Safety control unit for category 3 and 4

Technopolymer

MATERIAL

Polyamide-based (PA) technopolymer, grey colour.

STANDARD EXECUTIONS

Safety control unit for category 3 and 4.
- **CN-SFT.115:** standard dimensions.
- **CN-SFT.46:** reduced dimensions.

Contact blocks in the standard execution:
- **NO-NC:** 1 NO contact + 1 NC contact.
- **NC-NC:** 2 NC contacts.

FEATURES AND APPLICATIONS

CN-SFT can be used in conjunction with the following Elesa products: ESC-SFT, CFSW, CFSQ, M.2000-SWM.
The CN-SFT safety control unit is able to control the status of two contacts (safety Reed magnetic sensors, emergency buttons, mechanical safety switches, safety interlocks for mobile guards): the output is activated by pressing and releasing the START button (reset) only if the NO contact is open and the NC contact is closed (NO-NC version) or only if the two NC contacts are closed (NC-NC version).
The switching of even just one input contact results in a safe situation, placing the safe outputs in an open state and preventing them from closing again, even after a new switching of the contact and pressing the START (reset) button.

Technical data	
Container material	PA
Dimensions	**CN-SFT.115:** 114.5x99x22.5 mm **CN-SFT.46:** 97x72x46 mm
Weight	160 g
Operational environmental conditions	Temperature: -5 … +55°C
	Relative humidity: 4% … 100%
	Pressure: 86 … 106 kPa
Storage environmental conditions	Temperature: -25 … +70°C
	Relative humidity: 5% … 95%
	Pressure: 86 ... 106 kPa
Degree of protection (IEC 60529)	IP20
Pollution degree	2
Withstand voltage at pulse (Uimp)	4 KV
Insulation nominal voltage (Ui)	250 V
Overvoltage category	III
Mounting	standard 35mm DIN rail
Connection type	Screw terminals
Supply voltage	24 -15%/+10% (AC 50 ÷ 60 Hz) V AC/DC
Internal fuse on power supply	750 mA PTC
Absorption current	24 Vdc: min 25 mA , max 100 mA;
	24 Vac: min 110 mA, max 220 mA
Output switching voltage	240 Vac (max) (outputs SAFE)
Switching current AC-1/V electrical	3 A (safety outputs)
Minimum switching current at 10 V	10 mA
Switching power	720 VA (max)
External fuse on output	4 A gG (in accordance with IEC EN 60269-1)
Safety output terminals	13-14 , 23-24
Auxiliary output terminals	41-42 NO, 41-54 NC

Category of use / Electrical screw (safety outputs)	AC-15: 1.4 A / 240 V (inductive load, cosø = 0.3)/105 cycles				
	DC-13: 1A/ 24V / 105 cycles				
Auxiliary output parameters	max: 0.5A at 24Vdc				
Output response time - manual start (t1)	150 ms				
Output response time - automatic start (t2)	30 ms				
Response time in OFF state (t3)	20 ms				
Maximum input sensor resistance	200 ohm				
Safety cat. (EN ISO 13849-1)	**Cat. 4 (1 sensor)**		**Cat. 3 (more than 1 sensor)**		
PL (EN ISO 13849-1)	**e**	**e**	**d**	**d**	**e**
nop (number of operations/year)	65000 No. cycles/ year	19200 No. cycles/ year	65000 No. cycles/ year	31500 No. cycles/ year	19200 No. cycles/ year
MTT-Fd	30 years	100 years	30 years	56 years	100 years
PFHd	$9{,}54\times10^{-8}$	$2{,}47\times10^{-8}$	$2{,}65\times10^{-7}$	1.03×10^{-7}	$4{,}29\times10^{-8}$
TM	20 years (for MTTFd = 100 years)				
Stop category (EN ISO 13850)	0				
Resistance to vibrations	EN 60068-2-6, EN 60947-5-3				
Mechanical life-span	107 No. of cycles				
EMC conformity	EN 61000-6-2, EN 61000-6-3				
	IEC 61326-3-1, EN 60947-5-3				
Conformity to standards	EN 60204-1, IEC 60664-1				
	EN ISO 13849-1, EN 13849-2				
	EN ISO 14119, EN ISO 13850				
Approval	TUV IT 0948 24 MAC 429 B		CN-SFT.115-1NC+1NO CN-SFT.115-1NC+1NO		
	TUV IT 0948 24 MAC 428 B		CN-SFT.115-2NC CN-SFT.115-2NC		

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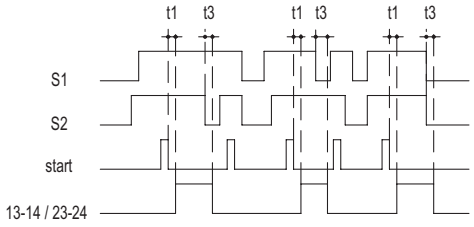
Timing diagram for manual start



Timing diagram for automatic start
(Y1-Y2-X1 bridged)

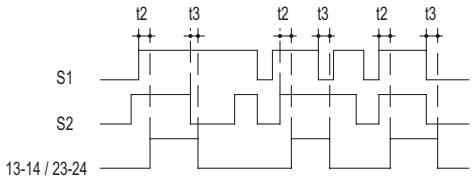
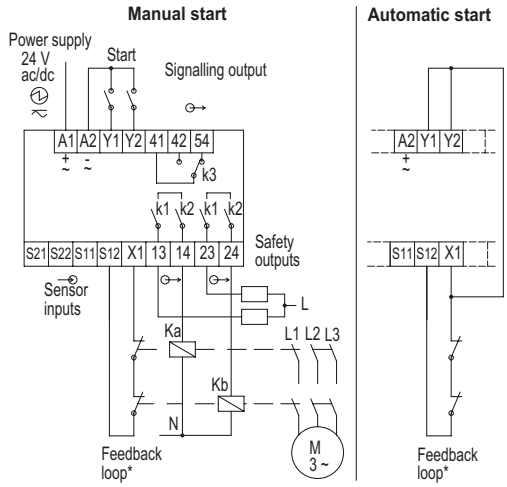


Table of LEDs			
Function	LED	Colour	Status
Power supply	PWR	Green	on
Outputs 13-14 and 23-24: OPEN	CH1 - CH2	Green - Green	off - off
Output 41-42: OPEN			
Output 41-54: CLOSED			
Outputs 13-14 and 23-24: CLOSED	CH1 - CH2	Green - Green	on - on
Output 41-42: CLOSED			
Output 41-54: OPEN			

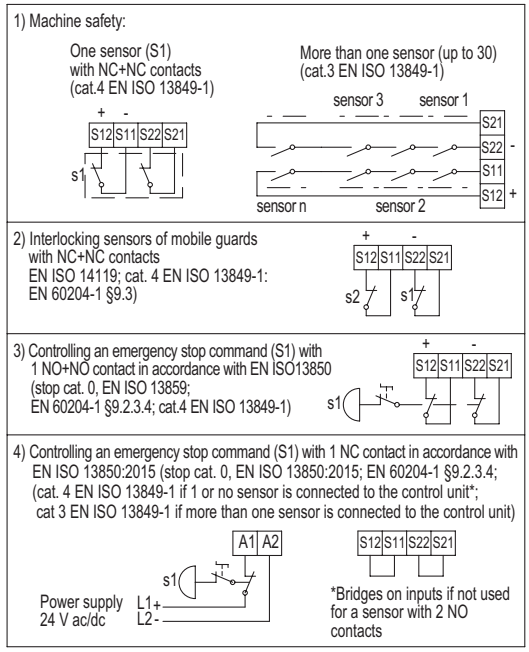
UL CERTIFICATION REQUIREMENTS				
Power supply (input)				
Input terminals	**Voltage**	**Max. current**		
A1-A2	24Vac/dc	220mA / 70mA		
Auxiliary outputs (safety)				
Output terminals	**Type of contacts**	**General or resistive use**	**Pilot Duty**	
13-14 / 23-24	NO	3A/240Vac Res	1.4A/240Vac	1A/24Vdc
Signalling outputs (signals)				
Output terminals	**Type of contacts**	**Nominal values**		
41-42	NO	0.5A/24Vdc		
41-54	NC			
Environmental values	**Notes on installation**			
Max. temperature surrounding air: 55°C	Use only with copper (CU) conductor at 60°C minimum			
Pollution degree: 2				
Environmental designation	Terminal tightening torque: 5-7 Lbln (0.56-0.79 Nm)			
Open type equipment				
Approved by UL	E542642			

MODEL CN-SFT.115-2NC AND MODEL CN-SFT.46-2NC

NOTE: the contact that is normally closed when the guard is closed is considered the NC input.

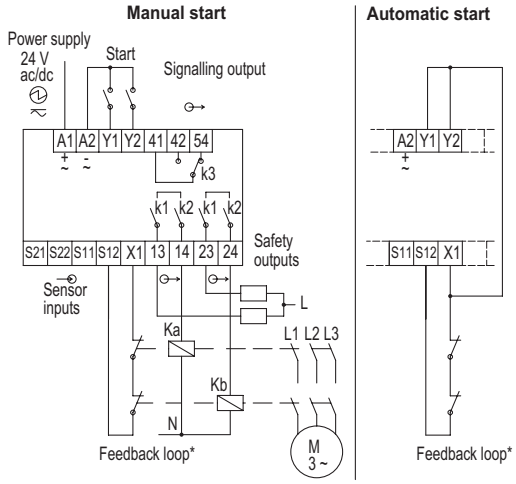


* If control via the feedback loop of the NC auxiliary contacts of the relays is not necessary, short-circuit clamps S12 and X1.

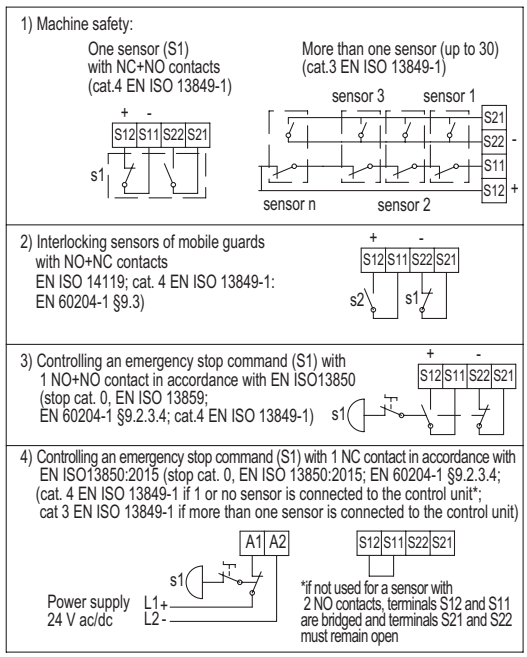


MODEL CN-SFT.115-1NC+1NO AND MODEL CN-SFT.46-1NC+1NO

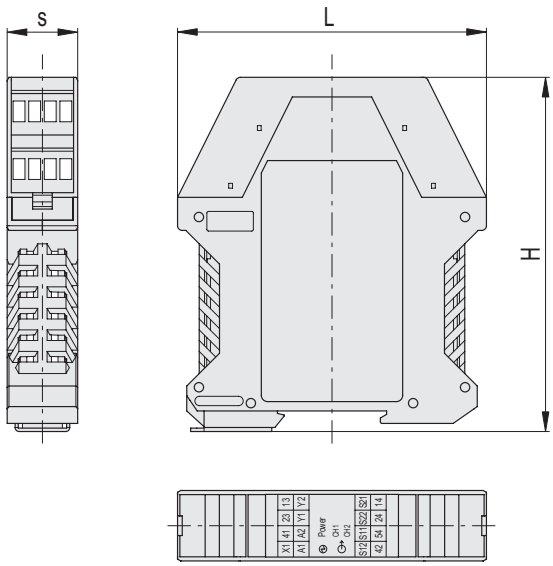
NOTE: the contact that is normally closed when the guard is closed is considered the NC input. The contact that is normally open when the door is closed is considered the NO input.



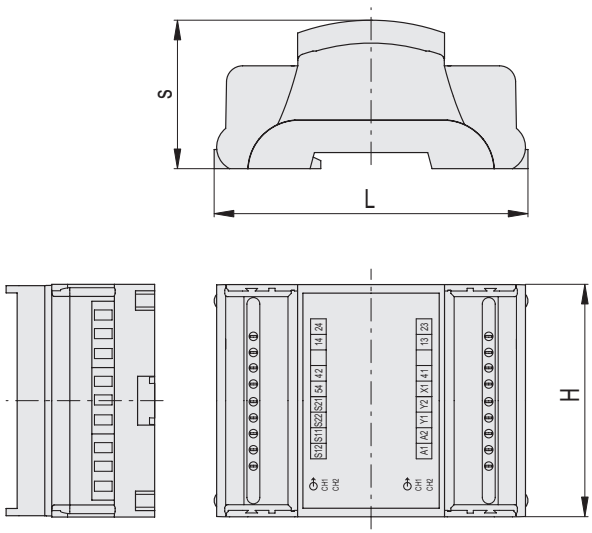
* If control via the feedback loop of the NC auxiliary contacts of the relays is not necessary, short-circuit clamps S12 and X1.



CN-SFT.115



CN-SFT.46



CN-SFT.115

Code	Description	L	s	H	⚖
225106	CN-SFT.115-1NC+1NO	99	22.5	114.5	156
225101	CN-SFT.115-2NC	99	22.5	114.5	156

CN-SFT.46

Code	Description	L	s	H	⚖
225107	CN-SFT.46-1NC+1NO	97	46	72	154
225102	CN-SFT.46-2NC	97	46	72	154