

Safety relays

Sentry

The Sentry safety relays are powerful and easy to use safety relays, suitable for all common types of safety applications.

The Sentry series contains basic models for simple applications and easy output expansion, as well as highly flexible models with extremely accurate timer functions.

Sentry safety relays are used in both simple and more advanced safety solutions when safety devices need to be monitored according to the requirements of functional safety standards.



Continuous operation

LEDs and display

3-color LEDs allow for more status messages and simplify troubleshooting. Models with display offer preset configurations and extensive fault information.

Advanced timer functions

Timer functions with an accuracy better than 1% minimize unnecessary downtime.

Multi-reset

The multi-reset function enables reset of up to 10 Sentry safety relays using just one reset button.



Optimized logistics

Universal models

A single safety relay for all common safety applications reduces stock and saves warehouse space.

Multi-voltage

Multi-voltage models offer more flexibility and less stock.

Compact size

All models are only 22.5 mm wide, even models with 2 NO + 2 NO outputs.



Easy to install

Detachable terminal blocks

Detachable terminal blocks speed up connection and replacement.

Switch for reset selection

Manual or automatic reset easily selectable by switch.

Powerful outputs

Powerful outputs simplify installation by saving the use of an intermediary contactor.

Power and productivity
for a better world™



Applications

Sentry

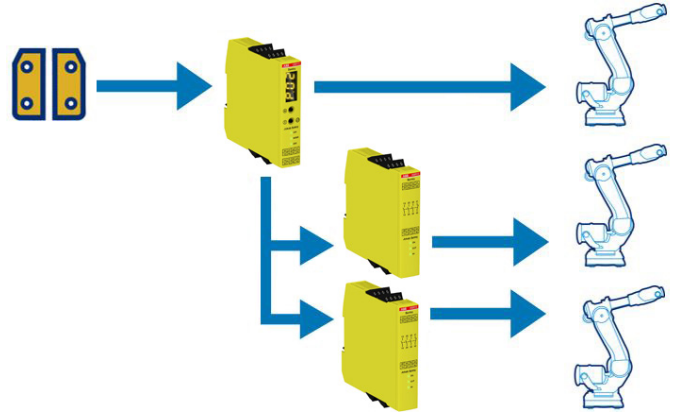
Monitoring of safety devices

Sentry safety relays make it easy to reach the required level of safety when monitoring safety devices like emergency stop buttons, door switches, light guards, etc.



Expansion of safety outputs

Sentry expansion modules are used to increase the number of safety outputs of a safety control module in order to control more machinery.



Features

Sentry

Timer functions with an accuracy better than 1%

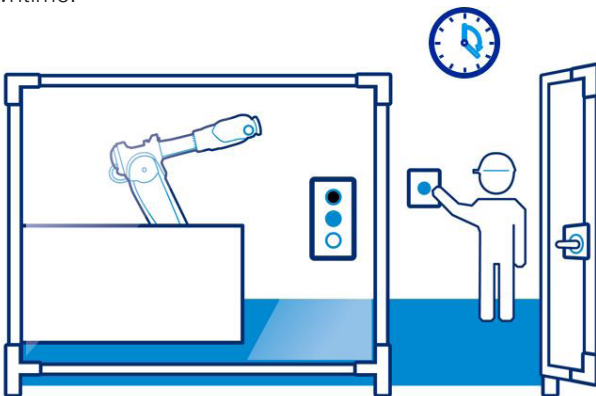
Several timer functions are available: On/Off-delay, time bypass and time reset.

On/Off-delay are used to postpone the activation/deactivation of the safety outputs with a preset time delay. This is used in e.g. Category 1 stops.

Time bypass activates the safety outputs for a maximum pre-defined time when the safety inputs are closed. Inching is an example of application.

Time reset activates the safety outputs for a maximum pre-defined time when the safety inputs are opened. Pre-reset is an example of application.

A better than 1% accuracy allows a very precise time to be set in order to increase safety and minimize unnecessary downtime.



Multi-reset

The multi-reset function enables reset of up to 10 Sentry safety relays using just one reset light-button. This simplifies connection, minimizes cabling and unnecessary downtime. The multi-reset function is available for all +24 VDC Sentry models offering manual reset.

Function of the light-button: light on when at least one of the safety circuits is opened, light flashing when a reset is necessary and light off when all the safety circuits are closed.



Configurable models with display

The models with display are configurable and the user can choose between preset configurations and a custom configuration that can be protected by password.

The display minimize troubleshooting by giving extensive information about internal faults, I/O faults, system faults, function faults and a log of the last 10 errors.



Switch for selection of the reset function

All models can be used in automatic reset and some models allow to choose manual reset, either by switch or by configuration, which simplifies connection. In order to prevent mistakes, it is not possible to change reset function during operation by just flipping the switch.



Safety relays Sentry



2TLC172049V0201

BSR10



2TLC172064V0201

SSR32



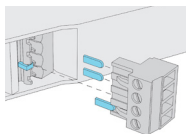
2TLC172079V0201

USR10



2TLC010019R0201

S30A



2TLC010020R0201

S30B

Ordering details

	1 channel contact	2 channels with equivalent contacts	2 channels with antivalent contacts	2 channels OSSD	Contact mat. bumper and safety rail	Two-hand device	Manual reset (all models have auto reset)	Number of safety outputs	Timer function	Voltage	Type	Order code
X	a)						No	3 NO + 1 NC	No	+24 VDC	BSR10	2TLA010040R0000
X	X	X							Off-delay 0.5 s & 1.5 s	+24 VDC	TSR20	2TLA010061R0000
	X									85..265 VAC/ 120-275 VDC	TSR20M	2TLA010061R0100
X	X	X							Advanced 0-999 s ^{b)}	+24 VDC	TSR10	2TLA010060R0000
X	a)							4 NO	No	+24 VDC	BSR11	2TLA010040R0200
X	X							4 NO + 1 NC	No	+24 VDC	BSR23	2TLA010041R0600
X	X	X					Yes	2 NO + 2 delayed NO	Off-delay 0.5 s	+24 VDC	SSR32	2TLA010052R0400
X	X	X							Off delay 1.5 s	+24 VDC	SSR42	2TLA010053R0400
X	X								Advanced 0-999 s ^{b)}	+24 VDC	USR22	2TLA010070R0400
X	X	X						3 NO + 1 NC	No	+24 VDC	SSR10	2TLA010050R0000
					X						SSR20	2TLA010051R0000
X	X									85..265 VAC/ 120-275 VDC	SSR10M	2TLA010050R0100
					X						SSR20M	2TLA010051R0100
X	X	X	X	X	X	X			Advanced 0-999 s ^{b)}	+24 VDC	USR10	2TLA010070R0000
X	X	X	X	X	X	X		4 NO	No	+24 VDC	USR22	2TLA010070R0400




a) No monitoring of two-channel fault, i.e. max Category 3 without fault exclusion.

b) Off-delay, On-delay, Time bypass or Time reset. Configurable model with display.

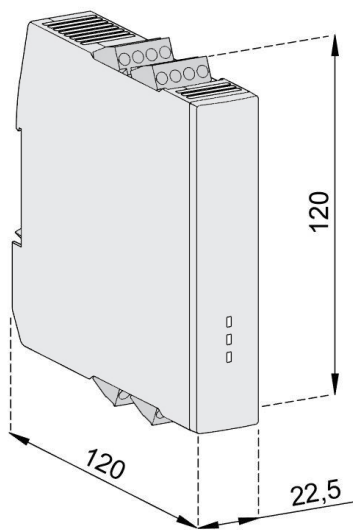
Accessories

Description	Type	Order code
Terminal block for Sentry safety relays. One piece.	S30A	2TLA010099R0000
Coding kit for terminal blocks. One kit for one Sentry relay.	S30B	2TLA010099R0100

Technical data

Approvals (pending)	  	
Functional safety data	EN ISO 13849-1:2008 EN 61508-1..4:2010 EN 62061:2005/A1:2013	
	PL e, Cat 4 SIL 3 SILCL 3	
	Note! The relays must be cycled at least once a year.	
Electrical data		
Operating voltage	+24 VDC (19.2-27.6 VDC) M-models: 85-265 VAC (50/60 Hz) or 120-275 VDC	
Power consumption	TBD	
Response time at deactivation	20 ms	
No of outputs	4 NO 4 NO + 1 NC 3 NO + 1 NC	2 NO + 2 NO
Maximum switching capacity DC13, DC1	Up to 6 A	3 A
Maximum switching capacity AC15, AC1	Up to 5 A	3 A
Operating temperature	-10 °C – 55 °C	
Humidity range	25% ... 90%	
Protection class	IP20 (enclosure/electrical cabinet must have at least an IP54)	
Mounting	35 mm DIN rail (DIN 50022)	
Minimum space between relays in the enclosure	0 mm	
Conformity	2006/42/EC EN ISO 13849-1:2008, IEC 61508-1:2010, IEC 61508-2:2010, IEC 61508-3:2010, IEC 61508-4:2010, EC 62061:2005, IEC 61511-1:2003, UL 61508	

PRELIMINARY



All dimensions in mm

Contact us

ABB AB

Jokab Safety

Varlabergsvägen 11

SE-434 39 Kungsbacka

Tel. +46 (0) 21-32 50 00

www.abb.com/jokabsafety



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