Emergency stop with indication
Smile AS-i

Application:

– To stop a machine or a process
– Safe input node in AS-i systems

Features:

– Emergency push button up to PL e/Cat. 4 acc. to EN ISO 13849-1
– Simple connection to AS-i bus
– With LED indication on push button and AS-i status indication
– Robust
– IP65
– Available as safety stop (black push button)

Smile 11 EA AS-i is an emergency stop with a built-in dual channel safe AS-i input node. The AS-i bus and the safety around it is specified by the two organisations "AS-International Association" and "AS-Interface Safety at Work", and is described in publications such as "AS-Interface The Automatic Solution".

Smile 11 EA AS-i is supplied with 30 VDC from the AS-i bus. The recommended connection to the AS-i bus is made via a flat cable terminal to M12 (see Figure), which makes it possible to quickly and easily connect the device to the yellow AS-i cable.

Smile 11 EA AS-i can also be connected directly to the AS-i bus using only two conductors (pins 1 and 3 on the unit's M12 contact). Smile is also available with black push button and is used in this case as a safety stop. See section on safety stops.

The possibility with LED indication is also avalible on the Smile 11 EA AS-i, with the difference that the AS-i version has programable LEDs. This gives the customer full flexibility for making own indication.

11

Technical data – Smile AS-i

Article number	
Smile 11 EA AS-i	2TLA030052R0000
AS-i data	
AS-i profile	S-7.B.0
Addressing	M12-contact
Node address on delivery	0
Response time across the AS-i bus	5 ms (+ response time for safety monitor)
Pin configuration	
(1)	AS-i +
(2)	Not used
(3)	AS-i –
(4)	Not used
(5)	Not used
Operating voltage	30 VDC from the AS-i bus. Tolerance 26.5 – 31.6 VDC.
Total current consumption	< 60 mA
Protection class	IP65
Ambient temperature	-25…+50°C
Dimensions	52 x 40 x 84 (+12,5 mm M12 contact) (H x W x L)
Colour	Yellow, red and black
Actuating force	22 ±4 N
Actuating travel	Approx. 4 mm to latch
Mechanical life	> 50 000 operations
PFH_D	6.95 x 10^{-9}
Level of safety	
EN ISO 13849-1	Up to PL e/Cat. 4 depending upon system architecture $MTTF_d$: high
EN 62061	SIL 3 depending upon system architecture
IEC/EN 61508-1...7	SIL 3, PFD_{avr}: 2.95 x 10^{-5}, PFH_D: 6.95*10^{-9}
Conformity	EN ISO 12100:2010, EN ISO 13849-1:2008/AC:2009, EN ISO 13849-2:2008, EN 60204-1:2007+A1, EN ISO 13850:2006

LED in emergency stop button

LED is individually programmed in the PLC program as shown below.

LED in push button	Indicator	Description
Red	ON	Output bit 1 ON
	OFF	Output bit 1 OFF or Output bit 1 & 2 ON
Green	ON	Output bit 2 ON
	OFF	Output bit 2 OFF or Output bit 1 & 2 ON

AS-i LED and Fault LED

in combination LED pair at the M12 contact.

AS-i (Green)	Fault (Red)	Description
OFF	OFF	AS-i voltage missing
ON	OFF	Normal operation
ON	ON	No data exchange with master
Flash	ON	No data exchange due to address = 0