



**wieland**

Electrical  
Connections

**safety**



## Safety Products

Safety for  
all applications



## Safety switching devices from Wieland Electric

Wieland Electric provides safety switching devices for all daily industrial use applications. Requiring only little space they combine excellent performance features with economical installation/de-installation and high environmental compatibility. The devices are characterized by their multifunctional applications and monitoring of various sensors such as position and magnetic switches, emergency stop buttons, inductive sensors or light curtains. Space-saving devices for applications with Stop Category 1, monitoring of testable light curtains and supply voltages of up to AC 230 V are only a few of the interesting features provided by Wieland safety switching devices. With its master module from the **samos**® system Wieland Electric

presents the first multifunctional safety switching device in a 22.5 mm housing worldwide. For more than 15 years Schleicher Electronic has designed and developed cutting-edge technology with maximum safety. As a matter of course the latest standards for functional safety such as IEC 61508, DIN EN 62061 and EN ISO 13849-1 have been fulfilled.

Additional areas of use such as elevator applications complying with EN81-1 or heater control systems complying with EN 50156-1 have been confirmed with TÜV certificates. For time-saving maintenance most devices are also available with plug-in terminals (screw or duo spring clamp).





## Connection technology for devices of series SNx 4xxx and **samos**<sup>®</sup>



### Screw terminals, fixed

Wire range with ferrule up to  
1 x 2.5 mm<sup>2</sup>, up to 2 x 0.5 mm<sup>2</sup>



### Screw terminals pluggable






as 4-terminal  
block assembly  
Wire range with ferrule  
up to 1 x 2.5 mm<sup>2</sup>,  
up to 2 x 0.5 mm<sup>2</sup>  
Type marked "-A"



### Spring clamp terminals pluggable

as 4-terminal block assembly  
Wire range up to 2 x 1.5 mm<sup>2</sup>  
Cable push-in technology  
Type marked "-C"

## General technical data

Max. rated switching voltage	AC/DC 230 V	<b>samos</b> <sup>®</sup> : DC 24 V
Max. continuous current per current path	6 A	SNA: 8 A <b>samos</b> <sup>®</sup> : 2 A
Housing/Terminals degree of protection	IP 40 / IP 20	
Control cabinet installation	on EN 50022 DIN rail	
Ambient temperature	-25 to +55 °C	SNA: -25 to +65 °C
Approvals	   , CCC being prepared	<b>samos</b> <sup>®</sup> , SNA, SNV4x7xSx: TÜV,  





## Glossary of icons



**SILcl 3**  
in accord. with EN 61508 and EN 62061



**Performance Level e**  
in accord. with EN ISO 13849-1



**Safety category 2**  
in accord. with EN 954-1  
yellow: application; gray: device



**Safety category 3**  
in accord. with EN 954-1  
yellow: application; gray: device



**Safety category 4**  
in accord. with EN 954-1  
yellow: application; gray: device



**Safety category 4 or 3** in accord. with EN 954-1  
(as per enable type)  
yellow: application; gray: device



Category dependent on base device and wiring



**Emergency Stop monitoring**



**Two-hand control according to EN 574-1**



**Output expansion**  
with safe enables



**Protective gate monitoring**



**Safety mat monitoring**



**Controlled Stop**  
Corresponding to stop category 1



**Door guard lock**  
time-monitored



**Valve position monitoring**  
static



**AOPD-compatible**  
Connection of sensors with semiconductor outputs possible. Functions also with self test or overcurrent limit for the sensors' semiconductor outputs



**Sensors with testing**  
For testable ESPE type 2 light curtains



**EN 81**  
Elevator systems / escalators  
in accord. with EN81-1



**Base module of the samos® system**  
for emergency stop, protective doors, safety mats, two-hand control, light curtain monitoring with Muting function for stop categories 0 and 1, AND / OR function.  
See the **samos®** system manual.



**Single-channel input circuit**  
NC contact or semiconductor



**Two-channel input circuit**  
NC contacts or semiconductors



**2x two-channel input circuits**  
in each case NC and NO, e.g. for two-hand control



**Two-channel input circuit**  
NO/NC contacts or semiconductors



**2x single channel input circuits**  
NC contacts or semiconductors



**2 safety related enables semiconductors**



**2 safety related enables semiconductors**  
OFF-delayed



**2 safety related enables relay NO contacts**



**4 safe enables relay NO contact**  
OFF-delayed



**1 safety related enable relay NO contact**  
ON-delayed



**1 signaling output relay NC contact**



**Automatic Reset**  
after application of the voltage and/or after safety request



**Manual Reset**  
in the case of a rising edge at the Reset input after application of the voltage and/or safety request



**Reset button monitoring**  
in the case of a falling edge at the Reset input or dynamic monitoring after application of the voltage and/or safety request



**Cross monitoring**  
between the input circuits



**Synchrocheck**  
with synchronous time during the closing of the safety gate



**Synchrocheck**  
of both channels;  
synchronous time 0.5 s max.



Modular extension of inputs/outputs and function modules



**Input debouncing**  
through monoflop function.  
Sensors for rapid tactile applications (safety mats in automatic mode; light curtain on feeds)



**Safe OFF-delay**



**Safe ON-delay**



**Two-hand control monitoring**  
Corresponds to type III C in accord. with EN 574-1



**Safe isolation** between circuits complying with EN 50178



**Housing size**  
22.5 mm



Type	Brief description	Terminals	Rated voltage	Specifi- cation	Part number
<b>samos®</b>					
SA-BM-S1-4EKLA	Base master module – Switch programming – 8 inputs – 4 SC outputs – 8 functions – OFF-delay	Plug-in screw terminals	DC 24 V	0 - 5s	R1.180.0010.0
					0 - 50s
SA-BM-S1-4EKLC		Plug-in spring clamp terminals		0 - 5min	R1.180.0030.0
				0 - 5s	R1.180.0360.0
		0 - 50s	R1.180.0370.0		
			0 - 5min	R1.180.0380.0	
<b>samos®</b> -HANDBUCH-D, BA000255, German					R1.180.0280.0
<b>samos®</b> -MANUAL, BA000256, English					R1.180.0290.0
<b>safety</b>					
<b>safety</b> -Applikationshandbuch-D, BA00382, German					R1.188.3000.0
<b>safety</b> -Application Manual-EN, BA00383, English					R1.188.3010.0
<b>SNA4043K</b>					
SNA4043K	Base device – single-channel or two-channel activation – automatic Reset – cross monitoring – 3 enables – 1 indicator	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.1680.0
			AC 42-48 V, 50-60Hz		R1.188.1690.0
			AC 115-120 V, 50-60Hz		R1.188.1700.0
			AC 230 V, 50-60Hz		R1.188.1710.0
SNA4043K-A		Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.1810.0
SNA4043K-C		Plug-in spring clamp terminals	AC/DC 24 V, 50-60Hz		R1.188.1940.0
<b>SNA4044K</b>					
SNA4044K	Base device – single-channel or two-channel activation – automatic Reset – cross monitoring – 4 enables	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.1730.0
			AC 42-48 V, 50-60Hz		R1.188.1740.0
			AC 115-120 V, 50-60Hz		R1.188.1750.0
			AC 230 V, 50-60Hz		R1.188.1760.0
SNA4044K-A		Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.1860.0
SNA4044K-C		Plug-in spring clamp terminals	AC/DC 24 V, 50-60Hz		R1.188.1960.0
<b>SNA4063K</b>					
SNA4063K	Base device – single-channel or two-channel activation – manual Reset with Reset button monitoring – cross monitoring – 3 enables – 1 indicator	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.1620.0
			AC 42-48 V, 50-60Hz		R1.188.1720.0
			AC 115-120 V, 50-60Hz		R1.188.1420.0
			AC 230 V 50-60Hz		R1.188.1430.0
SNA4063K-A		Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.1440.0
SNA4063K-C		Plug-in spring clamp terminals	AC/DC 24 V, 50-60Hz		R1.188.1950.0
<b>SNA4064K</b>					
SNA4064K	Base device – single-channel or two-channel activation – manual Reset with Reset button monitoring – Cross monitoring – 4 enables	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.1770.0
			AC 42-48 V, 50-60Hz		R1.188.1780.0
			AC 115-120 V, 50-60Hz		R1.188.1790.0
			AC 230 V, 50-60Hz		R1.188.1800.0
SNA4064K-A		Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.1900.0
SNA4064K-C		Plug-in spring clamp terminals	AC/DC 24 V, 50-60Hz		R1.188.1970.0
<b>SNE4004K</b>					
SNE4004K	Output expansion – 4 enables – 3 indicators	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.0520.0
SNE4004K-A		Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.0590.0
SNE4004K-C		Plug-in spring clamp terminals	AC/DC 24 V, 50-60Hz		R1.188.1980.0
<b>SNE4004KV</b>					
SNE4004KV	Output expansion like SNE 4004K – OFF-delay buffered	Screw terminals, fixed	DC 24 V	0.5s	R1.188.0550.0
				1s	R1.188.0560.0
				2s	R1.188.0570.0
				3s	R1.188.0580.0
SNE4004KV-A		Plug-in screw terminals		0.5s	R1.188.0460.0
				1s	R1.188.0470.0
				2s	R1.188.0480.0
				3s	R1.188.0490.0
<b>SNE4008S</b>					
SNE4008S	Output expansion – 8 enables – 3 indicators	Screw terminals, fixed	AC/DC 24 V 50-60Hz		R1.188.1290.0
SNE4008S-A		Plug-in screw terminals	AC/DC 24 V 50-60Hz		R1.188.1300.0
<b>SNL4062K</b>					
SNL4062K	Base device for BWS type 2 – single-channel or two-channel activation through contacts or semiconductors – automatic and monitored Reset with Reset button monitoring – 2 enables – 1 indicator – cross monitoring	Screw terminals, fixed	DC 24 V		R1.188.0750.1
SNL4062K-A		Plug-in screw terminals	DC 24 V		R1.188.0830.1
<b>SNO2004K</b>					
SNO2004K	Base device – single-channel activation in the supply circuit – automatic and manual Reset without Reset button monitoring – 2 enables		AC/DC 24 V, 50-60Hz		R1.188.0410.3
<b>SNO4003K</b>					
SNO4003K	Base device – single-channel activation in the supply circuit automatic and manual Reset – with Reset button monitoring	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.0400.1
			AC 115-120 V, 50-60Hz		R1.188.0880.1
			AC 230 V, 50-60Hz		R1.188.0890.1
SNO4003K-A	– 3 enables – 1 indicator	Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.0500.1
SNO4003K-C		Plug-in spring clamp terminals	AC/DC 24 V, 50-60Hz		R1.188.1990.0

Type	Brief description	Terminals	Rated voltage	Specification	Part number					
<b>SNO4062K</b>										
SNO4062K	Base device	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.0690.2					
SNO4062K-A	– single-channel or two-channel activation – automatic and manual Reset with Reset button monitoring – short-circuit detection – 2 enables – 1 indicator	Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.0700.2					
SNO4062K-C		Plug-in spring clamp terminals	AC/DC 24 V, 50-60Hz		R1.188.2000.0					
<b>SNO4062KM</b>										
SNO4062KM	Base device like SNO 4062K	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.0710.2					
SNO4062KM-A	– specially for light curtains and short-circuit forming safety mats (4-wire technology)	Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.0720.2					
<b>SNO4063K</b>										
	Base device – single-channel or two-channel activation – automatic and manual Reset – with Reset button monitoring – cross monitoring – 3 enables	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.0960.0					
			DC 12 V		R1.188.1110.0					
			AC 115-120 V, 50-60Hz		R1.188.0970.0					
			AC 230 V, 50-60Hz		R1.188.0980.0					
SNO4063K-A		Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.0990.0					
<b>SNO4063KM</b>										
SNO4063KM	Base device like SNO 4063K – specially for light curtains and short-circuit forming safety mats (4-wire technology)	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.1270.0					
SNO4063KM-A		Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.1280.0					
<b>SNO5002K</b>										
	Base device – single-channel activation in the supply circuit – automatic and manual Reset with Reset button monitoring – 2 enables – 1 indicator – safe isolation of control and output circuit	Screw terminals, fixed	DC 12 V		R1.188.1650.0					
			DC 24 V		R1.188.1360.0					
			AC 115-120 V, 50-60Hz		R1.188.1370.0					
			AC 230 V, 50-60 Hz		R1.188.1350.0					
<b>SNT4M63K</b>										
SNT4M63K	Protective door monitor – two-channel activation – activation NC/NO or NC/NC – synchrocheck – automatic and manual Reset	Screw terminals, fixed	AC/DC 24 V, 50-60Hz		R1.188.1020.0					
			AC 115-120 V, 50-60Hz		R1.188.1030.0					
			AC 230 V, 50-60Hz		R1.188.1040.0					
SNT4M63K-A	– with Reset button monitoring – 3 enables	Plug-in screw terminals	AC/DC 24 V, 50-60Hz		R1.188.1050.0					
<b>SNV4063KL</b>										
SNV4063KL	Base device – single-channel or two-channel activation through contacts or semiconductors	Screw terminals, fixed	DC 24 V	0.15 - 3s	R1.188.0610.0					
SNV4063KL-A	– automatic and manual Reset – with Reset button monitoring – 2 immediate enables	Plug-in screw terminals	DC 24 V	1.5 - 30s	R1.188.0630.0					
			DC 24 V	0.15 - 3s	R1.188.0620.0					
SNV4063KL-C	– 1 enable OFF-delayed	Plug-in spring clamp terminals	DC 24 V	1.5 - 30s	R1.188.0640.0					
<b>SNV4063KP</b>										
SNV4063KP	Base device – single-channel or two-channel activation through contacts or semiconductors – automatic and manual Reset	Screw terminals, fixed	DC 24 V	0.15 - 3s	R1.188.0650.0					
			DC 24 V	1.5 - 30s	R1.188.0670.0					
SNV4063KP-A	– with Reset button monitoring – 2 immediate enables – 1 enable ON-delayed	Plug-in screw terminals	DC 24 V	0.15 - 3s	R1.188.0660.0					
			DC 24 V	1.5 - 30s	R1.188.0680.0					
<b>SNV4074SL</b>										
	Base device – single-channel or two-channel activation through contacts or semiconductors – automatic and manual Reset, with Reset button monitoring – 2 immediate enables – 2 enables OFF-delayed without re-triggering – 2 signaling contacts with immediate response – 2 signaling contacts delayed	Screw terminals, fixed	DC 24 V	0 - 3s	R1.180.2120.0					
				0 - 30s	R1.180.2150.0					
				0 - 300s	R1.180.2180.0					
				AC 115-230 V 50-60Hz	0 - 3s	R1.180.2300.0				
							0 - 30s	R1.180.2330.0		
							0 - 300s	R1.180.2360.0		
							Plug-in screw terminals	DC 24 V	0 - 3s	R1.180.2130.0
							Plug-in spring clamp terminals		0 - 3s	R1.188.2140.0
SNV4074SLA										
SNV4074SLC										
<b>SNV4074ST</b>										
SNV4074ST	Safe timer relay – ON-delay – automatic and manual Reset – with Reset button monitoring – 2 NO with immediate response – 2 NO ON-delayed, – 2 NC with immediate response – 2 NC ON-delayed	Screw terminals, fixed	AC 115-230 V 50-60Hz	0.3 - 3s	R1.188.2730.0					
				0 - 30s	R1.188.2760.0					
				0 - 300s	R1.188.2790.0					
<b>SNV4076SL</b>										
SNV4076SL	Base device – single-channel or two-channel activation through contacts or semiconductors – automatic and manual Reset – with Reset button monitoring – 3 immediate enables – 3 enables OFF-delayed, without re-triggering – 1 signaling contact with immediate response	Plug-in screw terminals	DC 24 V	0 - 3s	R1.180.2030.0					
				0 - 30s	R1.180.2060.0					
				0 - 300s	R1.180.2090.0					
						AC 115-230 V 50-60Hz	0 - 3s	R1.180.2210.0		
							0 - 30s	R1.180.2240.0		
							0 - 300s	R1.180.2270.0		
SNV4076SLA		Plug-in screw terminals	DC 24 V	0 - 3s	R1.180.2040.0					
SNV4076SLC		Plug-in spring clamp terminals		0 - 3s	R1.188.2150.0					
<b>SNV4274SL</b>										
SNV4274SL	Safe timer relay – OFF delay with re-triggering – automatic and manual Reset – with Reset button monitoring – 2 NO with immediate response – 2 NO OFF-delayed – 2 NC with immediate response – 2 NC OFF-delayed	Screw terminals, fixed	AC 115-230 V 50-60Hz	0.3 - 3s	R1.188.2640.0					
				0 - 30s	R1.188.2670.0					
				0 - 300s	R1.188.2700.0					
<b>SNZ4052K</b>										
SNZ4052K	Base device – two-channel activation; 2x NC/NO start inhibit – cross monitoring – synchronous time monitoring	Screw terminals, fixed	AC/DC 24 V 50-60Hz		R1.188.0450.1					
			AC 115-120 V 50-60Hz		R1.188.0920.1					
			AC 230 V 50-60Hz		R1.188.0930.1					
SNZ4052K-A	– 2 enables	Plug-in screw terminals	AC/DC 24 V 50-60Hz		R1.188.0530.1					
SNZ4052K-C	– 1 indicator	Plug-in spring clamp terminals	AC/DC 24 V 50-60Hz		R1.188.2020.0					



## Replacement device types

This list includes devices that are no longer available for delivery, or that should no longer be used in new systems. The part numbers of the replacement types are indicated in the list on pages 7 and 8.

Data sheets are available at [www.wieland-electric.com](http://www.wieland-electric.com) -->  
Info service --> Download Center --> safety technology  
or can be ordered via the hotline **+49 (951) 93 24-9 99**.

Device type	Replacement type	Remark
SNO1022-x	SNA4043K / SNA4063K	Note the rated voltage and terminal design
SNO1004-x	SNA4043K / SNA4063K	Note the rated voltage and terminal design
SNO1005-x	SNA4043K / SNA4063K	Note the rated voltage and terminal design
SNO2001-115	SNO4063K, AC 115 –120 V	Note the terminal design
SNO2001-120	SNO4063K, AC 115 –120 V	Note the terminal design
SNO2001-17	SNO4062K	Note the terminal design
SNO2001-230	SNO4063K, AC 230 V	Note the terminal design
SNO2003-120	SNO4063K	Note the rated voltage and terminal design
SNO2003-17	SNO4062K	Note the terminal design
SNO2003-230	SNO4063K, AC 230 V	Note the terminal design
SNO2003-24	SNO4062K	Note the terminal design
SNO2003-x	SNA4043K / SNA4063K	Note the rated voltage and terminal design
SNO2004-17	SNO2004K	
SNO2010-x	SNV4076SL	Note the rated voltage and terminal design
SNO2011-x	SNV4076SL	Note the rated voltage and terminal design
SNO2012-x	SNV4076SL	Note the rated voltage and terminal design
SNO3001-x	SNE4004K / SNA4044K	Note the rated voltage and terminal design
SNO3002-17	SNE4004KV	Note the terminal design and fixed time
SNO3004-x	SNO4003K / SNE4004K	Note the rated voltage and terminal design
SNO40X2.1K	SNO4062K	Note the terminal design
SNO40X2K	SNO4062K	Note the terminal design
SNO5001.1K	SNO5002K	Note the rated voltage
SNO5001K	SNO5002K	Note the rated voltage
SNO5002.1K	SNO5002K	Note the rated voltage
SNT1003-x	SNT4M63K / SNA4043K	Note the rated voltage and terminal design
SNT4053K	SNA4043K	Note the rated voltage, terminal design and start inhibit
SNT4453K	SNT4M63K	Note the rated voltage, terminal design and start inhibit
SNV2021-17	SNV4074SL	Note the rated voltage and terminal design
SNV2022-17	SNV4074SL	Note the rated voltage and terminal design
SNZ5052K	SNZ4052K	Note the rated voltage and terminal design

### Notice:

**Technical data, terminal name, terminal location and housings of the replacement types may be different.**

**Please consult the data sheets!**



# wieland

**Electrical  
Connections**

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## **AT Wieland**

Components and system components  
for the control cabinet

- DIN rail terminal blocks
  - with screw connection
  - with spring clamp connection
  - with IDC connection

- Safety
  - Safety relays
  - Modular safety systems

- Fieldbus components
- Interface
  - Power supplies
  - Overvoltage protection
  - Measuring and monitoring relays
  - Time and switching relays
  - Coupling relays/solid state relays
  - Analog modules
  - Passive interfaces

Components and system components  
for field applications

- Remote automation
  - Remote power distribution
  - Remote fieldbus interface
- Industrial multipole connectors
  - Modular multipole connectors
  - High-density multipole connectors
  - High-current multipole connectors
  - Multipole connectors for hazardous areas
  - Bushings for control cabinets
  - D-Sub connectors

- Round connectors
- Empty housings and appliance  
connectors/terminal strips

## **AT Schleicher**

- PLC systems and CNC based control systems
- Operator panels
- Application engineering & system solutions
- Customized products

## **BIT Wieland**

- Building installation systems
  - Mains connectors IP20/IP65...IP68
  - Bus connectors
  - Combined connectors
  - Low-voltage connectors
  - Flexible flat cable systems
  - Distribution systems
  - Switching devices for EIB/KNX, LON, radio control
  - DIN rail terminal blocks for electrical installations
  - Overvoltage protection

## **PCB connectors Wieland**

- PC board connectors
- PC board connectors
    - with screw connection
    - with spring clamp connection
    - with TOP connection



**P r o d u c t      R a n g e**