Coded Non-Contact Safety Sensor
Eden Dynamic

Approvals:

CE   c(UL)us LISTED   TÜV SÜD

Application:

– Door and hatches
– Position control
– Sector detection

Features:

– Non-contact detection, 0-15 mm
– Up to 30 devices in series with PL e
– High level coded
– Local reset function
– Protection class IP69K

Eden Dynamic is a coded non-contact safety sensor used as interlocking device with a Vital safety module or a Pluto safety PLC. Eden consists of Adam and Eva.

Highest level of safety with less devices

Eden Dynamic makes it possible to reach a PLe: with only one Eden Dynamic per guard and no need for periodic checks (see ISO/TR 24119) and also, with several Eden Dynamic and even other types of safety devices connected in series. With Eva Unique Code, Eden Dynamic is a high level coded sensor to be used when the motivation to defeat the safety sensor has not been totally eliminated. (See EN ISO 14119:2013)

Reduced installation time

A local reset light button can be connected directly to Adam DYN-Reset, thus saving cable length and Vital safety modules/PLC inputs. Adam DYN-Reset monitors the reset function and manages the reset lamp. Eden Dynamic large mounting tolerance, compact dimensions and 360° mounting possibility facilitate its placing. Its M12 connector speeds up installation and exchange.

Increased productivity

Eden Dynamic extensive indication and information output facilitates troubleshooting, thus reducing downtime. The large sensing distance gives a better tolerance to vibrations and minimises the risk of involuntary stops. With an IP69K protection class as standard and a wide operating temperature range, Eden Dynamic can withstand extreme environments.

13±2 mm   13±2 mm   15±2 mm   5 mm   5 mm
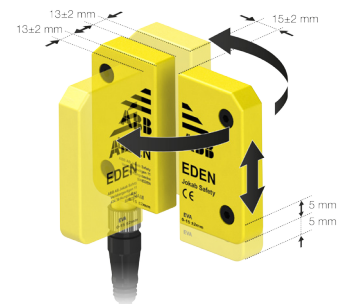
Flexible mounting and long sensing distance.

**Serial connection of three Adam Dynamic-Reset M12-5 through M12-3A with individual Smile 12RF reset.**

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Technical data

Functional Safety Data	
IEC/EN 61508-1...7	SIL3 - PFH_d 4.5 x 10^{-9}
EN 62061	SIL3
EN ISO 13849-1	PL e/Cat. 4
EN 14119	Type 4,
	High level coded with Eva Unique
	Low level coded with Eva general

Power supply	
Rated operating voltage	24 VDC +15% / -45%
Power consumption	30 mA at 24 VDC
Reset indication output	Max 30 mA (Adam DYN-Reset)
Information output	Max 15mA (Adam DYN-Info)

Electrical data	
Transponder frequency	4 MHz
Max. switching frequency	1 Hz

Environmental data	
EMC	EN 60947-5-3 :1999+A1:2005
Ambient temperature	-40°C … +70°C (Storage)
	-40°C … +70°C (Operation)
Humidity range	35% to 85%
	(no icing, no condensation)

Times	
Switch-on delay power on	2 s
Switch-on delay Eva in range	<100 ms
Switch-off delay Eva missing	< 30 ms
Risk time	< 30 ms

Mechanical data	
Colour	Yellow and grey text
Weight	Eva: 70 g Adam M12: 80 g
Protection class	IP67K and IP69K with a 0.6 Nm torque on M12 contact
Material - Housing	Polybutylene terephthalate (PBT)
Material - moulding	Epoxy
Connector	M12 5-pole male
Rated operating distance	0-15 ± 2 mm
	(Hysteresis 1-2 mm)
Assured release distance (Sar)	25 mm
Assured operating distance (Sao)	10 mm
Recommended distance between Adam and Eva	7 mm[1]
Min. distance between two Eden	100 mm

[1] The proximity of metal can influence the sensing distance. Use distance plates DA 1B to avoid it.

Conformity	
	EN ISO 12100:2010
	EN ISO 13849-1:2008+AC:2009
	EN 62061:2005+A1:2013
	EN 60204-1:2006+A1:2009
	EN 60664-1:2007
	EN 61000-6-2:2005
	EN 61000-6-4:2007
	EN 60947-5-3:2013
	EN ISO 14119:2013
	EN 61508:2010

Connections Adam DYN M12-5*	
Brown (1)	+24 VDC
White (2)	Dynamic in
Blue (3)	0 V
Black (4)	Dynamic out
Grey (5)	Adam - Info: Information
	(+24 VDC when contact with Eva)
	Adam - Reset: Reset/indication

LED on Adam	
Green:	Valid Eva within range, dynamic in OK (Safety circuit closed)
Flashing green:	Valid Eva within range, waiting for reset (Safety circuit open)
Flashing red/green:	Valid Eva within range, dynamic in missing (Safety circuit open)
Red:	Valid Eva out of range (Safety circuit open)
Fast flashing green:	Valid Eva within 2 mm from the maximum detection distance (Safety circuit closed)
Flashing red:	No Eva programmed (Safety circuit open)

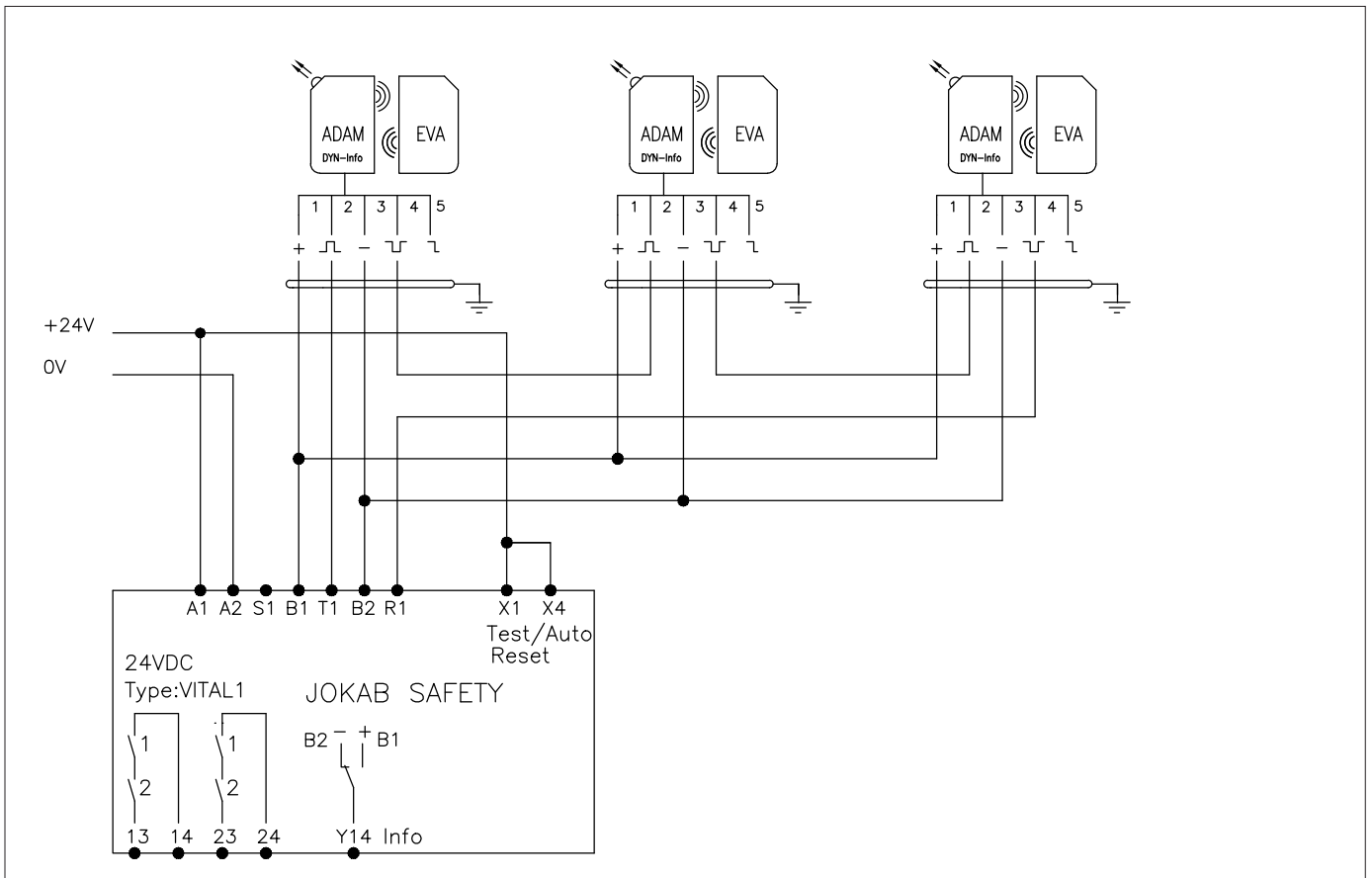* Note: Colours according to ABB Jokab Safety standard cables

Dimensions

Adam DYN-Reset with illuminated reset button
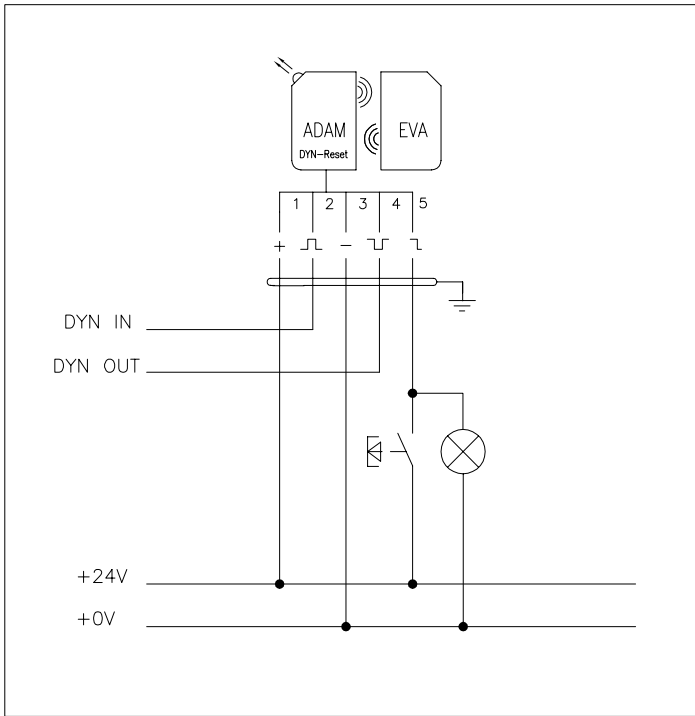
Several Adam DYN-Info connected in series to Vital 1 with automatic reset

Models and ordering information

Models

Adam DYN-Info M12-5	2TLA020051R5100	Adam DYN with M12-5 connector and information signal on pin 5.
Adam DYN-Reset M12-5	2TLA020051R5300	Adam DYN with M12-5 connector and possibility to connect a reset button to pin 5.
Eva General code	2TLA020046R0800	All Eva general code have the same code and can easily be replaced with each other.
Eva Unique code	2TLA020046R0900	Each Eva has a unique code. To be used when a high level coded sensor is necessary.

Accessories

DA 3A	2TLA020053R0600	Mounting converting plate from Eden E to Eden OSSD or Eden DYN
SM4x20	2TLA020053R4200	Safety screw for mounting Adam and Eva
SBIT	2TLA020053R5000	Safety screwdriver bit
Smile 12RF Reset button	2TLA030053R2600	Reset button for Adam with 5 pins
M12-3A	2TLA020055R0000	Y-connector for serial connection of Adam DYN
M12-3B	2TLA020055R0100	Y-connector for parallel connection of Adam DYN
Torque wrench	2TLA020053R0900	For M12 contact

## Spare parts

DA 1B	2TLA020053R0700	Distance plate in yellow PBT. 4 pcs delivered with Adam.
DA 2B	2TLA020053R0300	Mounting spacer. 4 pcs delivered with Adam and 4 with Eva.

Cables

M12-C61	2TLA020056R0000	Straight M12-5 female connector with 6 m shielded cable
M12-C101	2TLA020056R1000	Straight M12-5 female connector with 10 m shielded cable
M12-C201	2TLA020056R1400	Straight M12-5 female connector with 20 m shielded cable
M12-C112	2TLA020056R2000	Straight M12-5 female and male connectors with 1 m shielded cable.*
M12-C312	2TLA020056R2100	Straight M12-5 female and male connectors with 3 m shielded cable.*
M12-C612	2TLA020056R2200	Straight M12-5 female and male connectors with 6 m shielded cable.*
M12-C1012	2TLA020056R2300	Straight M12-5 female and male connectors with 10 m shielded cable.*
M12-C2012	2TLA020056R2400	Straight M12-5 female and male connectors with 20 m shielded cable.*

* Shielded cable connected to pin 3 (0 V) on male connector.
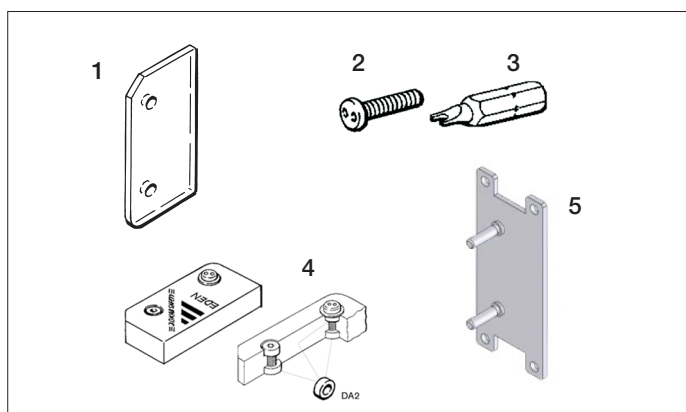
Accessories:
1 Protection plate DA 1B: 2TLA020053R0700
2 Safety screws, SM4 x 20: 2TLA020053R4200
3 SBIT: 2TLA020053R5000
4 DA 2B, Mounting spacer: 2TLA020053R0300
5 DA 3A, Mounting converting plate from Eden E: 2TLA020053R0600
  Supplied with two nuts

Contact us

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