

Emergency stop with indication

Smile Tina



Smile Tina - small and cost effective E-stop

In order to fulfil the need for a small and easy to install E-stop, Smile has been developed. The size of the device makes it possible to be installed wherever you want. With M12 connections or cable and centralised mounting holes Smile is very easy to install, especially on aluminium extrusions. Smile is available for E-stops in both dynamic and static safety circuits i.e. for interfacing to Vital system/Pluto safety PLC 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 Tina E-stop unit, LEDs show the actual status according to the dynamic system:

Green = everything is OK, Red = E-stop activated.

Flashing Red/Green = Stop activated from another preceding device. Smile is also available with black push button and used as a safety stop. See section on safety stops.

The Smile Tina emergency stop is available in four versions:

1. Smile 10EA Tina has a 1 m cable connected via the base of the unit.
2. Smile 11EA Tina has a five-pole M12 connector on the end of the unit for connecting the ABB Jokab Safety cable.
3. Smile 12EA Tina has two five-pole M12 connectors, one on each end of the unit for connecting the ABB Jokab Safety cable.
4. Smile 11EAR Tina has one 5-pole M12 connector at one end for connection of cable from ABB Jokab Safety.

Approvals:



Application:

To stop a machine or a process

Features:

Emergency push button up to cat. 4/PL e acc. to EN ISO 13849-1

Light grids, emergency stop and Eden in the same safety loop together with Vital or Pluto gives cat. 4/PL e acc. to EN ISO 13849-1

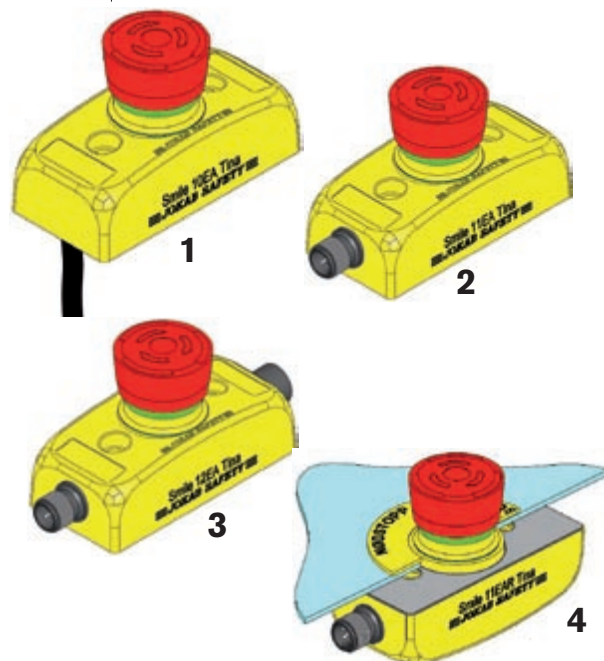
With LED indication on push button

Robust

Info-signal from each emergency stop

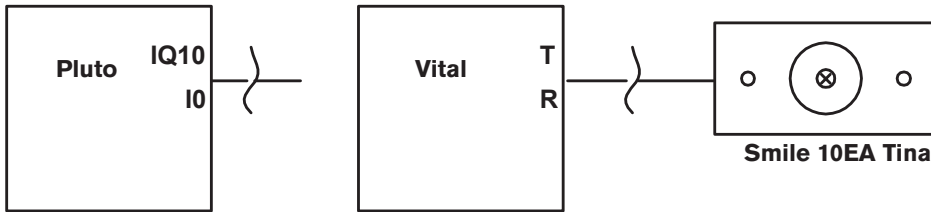
Push button IP 65, housing IP67

Available as safety stop (black push button)

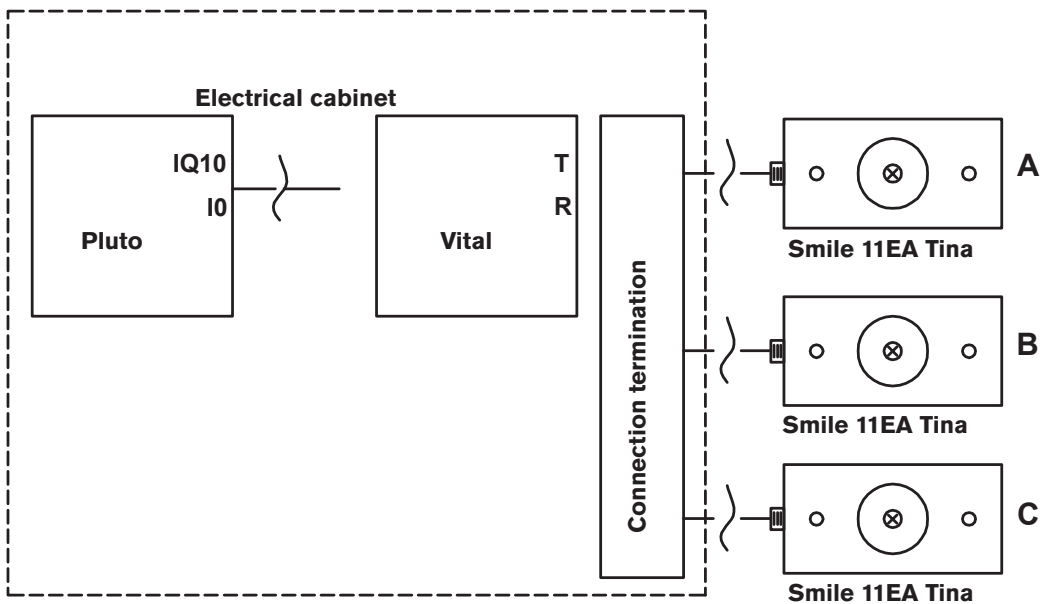


Connection examples – Smile Tina

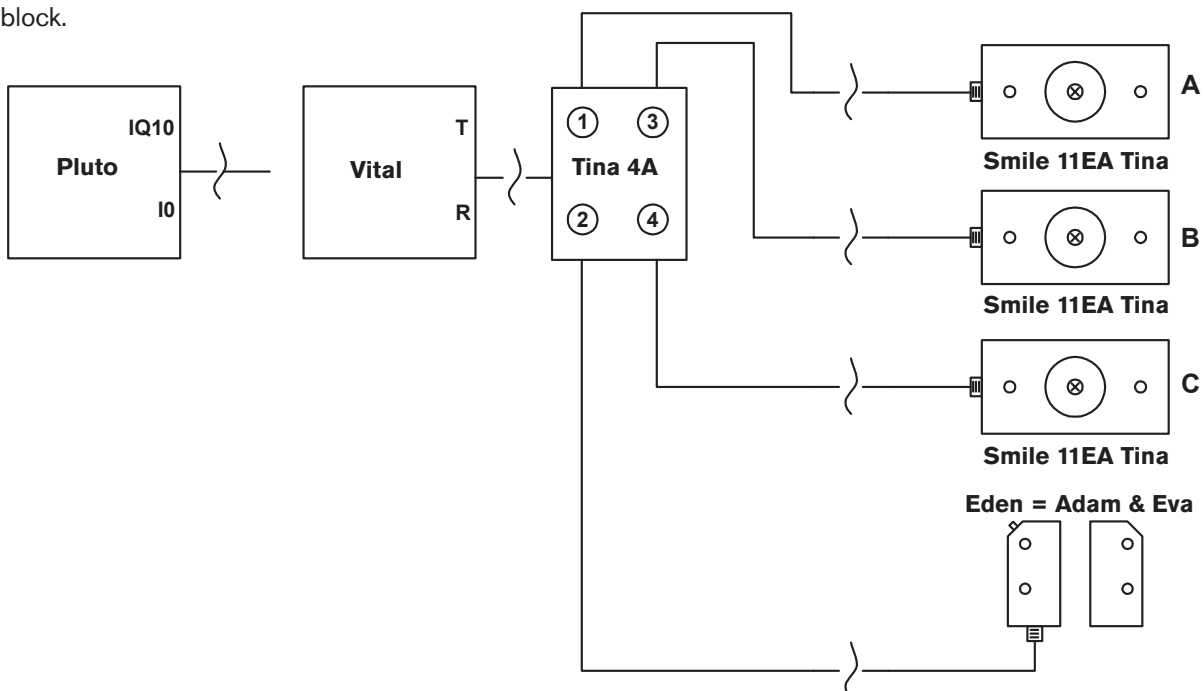
Smile 10EA Tina can be connected to either a Pluto or Vital system. Safety circuit category 4 with LED indication/information. The connection cable exits from underneath the unit.



Smile 11EA Tina can be connected to either a 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 a 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.



Connection examples – Smile Tina

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	R	R	↔	H	L	H
R	R	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

The table shows the information output signal status from each of the Smile 11EA Tina units in the previous connection examples.

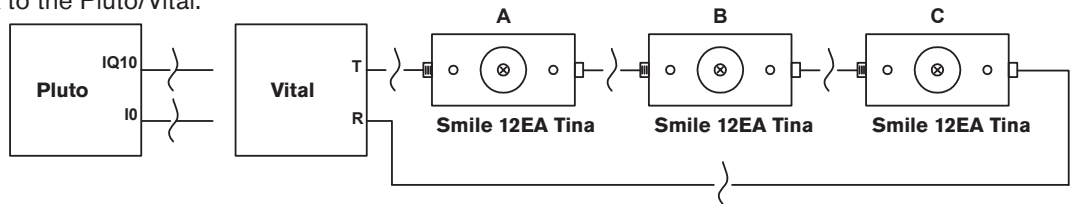
In the example showing connection with an Eden sensor, the Eden status information signal acts in the same way as the Smile Tina 11EA units.

The status information signal can be connected to e.g. PLC input.

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

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

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



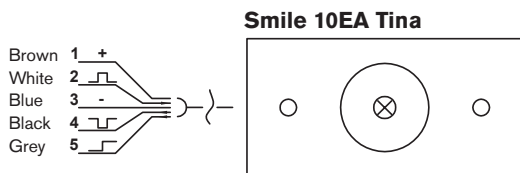
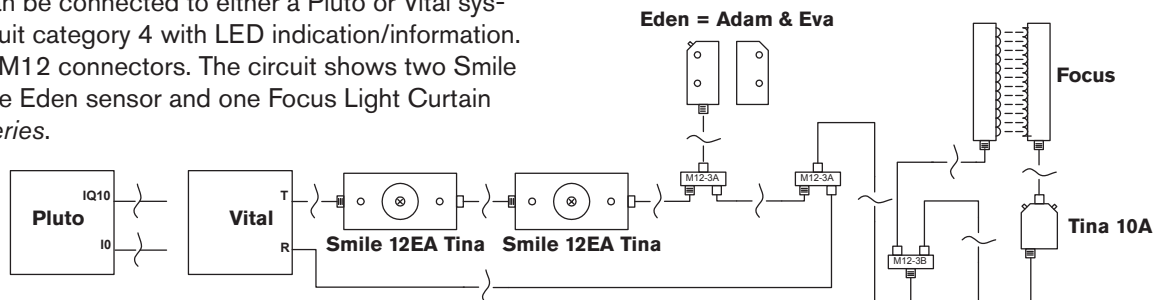
E-Stop Button status LED Indication

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 shows the LED indication status of the E-Stop buttons in the previous connection examples, where three Smile 10 EA, Smile 11EA or 12EA Tina units are connected in series.

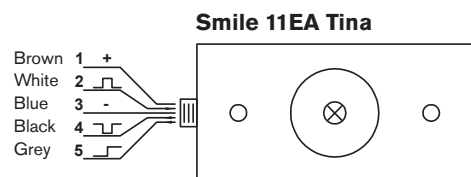
- A = Smile 10/11/12 EA Tina
- B = Smile 10/11/12 EA Tina
- C = Smile 10/11/12 EA Tina
- R = Released
- D = Depressed
- G = Green light from the top of the button
- Rd = Red light from the top of the button
- F = Flashes between green and red light

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

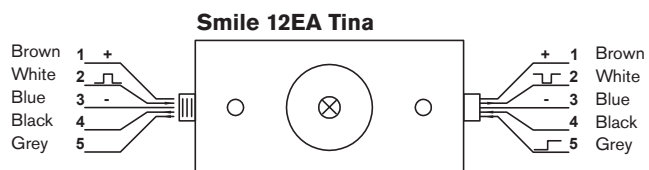


1. Input voltage, 17-27 VDC ripple +/- 10%
2. Dynamic input signal
3. 0 VDC
4. Dynamic output signal
5. Information output

The connection cable is connected to the Smile 10EA Tina unit via the back panel.



1. Input voltage, 17-27 VDC ripple +/- 10%
2. Dynamic input signal
3. 0 VDC
4. Dynamic output signal
5. Information output



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

Technical data – Smile Tina	
Manufacturer:	ABB AB/Jokab Safety, Sweden
Article number/ ordering data:	
Smile 10EA Tina with 1 m connection cable	2TLJ030050R0400
Smile 11EA Tina with M12 male connector	2TLJ030050R0000
Smile 12EA Tina with male and female M12 connectors	2TLJ030050R0200
Smile 11EAR Tina	2TLJ030050R0100
Note. There are versions for use with relay technology (without Tina).	
Impact resistance (half sinusoidal)	max. 150 m/s ² , pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27
Vibration resistance (sinusoidal)	max. 50 m/s ² at 10 Hz, 10 cycles, 3-axis, as per EN IEC 60068-2-6
Climate resistance	
Damp heat, cyclical	96 hours, +25 °C / 97%, +55 °C / 93 % relative humidity, as per EN IEC 60068-2-30
Damp heat, sustained	56 days, +40 °C / 93 % relative humidity, as per EN IEC 60068-2-28
Dry heat	96 hours, +70 °C, as per EN IEC 60068-2-2
Cooling	96 hours, -40 °C, as per EN IEC 60068-2-1
Salt mist	96 hours, +35 °C in a chemical solution with NaCl as per EN IEC 60068-2-11
Level of safety: IEC/EN 61508-1...7	SIL 3
PFH_d:	4,66E-09
Colour:	Yellow, red and black
Weight:	Approx. 65 grams
Size:	Length: 84 mm + M12 contact(s) (12.5mm each) Width: 40 mm Height: 52 mm
Material:	Polyamid PA66, Macromelt, Polybutylenterephthalate PBT, Polypropylen PP, UL 94 V0
Ambient temperature:	-10°C to +55°C (operation) -30°C to +70°C (stock)
Protection class:	IP 65
Mounting:	Two M5 hexagon socket screws, L ≥25 mm. Hole centres: 44 mm

LED on E-Stop:	Green: Safety device OK, Safety circuit OK Flashing: Safety device OK, safety circuit broken. Red: Breaks in safety device and safety circuit
Time delay:	1:1.5 (Two Smile units are equal to three Edens in time delay)
Input voltage:	17-27 VDC ripple ±10%
Current consumption:	47 mA (57mA with max. current from information output)
Current from information output:	10 mA max
E-Stop button Actuating force:	22±4 N
Actuator travel:	Approx. 4 mm to latch
Material, contacts:	Silver alloy gold plated
Life, mechanical:	> 50 000 operations
Accessories:	
Emergency stop sign S D F, 32.5mm	2TLJ030054R0700
Emergency stop sign E F T, 32.5mm	2TLJ030054R0800
Conformity:	EN ISO 13850, EN 60204, EN 60947-5-1 & -5



Sign for emergency stop

