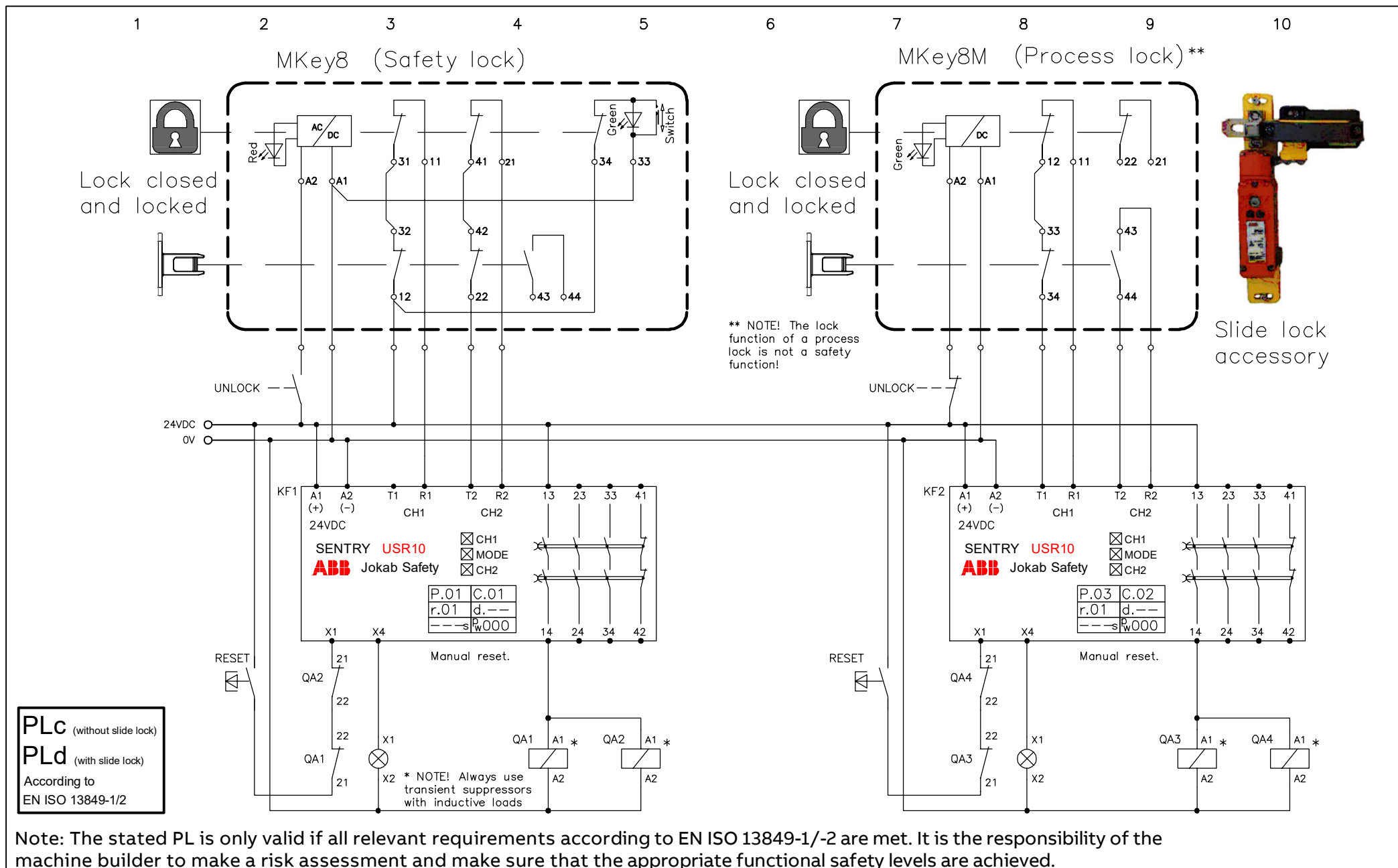
20210706

Blad Sheet

Ritn nr Drawing no

2TLC010016T0007

Forts Cont



Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

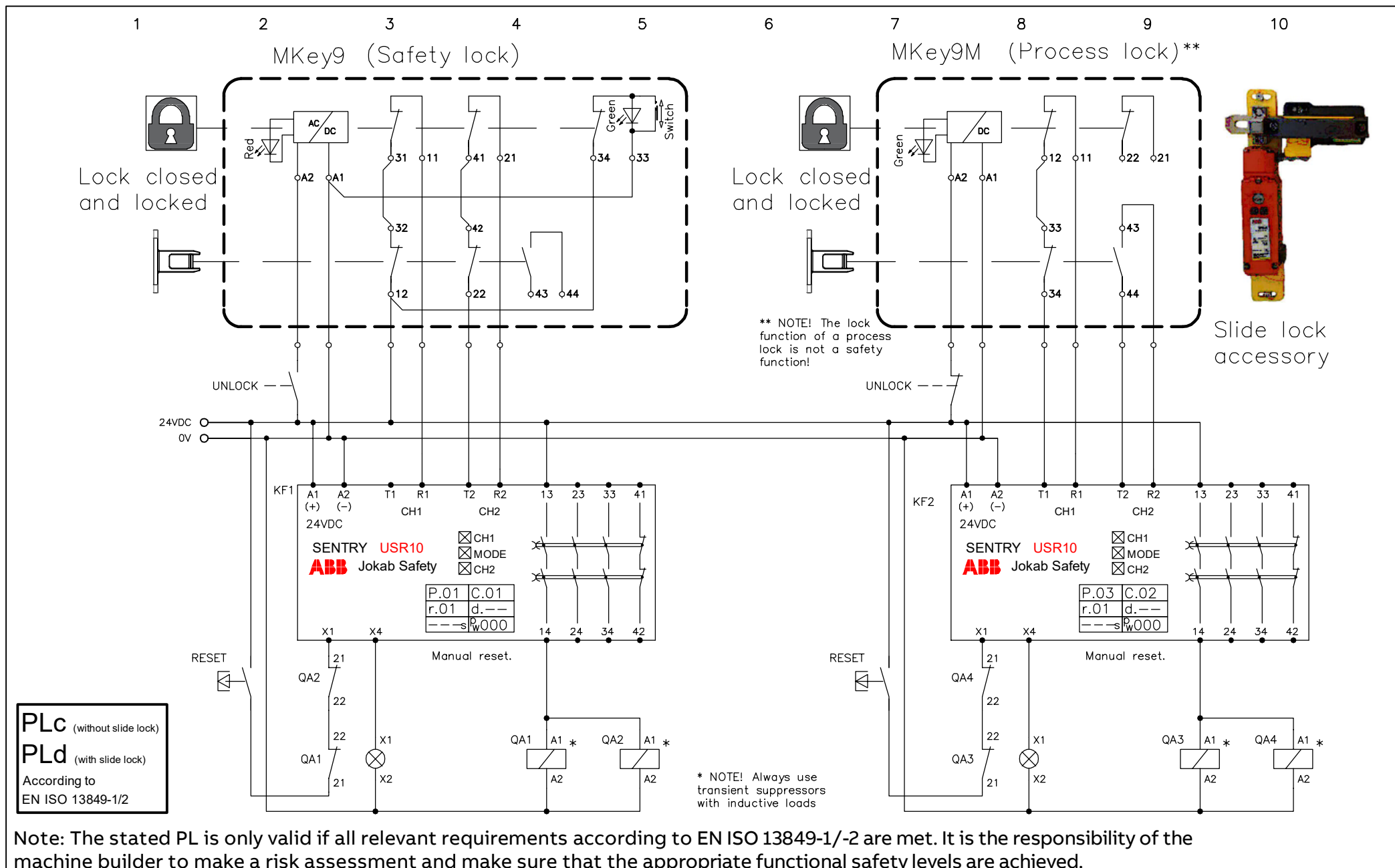
Anmärkning Remark

USR10 with MKey8

**ABB** Safety Products

Konstr Design	Godk Appr	Datum Date	Blad Sheet
ABB		20210706	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010016T0008	





Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 with MKey9

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

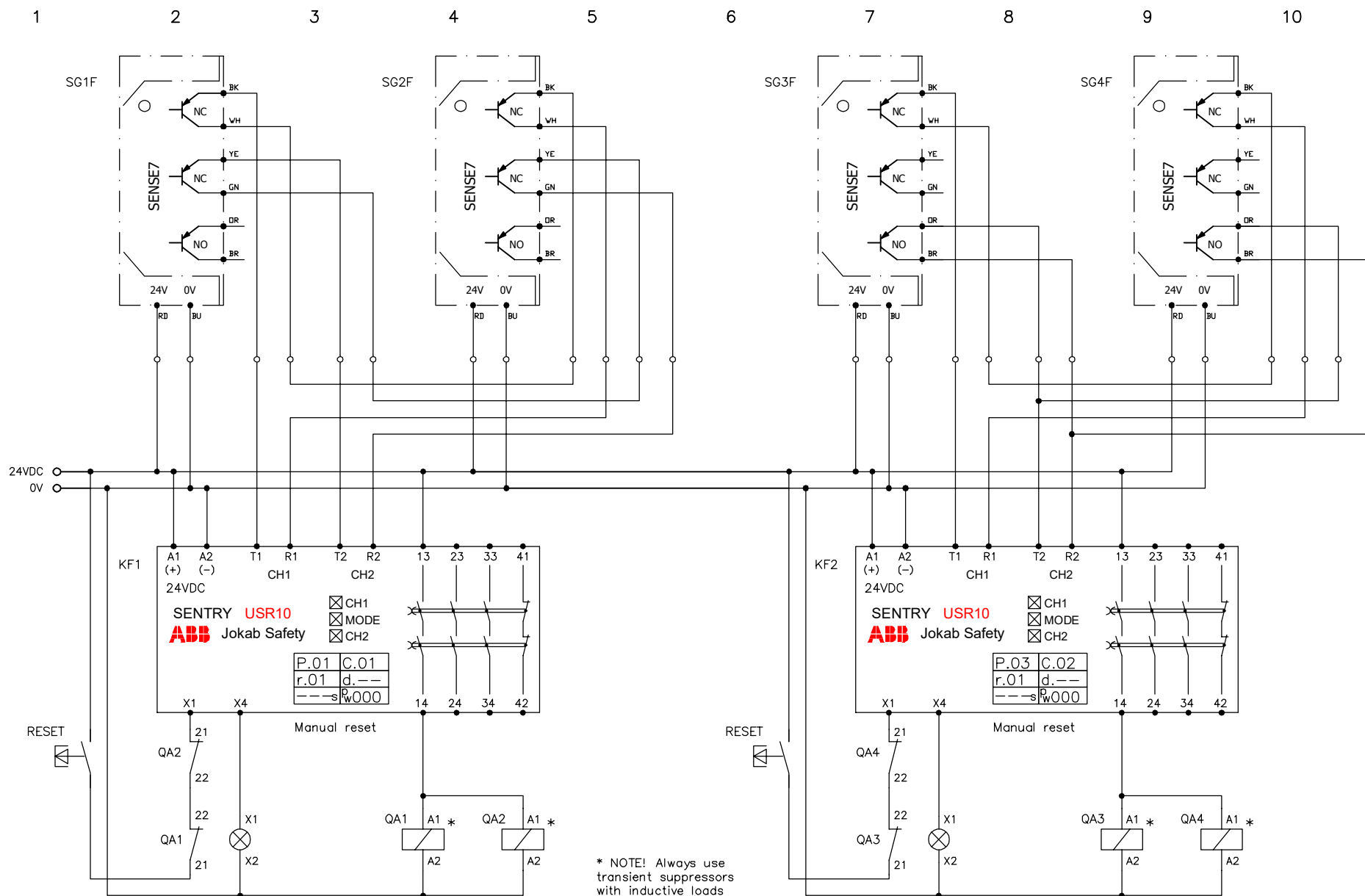
20210706

Ritn nr Drawing no

2TLC010016T0009

Blad Sheet

Forts Cont



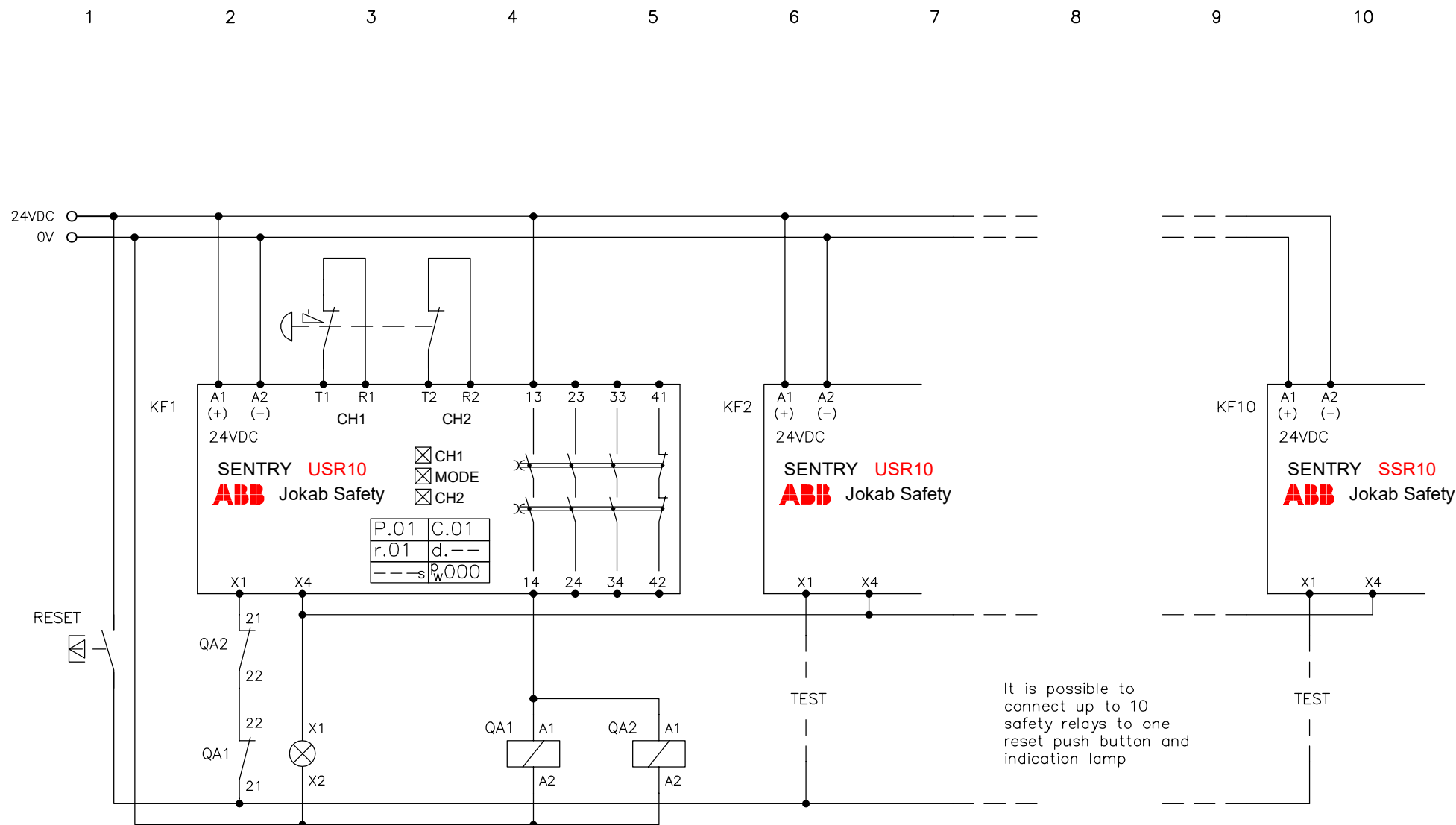
Note: The PL should be calculated using ISO/TR 24119 and EN ISO 13849-1/2

Anmärkning Remark

USR10 with Sense7

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210518	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010016T0010	Forts Cont



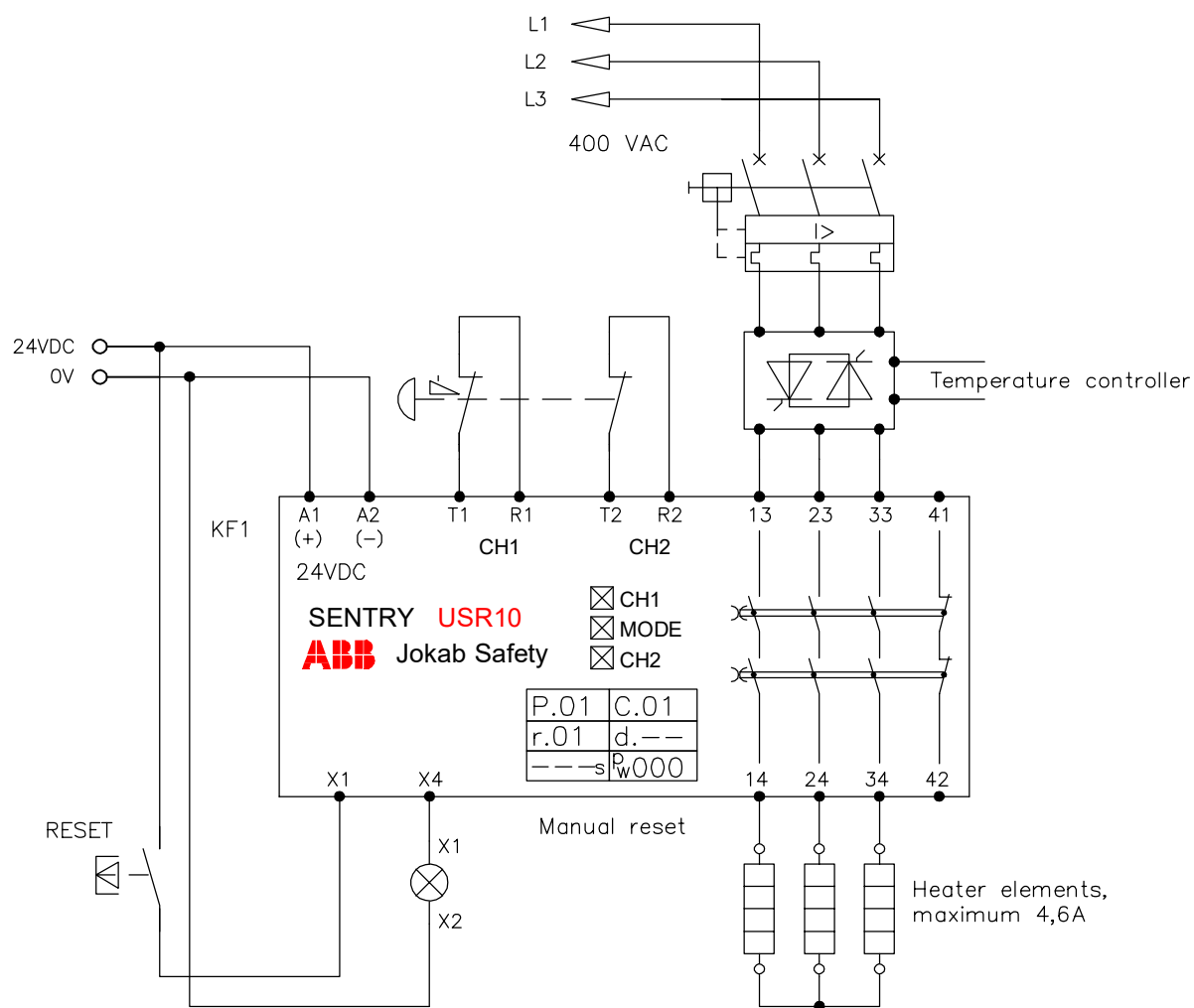
Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 Multi reset

**ABB** Safety Products

Konstr Design	Godk Appr	Datum Date	Blad Sheet
ABB		20210707	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010016T0011	

**PL<sub>e</sub>**According to  
EN ISO 13849-1

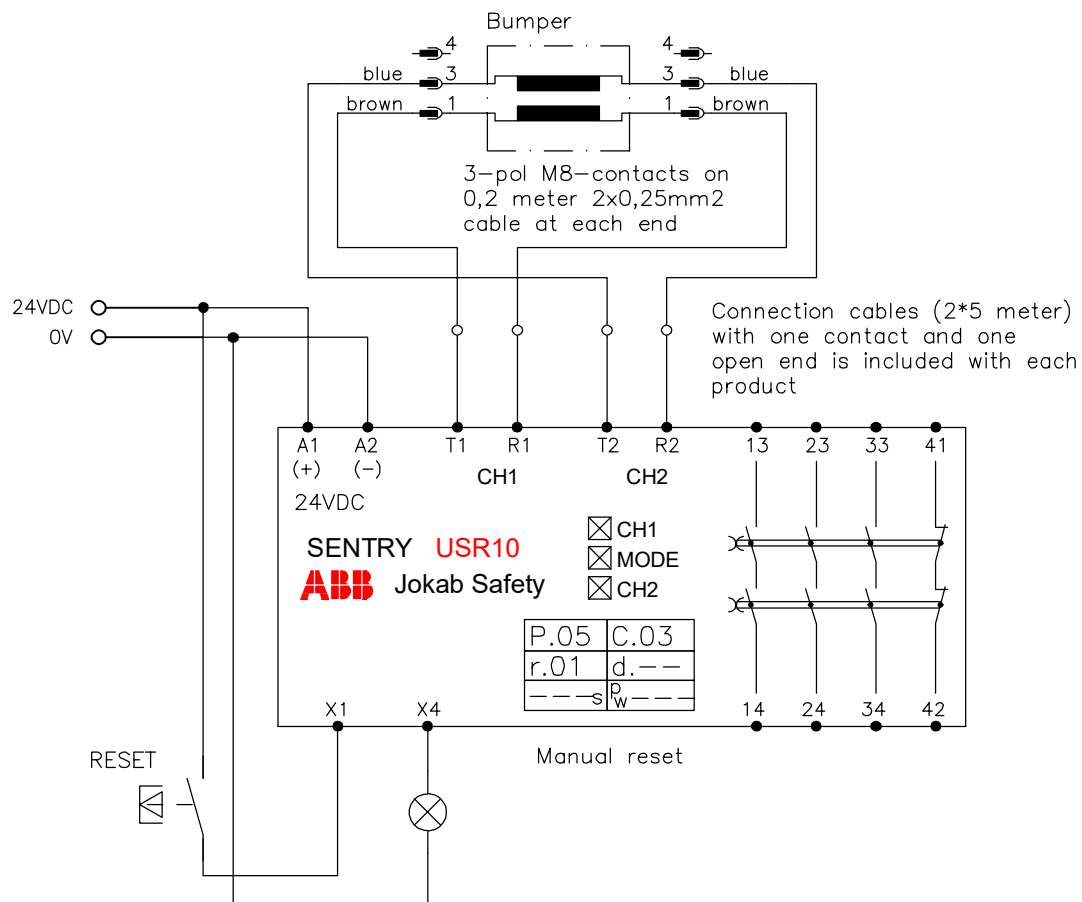
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 3-phase connection

**ABB** Safety Products

Konstr Design	Godk Appr	Datum Date	Blad Sheet
ABB		20210706	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010016T0018	

**PLd**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 with bumper

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

20210706

Blad Sheet

Ritad Drawn

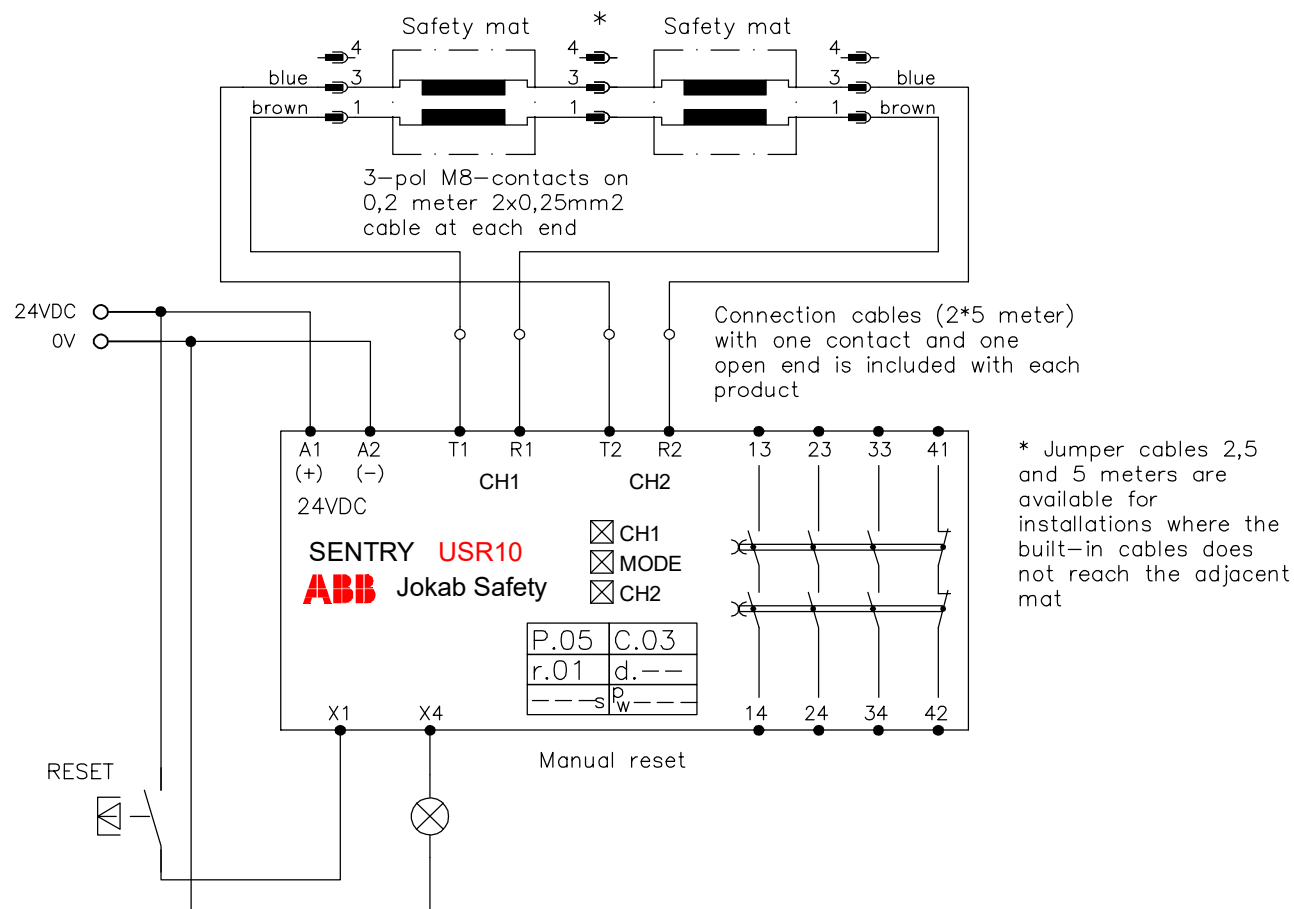
ABB

Sidor Pages

Ritn nr Drawing no

2TLC010016R0021

Forts Cont

**PLd**According to  
EN ISO 13849-1

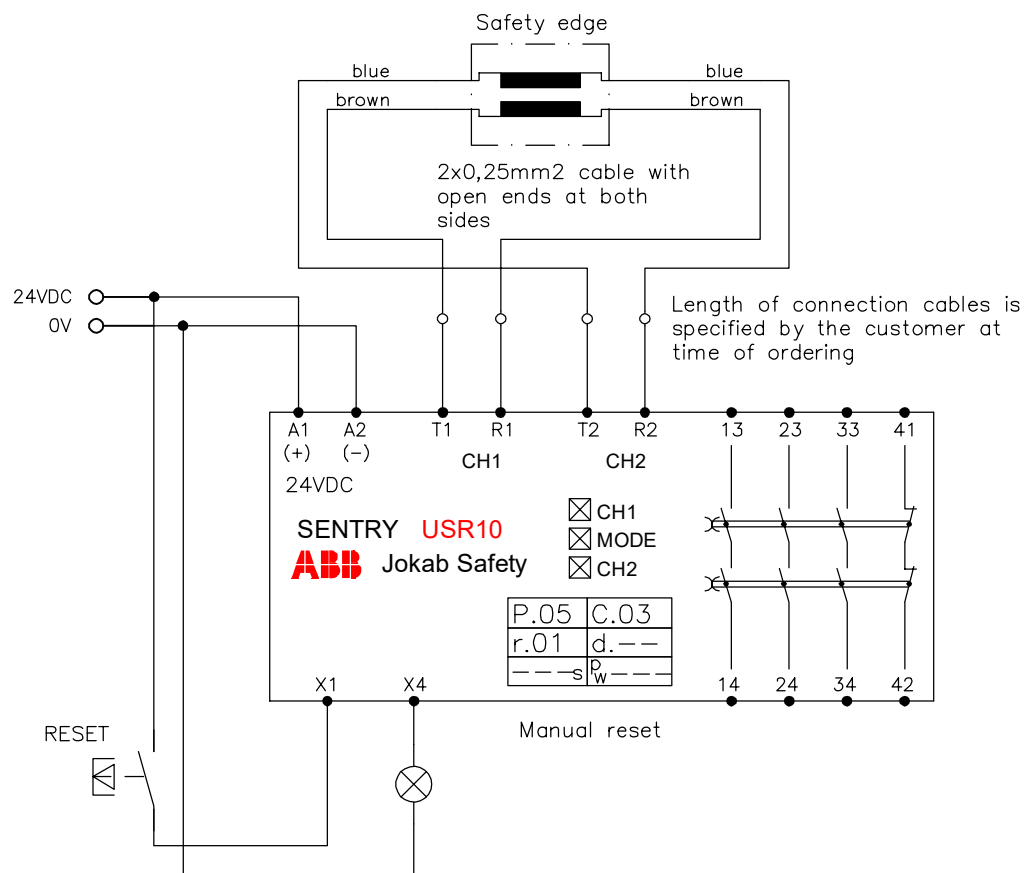
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 with safety mat

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210706	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010016R0022	Forts Cont

**PLd**According to  
EN ISO 13849-1

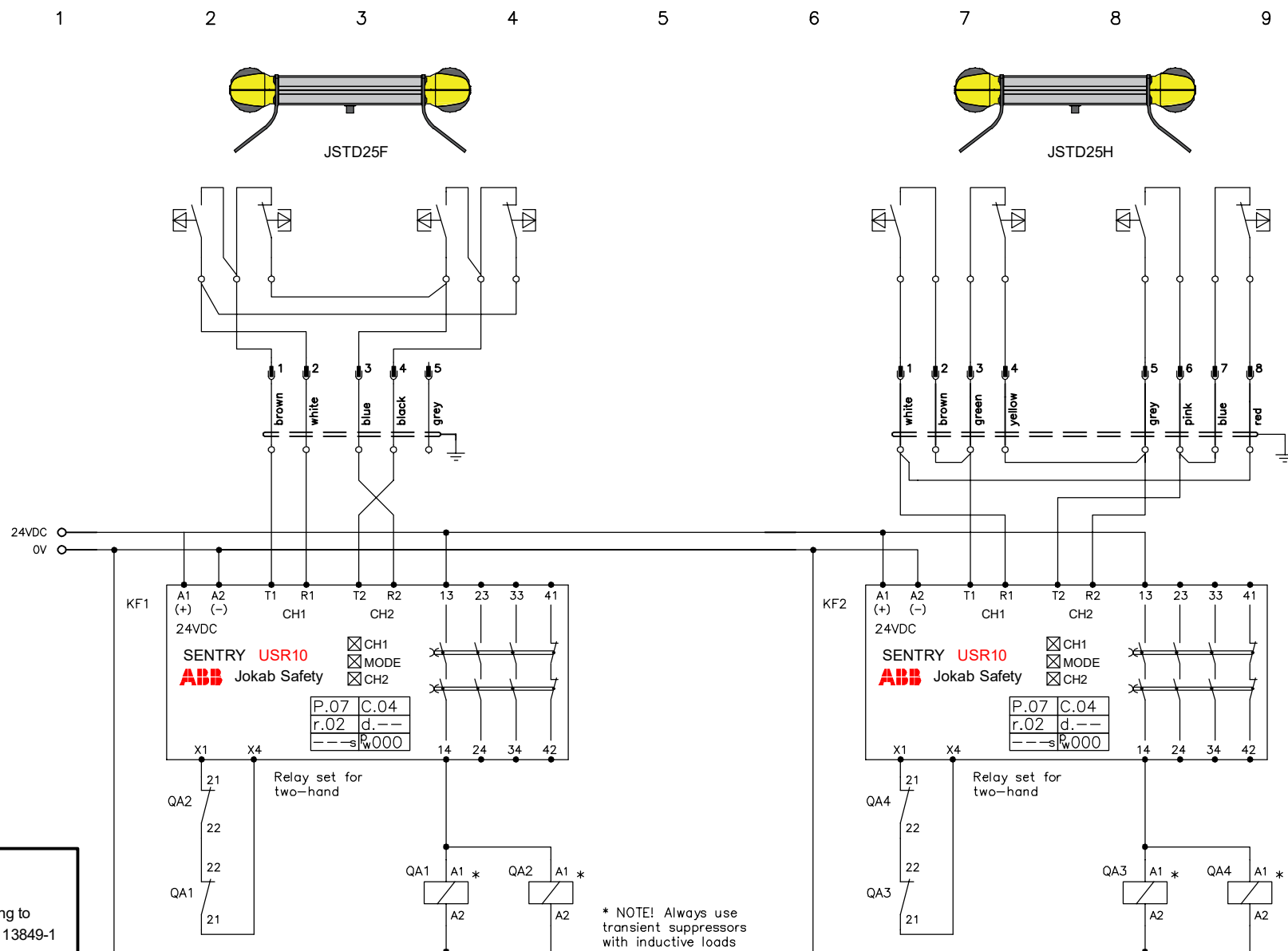
Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 with safety edge

**ABB** Safety Products

Konstr Design ABB	Godk Appr	Datum Date 20210706	Blad Sheet
Ritad Drawn ABB	Sidor Pages	Ritn nr Drawing no 2TLC010016R0023	Forts Cont

**PLe**According to  
EN ISO 13849-1

Note: The stated PL is only valid if all relevant requirements according to EN ISO 13849-1/-2 are met. It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR10 with JSTD25F/H

**ABB** Safety Products

Konstr Design

ABB

Godk Appr

ABB

Datum Date

20210706

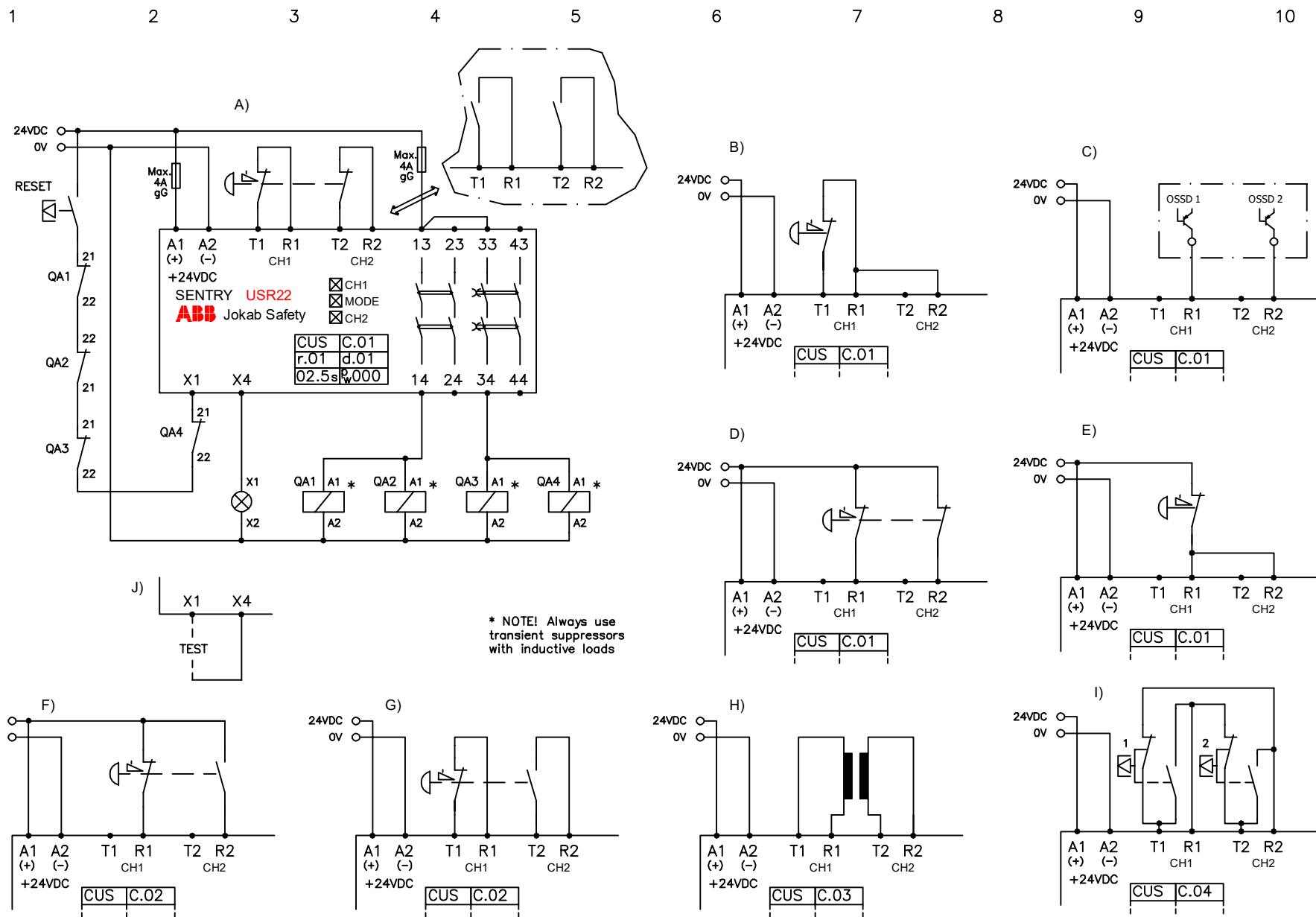
Ritn nr Drawing no

2TLC010016T0004

Blad Sheet

Forts Cont





Note: It is the responsibility of the machine builder to make a risk assessment and make sure that the appropriate functional safety levels are achieved.

Anmärkning Remark

USR22 general

**ABB** Safety Products

Konstr Design	Godk Appr	Datum Date	Blad Sheet
ABB		20210707	
Ritad Drawn	Sidor Pages	Ritn nr Drawing no	Forts Cont
ABB		2TLC010017T0001	



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