Emergency Stops

Shut down all machine functions!
Protect machine during breakdown!
Meet emergency stop regulations!

Why should I use an Emergency Stop?

...to be able to stop a machine during a machine break-down or if someone is in danger!

How do I recognize an E-Stop?

All E-Stops which comply with the relevant standards for marking are red with a yellow background. An emergency stop grab wire should be red for high visibility.

How should an E-Stop stop the machine?

An E-Stop should stop the machine as quickly as possible. To obtain a quick stop, one either removes the power directly or one lets a frequency converter 'run down' and afterwards — after a little delay — remove the power. An E-Stop should not create other hazards. Therefore a risk analysis must be made for the E-stop to be correctly connected.

Requirements for E-stops are stated in these standards and regulations:

98/37/EC The Machinery Directive

Clause 1.2.4 in annex 4 gives requirements for the emergency stop function for new machines. See also clause 1.2.2 Control devices (chapter "Standard and Regulations").

Council Directive 89/655/EEC

of November 30, 1989 concerning the minimum safety and health requirements for the use of work equipment by workers at work

Clause 2.4 gives the requirements for the emergency stop function for older machines. See also clause 2.1 (chapter "Standard and Regulations").

EN ISO 13850 Safety of Machinery

Emergency stop — Principles for design

A harmonized standard that gives technical specifications for the requirements oin the Machinery Directive. Could also be used for older machinery.

EN 60204-1 Safety of Machinery

Electrical equipment of machines — Part 1: General requirements.

Harmonized standard that gives requirements for the electrical equipment of machinery including the emergency stop actuator/function. See clauses 9.2.2 and 9.2.5.4.2.

INCA 1/INCA 1 Tina Emergency Stop for Enclosure Installation

INCA 1 is an emergency stop device designed for installation in a 22.5mm slot in an enclosure. There are two versions — the INCA 1 Tina, with electronic adaptation for connection to a dynamic safety circuit and connection to Vital and Pluto units — and INCA 1, that contains only contacts, for connection to a safety relay.

There is an LED in the emergency stop button, which shows the current status:

- Green = all OK
- Red = this emergency stop has been pressed
- Unlit (INCA 1) or flashing red/green (INCA 1 Tina) = a protective device earlier in the circuit has been pressed in.

Regulations and Standards

The INCA1/INCA 1 Tina is designed and approved in accordance with appropriate standards. Examples of such are: EN ISO 13850:2006, EN ISO 13850, EN 60204, EN 60947-5-1 and EN 60947-5-5.

Features

- Installation in 22.5mm hole
- Many emergency stops in series to electrically category 4 in a safety circuit
- Only 53mm installation depth in an apparatus enclosure
- LED information in the button and an electrical information output (IP65)
- Available with a black button for an ordinary push button line stop

Approvals

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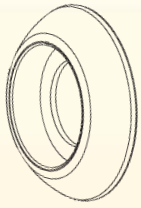
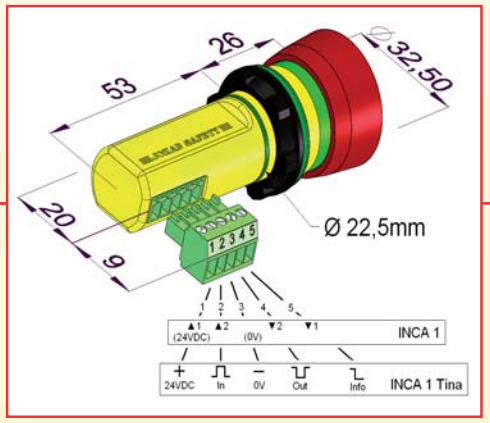
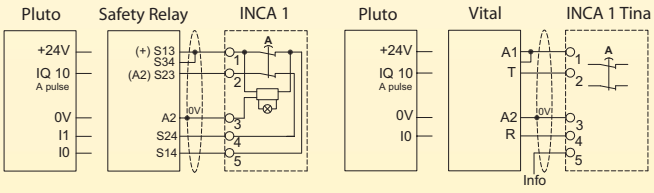


INCA E-Stop Button Front Ring

INCA E-Stop Button Disk





INCA1/INCA1 Tina Technical Data

Manufacturer.....JOKAB SAFETY
Ordering Data/Article Numbers.....see page 9:18
Color..... yellow and red
Safety Category
INCA1.....4 with relay or Pluto
INCA1 Tina.....4 with Vital or Pluto
Weight.....approx 45 grams
Material.....polyamide (emergency stop button)/macromelt
Temperature
Operating..... -10°C to + 55°C
Storage..... -30°C to + 70°C
Installation..... 22.5mm
Emergency Stop LED on INCA1
Green..... safety device OK, safety circuit OK
Not Lit..... emergency stop pressed previously
Red..... this emergency stop has been pressed
Emergency Stop LED on INCA1 Tina
Green..... safety device OK, safety circuit OK
Flashing..... safety device OK, safety circuit previously broken
Red.....this button is pressed in and the safety curcuit is broken
Operating Voltage (LED)
INCA 1..... 24 VDC
INCA 1 Tina.....24 VDC +15%/-25%
Current consumption (LED)
INCA 1..... 15 mA
INCA 1 Tina..... 47 mA
Protection Class
Button..... IP65
Terminal..... IP20

Emergency Stop Button
Operating Force.....22+/- 4 N
Operating Movement.....approx. 4 mm to locked position
Material..... polyamide (PA66)
(in accordance with UL94 V0)
Contact Material..... gold-plated silver alloy
Minimum Current
INCA 1.....10 mA 10 VDC/10 VAC
INCA 1 Tina..... —
Maximum Current
INCA 1.....2 A 24 VDC/1 A 125 VAC
INCA 1 Tina..... —
Mechanical Life..... > 50,000 operations
Accessories.....yellow surround for emergency stop button

Smile Emergency Stop with LED Small and Cost Effective

In order to fulfill the need for a small and easy to install E-Stop, Smile has been developed. This device is much like a common quick disconnect proximity switch which is engineered into the design of a machine. The connector allows for the use of premolded cables, eliminating labor and improper wiring. Disconnecting this device results in the safe prevention of the machine to operate. With M12 connection/s or cable and centralized mounting holes, Smile is very easy to install, especially on aluminum extrusions.

Smile is available for E-Stops in both dynamic and static safety circuits — i.e. for interfacing to Vital/Pluto and Safety Relays. Each version is available with either one or two M12 connections or cable. In the top of the Smile E-stop unit LEDs show the actual status:

- Green = protection is OK
- Red = this E-Stop has been pressed
- OFF = an E-Stop earlier in the circuit has been pressed

Regulations and Standards

The Smile Emergency Stop is designed and approved in accordance with appropriate standards. Examples of such are: EN ISO 13850, EN 60204, EN 60947-5-1 and EN 60947-5-5.

Applications

To stop a machine or a process

Features

- Several E-Stops in series up to Category 3 according to EN 954-1/E ISO 13849-1
- LED indication at every E-Stop
- Robust construction
- IP65

Approvals

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4 Different Variants of Smile Emergency Stop

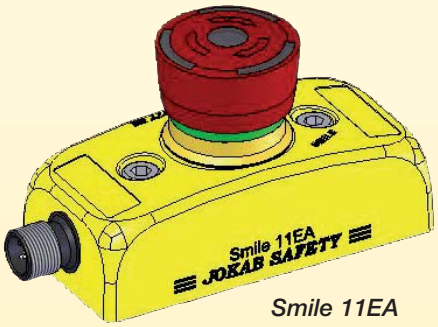
Smile 10EA has a 1m cable connected through the base of the unit.

Smile 10EK has four 1m short connecting leads through the base of the unit. No LED.

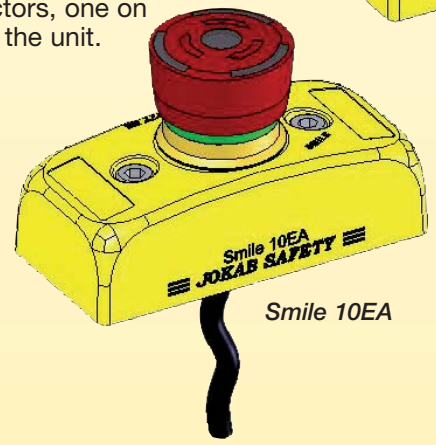
Smile 11EA has a 5-pole M12 connector on one end of the unit.

Smile 12EA has two 5-pole M12 connectors, one on each end of the unit.

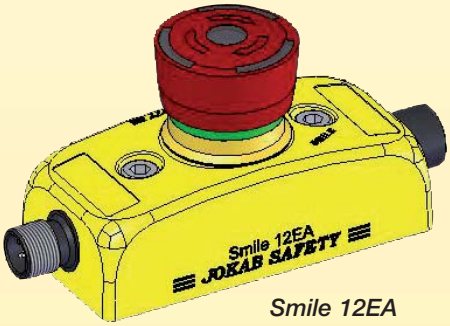
Smile 10EK



Smile 11EA



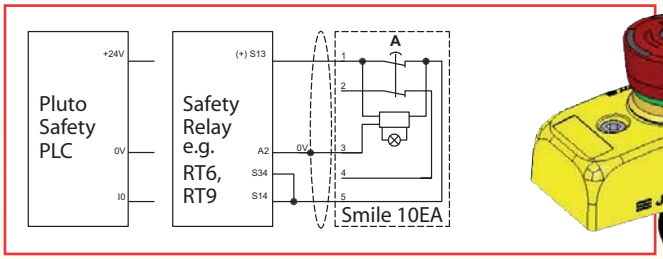
Smile 10EA

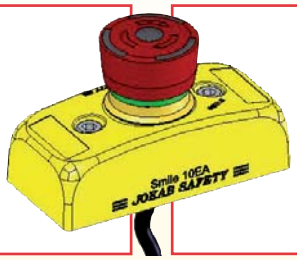


Smile 12EA

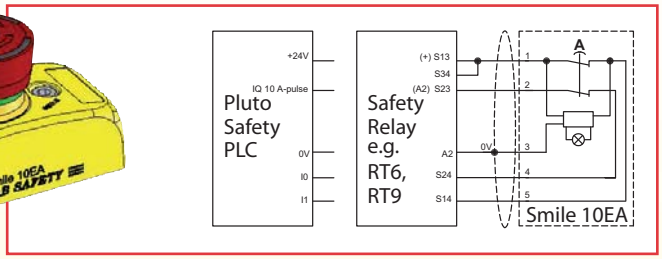
Smile Connection Examples

Smile 10EA can be connected to either Pluto or a Safety Relay. Single channel example with LED indication. Safety category 1. The connection cable exits from underneath the unit.

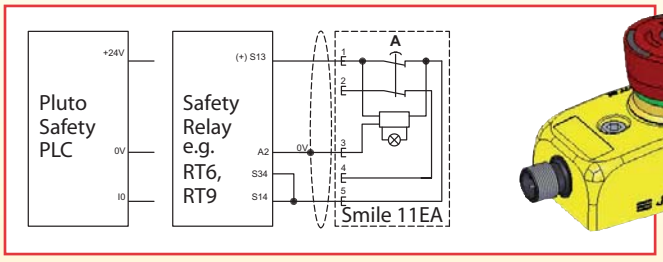


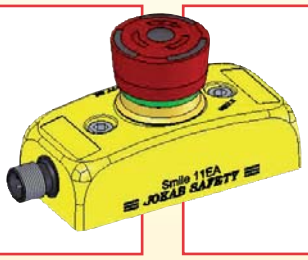


Smile 10EA can be connected to either Pluto or a Safety Relay. Dual channel example with LED indication. Safety circuit category 4.

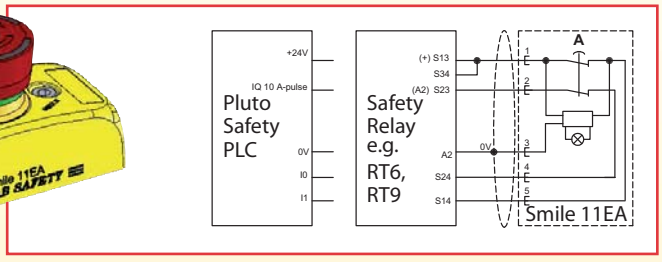


Smile 11EA can be connected to either Pluto or a Safety Relay. Single channel example with LED indication. Safety category 1. Connection via an M12 connector.

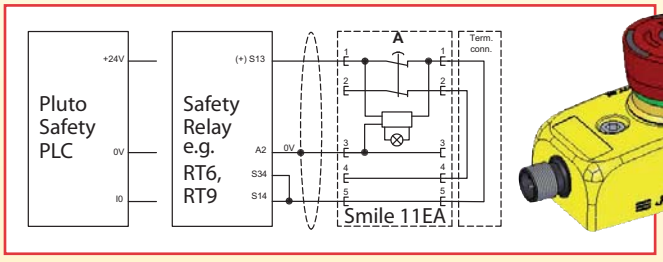


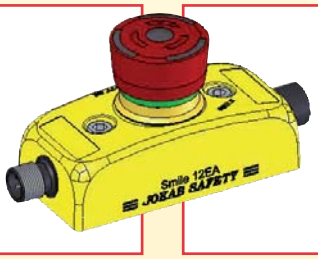


Smile 11EA can be connected to either Pluto or a Safety Relay. Dual channel example with LED indication. Safety circuit category 4. Connection via an M12 connector.

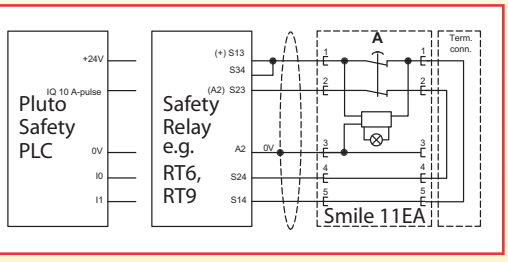


Smile 12EA can be connected to either Pluto or a Safety Relay. Single channel example with LED indication. Safety category 1. Connection via an M12 connector, plus a termination connector.

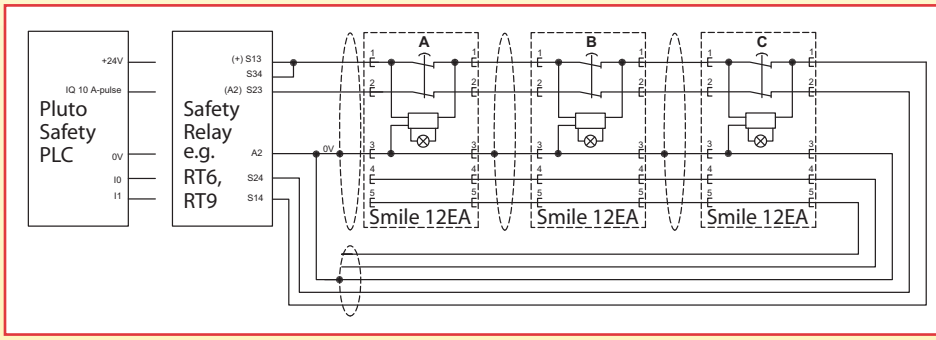


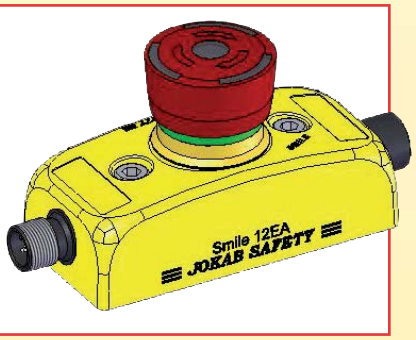


Smile 12EA can be connected to either Pluto or a Safety Relay. Dual channel example with LED indication. Safety circuit category 4. Connection via an M12 connector, plus a termination connector.



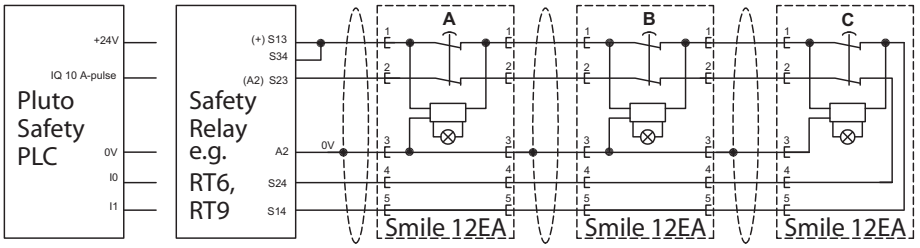
Smile 12EA can be connected to either Pluto or a Safety Relay. Dual channel serial connection example with LED indication. Safety circuit category 3. Connectin via M12 connectors. Note that there is no termination connector for the Smile 12EA (see C on drawing), this unit being connected back to the Pluto/Safety Relay via a separate cable.

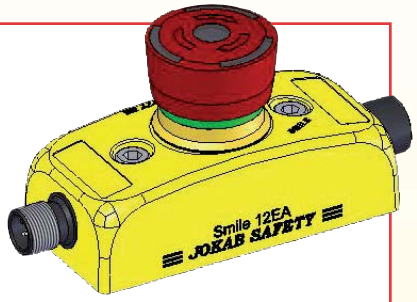




Smile Connection Examples

Smile 12EA and **11EA** can be connected to either Pluto or a Safety Relay. Dual channel example with LED indication. Safety circuit category 3. Connection via M12 connectors. Note that there is no termination connector as the Smile 11EA (see C on drawing) completes the circuit without the need for a termination connector or return cable.



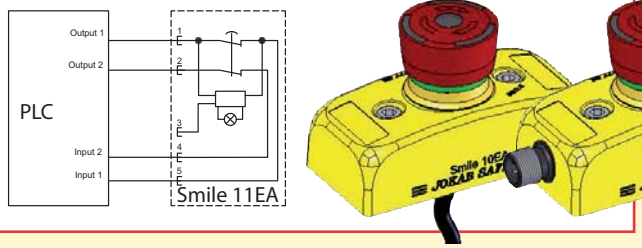


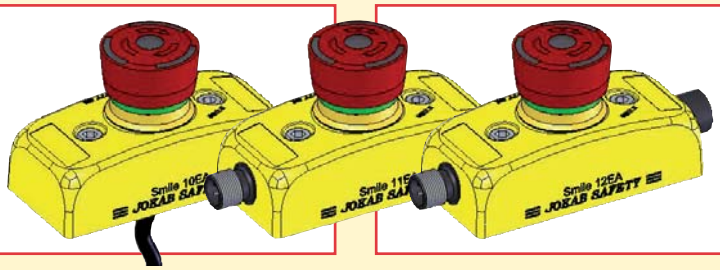
E-Stop Button Status				LED Indication		
A	B	C	⟷	A	B	C
R	R	R	⟷	G	G	G
R	R	D	⟷	G	G	Rd
R	D	R	⟷	G	Rd	B
R	D	D	⟷	G	Rd	B
D	R	R	⟷	Rd	B	B
D	R	D	⟷	Rd	B	B
D	D	R	⟷	Rd	B	B
D	D	D	⟷	Rd	B	B

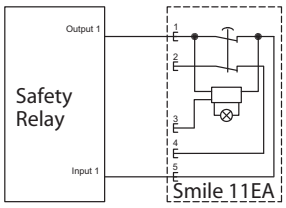
The table at the left shows the LED indication status of the E-Stop buttons from the example shown above.

A = Smile 12EA
B = Smile 12EA
C = Smile 11EA
R = Released
D = Depressed
G = Green light from the top of the button
Rd = Red light from the top of the button
B = Blank, no light

Smile 10EA/11EA/12EA are like any other emergency stops when 0V to the LED indication is not connected. This means that any suitable Safety PLC or Safety Relay can be used. If the LED indication is used, the voltage between Pin 1 (+) and Pin 3 (-) should be between 19.2 and 28.8 VDC. The following examples show connections to Safety PLC and Safety Relay.

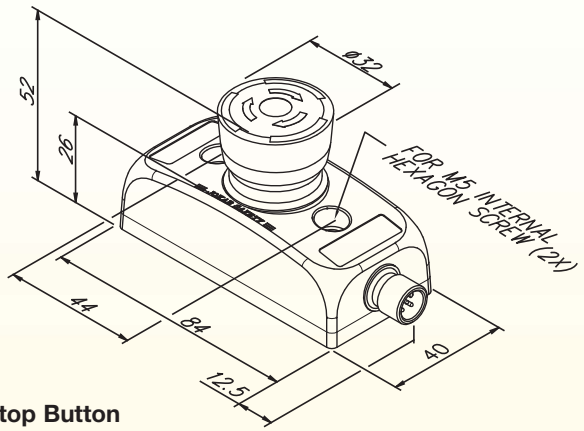






Smile Technical Data

Manufacturer..... JOKAB SAFETY
Ordering Data/Article Numbers.....see page 9:18
Safety Category.....safety circuit up to category 4
(according to EN 954-1/En ISO 13849-1 together with appropriate control unit)
Color..... black and yellow label
Weight.....approx 65 g
Material
Box..... polypropylene
E-Stop Button.....polyamide
Ambient Temperature
Operating..... -10°C to +55°C
Storage..... -30°C to +70°C
Mounting.....2 x M5 recessed hexagon head screws
L ≥ 25mm, Hole cc: 44mm
LED on E-Stop
Green.....safety device OK, safety circuit closed
Not Lit.....safety circuit broken
(when an E-Stop is depressed, all following units in the circuit lose the LED Function)
Red.....safety device actuator depressed and safety circuit broken
Input Voltage (LED).....17-27 VDC ripple +/- 10%
(LED supply voltage)
Current consumption (LED).....15 mA

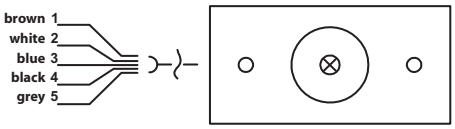


E-Stop Button
Actuating Force.....22 +/- 4 N
Material..... polyamide (PA66)
(in accordance with UL94 V0)
Contact Material..... gold-plated silver alloy
Minimum Current..... 10 mA 10 VDC/10 VAC
Maximum Current.....2 A 24 VDC/1 A 125 VAC
Mechanical Life..... > 50,000 operations
Protection Class.....IP 65

Smile Connection Examples

Smile 10EA - The cable is connected to Smile 10EA via the lid at the back.

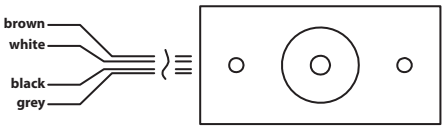
1 - Input 1
2 - Input 2
3 - 0 VDC*
4 - Output 2
5 - Output 1



**Note: 3 - 0 VDC is to be connected only if LED indication is required.*

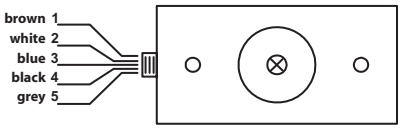
Smile 10EK - The leads are connected to Smile 10EK via the lid at the back. No LED connection.

brown - Input 1
white - Input 2
black - Output 2
grey - Output 1



Smile 11EA

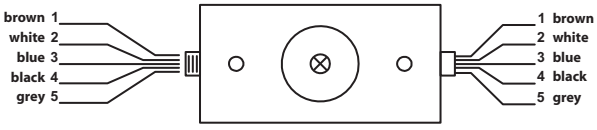
1 - Input 1
2 - Input 2
3 - 0 VDC*
4 - Output 2
5 - Output 1



**Note: 3 - 0 VDC is to be connected only if LED indication is required.*

Smile 12EA

1 - Input 1
2 - Input 2
3 - 0 VDC*
4 - Output 2, feedback
5 - Output 1, feedback



**Note: 3 - 0 VDC is to be connected only if LED indication is required.*

1 - Output 1
2 - Output 2
3 - 0 VDC*
4 - Input 2, feedback
5 - Input 1, feedback

Smile Tina Emergency Stop with LED Small and Cost Effective

In order to fulfill the need for a small and easy to install E-Stop, Smile has been developed. This device is much like a common quick disconnect proximity switch which is engineered into the design of a machine. The connector allows for the use of premolded cables, eliminating labor and improper wiring. Disconnecting this device results in the safe prevention of the machine to operate. With M12 connection/s or cable and centralized mounting holes, Smile is very easy to install, especially on aluminum extrusions.

Smile is available for E-Stops in both dynamic and static safety circuits — i.e. for interfacing to Vital/Pluto and Safety Relays. Each version is available with either one or two M12 connections or cable. Two M12 connectors are used to enable the connection of E-Stops in series, which is often used with dynamic safety circuits, fulfilling safety category 4. In the top of the Smile E-Stop unit LEDs show the actual status:

- Green = protection is OK
- Red = this E-Stop has been pressed
- Flashing Red/Green = an E-Stop earlier in the circuit has been pressed

Regulations and Standards

The Smile Emergency Stop is designed and approved in accordance with appropriate standards. Examples of such are: EN ISO 13850:2006. EN ISO 13850, EN 60204, EN 60947-5-1 and EN 60947-5-5.

Applications

To stop a machine or a process

Features

- Several E-Stops in series up to Category 4
- Light beam, E-Stop and Eden in the same safety circuit connected to Vital or Pluto enables safety category 4 according to EN 954-1/EN ISO 13849-1
- LED indication at every E-Stop
- Robust construction
- Info-signal from each E-Stop
- IP65

Approvals

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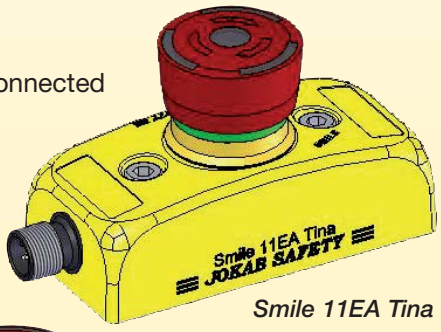
4 Different Variants of Smile Tina Emergency Stop

Smile 10EA Tina has a 1m cable connected through the base of the unit.

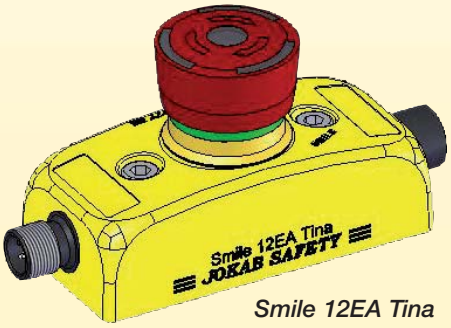
Smile 11EA Tina has a 5-pole M12 connector on one end of the unit.

Smile 12EA Tina has two 5-pole M12 connectors, one on each end of the unit for serial connecting.

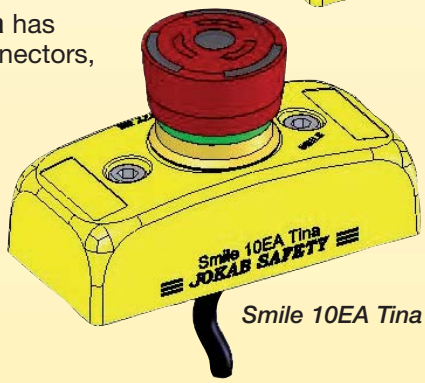
Smile 12EAR Tina has two 5-pole M12 connectors, one on each end of the unit for serial connecting.



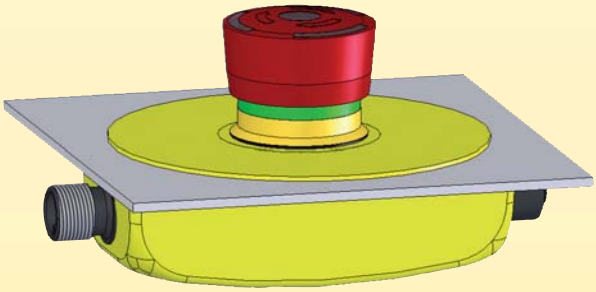
Smile 11EA Tina



Smile 12EA Tina



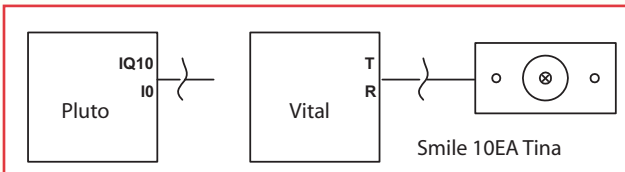
Smile 10EA Tina

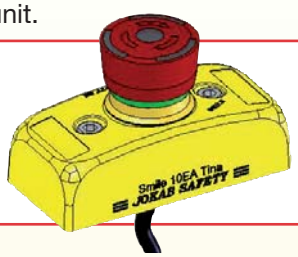


Smile 12EAR Tina

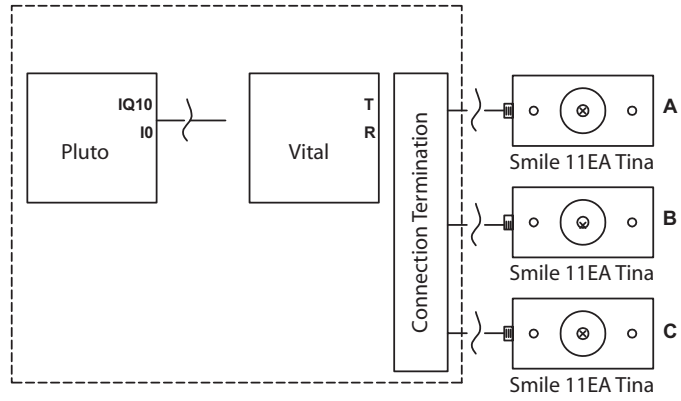
Smile Tina Connection Examples

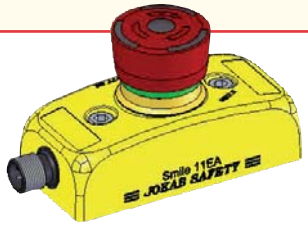
Smile 10EA Tina can be connected to either Pluto or Vital system. Safety circuit category 4 with LED indication/information. The connection cable exits from underneath the unit.



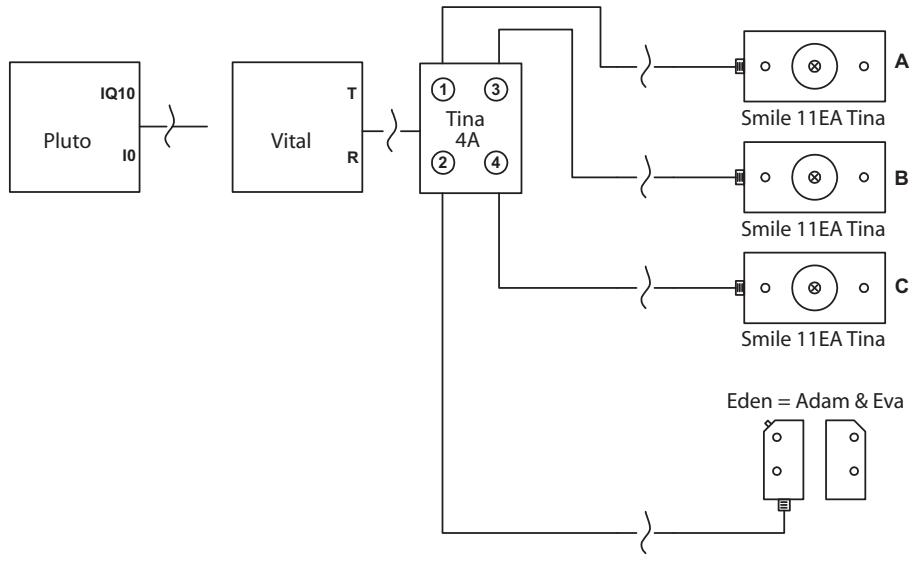


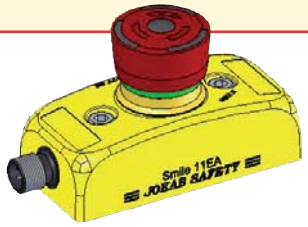
Smile 11EA Tina can be connected to either Pluto or Vital system. Safety circuit category 4 with LED indication/information. Connection via M12 connectors. The circuit below shows three Smile 11EA Tina units connected in series via connection terminals in the electrical cabinet.





Smile 11EA Tina can be connected to either Pluto or Vital system. Safety circuit category 4 with LED indication/information. Connection via M12 connectors. The circuit below shows three Smile 11EA Tina units and one Eden connected in series via a Tina 4A connection block.



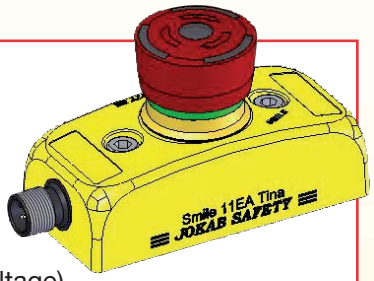


Smile Tina Connection Examples

The table below shows the information output signal status from each of the Smile 11EA Tina units in the connection examples on the previous page. In the example showing connection with an Eden sensor, the Eden status information signal acts in the same wy as the Smile Tina 11EA Units. The status information signal can be connected to , for example, the PLC input.

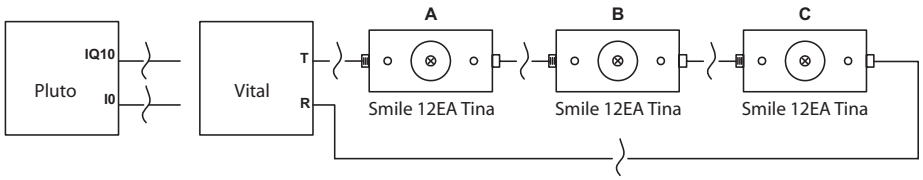
E-Stop Button Status				Information Output Signal		
A	B	C	⟷	A	B	C
R	R	R	⟷	H	H	H
R	R	D	⟷	H	H	L
R	D	R	⟷	H	L	H
R	D	D	⟷	H	L	L
D	R	R	⟷	L	H	H
D	R	D	⟷	L	H	L
D	D	R	⟷	L	L	H
D	D	D	⟷	L	L	L

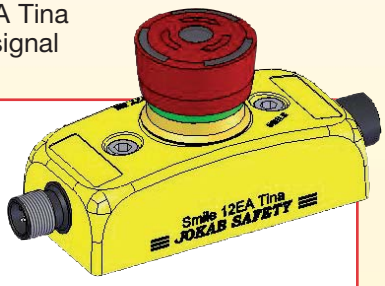
A = Smile 11EA Tina
B = Smile 11EA Tina
C = Smile 11EA Tina
R = Released
D = Depressed
H = High (i.e. supply voltage)
L = Low (= 0 VDC)



Note: The information signal must not be used a safety signal. The signal should only be used to indicate the status of connected devices.

Smile 12EA Tina can be connected to either Pluto or Vital system. Safety circuit category 4 with LED indication/information. Connection via M12 connectors. The last Smile 12EA Tina unit feeds the dynamic signal back to the Pluto/Vital.



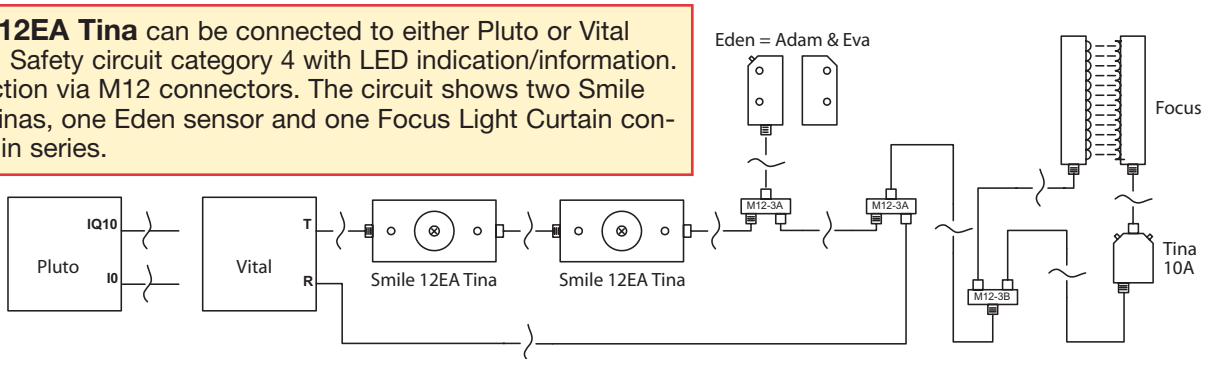


E-Stop Button Status				LED Indication		
A	B	C	⟷	A	B	C
R	R	R	⟷	G	G	G
R	R	D	⟷	G	G	Rd
R	D	R	⟷	G	Rd	F
R	D	D	⟷	G	Rd	Rd
D	R	R	⟷	Rd	F	F
D	R	D	⟷	Rd	F	Rd
D	D	R	⟷	Rd	Rd	F
D	D	D	⟷	Rd	Rd	Rd

The table at the left shows the LED indication status of the E-Stop buttons from the example shown above where three Smile 10EA/11EA/12EA Tina units are connected in series.

A = Smile 10EA/11EA/12EA Tina
B = Smile 10EA/11EA/12EA Tina
C = Smile 10EA/11EA/12EA Tina
R = Released
D = Depressed
G = Green light from the top of the button
Rd = Red light from the top of the button
F = Flashes between green and red light

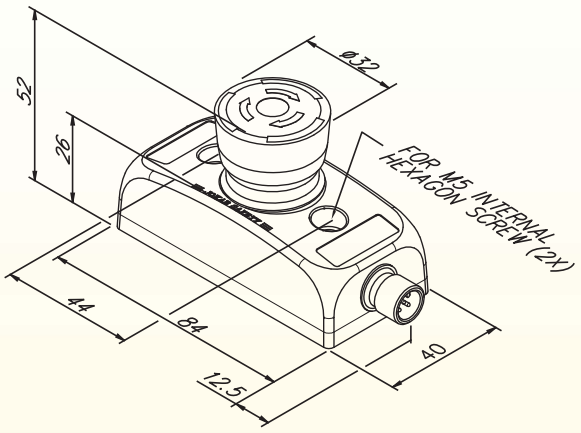
Smile 12EA Tina can be connected to either Pluto or Vital system. Safety circuit category 4 with LED indication/information. Connection via M12 connectors. The circuit shows two Smile 12EA Tinas, one Eden sensor and one Focus Light Curtain connected in series.



Smile Tina Technical Data

Manufacturer..... JOKAB SAFETY
Ordering Data/Article Numbers.....see page 9:18
Safety Category.....safety circuit up to category 4
(according to EN 954-1/EN ISO 13849-1 together with appropriate Vital or Pluto control unit)
Color..... yellow and red
Weight.....approx 65 g
Material
Box..... polypropylene
E-Stop button.....polyamide
Ambient Temperature
Operating..... -10ºC to +55ºC
Storage..... -30ºC to +70ºC
Mounting.....2 x M5 recessed hexagon head screws
L ≥ 25mm, Hole cc: 44mm
LED on E-Stop
Green..... safety device OK, safety circuit OK
Flashing.....safety device OK, previously broken safety circuit
Red.....breaks in safety device and safety circuit

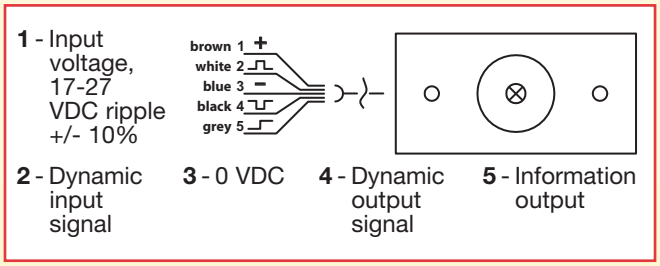
Input Voltage (LED).....17-27 VDC ripple +/- 10%
Current Consumption (LED).....47 mA
(57 mA with max. current from information output)



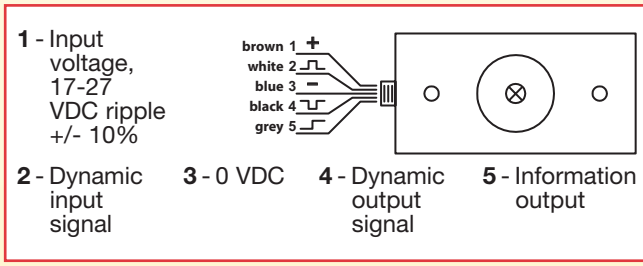
E-Stop Button
Actuating Force..... 22 +/- 4 N
Material..... polyamide (PA66)
(in accordance with UL94 V0)
Contact Material..... gold-plated silver alloy
Mechanical Life..... > 50,000 operations
Protection Class.....IP 65

Smile Connection Examples

Smile 10EA Tina - The cable is connected to Smile 10EA Tina via the lid at the back.

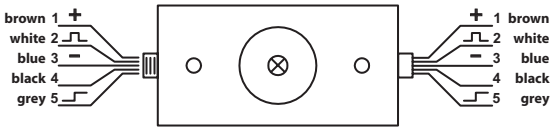


Smile 11EA Tina



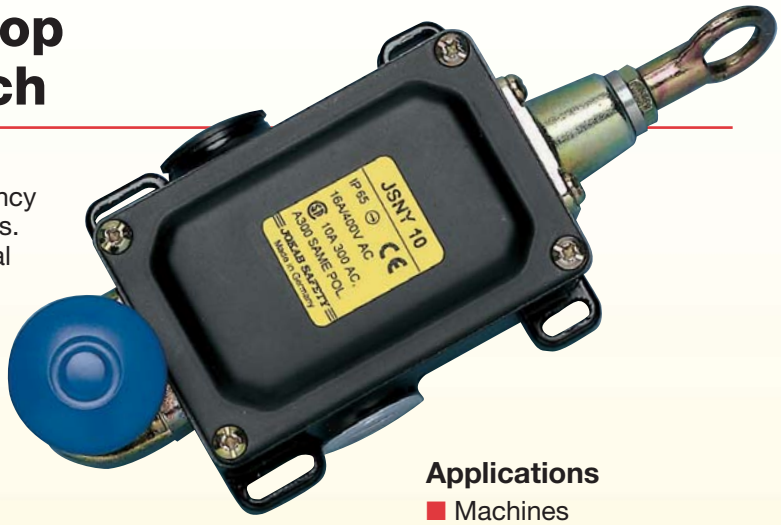
Smile 12EA Tina

1 - Input voltage,17-27 VDC ripple +/- 10%
2 - Dynamic input signal
3 - 0 VDC
4 - not used
5 - not used



1 - Output voltage to next unit
2 - Dynamic output signal (to next Smile or to Pluto or Vital system)
3 - 0 VDC
4 - not used
5 - Information output

JSNY10 Emergency-Stop Grab Wire Safety Switch



Description

The JSNY10 can provide an easy to reach emergency stop along machines, conveyor lines and processes. The device is easier to install than several individual emergency-stop buttons.

The JSNY10 can be utilized in several different ways to suit various applications e.g the wire could be positioned at waist-height along a transportation line, the emergency stop being activated if somebody walks into or falls onto the line or the wire could be positioned at head height making it easy to grab by anyone requiring to create an Emergency Stop.

The JSNY10 has four contacts. When the switch is installed and the correct wire tension set, all four contacts are closed. If the wire is pulled, two of the contacts open; if the wire breaks the other two contacts open. In both cases a dual channel machine stop signal will be given. In order to reset the JSNY10 the integral mushroom-head slam button has to be activated.

Applications

- Machines

Features

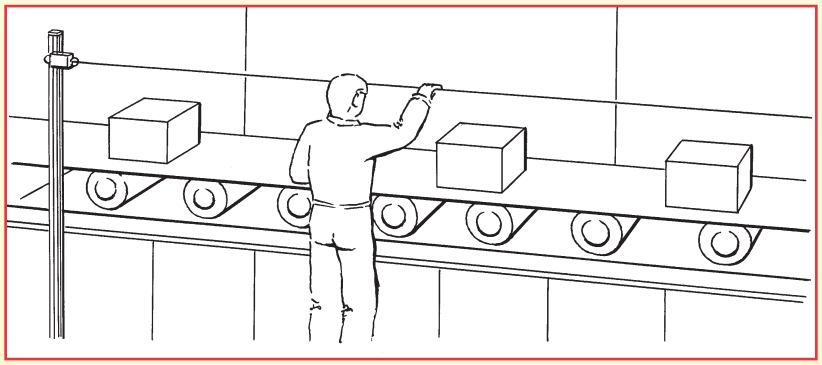
- Certified for highest level of safety regulations Category 4
- Easily accessible
- Positive opening contacts
- Double switching in both directions of travel

Positive Forced Disconnected Contacts

The contacts of the JSNY10 are forced disconnected. Forced disconnection means that the contacts are mechanically pulled apart thus ensuring protection against contact welding/sticking.

Safety Level

The forced disconnected contacts provide a high safety level. By combining the JSNY10 with a suitable Jokab Safety safety relay a high safety level to the connection of the machine control system is guaranteed. JSNY10 can be combined with Tina units for connection to a safety circuit with several safety components according to Safety Category 4.



Emergency-Stop Grab Wire is easily accessible during normal work operation.

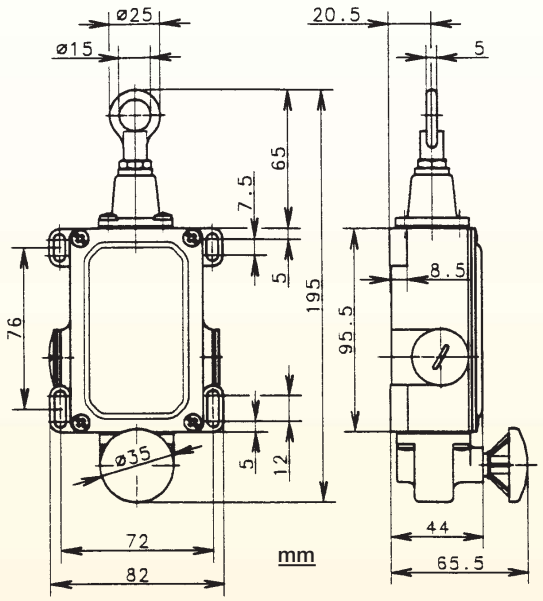
Regulations and Standards

The JSNY10 is designed and approved in accordance with appropriate standards. Examples of such are: EN 418 (emergency stop regulation), EN 60947-1, EN 60947-5-1, VDE 0113, EN 292 and VDE 0660 T200.

Approvals

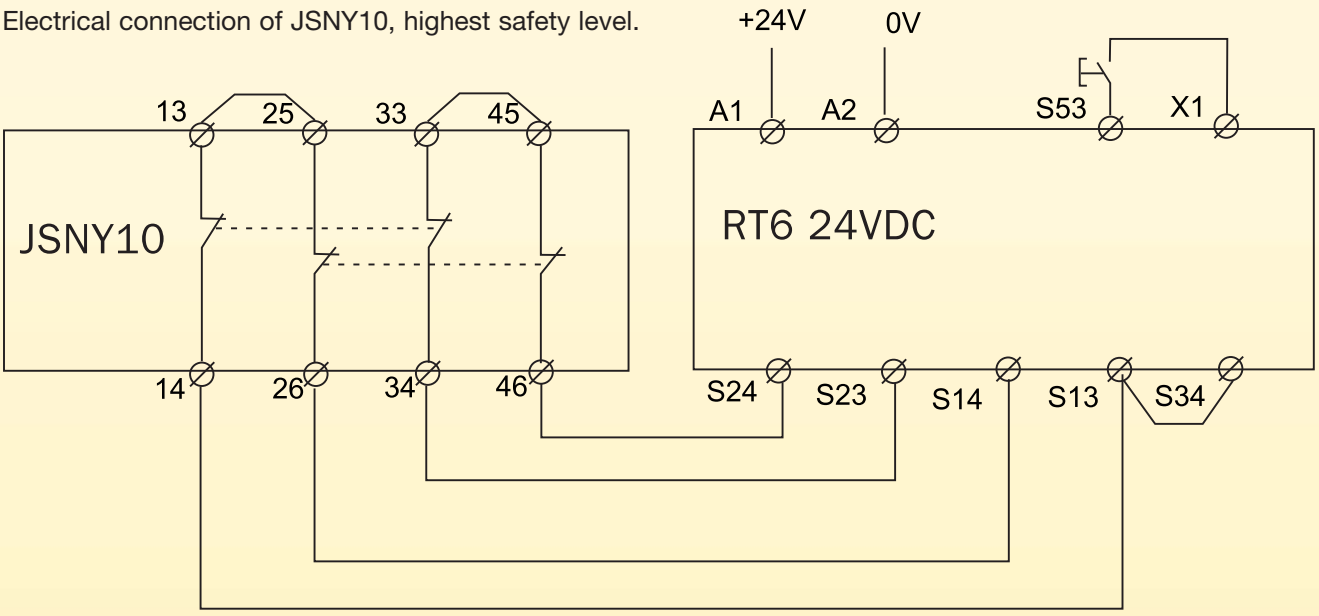
JSNY10 Technical Data

Manufacturer..... JOKAB SAFETY
Ordering Data/Article Numbers.....see page 9:19
Color..... black and yellow label
Weight..... 0.70 kg
Housing Material..... cast aluminum
Lid Material..... aluminum
Operating Temperature..... -30°C to +80°C
Switching Contacts, Forced.....4 (2)
Mechanical Life.....1 million switch operations
Max. Switching Frequency..... 20/min
Cable Access..... 2 x M20 x 1.5
Reset Method..... mushroom-head slam button
Maximum Wire Length..... 25 m
Mounting..... 4 x M5
Terminals.....screw terminal, 8 x M4
Maximum Voltage..... 400 VAC
Thermal Current.....16 A
Utilization Category..... AC-15, DC-13
Short-Circuit Protection..... 16A delay fuse
20A quick fuse
Protection Class..... IP 65, EN 60529



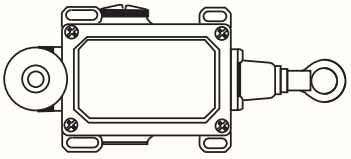
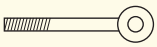
JSNY10 Electrical Connection

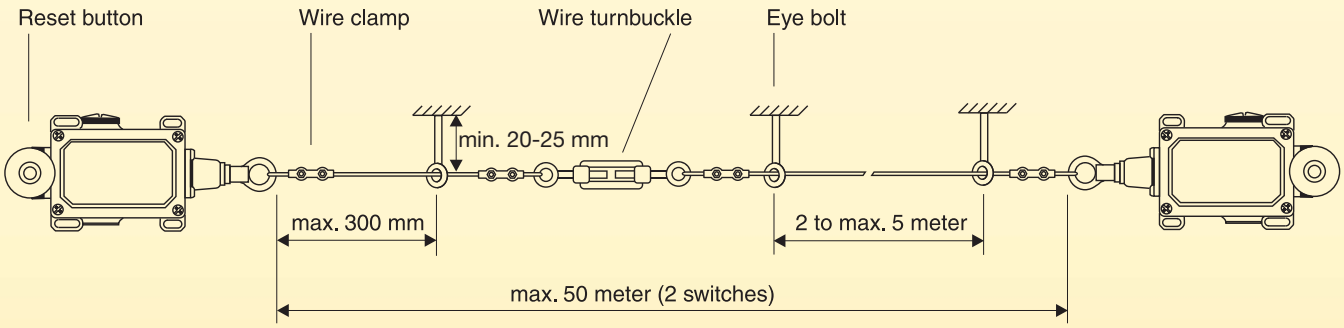
Electrical connection of JSNY10, highest safety level.



Note: The connection shows the JSNY10 in a correctly tensioned condition.

JSNY10 Ordering Data

JSNY10	Switch		
JSNY10-K	Mounting Kit	25 m 1 piece 4 pieces 4 pieces 5 pieces	Red plastic-coated steel cable wire Wire turnbuckle Wire Thimble Wire clamp Eyebolts with nuts
JSNY10-W3	Red plastic-coated wire	3mm core/4mm sleeve (per meter)	
JSNY10-S6	Eyebolt	M6 x 50	
JSNY10-M6	Nut	M6 (to eyebolt)	
JSNY10-V6	Wire turnbuckle	M6 x 60	
JSNY10-L3	Wire clamp, duplex		
JSNY10-T4	Wire thimble		



Grab wire supports should be attached at a height of at least 20-25mm above the surface where the switch is to be installed.

Turnbuckles may be used to 'tune' the grab wire system to the correct tension.

A medium operating temperature should be maintained during installation.

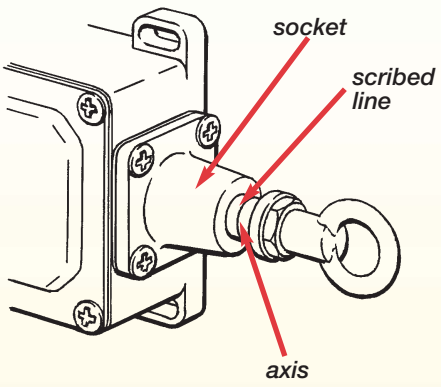
The grab wire should be pulled heavily several times, then the tension of the wire should be readjusted to compensate for the elongation of the wire resulting from thimble distortion.

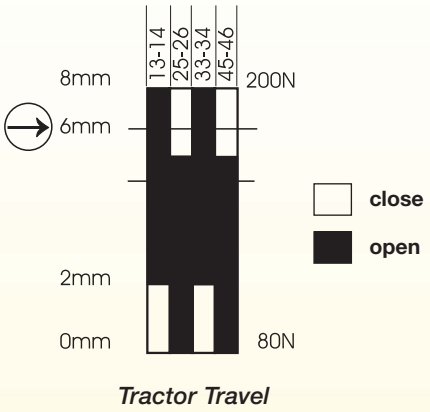
JSNY10 Contact Adjustment

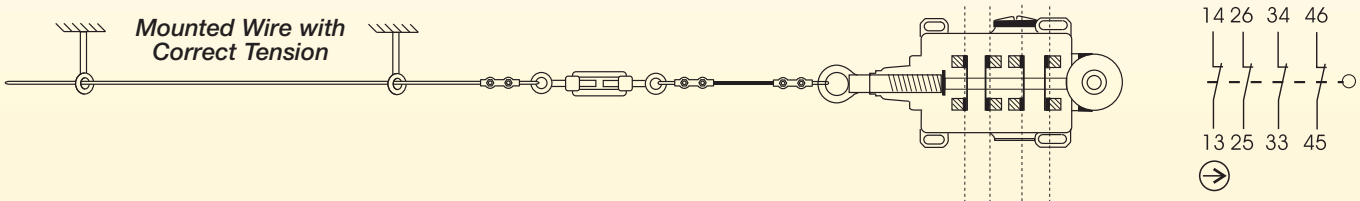
When the wire is installed with the correct tension all contacts are closed. Adjust the turnbuckle to get correct tension, the scribed line on axis of the JSNY10 should be just visible at the top of the socket.

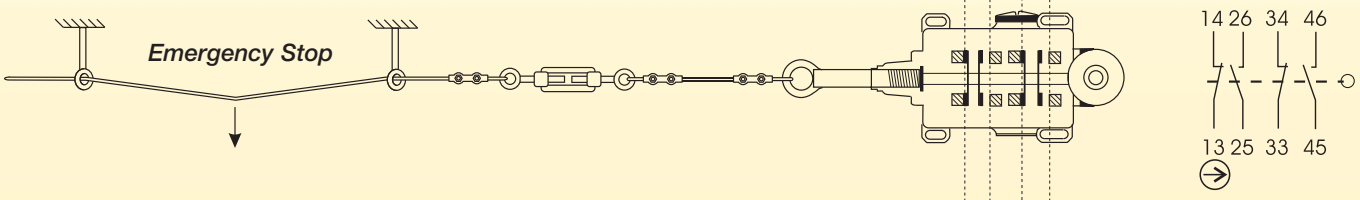
When an emergency stop condition occurs switches 25-26 and 45-46 open, when the wire breaks contacts 13-14 and 33-34 open.

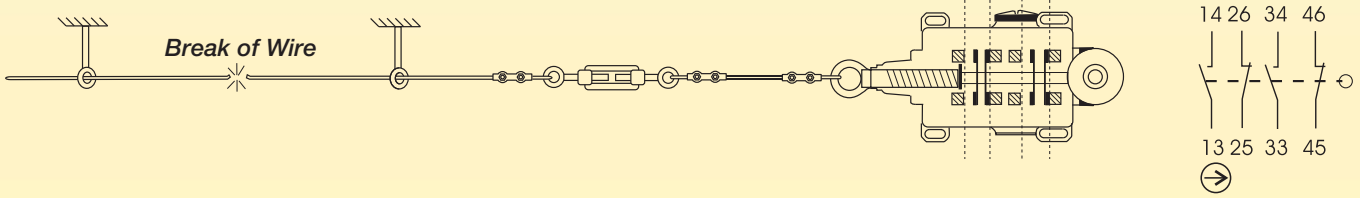
Note: *According to BS 5304, one switch should be installed at each end of the wire on applications above 2 m.*











JSESB Emergency Stop Buttons

The JSESB emergency stop button is a high quality emergency stop, designed to use in robotic, machine and automation safety applications.

The JSESB is manufactured using an aluminum and zinc alloy (zama) for all metal parts and polymide and polycarbonate for all plastic parts.

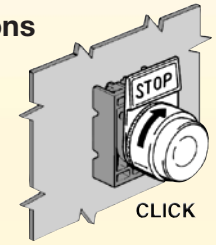
The E-Stop offers rugged oil and water-tight construction and have rear panel locking screws on the mounting adapter. Our E-Stop has double break, positive opening and self-cleaning contacts. The JSESB is rated for low current electronic applications —5 milliamps at 12 volts.

Regulations and Standards

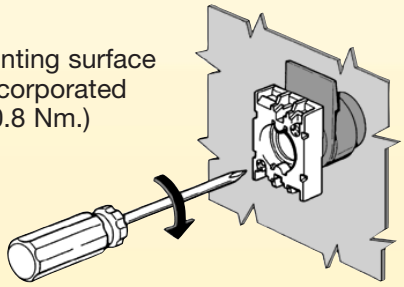
The JSESB is designed and approved in accordance with appropriate standards. Examples of such are: IEC/EN 60947-1 and IEC/EN 60947-5-1.

Mounting Instructions

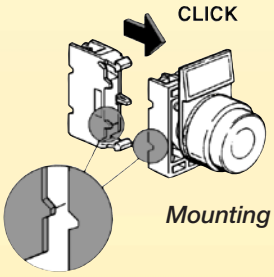
Operators latch onto the mounting adapter with a simple rotation.

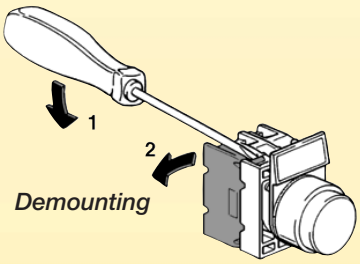


Fixing to the mounting surface is by means of incorporated screws (Tmax = 0.8 Nm.)



Auxiliary contacts snap onto the mounting adapter.





Applications

Emergency stops

Features

- 22mm mounting
- Ø40 mm
- Red “EMERGENCY” push button
- Maintained
- Twist to release
- Mechanical latching (EN418 compliant)

Optional Features

- Panel mount with 2 NC or 2 NC and 1 NO contacts
- Same as above with push button enclosure
- Preassembled version with push button enclosure and Tina 3A dynamic adapter for use with Vital Safety System

Approvals

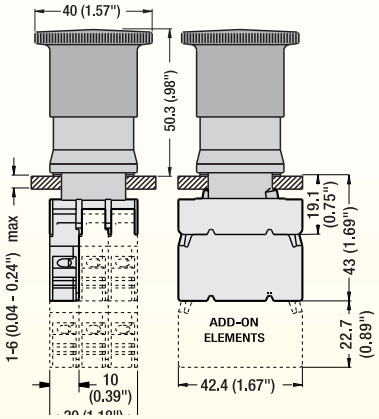
CE c UL us

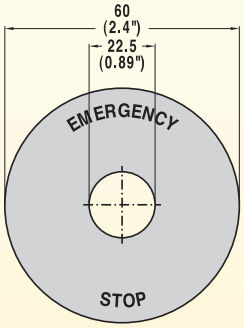
JSESB Technical Data

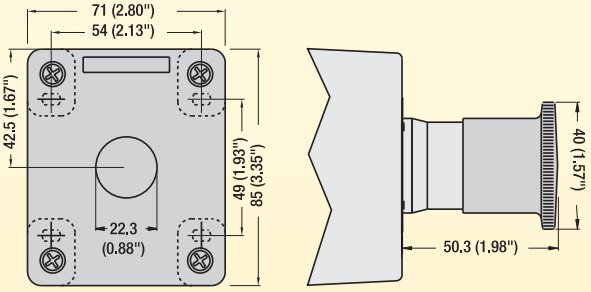
Manufacturer.....JOKAB SAFETY
Ordering Data/Article Numbers.....see page 9:19
Operational Characteristics
Ambient Operating Temperature.....-25°C to +60°C
Ambient Storage Temperature.....-40°C to +70°C
Degree of Protection.....IP66
(any mounting position allowed)
Pushbutton Enclosure
Material.....Plastic, white cover with black bottom
Conduit Entry.....Top and bottom fitted with a fairlead
(21.3 mm diameter entry)
Protection Class..... IP65
(using adequate wire glands)
Tightening Torque of Cover Fixing Screws..... 0.8Nm
Materials
Metal parts..... Aluminum and zinc alloy (zama)
Plastic parts.....Polyamide and Polycarbonate
Mechanical Endurance
Operating Force.....0.8 kg (operator)
Mechanical Life for
Mushroom Head Latch Buttons.....300,000 cycles
Contacts
Self-Cleaning.....Dual effect, wiping and oscillating
Normally Closed.....Direct (positive) opening operation
(per IEC/EN 60947-5-1)
Rated Insulation Voltage.....690 V
Rated Thermal Current Ith.....10 A
UL Designation.....A600 Q600

Operational Power in AC15							
(V)	12	24	48	120	240	400	480
(A)	6	6	6	6	3	1.9	1.5
Operational Power in DC13							
(V)	12	24	48	125	250	440	
(A)	3	3	1.5	0.55	0.27	0.15	

Contact Capacity.....≤20 m Ω
Terminals.....Screw with washer
Maximum Tightening Torque.....1 Nm
Maximum Wire Cross Section.....1 or 2 12 AWG
2.5 mm 2 conductors
Operating Force..... 0.5 kg
Electrical Life.....1,000,000 cycles
Terminals.....Screw with washer
Degree of Protection.....IP20
Plastic Name Plate Disk
Material.....yellow non-adhesive plastic
Size..... Ø60 mm
Inscription.....EMERGENCY STOP



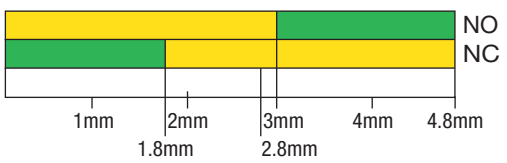




JSESB Contact Description

NC contact *NO contact*

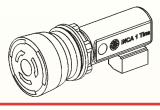
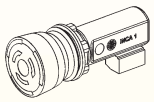
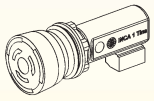
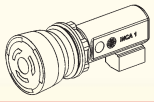
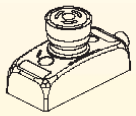
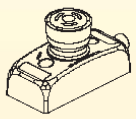
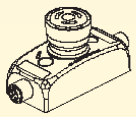
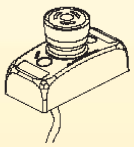
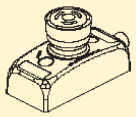
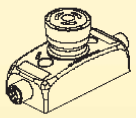
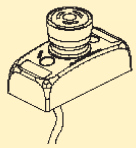
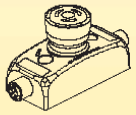
Stroke of Contacts



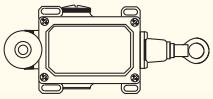
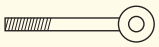
Closed Contact *Open Contact*

Contact Elements

Component List - Emergency Stops

Designation		Article Number	Description
INCA 1 Tina		30-054-00	Emergency stop button for panel mounting with Tina function and dynamic function principle. LED indication in the button.
INCA 1		30-054-01	Emergency stop button for panel mounting with mechanical contacts. LED indication in the button.
INCA 1S Tina		30-054-02	Line stop button for panel mounting with Tina function and dynamic function principle. LED indication in the button. Black print.
INCA 1S		30-054-03	Line stop button for panel mounting with mechanical contacts. LED indication in the button. Black print.
INCA Yellow Surround		30-054-04	Yellow surround for emergency stop button.
Smile 11EA Tina		30-050-00	Emergency stop for Vital, 1 x M12 5-pole male connector. Red/Green LED.
Smile 11SA Tina		30-050-05	Line stop for Vital, 1 x M12 5-pole male connector. Red/Green LED.
Smile 12EA Tina		30-050-02	Emergency stop for Vital, 1 x M12 5-pole male connector, 1 x M12 5-pole female connector. Red/green LED.
Smile 10EA Tina		30-050-04	Emergency stop for Vital, 1m cable (5 x 0.34mm^2). Red/green LED.
Smile 11EA		30-051-00	Emergency stop, 2 x NC, 1 x M12 5-pole male connector.
Smile 12EA		30-051-02	Emergency stop, 2 x NC, 1 x M12 5-pole male connector, 1 x M12 5-pole female connector.
Smile 10EA		30-051-04	Emergency stop, 2 x NC, 1m cable (5 x 0.34mm^2).
Smile 10EK		30-051-06	Emergency stop, 2 x NC, 0.5m wires (4 x 0.5mm^2).

Component List - Emergency Stops

Designation	Article Number	Description
JSKL1-NS/2A	30-001-10	Emergency stop button box with internal Tina 2A.
JSKL1-NS/3A 	30-001-11	Emergency stop button box with internal Tina 3A.
JSKL1-NS 	30-003-02	Emergency stop button box with internal 2 NC relay.
JSNY10 	20-034-00	Emergency stop pull-rope switch.
JSNY10-M6	20-034-01	M6 nut (to eyebolt) for use with JSNY10 emergency stop grab wire switch.
JSNY10-S6 	20-034-02	Eyebolt (M6 x 50) for use with JSNY10 emergency stop grab wire switch.
JSNY10-T4 	20-034-03	Wire thimble for use with JSNY10 emergency stop grab wire switch.
JSNY10-L3 	20-034-04	Duplex wire clamp for use with JSNY10 emergency stop grab wire switch.
JSNY10-W3	20-034-05	Red plastic-coated wire (3mm core/4mm sleeve) for use with JSNY10 emergency stop grab wire switch. Specify length in meters.
JSNY10-V6 	20-034-06	Wire turnbuckle (M6 x 60) for use with JSNY10 emergency stop grab wire switch.
JSNY10-K	20-034-07	Mounting kit for use with JSNY10 emergency stop grab wire switch, including 25m red plastic-coated wire, 1 wire turnbuckle, 4 wire thimbles, 4 duplex wire clamps and 5 eyebolts with nuts.
JSNY10-S8	20-034-09	Eyebolt (M8 x 50) for use with JSNY10 emergency stop grab wire switch.
JSNY10-R5 	20-034-09	Swivel for wire for use with JSNY10 emergency stop grab wire switch.
JSESB	20-034-09	Emergency stop button with double break, positive opening and self-cleaning contacts. Rated for low current electronic applications — 5 milliamps at 12 volts.
JSESB-C01	50-001-14	NC contact block.
JSESB-C10	50-001-15	NO contact block.
JESB-YD60	50-001-21	Yellow non-adhesive plastic name plate disk with EMERGENCY STOP inscription.