Emergency stop with indication
Smile

Approvals:

CE Inspecta cULus

Application:

– To stop a machine or a process

Features:

– Emergency push button up to PL e/Cat. 4 acc. to EN ISO 13849-1
– With LED info in push button
– Robust
– IP65
– Available as safety stop (black push button)
– Available for AS-i

Smile - small and cost effective E-stop

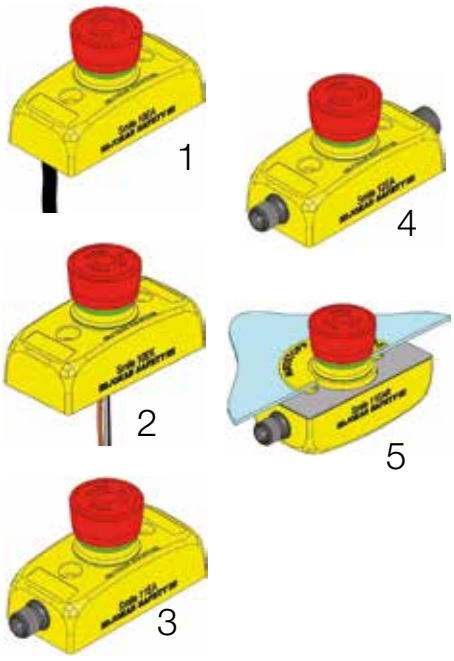
In order to fulfill the need for a small and easy to install E-stop, Smile has been developed. The size of the device makes it possible to be installed wherever you want. With M12 connection/s or cable and centralised mounting holes Smile is very easy to install, especially on aluminium extrusions. Smile is available for E-stops in both dynamic and static safety circuits i.e. for interfacing to Vital/Pluto and Safety relays. Each version is available with either one or two M12 connections or cable. At the top of Smile, a LED shows the current status as: green = protection OK, red = this emergency stop has been pressed and if the LED is off, an emergency stop earlier in the circuit has been actuated. Smile is also available with black push button and is used as a safety stop. See section on safety stops.

Smile emergency stop comes in five different versions:

1. Smile 10 EA has a 1 m cable connected through the base of the unit.
2. Smile 10 EK has four 1 m connecting leads through the base of the unit. No LED.
3. Smile 11 EA has a 5-pole M12 connector on one end of the unit.
4. Smile 12 EA has two 5-pole M12 connectors, one on each end of the unit.
5. Smile 11 EAR has one 5-pole M12 connector at one end of the unit.

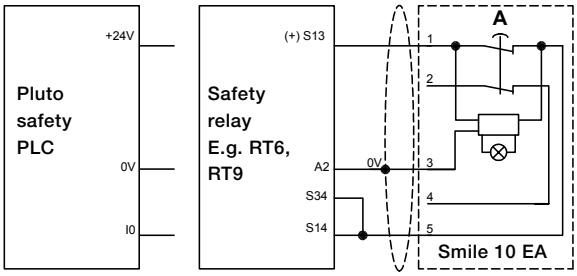
Smile 11 EA adapted for AS-i

The Smile 11 EA also comes in a version adapted for direct attachment to the AS-i bus.

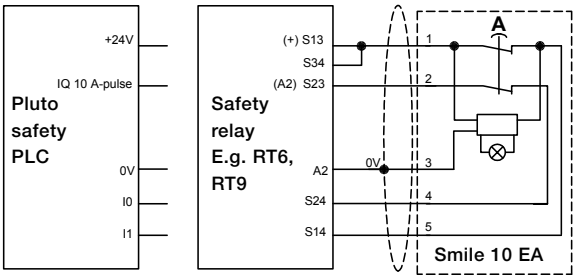


Smile
Connection examples

Smile 10 EA connected to either Pluto or a safety relay with LED indication. The connection cable exits from underneath.

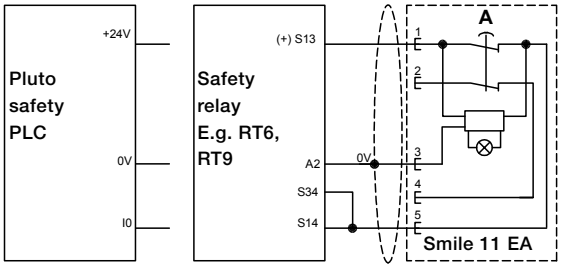


Single channel - Safety category 1.

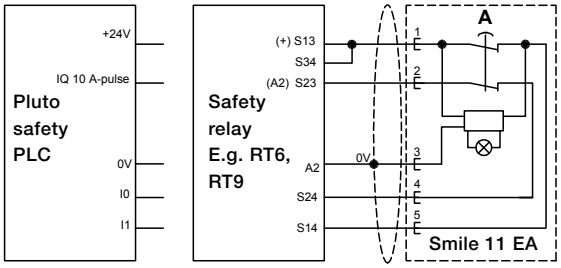


Dual channel - Safety category 4.

Smile 11 EA connected to either Pluto or a safety relay with LED indication. Connection via M12 connector.

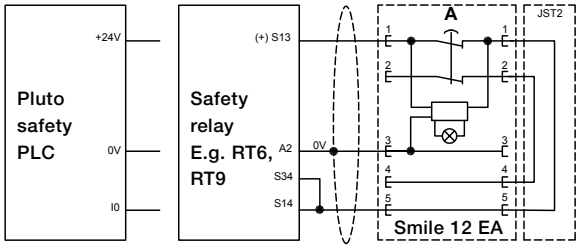


Single channel - Safety category 1.

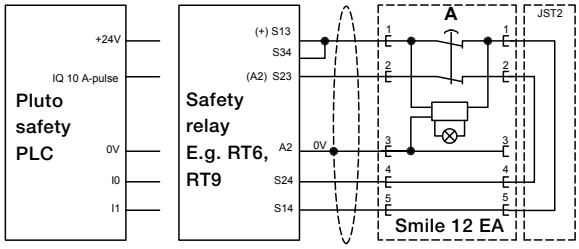


Dual channel - Safety category 4.

Smile 12 EA connected to either Pluto or a safety relay with LED indication. Connection via M12 connector + termination.

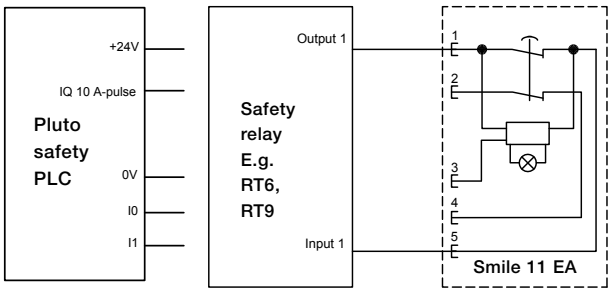


Single channel - Safety category 1.

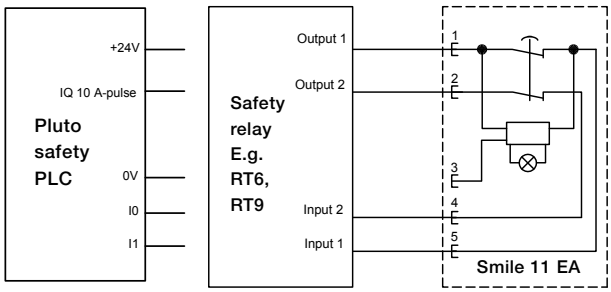


Dual channel - Safety category 4.

Smile 10 EA / 11 EA / 12 EA connected to either Pluto or a safety relay **without** LED indication.



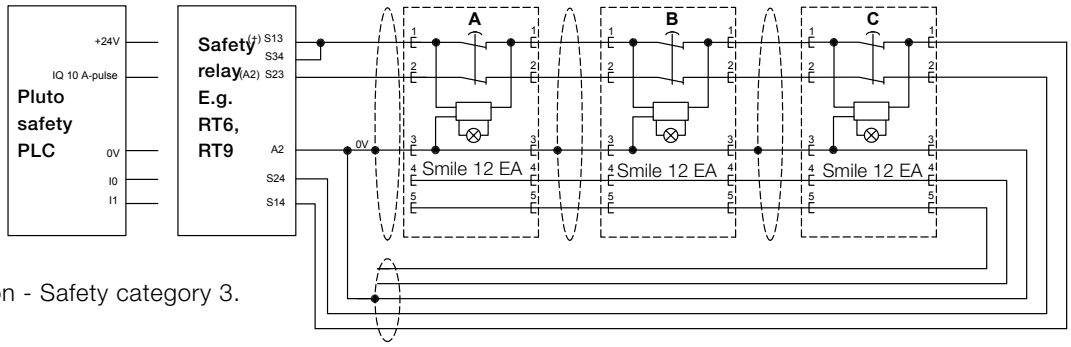
Single channel - Safety category 1.



Dual channel - Safety category 4.

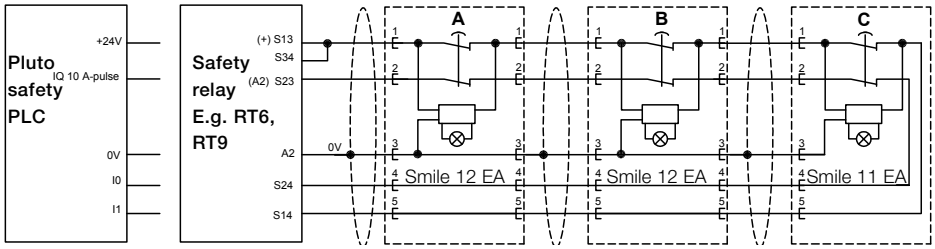
Smile
Connection examples

Smile 12 EA connected to either Pluto or a safety relay with LED indication. Connection via M12 connectors. Reconnection to the Pluto/safety relay is made via a separate cable. You can also use JST2 as a termination device after Smile12EA (C).



Dual channel series connection - Safety category 3.

Smile 12 EA and 11 EA connected to either Pluto or safety relay with LED indication. Connection via M12 connectors. Note that there is no termination connector as the Smile 11EA (C) completes the circuit without the need for a termination connector (JST2) or return cable.



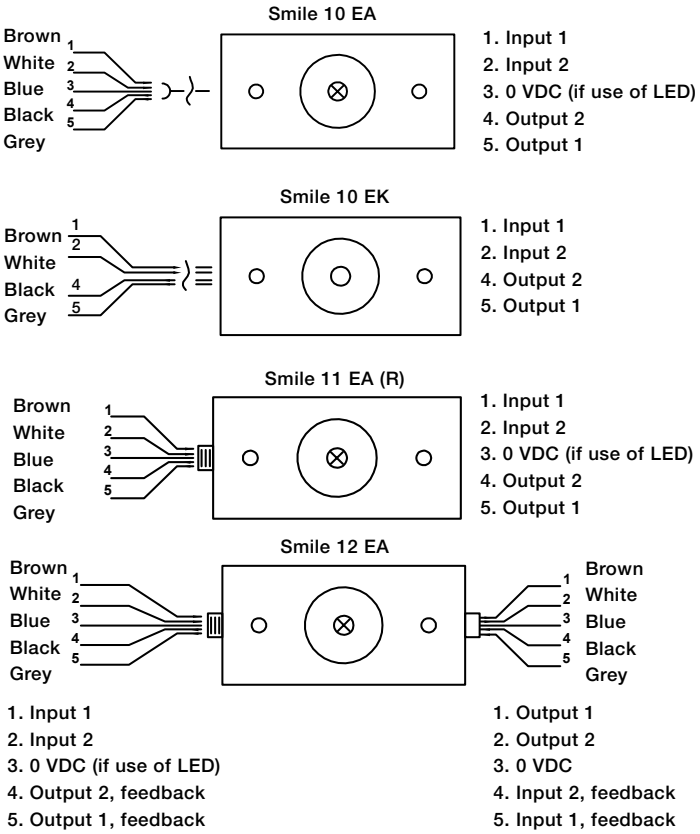
Dual channel series connection - Safety category 3.

LED Indication for the connection example above, where two Smile 12 EA and one Smile 11 EA are connected in series, is showed in the following table (applies for all Smile).

A = Smile 12EA
B = Smile 12EA
C = Smile 11EA

R = Released
P = Pressed
G = Green light
Rd = Red light
B = Blank, no light

E-Stop Button status				LED Indication		
A	B	C		A	B	C
R	R	R	↔	G	G	G
R	R	P	↔	G	G	Rd
R	P	R	↔	G	Rd	B
R	P	P	↔	G	Rd	B
P	R	R	↔	Rd	B	B
P	R	P	↔	Rd	B	B
P	P	R	↔	Rd	B	B
P	P	P	↔	Rd	B	B



Technical data – Smile

Article number	
Smile 10 EA	2TLA030051R0400
Smile 10 EK	2TLA030051R0600
Smile 11 EA	2TLA030051R0000
Smile 12 EA	2TLA030051R0200
Smile 11 EAR	2TLA030051R0100
Smile 11 EA AS-i	2TLA030052R0000
Note. There are other versions for dynamic technology (with Tina).	
Impact resistance (half sinusoidal)	max. 150 m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27
Vibration resistance (sinusoidal)	max. 50 m/s² 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 60068-2-78
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	
EN ISO 13849-1	Up to PL e/Cat. 4 depending upon system architecture
EN 62061	SIL 3 depending upon system architecture
IEC/EN 61508-1...7	SIL 3
PFH_D	1.60E-10
Colour	Yellow, red and black
Weight	Approx. 65 grams
Size	Length: 84 mm + M12 contact(s) (12.5 mm each) Width: 40 mm Height: 52 mm
Material	Polyamide PA66, Macromelt, Polybutylenterephthalate PBT, Polypropylene PP, UL 94 V0
Ambient temperature	-10°C to +55°C (operation), -30°C to +70°C (stock)
Protection class	IP65
Actuating force	22 ± 4 N
Actuator travel	Approx. 4 mm to latch
Mechanical life	> 50 000 operations
Mounting	Two M5 recessed hexagon head screws, L ≥25 mm. Hole cc: 44 mm

LED on E-Stop	Green: Safety device OK, Safety circuit OK Off: Safety circuit is previously interrupted. (When an E-Stop is depressed all following units in the circuit lose the LED function). Red: This button is pressed, and the safety circuit is interrupted.
Operating voltage (LED)	17-27 VDC ripple ±10% (LED supply voltage)
Current consumption (LED)	15 mA
Material, contacts	Silver alloy gold plated
Min current	10 mA 10 VDC/ 10 VAC
Max current	2 A 24 VDC
Accessories	
Emergency Stop Sign S DK FIN, 32.5 mm	2TLA030054R0700
Emergency Stop Sign EN F D, 32.5 mm	2TLA030054R0800
Emergency Stop Sign (blank) 32.5 mm	2TLA030054R1000
JST2 termination for Smile 12	2TLA030051R1300
Smile side shield	2TLA030054R1100
Conformity	EN ISO 12100:2010, EN ISO 13849-1:2008, EN 62061:2005, IEC 60664-1:2007 EN 60204-1:2006+A1:2009, EN 61000-6-2:2005, EN 61000-6-4:2007, EN 60947-5-5:2005, EN ISO 13850:2006

Smile side shield

Sign for emergency stop

Termination device JST2