

Emergency stop buttons

Smile, INCA, EStrong and Compact

Emergency stop buttons are used to safely stop dangerous machine functions.

ABB offers a wide range of emergency stop buttons for external mounting or panel mounting, with plastic or metal housing and for different types of connections.



Easy to install

Compact size

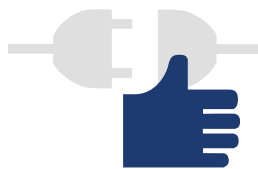
Models with a compact and appealing housing saves space and makes it easy to place.

Quick installation

Quick and easy installation of models with features such as centered mounting holes, removable terminal blocks and M12 connectors.

Serial connection

Tina models save cable length and installation time with serial connection.



Optimum interface

Highly adaptable

Several models to choose between depending on position, installation and function.

Reliable in extreme conditions

Robust models and models in stainless steel for use in demanding environments.



Continuous operation

LED diagnostics

Models with integrated LED diagnostics reduce downtime when troubleshooting.

Models and application

Emergency stop buttons

Models for external mounting

Smile

Smile is a small and easy to install emergency stop button. Its size allows mounting in reduced spaces, and its centered mounting holes makes it especially easy to mount on aluminum extrusions (e.g. Quick-Guard fencing system). Smile is available with M12 connectors or cable.

Smile has an integrated LED in the button that shows the status and simplifies error tracking.

The standard models of Smile have 2 contacts and can be used with safety controllers from all brands. Smile Tina models belong to the ABB DYNlink solution, with the advantages of serial connection using only one channel and still reaching Cat. 4/PL e.



Compact

Compact emergency stop buttons offer a robust enclosure with a high IP rating that fulfill the demands in severe and humid environments, such as food and beverage industry. Compact can be fitted with a Tina adapter for use in a DYNlink solution (Tina 2A, Tina 2B or Tina 3A).



EStrong

EStrong is an emergency stop button designed to provide a robust unit in exposed and severe environments. The unit has a stainless steel enclosure with IP69K rating that withstands high pressure and high temperature wash-down. It is therefore ideally suited for industries with special demands, such as food processing or chemical industry.



Models for panel mounting

INCA

INCA is an emergency stop button for panel mounting, designed for installation in 22.5 mm holes. Its removable terminal block facilitates connection and exchange.

INCA has an integrated LED in the button that shows the status and simplifies error tracking.

The standard model of INCA has 2 contacts and can be used with safety controllers from all brands. INCA Tina models belong to the ABB DYNlink solution, with the advantages of serial connection using only one channel and still reaching Cat. 4/PL e.



Smile Reverse

Smile Reverse is identical to the regular Smile emergency stop button besides from being reversed in order to be mounted on the back side of a panel. Smile Reverse has an IP65 housing that makes it suitable in panels where moisture and dust may occur.

Smile Reverse has an integrated LED in the button that shows the status and simplifies error tracking.

The standard model of Smile Reverse has 2 contacts and can be used with safety controllers from all brands. The Smile Reverse Tina model belongs to the ABB DYNlink solution, with the advantages of serial connection using only one channel and still reaching Cat. 4/PL e.



Application

Emergency stop buttons are used to safely stop a dangerous machine function in order to prevent an accident, or minimize the consequences of an accident. An emergency stop should be a complement to other safety devices, and not a replacement for them.



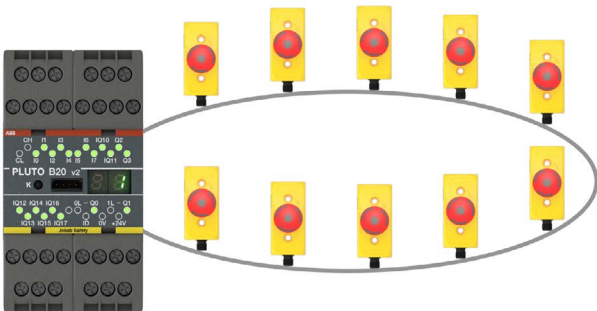
Features

Emergency stop buttons

Communication features

DYNlink

Emergency stop buttons with Tina in their name belong to the DYNlink solution, which enables serial connection using only one channel and still reaching Cat. 4/PL e. DYNlink devices must be used with Vital safety controller or Pluto programmable safety controller. Up to 30 DYNlink devices can be connected in series to Vital and up to 10 can be connected to each input on Pluto.



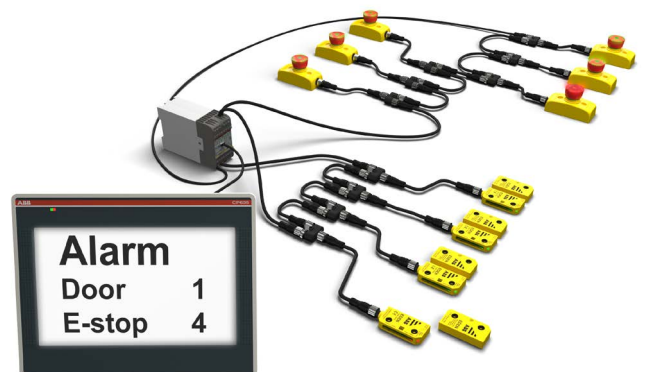
AS-i

Smile is available in a model compatible with the AS-i safety bus. Smile AS-i can be used with any AS-i monitor. AS-i is a bus system that offers a very simple connection of up to 31 safety devices to one monitor according to PL e and makes it easy to move, remove and add safety devices. When Smile AS-i is used with Pluto programmable safety controller, no other AS-i master or monitor is necessary, and no specific knowledge of AS-i is required.



StatusBus

StatusBus is a simple and cost effective way to collect the status information of emergency stops and safety sensors. The StatusBus functionality is available with some DYNlink devices and allows to collect the status of each individual safety device, even when connected in series. A Pluto programmable safety controller must be used to read the StatusBus information, and a single input on Pluto can collect the status of up to 30 safety devices. The devices are connected using standard cable and M12-5 connectors. No specific bus cable or extra communication module is necessary.



Ordering information

Emergency stop buttons



2TLC172863F0201

Smile 10 EA Tina



2TLC172857F0201

Smile 11 EC Tina



2TLC172187F0201

Smile 12 EA



ABB Compact emergency stop shroud



2TLC172858F0201

EStrongZ and EStrongZ LED

External mounting

| Description | Type of safety signal | Connection type | Feature | Type | Order code |
|---|-----------------------|-----------------------|--------------------------|----------------------|-----------------|
| Compact size Plastic housing IP65 | DYNlink | 1 m cable from bottom | Status LED | Smile 10 EA Tina | 2TLA030050R0400 |
| | | 1 x M12-5 male | Status LED | Smile 11 EA Tina | 2TLA030050R0000 |
| | | 1 x M12-5 male | Status LED, StatusBus | Smile 11 EC Tina | 2TLA030050R0900 |
| | | 2 x M12-5 male | Status LED | Smile 12 EA Tina | 2TLA030050R0200 |
| | AS-I | 1 x M12-4 male | Status LED | Smile 11 EA AS-I | 2TLA030052R0000 |
| | 2 NC | 1 m cable from bottom | Status LED | Smile 10 EA | 2TLA030051R0400 |
| | | 1 m leads from bottom | - | Smile 10 EK | 2TLA030051R0600 |
| 1 x M12-5 male | | Status LED | Smile 11 EA | 2TLA030051R0000 | |
| Plastic housing IP66, IP67 and IP69K | 2 NC* | 2 x M20 conduits | - | CEPY1-1002 (Compact) | 1SFA619821R1002 |
| | | | With shroud | CEPY1-2002 (Compact) | 1SFA619821R2002 |
| Metal housing IP67 and IP69K | 2 NO + 2 NC | 3 x M20 conduits | Status LED | EStrongZ LED | 2TLA050220R0222 |
| | | | - | EStrongZ | 2TLA050220R0020 |

* Can be adapted to DYNlink with Tina

Panel mounting

| IP rating | Depth | Connection type | Type of safety signal | Feature | Type | Order code |
|--------------------------------|-------|-----------------------------|-----------------------|--------------------------|-------------------|-----------------|
| IP65 | 26 mm | 1 x M12-5 male | DYNlink | Status LED | Smile 11 EAR Tina | 2TLA030050R0100 |
| | | | 2 NC | Status LED | Smile 11 EAR | 2TLA030051R0100 |
| Button IP65, connector IP20 | 53 mm | Removable terminal block | DYNlink | Status LED | INCA 1 Tina | 2TLA030054R0000 |
| | | | | Status LED, StatusBus | INCA 1 EC Tina | 2TLA030054R1400 |
| | | | 2 NC | Status LED | INCA 1 | 2TLA030054R0100 |



2TLC172861F0201

Smile 11 EAR



2TLC172383F0201

INCA 1

Accessories

Emergency stop buttons



M12-3S

2TLC17203AV0201



Tina 8A

2TLC172471F0201



E-sign 22.5

2TLC172906F0201

Connection accessories

| Description | Type | Order code |
|--|----------|-----------------|
| Connection accessories | | |
| M12 Y-connector for serial connection of device with StatusBus functionality. | M12-3S | 2TLA020055R0600 |
| M12 Y-connector for serial connection of devices without StatusBus functionality. | M12-3A | 2TLA020055R0000 |
| Connection block for the serial connection of up to 4 DYNlink devices with 12-5 connectors. | Tina 4A | 2TLA020054R0300 |
| Connection block for the serial connection of up to 8 DYNlink devices with 12-5 connectors. | Tina 8A | 2TLA020054R0500 |
| Adaptation unit for DYNlink solution with M20 fitting. For e.g. Compact. | Tina 2A* | 2TLA020054R0100 |
| Adaptation unit for DYNlink solution, internal assembly. For e.g. Compact. | Tina 2B* | 2TLA020054R1100 |
| Adaptation unit for DYNlink solution with M20 fitting and M12 connector. For e.g. connecting Compact to Pluto/Vital. | Tina 3A* | 2TLA020054R0200 |
| Termination for Smile 12 | JST2 | 2TLA030051R1300 |

Accessories

| | | |
|--|----------------------|-----------------|
| Emergency stop sign, yellow, no text, for INCA (22.5mm) | E-Sign 22.5 | 2TLA030054R0900 |
| Emergency stop sign, yellow, no text, for Smile (32.5mm) | E-Sign 32.5 | 2TLA030054R1000 |
| Yellow surround for Inca | Surround for Inca | 2TLA030054R0400 |
| Yellow shroud for Compact | CA1-8053 | 1SFA619920R8053 |
| Stainless steel cable gland, for EStrong | Gland M20x1.5 | 2TLA050040R0002 |
| Stainless steel conduit plug, for EStrong | Conduit Plug M20x1.5 | 2TLA050040R0004 |
| LED Green/Red 230 VAC, for EStrong | LED 230 | 2TLA050211R0003 |

* For more information about Tina adapter units, please see Pluto and Vital chapters.



M12-C61

2TLC172951F0201



M12-C61HE

2TLC010003F0201

Cable with connectors

| Connector | Female/male | Length | Special feature | Type | Order code |
|-----------|---------------|--------|---------------------------------|-------------|-----------------|
| M12-5 | Female | 6 m | | M12-C61 | 2TLA020056R0000 |
| | | | Harsh environment, halogen free | M12-C61HE | 2TLA020056R8000 |
| | | 10 m | | M12-C101 | 2TLA020056R1000 |
| | | | Harsh environment, halogen free | M12-C101HE | 2TLA020056R8100 |
| | | | | M12-C201 | 2TLA020056R1400 |
| | Female + male | 0.3 m | | M12-C0312 | 2TLA020056R5800 |
| | | 0.06 m | | M12-C00612 | 2TLA020056R6300 |
| | | 1 m | | M12-C112 | 2TLA020056R2000 |
| | | 3 m | | M12-C312 | 2TLA020056R2100 |
| | | 6 m | | M12-C612 | 2TLA020056R2200 |
| | | 10 m | | M12-C1012 | 2TLA020056R2300 |
| | | | Angled female connector | M12-C1012V2 | 2TLA020056R6700 |
| | | 16 m | | M12-C1612 | 2TLA020056R5400 |
| | | 20 m | | M12-C2012 | 2TLA020056R2400 |

Separate cables and connectors

| Description | Type | Order code |
|-----------------------------|---------|-----------------|
| Connectors | | |
| M12-5 pole female, straight | M12-C01 | 2TLA020055R1000 |
| M12-5 pole male, straight | M12-C02 | 2TLA020055R1100 |

Cable with 5 conductors

| | | |
|---|----------------|-----------------|
| 10 m cable with 5 x 0.34 shielded conductors | C5 cable 10 m | 2TLA020057R0001 |
| 50 m cable with 5 x 0.34 shielded conductors | C5 cable 50 m | 2TLA020057R0005 |
| 100 m cable with 5 x 0.34 shielded conductors | C5 cable 100 m | 2TLA020057R0010 |
| 200 m cable with 5 x 0.34 shielded conductors | C5 cable 200 m | 2TLA020057R0020 |
| 500 m cable with 5 x 0.34 shielded conductors | C5 cable 500 m | 2TLA020057R0050 |



M12-C01

2TLC172857F0201












C5 cable

2TLC010039F0201

Technical data

Emergency stop buttons

Technical data

| | |
|-------------------------------|---|
| Approvals | |
| Smile, INCA | Inspecta  |
| Smile Tina, INCA Tina | TÜV NORD  |
| Smile AS-i | TÜV NORD Inspecta  |
| EStrong |   |
| Compact |     |
| Conformity | |
| Smile, INCA | CE 2006/42/EC - Machinery EN ISO 12100:2010, EN ISO 13849-1:2008/AC:2009, EN 60204-1:2006+A1:2008, EN ISO 13850:2008 |
| Smile Tina, INCA Tina | CE 2006/42/EC - Machinery 2004/108/EC - EMC EN ISO 12100:2010, EN ISO 13849-1:2008, EN 62061:2005, EN 60204-1:2006+A1:2009, IEC 60664-1:2007, EN 61000-6-2:2005, EN 61000-6-4:2007, EN 60947-5-5:2005, EN ISO 13850:2008 |
| Smile AS-i | CE 2006/42/EC - Machinery EN ISO 12100:2010, EN ISO 13849-1:2008/AC:2009, EN ISO 13849-2:2012, EN 60204-1:2007+A1, EN ISO 13850:2008, IEC 60947-5-5:2005 |
| EStrong | CE 2006/42/EC - Machinery EN ISO 12100:2010, EN ISO 13850:2008, EN 60204-1:2006+A1:2009, EN 60947-1:2007+A1:2011, EN 60947-5-1:2004+A1:2009, EN 60947-5-5:1997+A1:2005 |
| Compact | CE 2006/42/EC - Machinery EN 60947-1:2007, EN 60947-5-1:2004, EN 60947-5-5:1997+A1:2005 |
| Functional safety data | |
| EN 61508:2010 | Up to SIL3, depending on system architecture |
| EN 62061:2005 | Up to SILCL3, depending on system architecture |
| EN ISO 13849-1:2008 | Up to Cat. 4, PL e, depending on system architecture |
| Smile, INCA | $B10_d = 100\ 000$ |
| Smile Tina, INCA Tina | $PFH_D = 4,66 \times 10^{-9}$ |
| Smile AS-i | $PFH_D = 1,69 \times 10^{-9}$ |
| EStrong | $B10_d = 1\ 500\ 000$ |
| Compact | $B10_d = 50\ 000$ |

Technical data

Emergency stop buttons

Technical data

| | |
|------------------------------|---|
| Electrical data | |
| Operating voltage | |
| Smile, INCA | 17-27 VDC +-10% |
| Smile Tina, INCA Tina | +24 VDC +15% -25% |
| Smile AS-i | +30 VDC from the AS-i bus. Tolerances 26.5 - 31.6 VDC |
| EStrong | 230 VAC / +24 VDC (the LED is +24 VDC originally, but can be replaced with a 230 VAC accessory) |
| Compact | 230 VAC / +24 VDC |
| Mechanical data | |
| Mechanical life | >50 000 operations |
| Operating temperature | |
| Smile, INCA | -10...+55°C |
| EStrong | -25...+80°C |
| Compact | -25...+70°C |
| Protection class | |
| Smile, INCA | IP65 |
| EStrong | IP67, IP69K |
| Compact | IP66, IP67, IP69K |
| Weight | |
| Smile | 65 g |
| INCA | 45 g |
| EStrong | 820 g |
| Compact | 108 g, 124 g (with shroud) |
| Material | |
| Smile | Polyamide PA66, Macromelt, polybutylenterephthalate PBT, Polypropene PP, UL 94 V0 |
| INCA | Polyamide PA66, Macromelt, polybutylenterephthalate PBT, Polypropene PP, UL 94 V0 |
| EStrong | Stainless steel 316 housing |
| Compact | Polycarbonate |

More information

For more information, e.g. the complete technical information, see product manual for:

Smile [2TLC172097M0201](#)

INCA [2TLC172163M0201](#)

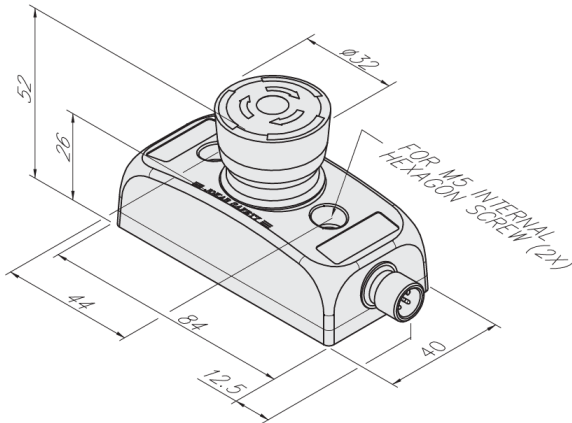
EStrong [2TLC172247M0201](#)

Compact [1SFC151005C0201](#)

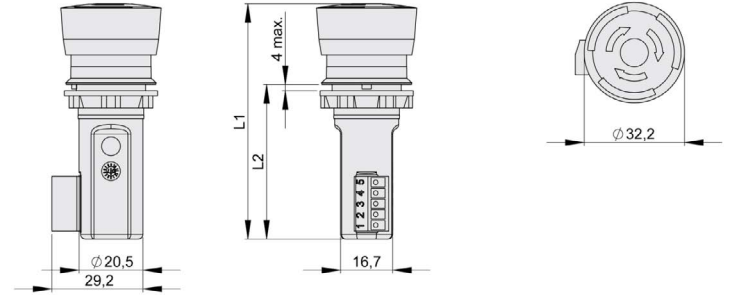
Dimension drawings

Emergency stop buttons

Smile

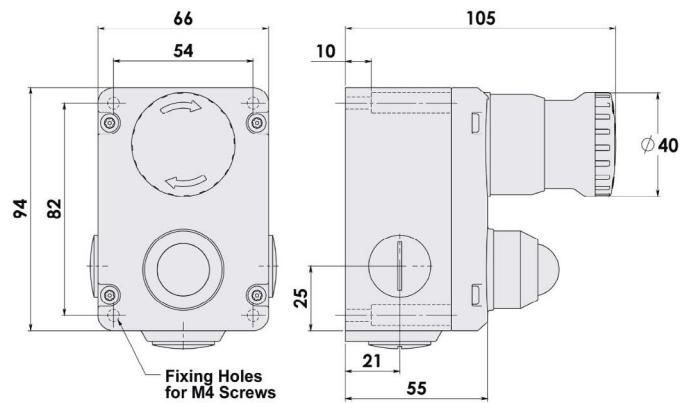


INCA

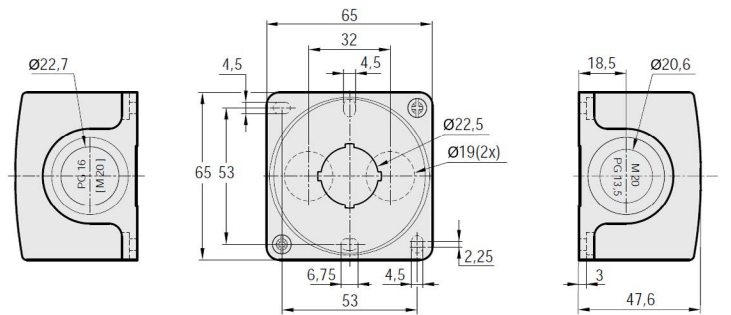


| Type | L1 mm | L2 mm |
|----------------|-------|------------|
| INCA 1 EC Tina | 75.5 | 49.5 ± 0.5 |
| INCA 1 | 80 | 54 ± 0.5 |
| INCA 1 Tina | 80 | 54 ± 0.5 |

EStrong



Compact



All dimensions in mm

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