

Non-contact safety sensor with integrated AS-i node

Eden AS-i



Approvals:



Application:

- Door and hatches
- Position control
- Slot detection

Features:

- Non contact detection, 0-15 mm
- Flexible mounting, 360°
- Protection class IP69K
- High level coded
- Extensive information
- Small hysteresis (1-2 mm)
- Signal passes through wood and plastic

Eden AS-i is a coded non-contact safety sensor equipped with an AS-i node. Eden consists of Adam and Eva. Eden is usually used for monitoring doors and hatches. The sensor is actuated when Adam and Eva are within sensing distance from each other.

Reduced installation time

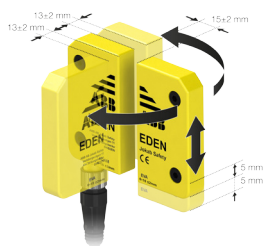
Eden AS-i large mounting tolerance, compact dimensions and 360° mounting possibility facilitate its placing. Its M12 connector speeds up installation and exchange. The AS-i system reduces tremendously the lengths of cables to be drawn. The vampire connectors facilitate changes. It is simple to add, move and disconnect safety devices on the AS-i cable as well as to extend the AS-i cable.

High level of safety with no risk of connection mistake

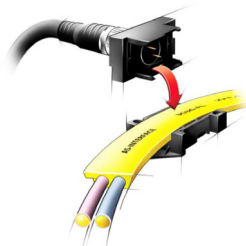
Adam and Eva can communicate through non-metallic materials and therefore be easily hidden in frames and guards, thus preventing fraud. Safety devices using AS-i make it easy to reach the highest level of safety while eliminating most risks of connection mistake. To reach a PL e, traditional safety devices require a cable running from each device to the electrical cabinet. With AS-i, all units are connected to the same AS-i cable running from the electrical cabinet and all around the cell, and PL e can be reached. Eden AS-i is a high level coded sensor to be used when the motivation to defeat the safety sensor is high.

Increased productivity

Eden AS-i offers an extensive indication, which facilitates troubleshooting, thus reducing downtime. Its status LED can be easily programmed and allows a perfect adaptation to the needs of the application. Its status is automatically sent to the Pluto Safety PLC. The large sensing distance gives a better tolerance to vibrations and minimizes the risk of involuntary stops. With an IP69K protection class as standard and a wide operating temperature range, Eden AS-i can withstand extreme environments.



Flexible mounting and long sensing distance.

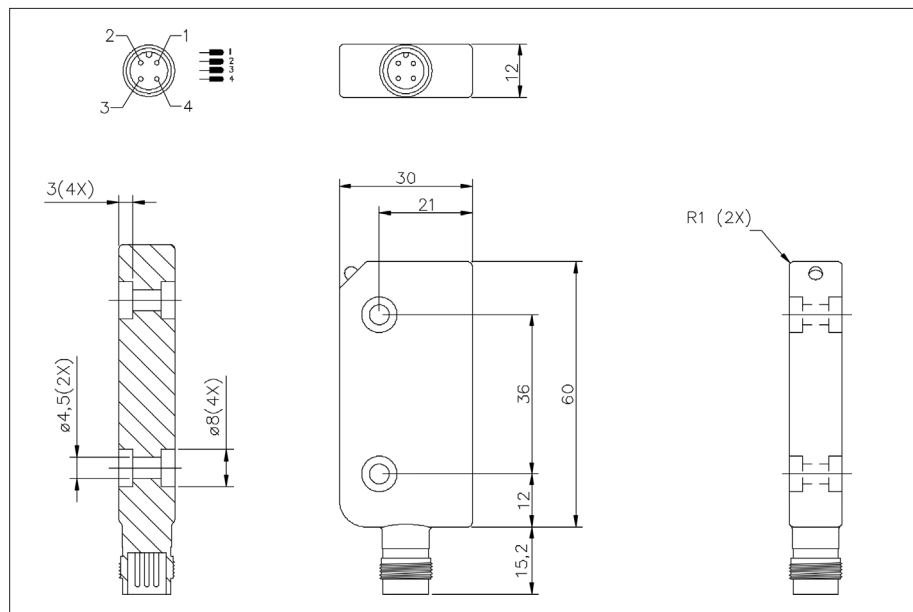


Vampire connector

Technical data

Functional safety data		Conformity	European Machinery Directive 2006/42/EC EMC directive 2004/108/EC EN ISO 12100:2010 EN ISO 13849-1:2008 EN 62061:2005 EN 60204-1:2006+A1:2009 EN 60664-1:2007 EN 61000-6-4:2007
EN ISO13849-1	PL e, category 4, PFH _d = 6.0 x 10 ⁻¹⁰		
EN 62061:2005	SILCL3, PFH _d : 6.0 x 10 ⁻¹⁰		
AS-i data		Connections	
AS-i profile	S-7.B.E	Brown (1)	AS-i +
Slave address at delivery	0	White (2)	Not connected
Addressing via	M12 connector	Blue (3)	AS-i -
Response time over AS-i bus	10 ms	Black (4)	Not connected
Power supply			
Operating voltage AS-i bus	30 VDC. Tolerance 26.5-31.6 VDC		
Total current consumption	70 mA		
Switching distance			
Rated operating distance (S _n)	15mm ± 2mm		
Assured release distance (S _{ar})	45 mm		
Assured operating distance (S _{ao})	7.5 mm		
Mechanical data			
Protection class	IP67 and IP69K		
Ambient temperature (Storage)	-40...+85°C		
Ambient temperature (Operation)	-25...+55°C		
Humidity range	35 to 85% (no icing, no condensation)		
Material (Housing)	Polybutylene terephthalate (PBT)		
Material (Moulding)	Epoxy		
Size	See Dimensions		
Weight	~150 g		
Colour	Yellow, black text		
Connector	M12-4 pole male connector		
Mounting screws	M4 screws. Max tightening torque 1 Nm. SM4x20 safety screws recommended.		
Min. distance between 2 Eden	100 mm		

Dimensions



LED indication

Status LED indication at delivery (automatic)

The LED indication can be programmed, see the manual. When not programmed, the indication is as indicated here:

LED	Indication	Description
LED on Adam AS-i	Green	Eva within sensing distance of Adam
	Green and/or Red (fast flash) or both lights at the same time	Eva within ~2 mm of maximum sensing distance
	Red	Eva not within sensing distance of Adam

Status LED indication that cannot be programmed

LED	Indication	Description
LED on Adam AS-i	Green-Red (flash)	No contact with AS-i master
	Red (flash)	Internal fault. Power cycle, replace if still present

AS-i LED and Fault LED in combination

AS-i (green)	Fault (red)	Description
OFF	OFF	AS-i power missing
ON	OFF	Normal operation
ON	ON	No data exchange with master
Flash	ON	No data exchange because address = 0

Mounting

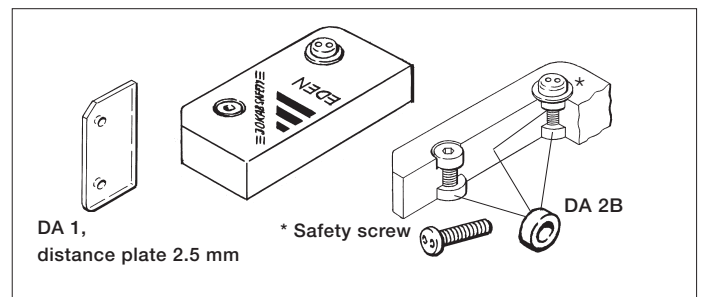
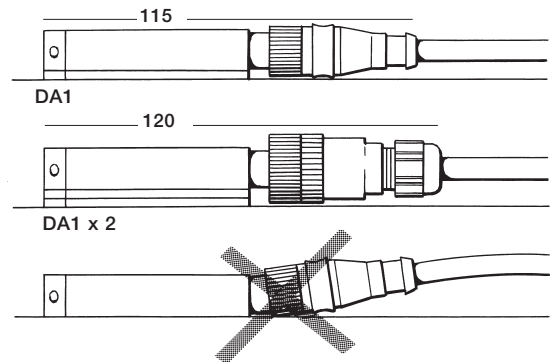
Installation and maintenance for Eden

Use the distance plates DA 1 supplied with Adam and the mounting spacers DA 2B supplied with Adam and Eva.

- With a prewired moulded M12 connector, use one DA 1
- with M12 connector and glanded cable, use two DA 1.

See the illustration.

Incorrect mounting without the distance plates may cause permanent damage to the sensor.



Models and ordering information

Adam AS-i	2TLA020051R6000	Adam AS-i M12-connector, 4 DA 1
Eva AS-i	2TLA020051R8000	Eva AS-i

Accessories

Safety screws	2TLA020053R4200	Safety screw SM4 x 20, for mounting Adam and Eva
SBIT	2TLA020053R5000	Safety screwdriver bit SBIT
Torque wrench	2TLA020053R0900	Torque wrench for M12 contacts

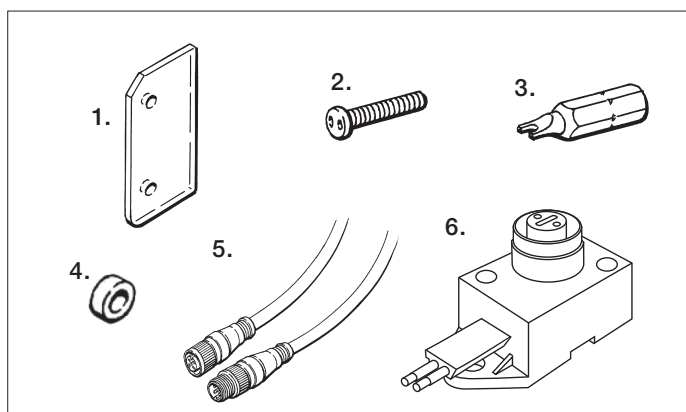
Spare parts

DA 1	2TLA020053R0000	Distance plates (4 pcs)
DA 2B	2TLA020053R0300	Distance ring black (4 pcs)

Cables and other connection accessories

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.*
AS-i T connector	2TLA020073R0000	Flat cable connector to M12

* Shielded cable connected to pin 3 (0 V) on male connector.



1. DA 1
2. Safety screw
3. SBIT
4. DA 2B
5. M12-Cx12 cable
6. AS-i T connector

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