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JULY 2020

# ABB Jokab Safety

Easy Reference Overview – US



# ABB Jokab Safety

What's new

## Americas Quick Guard (AQG)

- Easy to stock, design, order, and install fencing system
- AQG has been developed to be an easy to order fencing system with the end user in mind
- With 14 part numbers we can easily design a fencing system on a piece of paper

## Gkey Gate Box

- Modular Gate Box system
- Save money by ordering just the components you need

## Orion Safety Light Curtains

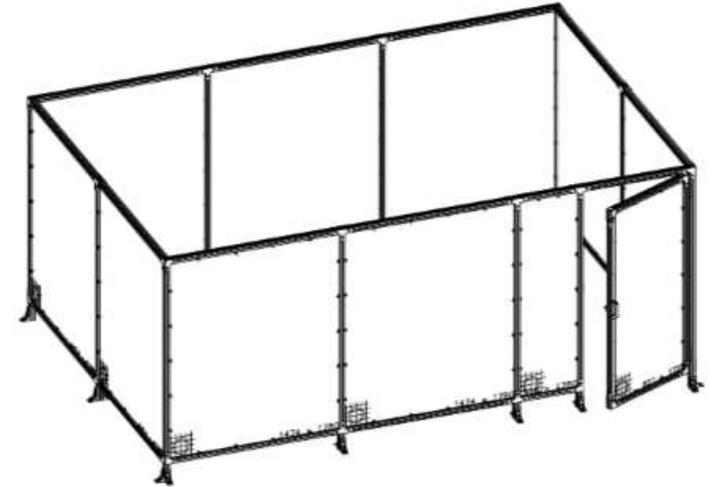
- Orion 1 Safety Light Curtains are for finger or hand detection
- Orion 2 Safety Light Grids are great for perimeter guarding solutions
- Orion 1 & 2 are available with either base or extended features

## ABB Jokab Safety Configurators

- Makes designing a safety system
- Click on Additional Information and go to page 3 or
- [Link Here](#)



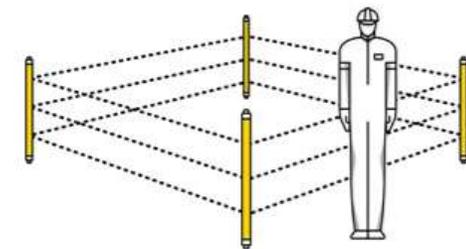
Gkey Gate Box



Americas Quick Guard



Orion 1 Safety Light Curtains



Orion 2 Safety Light Grids

Click on these buttons to go to navigation page for that product group

Relays &  
Pluto PLC

Dual Channel Devices

DynLink Devices

AQG & Eng  
Services

Additional  
Information

**Technical Support**  
Email [EPPC.Support@us.abb.com](mailto:EPPC.Support@us.abb.com)  
1-888-385-1221 Option 1

# Americas Quick-Guard

What is AQQ



## Easy to stock, design, order, and install fencing system

- AQQ has been developed to be an easy to order and stock fencing system with the distributor and end user in mind
- With 14 part numbers we can easily design a fencing system on a piece of paper
- A distributor can easily stock 1500mm panel, posts, door sections, and hardware kits
- AQQ components are stocked and shipped in individual cartons
- Quickly respond to their customers fencing needs with a minimal amount of stock
- Easily replace damaged sections with common panels
- RFQ to Delivery, One Day with a stocking distributor



[AQQ Configurator Link](#)

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AQQ & Eng Services

Additional Information

What's new

# Americas Quick-Guard



Start



To



Finish

25 Minutes for this AQQ S example or 5 minutes per 1500mm Section

AQQ E would be even faster

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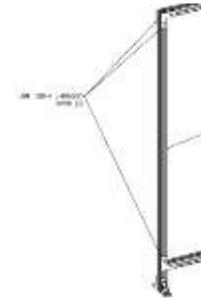
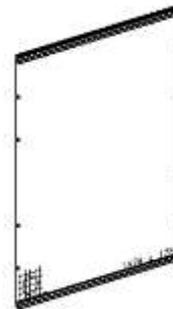
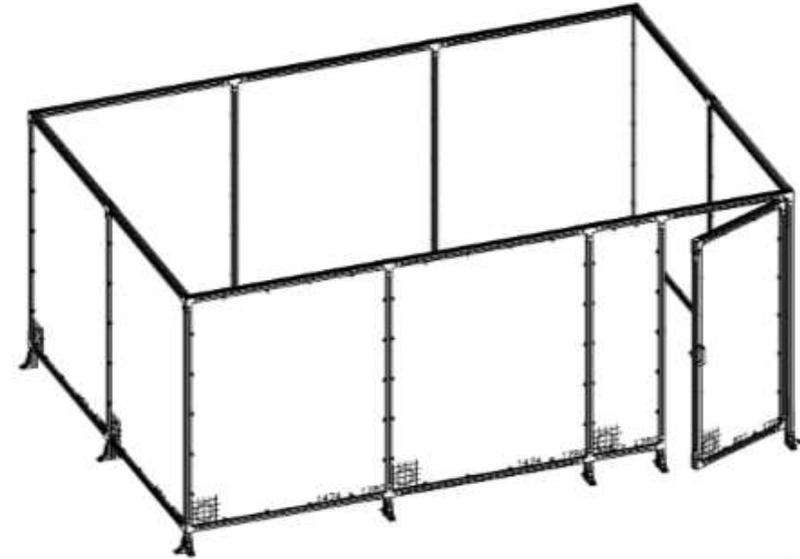
What's new

# Americas Quick-Guard

What is AQQ

## Easy to stock fencing system

- Stocking is easy with AQQ
- There are a total of four panels, two for AQQ Economy and two for Standard. All panels come with hardware to mount to posts.
- Two posts, a 44x44 and a 44x88, both two meters in height, and they come with the floor brackets
- There is only one door that is shared by both systems. The door comes assembled with a vertical post, magnetic latch, handle and a header profile. Ready to be installed.
- Bracket kits cover all the end, middle and corner door and post conditions
- All the components are individually packaged.
- With 14 part numbers we can easily design a fencing system on a piece of paper, and have it to the customer the next day



**(9) Panels** + **(10) Posts** + **(1) Door** + **(10) Bracket Kits**  
One Part Number    One Part Number    One Part Number    Two Part Number  
**2TLA140040R1000**

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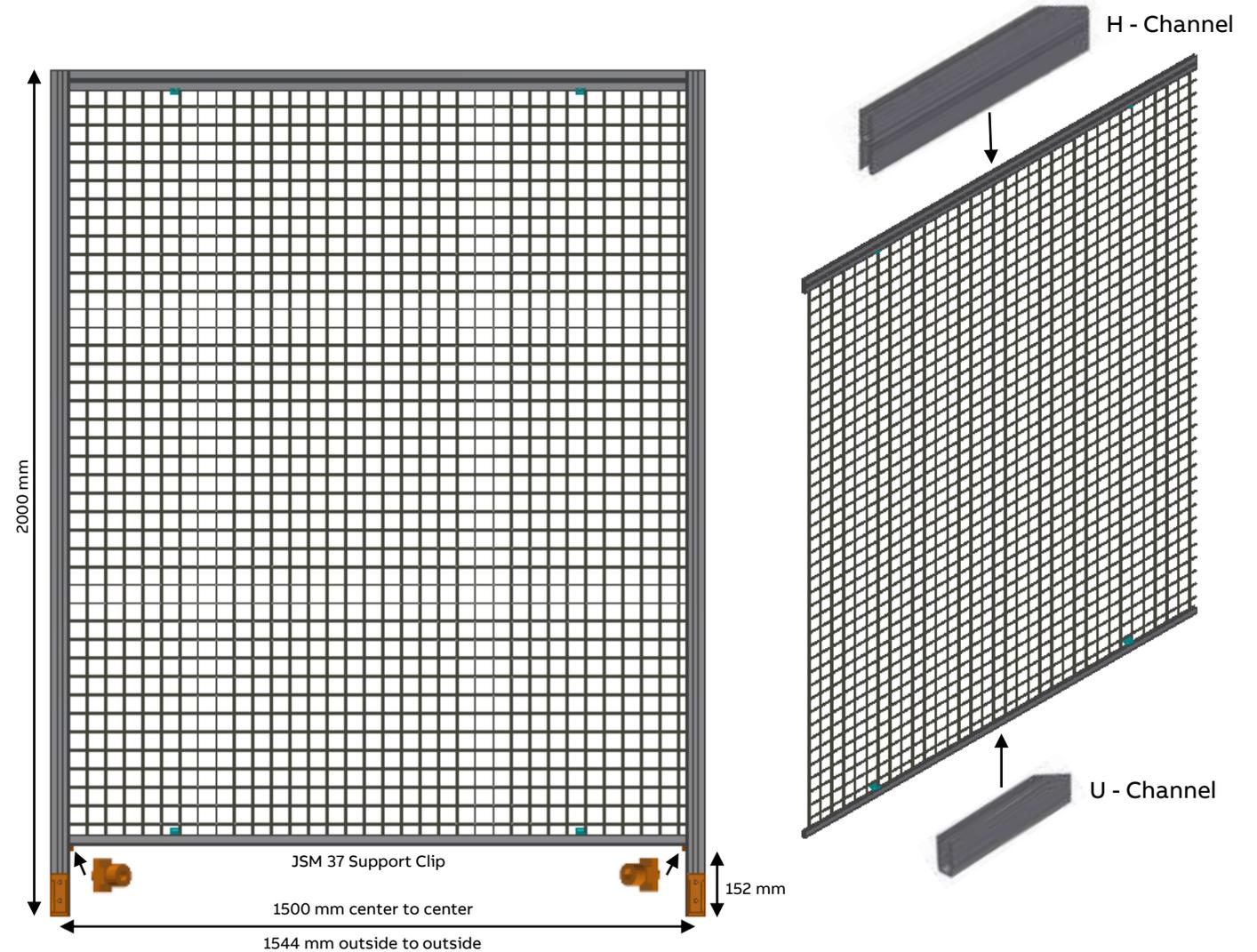
What's new

# Americas Quick-Guard

## What is AQG E

### Americas Quick-Guard E

- Most economical & flexible AQG style
- A 1500mm center to center mesh panel comes with H channel on top & U channel on the bottom. Net Locks are used to mechanically lock the mesh to the aluminum post. Net Locks are provided with the wire mesh.
- Two posts are available, 44x44 and a 44x88, both two meters in height, and they come with the floor brackets and JSM 37 support screws to be installed to support the mesh at the proper height.
- The mesh door comes with the necessary hardware along with a 44x44 post and a 44x44 header on top
- With the AQG S style a door kit is not used
- With 6 part numbers we can easily design aa AQG E style fencing
- Trimming the wire mesh panel to length with bolt cutters makes exact sizes easy



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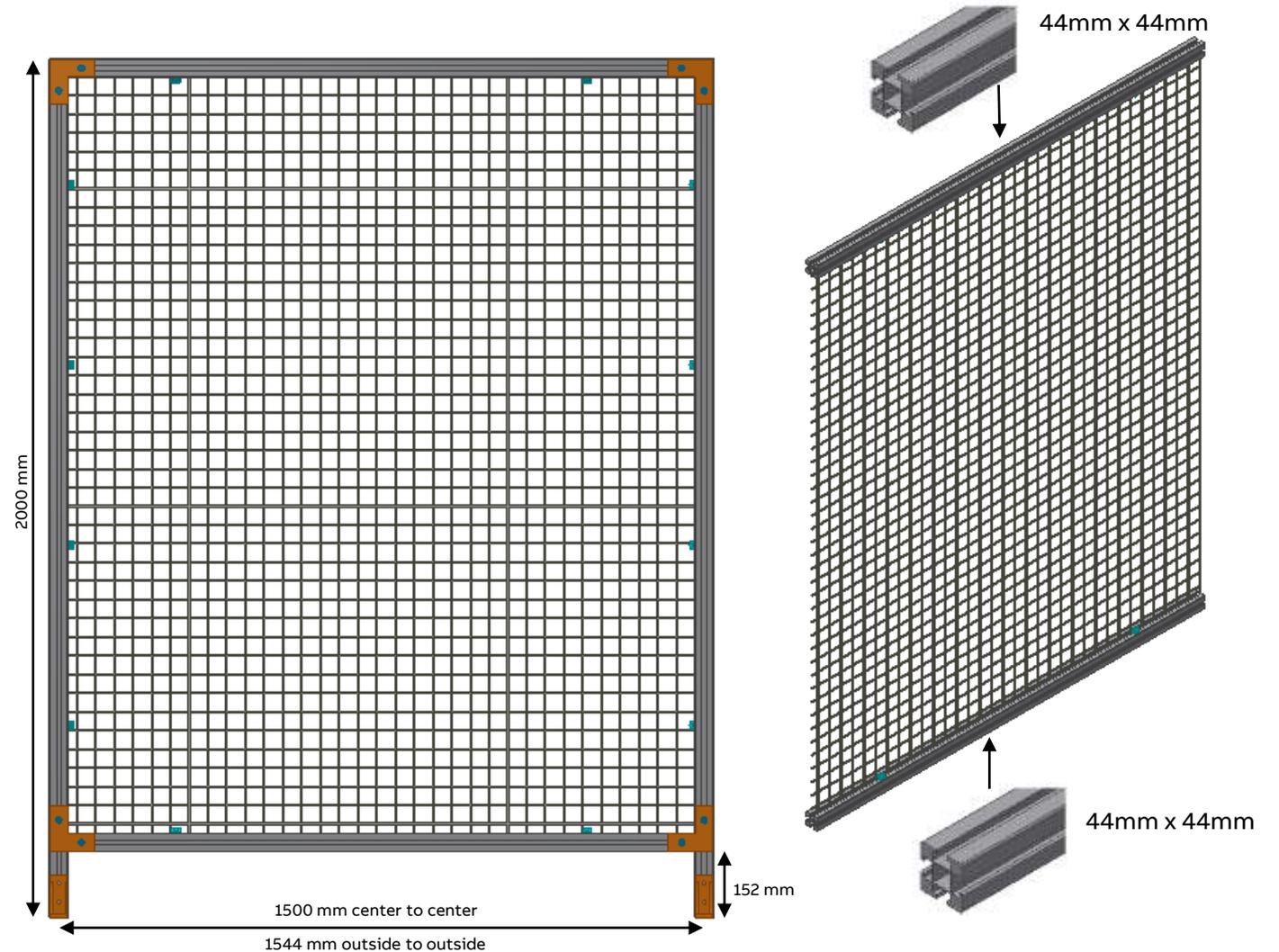
What's new

# Americas Quick-Guard

## What is AQG S

### Americas Quick-Guard S

- AQG S is used when more rigidity is required
- A 1500mm center to center mesh panel come with 44x44 aluminum profiles on top and bottom. Net Locks are used to mechanically lock the mesh to the aluminum post. Net Locks are also provided with the wire mesh.
- Two posts, a 44x44 and a 44x88, both two meters in height, and they come with the floor brackets
- There is only one door that is shared by both systems. The door comes assembled with a vertical post, magnetic latch, handle and a header profile. Ready to be installed.
- Bracket kits cover all the end, middle and corner door and post conditions
- With 11 AQG S part numbers we can easily design a fencing system on a piece of paper, and have it the next day
- Trimming the wire mesh panel to length with bolt cutters makes exact sizes easy. Horizontal headers can be cut with a cutoff saw.



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# Americas Quick-Guard

Easy to design example

## The design process, AQG E&S

- Convert your dimensions to millimeters
- Figure out how many 1500mm panels are on a side, if one is a partial\* consider it a full panel. Do this for all sides.
- Locate your doors and replace that 1500mm panel with a door and filler panel.

### Lets fill out the BOM

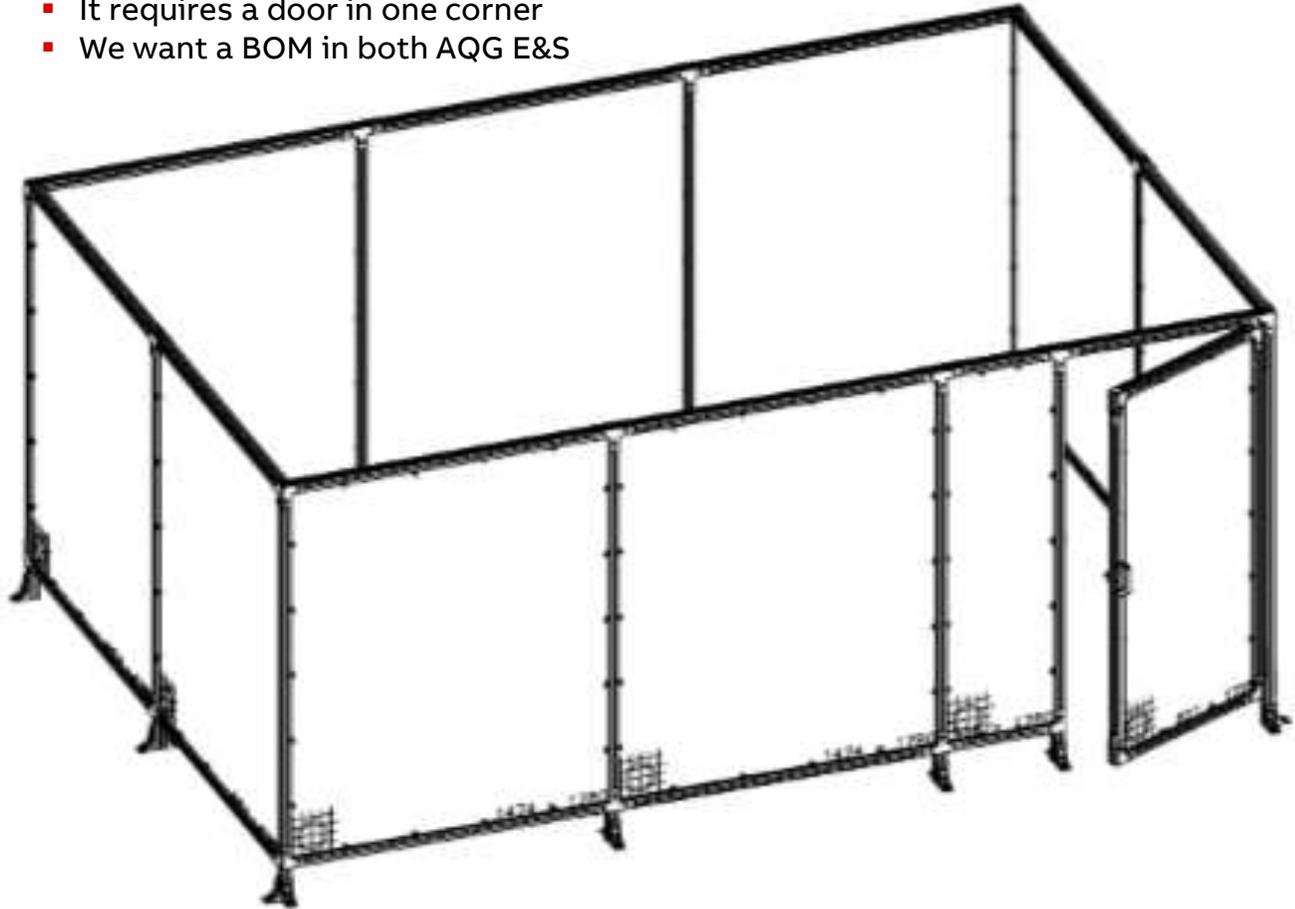
- Count your panels including partials and record
- Count the posts between panels, note that the door comes with a post and should not be counted
- Count your doors and filler panels

### For AQG S add these additional steps

- Count the corner post kits you need and record
- Count the end and middle post kits you need and record
- Note, posts next to the open side of a door are usually considered middle posts
- \*Partial panels can be trimmed to size with bolt cutters, headers can be trimmed with a cut off saw

## Let look at an example

- Let's use the example from the first slide
- The example is 3000mm x 4500mm
- It requires a door in one corner
- We want a BOM in both AQG E&S



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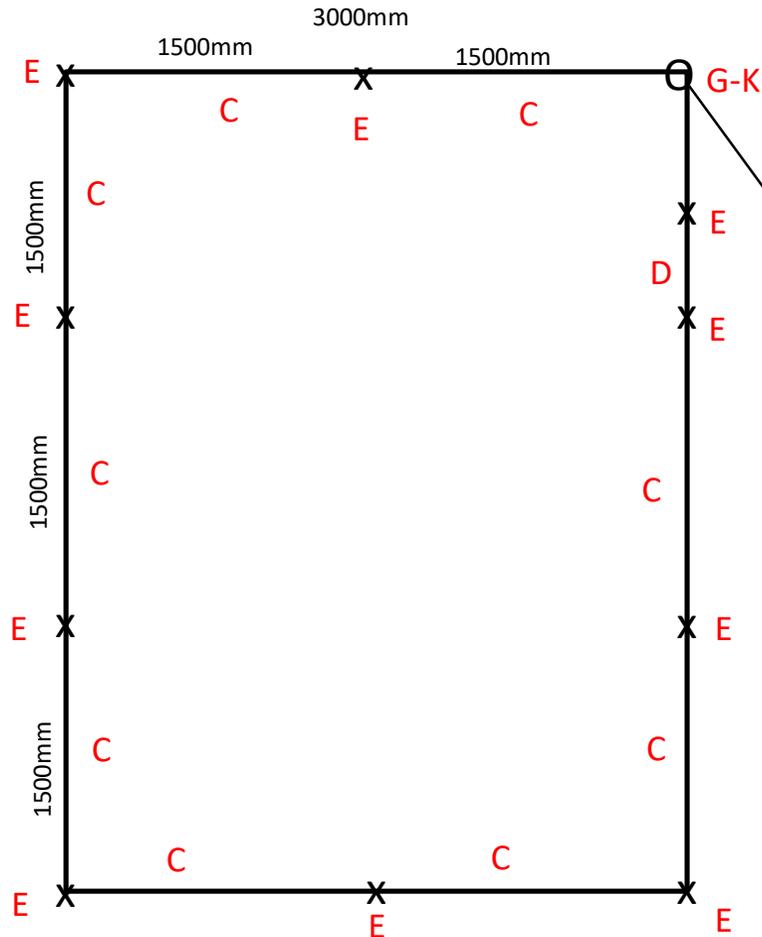
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# Americas Quick-Guard

Here's the example with AQQ E



## Bill of Material

Call Out	Qty	S Panels	Order code
<b>A</b>		S Mesh Panel	2TLA140040R1000
<b>B</b>		S Mesh Small Panel	2TLA140040R1100
<b>E Panels</b>			
<b>C</b>	9	E Mesh Panel	2TLA140040R3000
<b>D</b>	1	E Mesh Small Panel	2TLA140040R3100
<b>Posts E&amp;S</b>			
<b>E</b>	10	44mm X 44mm - 2M Tall Post With (2) Floor Brackets	2TLA140037R1000
<b>F</b>		44mm X 88mm - 2M Tall Heavy Duty Post With (2) Floor Brackets	2TLA140037R1100
<b>Doors E&amp;S, (Includes Hinge Side 44X44 Post &amp; Hinges)</b>			
<b>G</b>	1	Mesh Door, 36" Opening, 2M Height, (2) Hinges, Magnetic Door Latch, Handle	2TLA140037R3000
<b>BRACKET KITS, S except for E door kit</b>			
<b>H</b>		Bracket Kit for End Post, (3) L Brackets	2TLA140034R1000
<b>I</b>		Bracket Kit for Middle Post, (3) T Brackets	2TLA140034R1100
<b>J</b>		Bracket Kit for Corner Post, (4) L Brackets and (1) Angle Bracket	2TLA140034R1200
<b>K</b>	1	Bracket Kit for All E Doors, (4) L Brackets	2TLA140034R1400
<b>L</b>		Bracket Kit for Standard End Door, (3) L Brackets and (2) T Brackets	2TLA140034R1500
<b>M</b>		Bracket Kit for Standard Middle Door, (4) L Brackets and (3) T Brackets	2TLA140034R1600
<b>N</b>		Bracket Kit for Standard Corner Door, (4) L & (2) T Brackets and (1) Angle Brackets	2TLA140034R1700

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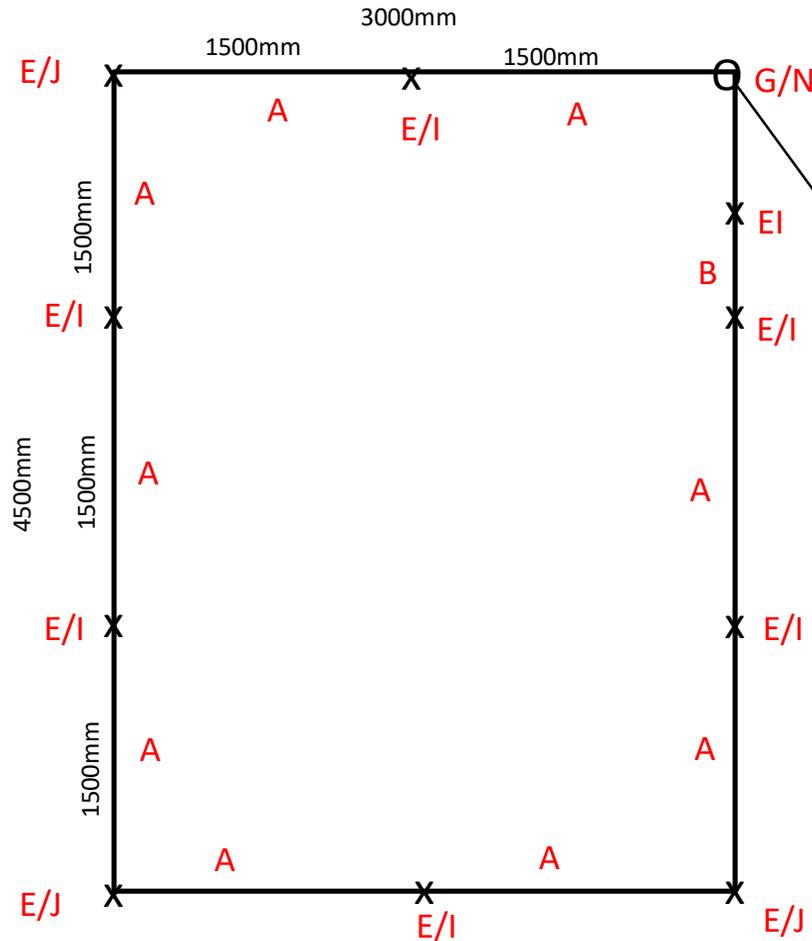
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What's new

# Americas Quick-Guard

Here's the example with AQQ S



## Bill of Material

Call Out	Qty	S Panels	Order code
<b>A</b>	9	S Mesh Panel	2TLA140040R1000
<b>B</b>	1	S Mesh Small Panel	2TLA140040R1100
<b>E Panels</b>			
<b>C</b>		E Mesh Panel	2TLA140040R3000
<b>D</b>		E Mesh Small Panel	2TLA140040R3100
<b>Posts E&amp;S</b>			
<b>E</b>	10	44mm X 44mm - 2M Tall Post With (2) Floor Brackets	2TLA140037R1000
<b>F</b>		44mm X 88mm - 2M Tall Heavy Duty Post With (2) Floor Brackets	2TLA140037R1100
<b>Doors E&amp;S, (Includes Hinge Side 44X44 Post &amp; Hinges)</b>			
<b>G</b>	1	Mesh Door, 36" Opening, 2M Height, (2) Hinges, Magnetic Door Latch, Handle	2TLA140037R3000
<b>BRACKET KITS, S except for E door kit</b>			
<b>H</b>		Bracket Kit for End Post, (3) L Brackets	2TLA140034R1000
<b>I</b>	6	Bracket Kit for Middle Post, (3) T Brackets	2TLA140034R1100
<b>J</b>	3	Bracket Kit for Corner Post, (4) L Brackets and (1) Angle Bracket	2TLA140034R1200
<b>K</b>		Bracket Kit for All Express Doors, (4) L Brackets	2TLA140034R1400
<b>L</b>		Bracket Kit for Standard End Door, (3) L Brackets and (2) T Brackets	2TLA140034R1500
<b>M</b>		Bracket Kit for Standard Middle Door, (4) L Brackets and (3) T Brackets	2TLA140034R1600
<b>N</b>	1	Bracket Kit for Standard Corner Door, (4) L & (2) T Brackets and (1) Angle Brackets	2TLA140034R1700

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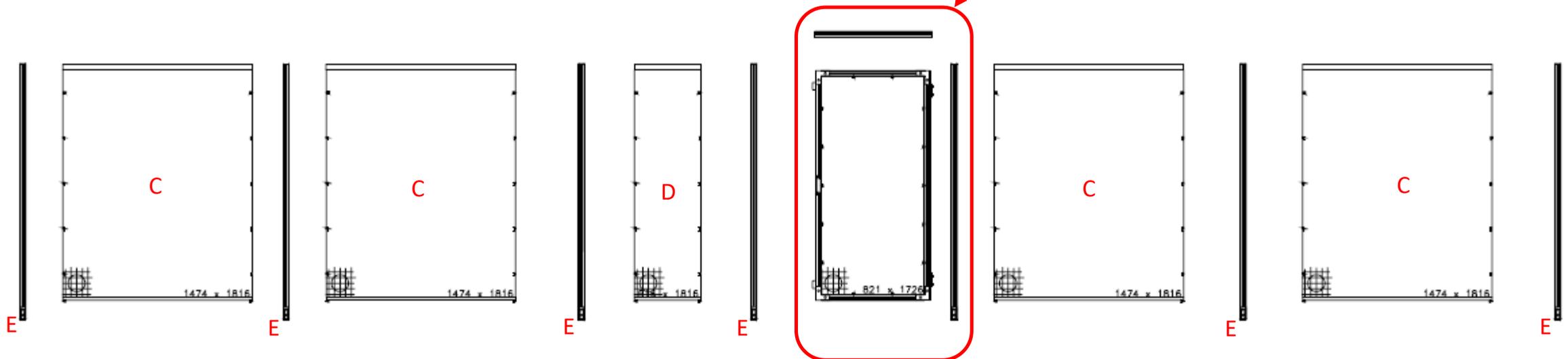
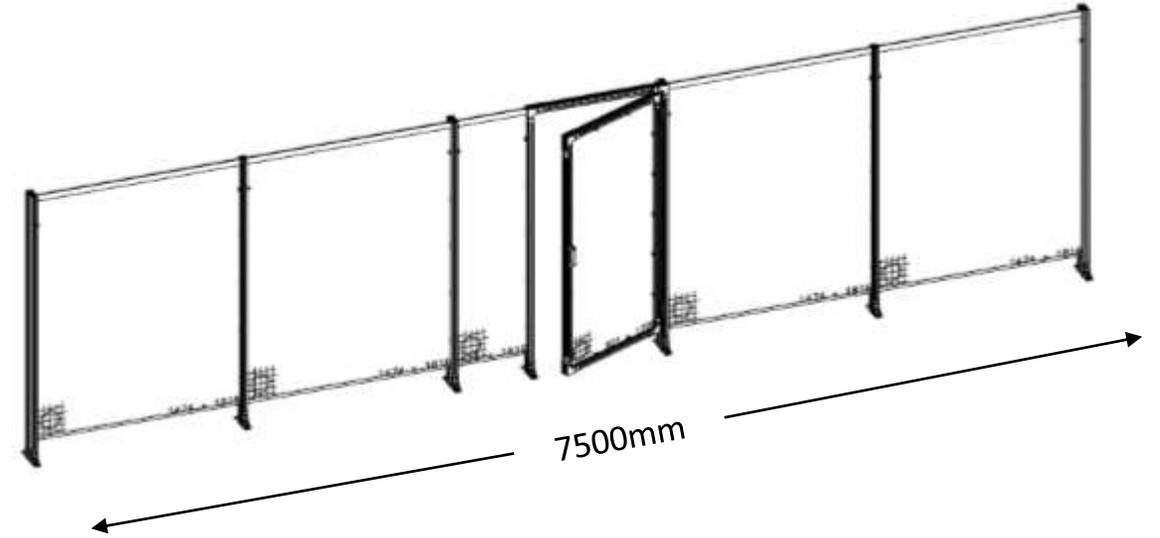
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# Americas Quick-Guard

Another design with AQQ E

## Easy to design fencing system

- The example above uses AQQ E
- Based on a 1500mm panel center to center spacing
- The AQQ Fencing system above was designed with just 5 part numbers
- Can be designed using Americas Quick Guard E or S panel sections
- Does not require a CAD system to design



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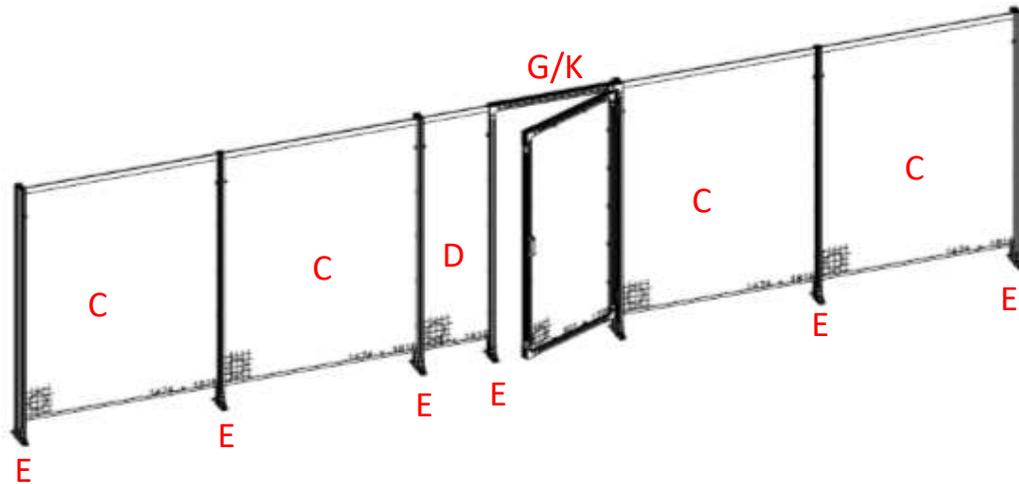
Additional Information

What's new

# Americas Quick-Guard

How to design with AQG E

**AQG uses only 5 part numbers for this example**



## Bill of Material

Call Out	Qty	S Panels	Order code
<b>A</b>		S Mesh Panel	2TLA140040R1000
<b>B</b>		S Mesh Small Panel	2TLA140040R1100
<b>E Panels</b>			
<b>C</b>	4	E Mesh Panel	2TLA140040R3000
<b>D</b>	1	E Mesh Small Panel	2TLA140040R3100
<b>Posts E&amp;S</b>			
<b>E</b>	6	44mm X 44mm - 2M Tall Post With (2) Floor Brackets	2TLA140037R1000
<b>F</b>		44mm X 88mm - 2M Tall Heavy Duty Post With (2) Floor Brackets	2TLA140037R1100
<b>Doors E&amp;S, (Includes Hinge Side 44X44 Post &amp; Hinges)</b>			
<b>G</b>	1	Mesh Door, 36" Opening, 2M Height, (2) Hinges, Magnetic Door Latch, Handle	2TLA140037R3000
<b>BRACKET KITS, S except for E door kit</b>			
<b>H</b>		Bracket Kit for End Post, (3) L Brackets	2TLA140034R1000
<b>I</b>		Bracket Kit for Middle Post, (3) T Brackets	2TLA140034R1100
<b>J</b>		Bracket Kit for Corner Post, (4) L Brackets and (1) Angle Bracket	2TLA140034R1200
<b>K</b>	1	Bracket Kit for All Express Doors, (4) L Brackets	2TLA140034R1400
<b>L</b>		Bracket Kit for Standard End Door, (3) L Brackets and (2) T Brackets	2TLA140034R1500
<b>M</b>		Bracket Kit for Standard Middle Door, (4) L Brackets and (3) T Brackets	2TLA140034R1600
<b>N</b>		Bracket Kit for Standard Corner Door, (4) L & (2) T Brackets and (1) Angle Brackets	2TLA140034R1700

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# Americas Quick-Guard

14 part numbers

## Easy to order fencing system

- Currently AQG (S&E) has 14 part numbers including the bracket kits
- With 14 part numbers a fencing system can be designed on a piece of paper

## Easy to stock fencing system

- Four mesh panels
- Two vertical posts
- One mesh door
- Seven bracket kits

## Easy to install fencing system

- Easy to assemble
- About 5 minutes per 1500mm section

## If a custom design is needed

- We do that also, just contact your distributor
- We will need all the details to design a custom fencing solution

## Americas Quick Guard, E & S

Call Out	Qty	S Panels	Order code
<b>A</b>		Standard Mesh Panel	2TLA140040R1000
<b>B</b>		Standard Mesh Small Panel	2TLA140040R1100
<b>E Panels</b>			
<b>C</b>		Economy Mesh Panel	2TLA140040R3000
<b>D</b>		Economy Mesh Small Panel	2TLA140040R3100
<b>Posts E&amp;S</b>			
<b>E</b>		44mm X 44mm - 2M Tall Post With (2) Floor Brackets	2TLA140037R1000
<b>F</b>		44mm X 88mm - 2M Tall Heavy Duty Post With (2) Floor Brackets	2TLA140037R1100
<b>Doors E&amp;S, (Includes Hinge Side 44X44 Post &amp; Hinges)</b>			
<b>G</b>		Mesh Door, 36" Opening, 2M Height, (2) Hinges, Magnetic Door Latch, Handle	2TLA140037R3000
<b>BRACKET KITS, S except for E door kit</b>			
<b>H</b>		Bracket Kit for End Post, (3) L Brackets	2TLA140034R1000
<b>I</b>		Bracket Kit for Middle Post, (3) T Brackets	2TLA140034R1100
<b>J</b>		Bracket Kit for Corner Post, (4) L Brackets and (1) Angle Bracket	2TLA140034R1200
<b>K</b>		Bracket Kit for All Express Doors, (4) L Brackets	2TLA140034R1400
<b>L</b>		Bracket Kit for Standard End Door, (3) L Brackets and (2) T Brackets	2TLA140034R1500
<b>M</b>		Bracket Kit for Standard Middle Door, (4) L Brackets and (3) T Brackets	2TLA140034R1600
<b>N</b>		Bracket Kit for Standard Corner Door, (4) L & (2) T Brackets and (1) Angle Brackets	2TLA140034R1700

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# Americas Quick-Guard

What is AQG

## Easily add mounting plates and devices to doors and openings

### Mounting plates are available for

- Eden Safety Sensors
- Smile EStops
- Many Mkey mechanical safety switches
- Mkey 8-9 solenoid safety switches
- Sense 7 magnetic safety switches
- Magne Magnetic door locking safety switches
- Orion Safety Light Curtains
- Gkey Gate Box with integral solenoid safety Switch
- Many other Jokab devices are already designed to fit on AQG

### Every safety sensor needs ABB Jokab Safety controls

- Sentry safety relays
- Pluto Safety PLCs
- Jokab Safety controls need ABB complementary products such as
- AFS Contactors for safety applications
- ABB Stack lights
- ABB Pilot devices



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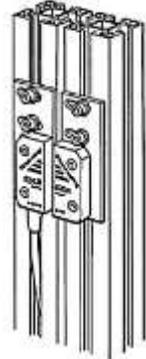
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# Americas Quick-Guard

## Mounting plates

### Sensor mounting plates



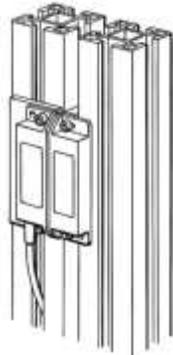
2TLA040033R3600  
JSMD4H – For Eden (2  
required per Eden  
Sensor)



2TLA040033R600  
JSM D29A - Mkey  
4/5 for Conventional  
Door



2TLA040033R6200  
JSMD29C – for Mkey  
8/9 for Conventional  
Door

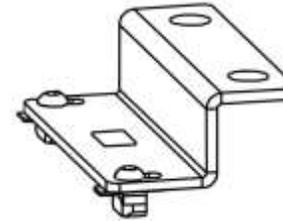


2TLA040033R3300  
JSMD4G – for Sense 7  
for Conventional Door

### Mounting Plates

Qty	Mounting Plate	Order code
	JSMD4H – For Eden (2 required per Eden Sensor)	<a href="#">2TLA040033R3600</a>
	JSM D29A - Mkey 4/5 for Conventional Door	<a href="#">2TLA040033R6000</a>
	JSM D4G – Sense 7 for conventional door	<a href="#">2TLA040033R3300</a>
	JSMD29C – for Mkey 8/9 for Conventional Door	<a href="#">2TLA040033R6200</a>
	JSMD21B – for anchor plate for Magne 3 & 4	<a href="#">2TLA042023R0500</a>
	JSMD24 – for Eva with Magne 4	<a href="#">2TLA042023R0300</a>

### Magne mounting plates



2TLA040033R3600  
JSMD21B – for  
anchor plate for  
Magne 3 & 4



2TLA040023R0300  
JSMD24 – for Eva  
with Magne 4



Magne 3 & 4 mounts on door frame

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# Americas Quick-Guard

## Installing and modifying AQG S/E

### Easy to install fencing system

- AQG saves time and money
- It takes about 5 minutes per 1500mm section to assemble
- The netlocks use a T25 Torx head screw driver to install
- The screws with the T nuts use 5/6/8 mm hex keys

### Easy to modify fencing system

- If you need to make a panel shorter, for example 1350mm center to center
- 1500mm panel minus 1350mm equals 150mm
- Shorten your panel and if AQG S, the header by 150mm
- Simply use bolt cutters to cut wire mesh for the 1350mm custom width
- If you are using AQG S you will need to shorten the aluminum profile headers by the same amount (150mm) with a cutoff saw



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# Quick Guard

## Custom Aluminum Fencing Systems

### Quick-Guard

- Quick Guard is a traditional kit based custom fencing solution
- Using 44x44 and 44x88 aluminum we can create complex fencing systems.
- We can also enhance your AQG S/E systems with sliding doors and other features
- Send your custom fencing requests with as much detail as possible to your ABB Jokab distributor
- Latest Quick Guard flyer [Click Here](#)



Quick Guard fencing can go around your machines to protect both the employee and the machine

For assistance contact your local ABB/JOKAB SAFETY representative

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# Sentry Safety Relay

## Single/Dual Channel Safety Relay

### Continuous Operation

- 3-color LEDs allow for more status messages and simplify troubleshooting. Models with display offer preset configurations and extensive fault information
- Advanced timer functions with an accuracy better than 1% minimize unnecessary downtime
- Multi-reset function enables reset of up to 10 Sentry safety relays using just one reset button

### Optimized Logistics

- Single Safety Relay for all common safety applications reduces stock and saves warehouse space
- Multi-voltage models offer more flexibility and less stock
- All models are only 22.5 mm wide, even models with 4 NO outputs

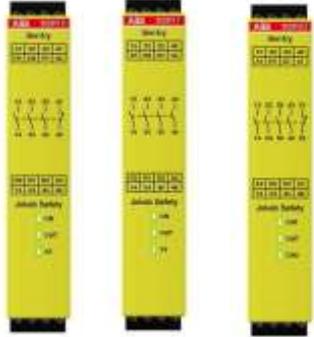
### Easy to Install

- Detachable terminal blocks speeds up connection and replacement
- Manual or automatic reset easily selectable by switch
- Powerful outputs simplify installation by saving the use of an intermediary contactor

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# Sentry Safety Relay

## Single/Dual Channel Safety Relay



BSR10 24VDC  
BSR11 24VDC  
BSR23 24VDC

### BSR Basic Safety Relays

Cost effective safety relays for basic applications such as emergency stops and expansion of safety outputs



SSR10 24VDC  
SSR10M 110VAC\*  
SSR20 24VDC  
SSR20M 110VAC\*  
SSR32 24VDC  
SSR42 24VDC

### SSR Single Function Safety Relays

Easy-to-use safety relays designed for specific applications such as 1 or 2 channel devices, OSSD devices and two-hand devices



TSR10 24VDC  
TSR20 24VDC  
TSR20M 110VAC\*

### TSR Timer Safety Relays

Advanced safety timers with excellent accuracy



USR10 24VDC  
USR22 24VDC

### USR (Configurable) Universal Safety Relays

The USR safety relay can be configured to combine all the functions of a BSR, TSR or SSR safety relay

\*Sentry's with M at the end of the end of the model number can operate at 85-265 VAC/ 120-275 VDC The Sentry's without a M at the end of the model number are 24VDC

# Sentry Safety Relay

## Dual Channel Safety Relay



Type	Part Number	Voltage	Timer	Safety Outputs	Manual Reset	Two Hand Device	Contact Mat Bumper	2 channel OSSD	2 channels with 1NO & 1NC contacts	2 channel with 2NC & Contacts	1 channel contact
BSR10	<a href="#">2TLA010040R0000</a>	24 VDC	No	3NO+1NC	No				a)	X	X
TSR20	<a href="#">2TLA010061R0000</a>	24 VDC	Off Delay .5 & 1.5 s	3NO+1NC	No			X		X	X
TSR20M	<a href="#">2TLA010061R0100</a>	c) AC/DC	Off Delay .5 & 1.5 s	3NO+1NC	No						X
TSR10	<a href="#">2TLA010060R0000</a>	24 VDC	0-999s b)	3NO+1NC	No			X		X	X
BSR11	<a href="#">2TLA010040R0200</a>	24 VDC	No	4NO	No				a)	X	X
BSR23	<a href="#">2TLA010041R0600</a>	24 VDC	No	4NO+1NC	No					X	X
SSR32	<a href="#">2TLA010052R0400</a>	24 VDC	Off Delay .5 s	2NO+2NO Delayed	Yes			X		X	X
SSR42	<a href="#">2TLA010053R0400</a>	24 VDC	Off Delay 1.5 s	2NO+2NO Delayed	Yes			X		X	X
USR22 d)	<a href="#">2TLA010070R0400</a>	24 VDC	0-999s b)	2NO+2NO Delayed	Yes					X	X
SSR10	<a href="#">2TLA010050R0000</a>	24 VDC	No	3NO+1NC	Yes			X		X	X
SSR20	<a href="#">2TLA010051R0000</a>	24 VDC	No	3NO+1NC	Yes	X				X	X
SSR10M	<a href="#">2TLA010050R0100</a>	c) AC/DC	No	3NO+1NC	Yes					X	X
SSR20M	<a href="#">2TLA010051R0100</a>	c) AC/DC	No	3NO+1NC	Yes	X				X	X
USR10	<a href="#">2TLA010070R0000</a>	24 VDC	0-999s b)	3NO+1NC	Yes	X	X	X	X	X	X
USR22 d)	<a href="#">2TLA010070R0400</a>	24 VDC	No	4NO	Yes	X	X	X	X	X	X

a): No monitoring of two-channel fault, ie max Category 3 without fault exclusion  
 b): Off-delay, On-delay, Time bypass or Time reset Configurable model with display  
 c): 85-265 VAC/ 120-275 VDC  
 d): USR22 is shown twice because it can be configured in multiple ways

# Eden OSSD

## Dual Channel Non-Contact RF Safety Sensor

### Main features

- Up to 30 Eden OSSD's can be attached to any standard dual channel Safety Relay or Safety PLC and still maintain Cat 4/PLe safety levels
- High level of misalignment tolerance (15mm +/- 2mm) because of the RF technology
- IP69K wash down rated with the M12 connection at the sensor
- Advanced Diagnostics, if one of the Edens is open, it LED is solid red, the downstream sensors flash Red/Green indicating the problem is before them
- Ideal for retrofit and OEM applications where an existing safety relay or safety PLC needs to be used
- Large operating temperature span, -40C to 70C (-40F to 158F)
- Two versions of the Adam OSSD are available – Info or Reset  
Eva is available with either General or Unique coding for EN/ISO 14119 applications

IMPORTANT – Eva Unique or General can used with either OSSD and DYNLink Adams. Eva Unique or General cannot be used with the Asi Adams which will only work with an Asi Eva. See the main catalog for Asi components.

[Eden OSSD  
Configurator Link](#)



Many Dual Channel or OSSD connections are done with a 8 pin cable but consult the manual to verify

Relays &  
Pluto PLC

Dual Channel Devices

DynLink Devices

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# Eden OSSD

## Dual Channel Non-Contact RF Safety Sensor

**Bill of Material – Single Run Connection – Only One Eden**

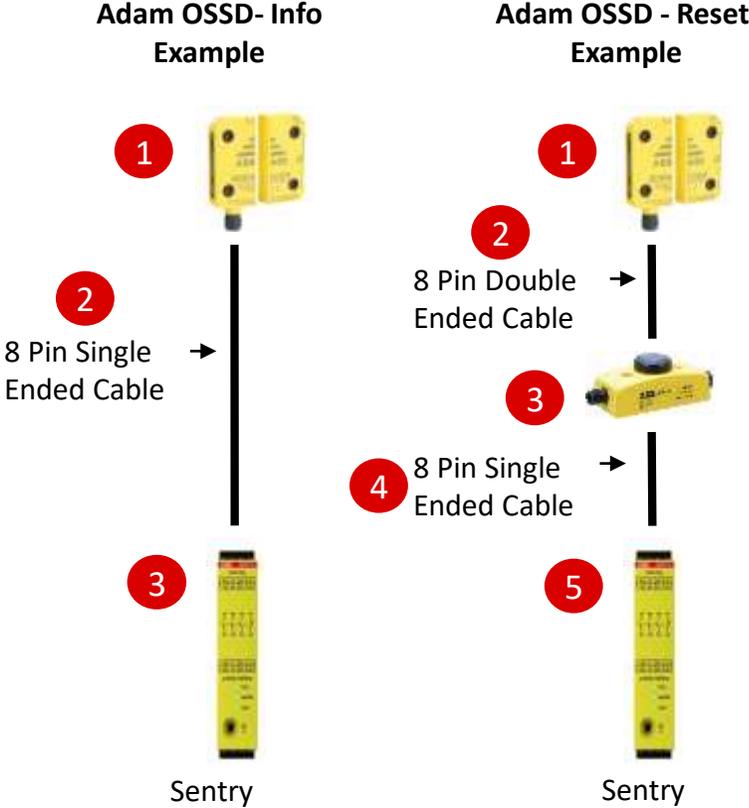
**Adam OSSD-Info Example**

- 1 (1) Adam OSSD-Info (8 Pin) & (1) Eva (General/Unique)
- 2 (1) Female M12-8 Pin Cable – Single End
- 3 (1) Sentry SSR10 Safety Relay

**Adam OSSD-Reset Example**

- 1 (1) Adam OSSD-Reset & (1) Eva General/Unique
- 2 (1) M12-8 Pin Cable – Double End
- 3 (1) Reset, Smile 12RG
- 4 (1) M12-8 Pin Cable – Single End
- 5 (1) Sentry SSR10 Safety Relay

Quantities are for this example only  
Cable lengths can vary



Does not show Terminal Blocks

# Eden OSSD

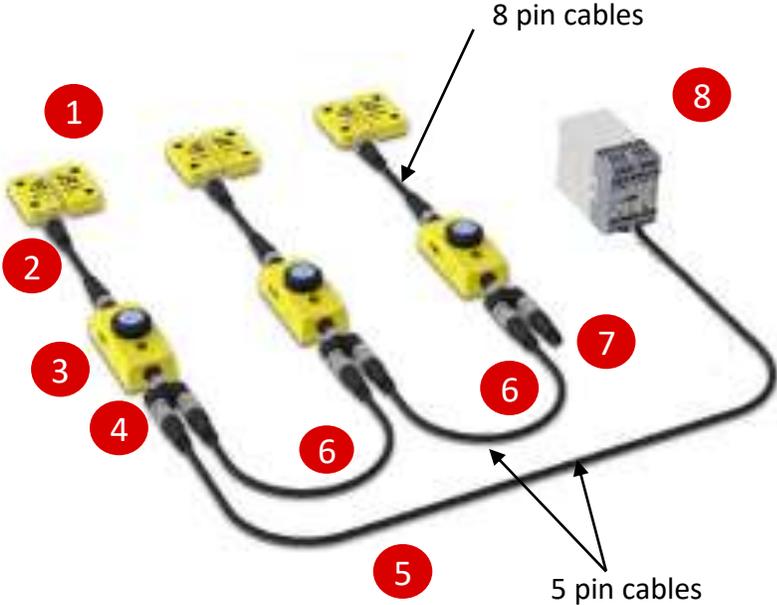
## Dual Channel Non-Contact RF Safety Sensor

### Bill of Material – Multiple Edens in Series using 8/5 Pin Cables

- 1 (3) Adam OSSD (8 Pin) – Reset or Info & (3) Eva -General/Unique
- 2 (3) M12-8 Pin M/F Cable
- 3 (3) Reset, Smile 12RG (8 Pin)(Optional)(Can use M/F 8 Pin Cable to M12-3H)
- 4 (3) M12-3H Y-Connector, 8 pin connection from Eden-Reset to 5 pin cables
- 5 (1) Single Ended, Male M12-5 Pin Cable
- 6 (2) M/F M12-5 Pin Cables (one less than the number of Eden sensors)
- 7 (1) JSOP-1 5 pin Terminator (Eliminates the need for a return cable to Sentry/Pluto)
- 8 (1) Dual Channel Safety Relay or Safety PLC (Sentry or Pluto)

Quantities are for this example only, Up to 30 Edens can be connected  
Cable lengths can vary

8/5 Pin Cable Solution  
Use this if you are trying to save money on cables



# Eden OSSD

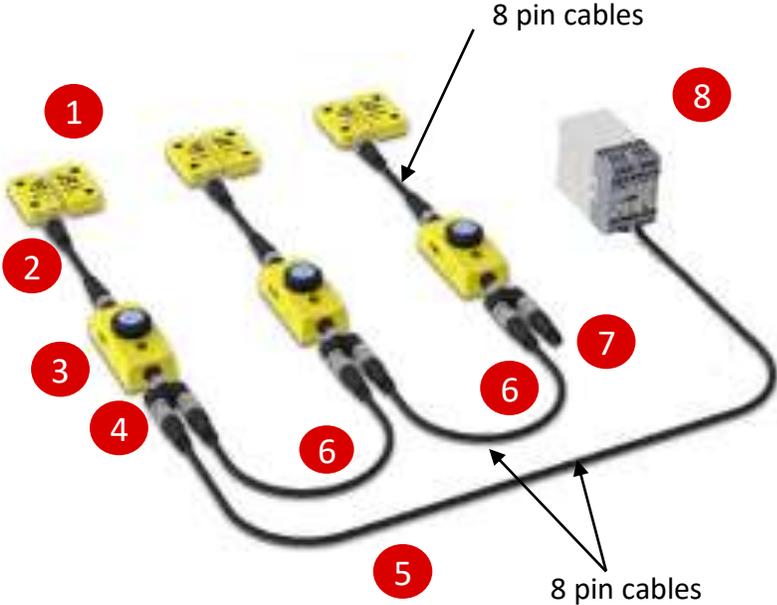
## Dual Channel Non-Contact RF Safety Sensor

### Bill of Material – Multiple Edens in Series using 8 Pin Cables

- 1 (3) Adam OSSD (8 Pin) – Reset or Info & (3) Eva -General/Unique
- 2 (3) M12-8 Pin M/F Cable
- 3 (3) Reset, Smile 12RG (8 Pin)(Optional)(Can use M/F 8 Pin Cable to M12-3H)
- 4 (3) M12-3G Y-Connector, 8 pin connection from Eden-Reset to 5 pin cables
- 5 (1) Single Ended, Male M12-8 Pin Cable
- 6 (2) M/F M12-8 Pin Cables (one less than the number of Eden sensors)
- 7 (1) JSOP-2 8 pin Terminator (Eliminates the need for a return cable to Sentry/Pluto)
- 8 (1) Dual Channel Safety Relay or Safety PLC (Sentry or Pluto)

Quantities are for this example only, Up to 30 Edens can be connected  
Cable lengths can vary

8 Pin Cable Solution  
Use this for a simple all 8 pin cable solution



# Eden OSSD

## Dual Channel Non-Contact RF Safety Sensor



M12-3H



Smile 12RG

	Part Number	Description
Adam	<a href="#">2TLA020051R5700</a>	Adam OSSD-Info M12-8 for single & series applications
	<a href="#">2TLA020051R5900</a>	Adam OSSD-reset M12-8 for single & series applications
Eva	<a href="#">2TLA020046R0800</a>	Eva General Code, All Generals have the same code
	<a href="#">2TLA020046R0900</a>	Eva Unique Code, One of 1,000 codes, complies with EN/ISO 14119
Accessories	<a href="#">2TLA020055R0800</a>	M12-3H Y-Connector 5Pin, (1) 8 Pin to Eden, (2) 5 Pin for series connection
	<a href="#">2TLA020053R7000</a>	JSOP-1 5 Pin Terminator for M12-3H serial connector
	<a href="#">2TLA040033R3600</a>	JSMD4H Eden mounting plate (2 req, 1 per Adam/Eva)
	See Pluto or Sentry for part numbers	Eden OSSD is a dual channel device, use with a standard safety relay (Sentry) or Safety PLC (Pluto)

See cable section at end of Easy Reference Guide for 5 and 8 Pin Cables

# Vital Safety Controller System

## Vital Safety Controller, Cat 4/ PLe

- Works on DYNLink, the Dynamic Pulse Safety System
- Connect up to 30 Dynamic Pulse devices to one Vital Controller
- Cannot be bypassed at the controller
- Advanced Diagnostics – Flashing Lights guide you to the problem
- Tina adapters convert dual channel devices to Dynamic Pulse



Works with Tina and DYNLink enabled devices  
See Tina section

Part Number	Description	Vital Controller
<a href="#">2TLA020052R1000</a>	Vital 1	Vital DYNLink controller, 24 VDC

Many DynLink connections are done with a 5 pin cable but consult the manual to verify

# Pluto Programmable Safety Controller

## The Heart of the Safety System

### The Pluto Family

- Smallest, most powerful Safety PLC on the market.
- 45mm wide model can monitor 150 safety devices and maintain Category 4, SIL3, Ple.
- 90mm wide model is capable of monitoring 390 devices!
- Neutral platform allows for easy integration and communication to existing protocols (DeviceNET, Ethernet, EtherCAT, ProfiNET, ProfiBus, Modbus, etc.) through the Gateway family.
- Pluto's can be used in stand alone applications (1 Pluto) or in large networked systems (up to 32 Pluto's).
- In a networked system all Pluto's will store each others program allowing for quick and easy hot swap capabilities.

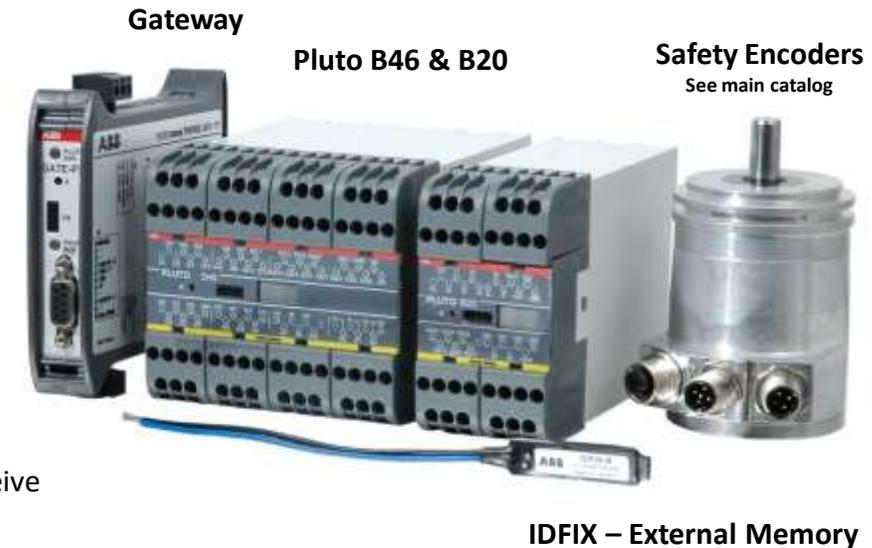
[Relays & Pluto PLC](#)[Dual Channel Devices](#)[DynLink Devices](#)[AQG & Eng Services](#)[Additional Information](#)[What's new](#)

# Pluto Programmable Safety Controller

SIL 3/PLe Safety Rated

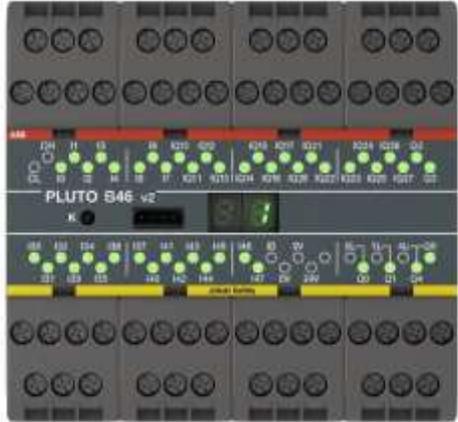
## Main features

- S Models – Stand Alone Without Safety Bus Connectivity
- A, B, & D Models – Safety Bus Capable, Up to 32 Pluto's on Network
- D Models –with Analog Safety (0-10VDC)(4-20mA)(Networkable)
- AS-i Models are available, See Pluto brochure for accessories
- 12/20/22/42/45/46 - I/O Count
- Advanced Hot Swappable Technology gives Pluto the ability to be replaced and running in minutes, reducing downtime
- Can control muting function using Orion 1 Base
- Gateways for many Protocols
- Ability to follow encoders
- Pluto Manager Software – No Charge, Download on our website
- Telephone Support at No Charge
- Works with both DYNLink Dynamic Pulse and Dual Channel Architectures
- StatusBus Functionality
- TUV approved safety function blocks
- Pluto Manager needs to be registered, send your contact info to technical support to receive a registration code
- See the “Your First Pluto Project” video series in the back of this guide



# Pluto Programmable Safety Controller

SIL 3/PLe Safety Rated



B46

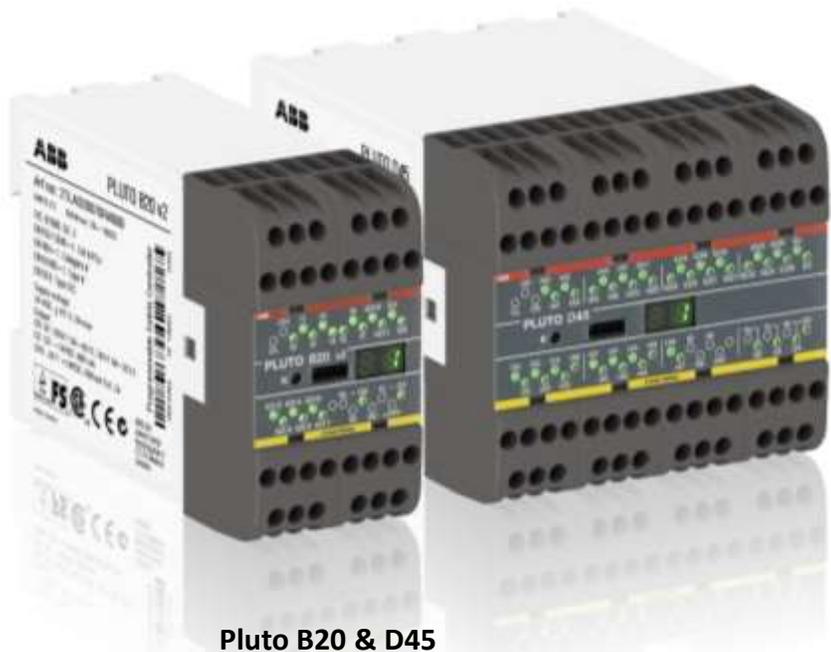


B20

Model	S20	S46	A20	B22	D20	D45	B20	B46	AS-i	B-42 AS-i
Number of I/O	20	46	20	22	20	45	20	46	12	42
FailSafe Inputs	8	24	8	14	8	24	8	24	4	20
FailSafe Input or Non-Safe Outputs	8	16	8	8	8	15	8	16	4	16
Analog Input 0-10V/4-20mA					4	8				
Counter Inputs						4				
Analog Inputs (0-27V)	1	3	1	1	1	3	1	3	4	3
FailSafe Relay Outputs	2	4	2	2	2	4	2	4	2	4
FailSafe Transistor Outputs	2	2	2	2	2	2	2	2	2	2
Pluto Bus			x	x	x	x	x	x	x	x
Pluto AS-I Bus									x	x
Current Monitoring			2							
Width mm (all h=84, d=118)	45	90	45	45	45	90	45	90	45	90
Supply Voltage, VDC	24	24	24	24	24	24	24	24	24	24

# Pluto Programmable Safety Controller

SIL 3/PLe Safety Rated



Pluto B20 & D45

Download the latest version of Pluto Manager on our website Pluto Manager and Telephone Support is provided at no charge Pluto Manager needs to be registered, send your contact info to technical support to receive a registration code

**Technical Support**

Email [EPPC.Support@us.abb.com](mailto:EPPC.Support@us.abb.com)

1-888-385-1221 Option 1

	Part Number	Description
Stand Alone	<a href="#">2TLA020070R4700</a>	S20, Safety PLC with 8 failsafe inputs plus 8 non-failsafe outputs/failsafe inputs plus 2 individual failsafe relay outputs plus 2 individually failsafe transistor outputs
	<a href="#">2TLA020070R1800</a>	S46, Safety PLC with 24 failsafe inputs plus 16 non-failsafe outputs or failsafe inputs plus 4 individual failsafe relay outputs plus 2 individually failsafe transistor outputs
Network Versions	<a href="#">2TLA020070R4600</a>	B20, Safety PLC with 8 failsafe inputs plus 8 non-failsafe outputs/failsafe inputs plus 2 individual failsafe relay outputs plus 2 individually failsafe transistor outputs For use with Pluto safe bus and/or a Pluto Safety databus
	<a href="#">2TLA020070R4800</a>	B22, Safety PLC with 14 failsafe inputs plus 8 non-failsafe outputs/failsafe inputs For use with Pluto safe bus and/or a Pluto Safety databus
	<a href="#">2TLA020070R1700</a>	B46, Safety PLC with 24 failsafe inputs plus 16 non-failsafe outputs/failsafe inputs plus 4 individual failsafe relay outputs plus 2 individually failsafe transistor outputs
Analog Versions	<a href="#">2TLA020070R6400</a>	D20, Safety PLC with 8 failsafe inputs plus 8 non-failsafe outputs/failsafe inputs plus 2 individual failsafe relay outputs plus 2 individually failsafe transistor outputs For use with Pluto safe bus and/or a Pluto Safety databus 4 0-10V/4-20mA analog inputs
	<a href="#">2TLA020070R6600</a>	D45, Safety PLC with 24 failsafe inputs plus 15 non-failsafe outputs/failsafe inputs plus 4 individual failsafe relay outputs plus 2 individually failsafe transistor outputs For use with Pluto safe bus and/or a Pluto Safety databus 8 0-10V/4-20mA analog inputs, 4 high speed counter inputs
AS-i	<a href="#">2TLA020070R1100</a>	AS-i V2 Safety PLC with 4 failsafe inputs and 4 non-failsafe outputs or failsafe inputs and 2 individual failsafe relay outputs and 2 individual failsafe transistor outputs
	<a href="#">2TLA020070R1400</a>	B42 AS-i, Safety PLC with 20 failsafe inputs and 16 non-failsafe outputs or failsafe inputs and 4 individual failsafe relay outputs and 2 individual failsafe transistor outputs

# Pluto Programmable Safety Controller

SIL 3/PLe Safety Rated



Gateway Family



IDFIX

Used to hot swap Pluto  
Use R or R/W for networks  
10k or 2.5 k for stand alone



USB Programming Cable  
Used with Pluto Manager

	Part Number	Description
Gateways	<a href="#">2TLA020071R8000</a>	GATE-P2, Gateway for 2-way communication between the Pluto bus and Profibus
	<a href="#">2TLA020071R8100</a>	GATE-C2, Gateway for 2-way communication between the Pluto bus and CANopen
	<a href="#">2TLA020071R8200</a>	GATE-D2, Gateway for 2-way communication between the Pluto bus and DeviceNet
	<a href="#">2TLA020071R9000</a>	GATE-EIP, Gateway for 2-way communication between the Pluto bus and Ethernet/IP
	<a href="#">2TLA020071R9100</a>	GATE-EC, Gateway for 2-way communication between the Pluto bus and EtherCat
	<a href="#">2TLA020071R9200</a>	GATE-S3, Gateway for 2-way communication between the Pluto bus and Sercos III
	<a href="#">2TLA020071R9300</a>	GATE-PN, Gateway for 2-way communication between the Pluto bus and ProfiNet
	<a href="#">2TLA020071R9400</a>	GATE-MT, Gateway for 2-way communication between the Pluto bus and Modbus TCP
Accessories	<a href="#">2TLA020070R8500</a>	Pluto O2, Output module with Pluto safety bus Safety output module Totally 6 I/O: 2 Failsafe inputs for monitoring + 2 non-failsafe outputs/failsafe inputs + 2 individually failsafe relay outputs (with 3 contacts each)
	<a href="#">2TLA020070R2000</a>	IDFIX-R, Identifier, read only For assigning Pluto an address on the Pluto bus
	<a href="#">2TLA020070R2100</a>	IDFIX-RW, Identifier, read/write For assigning Pluto an address on the Pluto bus
	<a href="#">2TLA020070R2400</a>	IDFIX-PROG 2k5, External memory, 2.5 kbyte For projects with only one Pluto, store the PLC program
	<a href="#">2TLA020070R2600</a>	IDFIX-PROG 10k, External memory, 10 kbyte For projects with only one Pluto, store the PLC program
	<a href="#">2TLA020070R2300</a>	IDFIX-DATA Identifier, read/write and AS-i safety codes
	<a href="#">2TLA020070R2200</a>	R-120, Terminating resistor for Pluto bus
	<a href="#">2TLA020070R6805</a>	CAN-Bus cable, 50M, yellow, 1 x 2 x 0.75 mm, 100/500M see cable section
	<a href="#">2TLA020070R5800</a>	Programming Cable USB, For connecting PC, USB port to Pluto for programming with Pluto Manager

# Pluto Programmable Safety Controller with StatusBus

## Simplified Status Monitoring Reduces Downtime

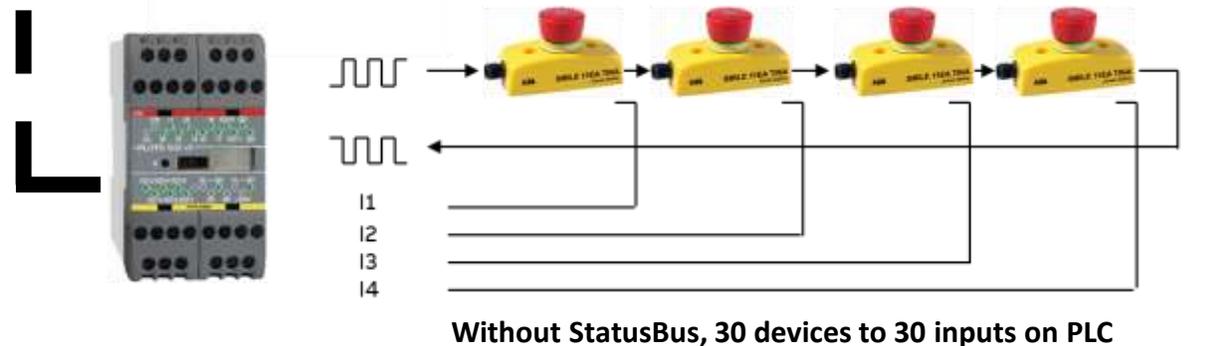
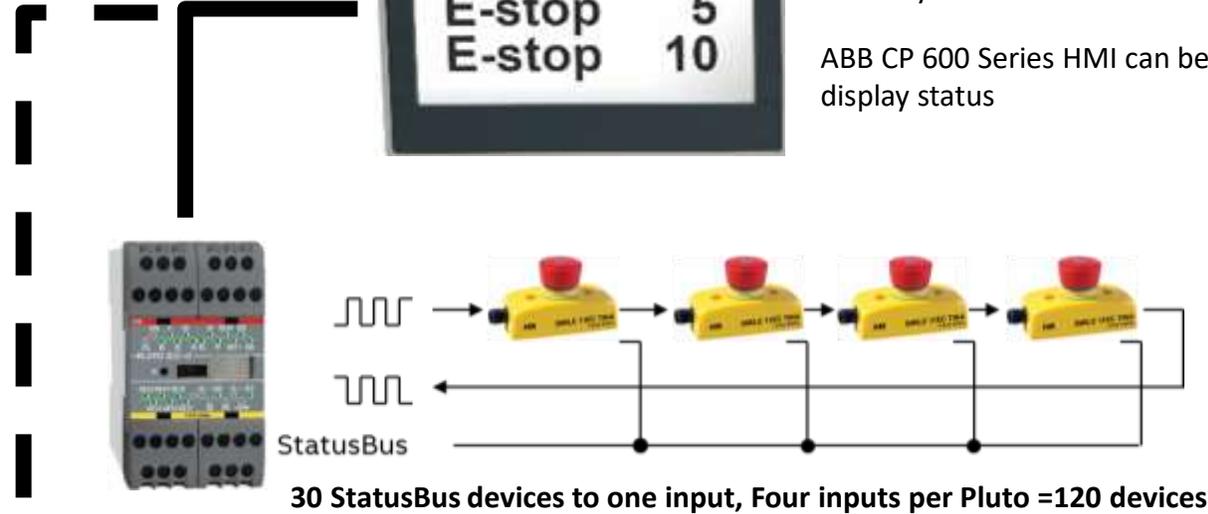
### Main features

- Status of up to 30 devices connected to one input on the Pluto Safety PLC
- Up to four inputs on the Pluto can be configured for StatusBus = 120 StatusBus Devices
- Status of Safety System is easily sent to HMI to be displayed, Reducing Downtime
- M12 connectors for ease of installation
- Supported by Smile, Inca, & Eden and other StatusBus devices
- All Pluto models support the StatusBus functionality as long as they have OS 3.6.1 or higher
- Pluto Manager v 2.26 or higher is necessary
- Typically a StatusBus circuit takes a 5 pin cables but verify your application with the manual



The Status can also be sent through a Gateway to a Control PLC or a ABB HMI

ABB CP 600 Series HMI can be used to display status



# Pluto Programmable Safety Controller with StatusBus

Simplified Status Monitoring Reduces Downtime



Smile StatusBus



INCA StatusBus



FIXA Programming Tool  
Optional Not Required



Eden StatusBus



\*\*Tina 4A Safety Port Block



M12-3S Y-Connector



\*\*Tina 8A Safety Port Block

Part Number	Description	StatusBus Devices
		<b>Smile/Inca Tina StatusBus Estops (Red Button)</b>
<a href="#">2TLA030050R0900</a>	Smile 11EC Tina	Emergency stop in Smile enclosure, 1 m 5-pole cable out from bottom
<a href="#">2TLA030054R1400</a>	Inca 1EC Tina	Emergency stop in Smile enclosure, 1 × M12 5-pin male connector
		<b>Eden Safety Sensor with StatusBus</b>
<a href="#">2TLA020051R5200</a>	Adam StatusBus	M12-5, Serial connection, for StatusBus (Use with Pluto Only)
<a href="#">2TLA020046R0800</a>	Eva General Code	All Generals have the same code
<a href="#">2TLA020046R0900</a>	Eva Unique Code	Unique has 1 of 10,000 codes, EN/ISO 14119 Compliant
<a href="#">2TLA040033R3600</a>	JSMD4H	Eden mounting plate (2 req, 1 per Adam/Eva)
		<b>StatusBus Accessories</b>
<a href="#">2TLA020072R2000</a>	FIXA	Handheld terminal AS-i/StatusBus – Used for addressing StatusBus Devices (Addressing can also be done with Pluto Manager)
<a href="#">2TLA020055R0600</a>	M12-3S	M12 Y-connector for serial connection of dynamic device with StatusBus functionality
<a href="#">2TLA020054R0000</a>	Tina 1A	Tina 1A M12 DynLink Port Plug, Used to Fill unused ports on Tina 4A/8A
<a href="#">2TLA020054R0300</a>	Tina 4A	Connection block for up to 4 dynamic devices, 5 pin male to devices
<a href="#">2TLA020054R0500</a>	Tina 8A	Connection block for up to 8 dynamic devices, 5 pin male to devices

CP 600 Series ABB HMI can be used to display status

\*\*Using the Tina 4A/8A make wiring for StatusBus easy. You are able to connect the StatusBus pins easily inside the Tina 4A/8A. See description for cable connections

# DYNLink adapters for Dual Channel devices

Tina makes dual channel devices dynamic



**Tina 1A**  
for filling unused  
ports on Tina 4A/8A



**Tina 2A**

**Tina 2B**



**Tina 3Aps**

**Tina 3A**

**Tina Adapters for 4 wire safety device**



**\*\*Tina 4A Safety Port Block**



**Tina 6A for Safety Mats**



**Tina 5A**  
for By-Pass  
applications

Part Number	Tina Adapter	Description
<a href="#">2TLA020054R0000</a>	Tina 1A	Tina 1A M12 Dynamic Port Plug
<a href="#">2TLA020054R0100</a>	Tina 2A	Tina Adapter that screws into M20 (No M12)
<a href="#">2TLA020054R1100</a>	Tina 2B	Tina 2B Can be hidden inside device (No M12)
<a href="#">2TLA020054R0200</a>	Tina 3A	4 wire adapter to Dyn Pulse, M12-5Pin
<a href="#">2TLA020054R1400</a>	Tina 3Aps	Tina 3A with 24VDC power circuit, M12-8Pin
<a href="#">2TLA020054R0300</a>	Tina 4A	Tina 4A Safety Port Block, use Tina 1A to fill unused ports, 5 pin cables to devices, see manual for cable to Tina 4A requirements
<a href="#">2TLA020054R1900</a>	Tina 5A	Bypass Unit
<a href="#">2TLA020054R0600</a>	Tina 6A	For Safety Mats, Edges, and Bumpers

\*\*Using the Tina 4A/8A make wiring for StatusBus easy also. You are able to connect the StatusBus pins easily inside the Tina 4A/8A

# DYNLink adapters for Dual Channel devices

Tina makes dual channel devices dynamic



Tina 7A for DIN Rail



\*\*Tina 8A Safety Port Block



Tina 10A V2



Tina 10B V2



Tina 10C V2

Tina Adapters for Light Curtains



Tina 11 for 5 Pin Devices



Tina 12 for 8 Pin Devices

Tina 11/12 work like Tina 4A/8A but for only two devices

Part Number	Tina Adapter	Description
<a href="#">2TLA020054R0700</a>	Tina 7A	DIN Rail Mounted Tina
<a href="#">2TLA020054R0500</a>	Tina 8A	Tina 8A Safety Port Block, use Tina 1A to fill unused ports, 5 pin cables to devices, see manual for cable to Tina 4A requirements
<a href="#">2TLA020054R1210</a>	Tina 10A *V2	Light Curtain, adapts OSSD to DYNLink (Needs adapter cable for Orion)(Only goes to receiver)
<a href="#">2TLA020054R1310</a>	Tina 10B *V2	Light Curtain, adapts OSSD to DYNLink (Needs adapter cable for Orion)(Goes to receiver and the third port for reset button)
<a href="#">2TLA020054R1610</a>	Tina 10C *V2	Light Curtain, adapts OSSD to DYNLink (Needs adapter cable for Orion)(One port for the receiver and the other for the transmitter)
<a href="#">2TLA020054R1700</a>	Tina 11A	Two port Block M12-5 Pin devices, (2) 5 pin male, (1) 5 pin female
<a href="#">2TLA020054R1800</a>	Tina 12A	Goes to two M12-8 Pin devices, (2) 8 pin male, (1) 8 pin female

\*Original Tina 10A/B/C have been replaced with Version 2

\*\*Using the Tina 4A/8A make wiring for StatusBus easy also. You are able to connect the StatusBus pins easily inside the Tina 4A/8A

# GKey

## Modular Safety/Process Lock

### Main features

#### Modular Design

- Gkey uses the ABB Compact line of 22mm pilot devices allowing you to customize it to your requirements.
- Modular design allows you to order just what you need, Start with the Gkey4 RU and add what you need
- Operates on 24 VDC

#### Locking function

- A locked door cannot be opened by a person.
- Usually used when the door may only be opened at a specific time, e.g. at the end of the welding operation (process protection) or when the dangerous movement has stopped (person protection = safety function).
- GKey can be used when safe locking/unlocking is necessary. Up to PLe/SIL 3



GKey safety lock incorporate an RFID interlock switch and is designed to fit to the leading edge of machine guard doors to provide robust guard locking and double tamper resistant interlock mechanism.

It is designed to provide position interlock detection for moving guards and will keep the guard locked until a voltage is applied to the switch solenoid. GKey safety lock will hold guards closed up to 3000 N.

It can be used in conjunction with delay timers to provide the solenoid energize signal only after a pre-determined time has run down. GKey housing can incorporate positions for mounting of standard ABB Compact 22 mm push buttons, switches or lamps to facilitate machine request functions and diagnostics all in one housing. These pilot devices are ordered separately.

[Configurator Link](#)

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Pluto PLC

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# GKey

## Modular Safety/Process Lock



2TLA050304R0002  
GKey4 RU Safety lock  
4 positions, die-cast, escape release,  
manual unlock, 24 VDC



2TLA050310R0032  
FHS GKey4 Front handle,  
sliding incl. mounting plate for GKey4



2TLA050040R0510  
RHS GKey MKey Rear handle, sliding



2TLA050040R0511  
SCS GKey MKey Spring loaded catch



1SFA619501R1051  
Emergency stop button,  
2NC Not Illuminated 24 V AC/DC  
CE3P-10R-02 Qty 1/pkg



1SFA619200R1026  
2 Position Selector Switch,  
Not Illuminated 24 V AC/DC  
CE3P-10R-02 Qty 10/pkg



See above for part number  
Push button Illuminated  
24 VDC Available in red, green, blue,  
white Qty 10/pkg



1SFA616920R8120  
Legend plate holder,  
Without Insert  
KA1-8120 Qty 100/pkg



1SFA611920R8130  
Blanking plug, Black  
MA1-8130 Qty 10/pkg

Part Number	Gkey, Die Cast Body, RFID Key
<a href="#">2TLA050304R0002</a>	GKey4 RU, No Pilot Devices, 24 VDC
Part Number	GKey, Mounting Plate with Front Handle
<a href="#">2TLA050310R0032</a>	FHS GKey4
Part Number	GKey, Accessories
<a href="#">2TLA050040R0510</a>	RHS Gkey MKey
<a href="#">2TLA050040R0511</a>	SCS Gkey MKey
Part Number	GKey Pilot Devices Commonly Used
<a href="#">1SFA619501R1051</a>	Emergency stop button, Dual Channel. 24VDC 1/pkg
<a href="#">1SFA619200R1026</a>	2 Position Selector switch, 24 VDC 10/pkg
<a href="#">1SFA619100R1112</a>	Push button Illuminated 24 VDC Green 10/pkg
<a href="#">1SFA619100R1113</a>	Push button Illuminated 24 VDC Yellow 10/pkg
<a href="#">1SFA619100R1114</a>	Push button Illuminated 24 VDC Blue 10/pkg
<a href="#">1SFA619100R1118</a>	Push button Illuminated 24 VDC White/Clear 10/pkg
<a href="#">1SFA619101R1016</a>	Push button Not Illuminated 24 VDC Black 10/pkg
<a href="#">1SFA611920R8130</a>	Blanking plug Black 10/pkg
<a href="#">1SFA616920R8120</a>	Legend plate holder (without insert) 100/pkg

Consult the manual to determine the cabling needs

To view additional Compact Pilot Devices click on the Pilot Device Catalog button below

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Additional Information

What's new

# Eden Dynamic

DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor



Adam Dynamic  
Info, Reset, or  
StatusBus

Eva  
Unique or  
General

[Eden Dynamic  
Configurator Link](#)

## Main features

- Non mechanical, non-contact, non-magnetic, Control Reliable Category 4 Safety Sensor
- Up to 30 Eden Sensors can be connected to a single Vital controller
- 15mm +/- 2mm alignment forgiveness
- LED indication and transistor output status from each switch
- IP69K for harsh wash down
- -40C to +70C (-40F to +158F) Operating Temperature Range
- Three versions of the Adam Dynamic – Info, Reset, or StatusBus
- Eva is available with either General or Unique coding for EN/ISO 14119 applications.

IMPORTANT – Eva Unique or General can used with either OSSD and DYNLink Adams. Eva Unique or General cannot be used with the Asi Adams which will only work with an Asi Eva. See the main catalog for Asi components.

Many DynLink connections are done with a 5 pin cable but consult the manual to verify

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What's new

# Eden Dynamic

## DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor

### Bill of Material – Single Run Connection – Only one Eden

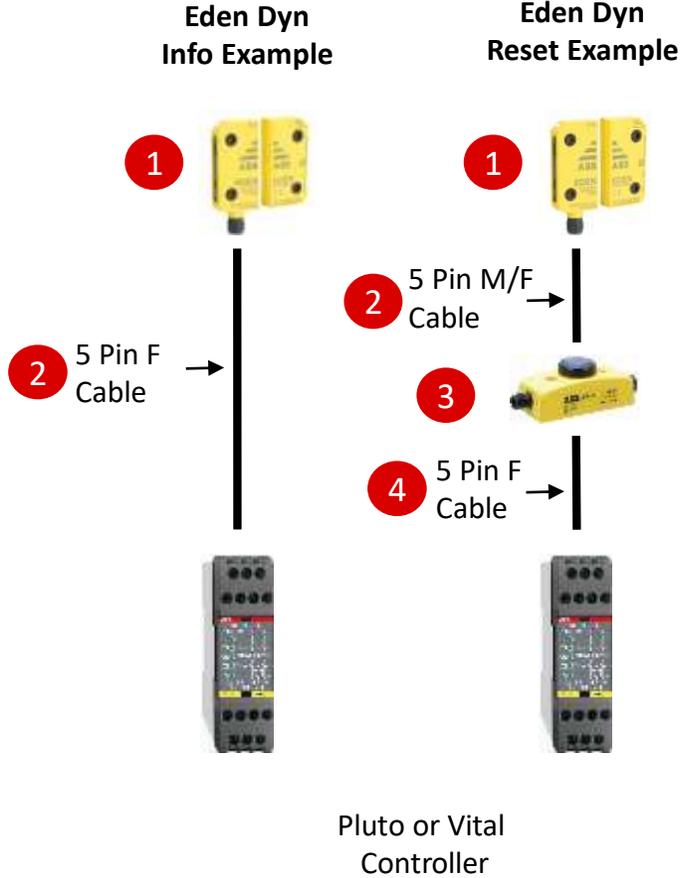
#### Eden Dyn-Info Example

- 1 (1) Adam Dyn-Info & (1) Eva General/Unique
- 2 (1) M12-5 Pin F Cable – Single End

#### Eden Dyn-Reset Example

- 1 (1) Adam Dyn-Reset & (1) Eva General/Unique
- 2 (1) M12-5 Pin M/F Cable – Double
- 3 (1) Reset, Smile 12RF
- 4 (1) M12-5 Pin F Cable – Single End

Quantities are for this example only  
 Cable lengths can vary



# Eden Dynamic

## DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor

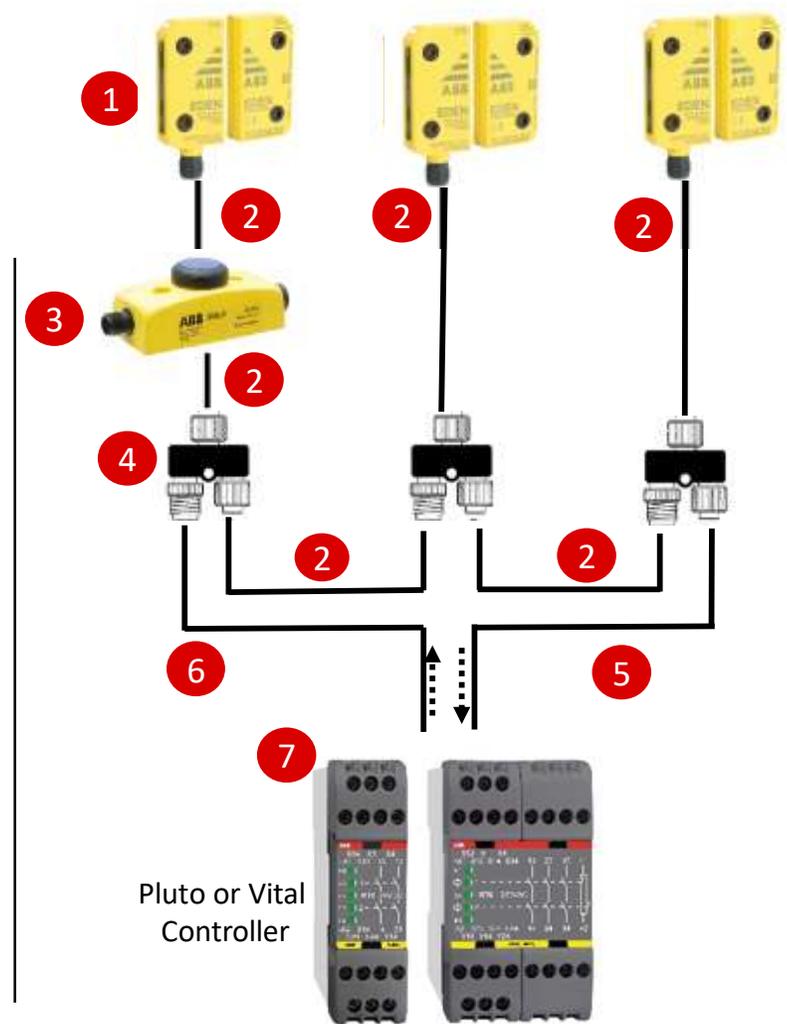
### Bill of Material – Series Connection

- 1 (3) Adam-Info/Reset & (3) Eva General/Unique (Up to 30)
- 2 (6) Double Ended Male-Female M12-5 Pin Cable
- 3 (1) Local Reset Button(Optional)( Use Adam-Reset)
- 4 (3) M12-3A Y-Connector 5 Pin Series
- 5 Single Ended Male M12-5 Pin Cable
- 6 Single Ended Female M12-5 Pin Cable
- 7 Vital / Pluto Safety PLC - DynLink

Quantities are for this example only, Up to 30 Eden's can be connected

Cable lengths can vary

Note: On a Vital the **5** return cable the #2 Pin (White Wire) must land on the receive (RX) terminal of the Vital/Pluto See Pluto catalog for instructions on wiring a Pluto Safety PLC



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# Eden Dynamic

## DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor

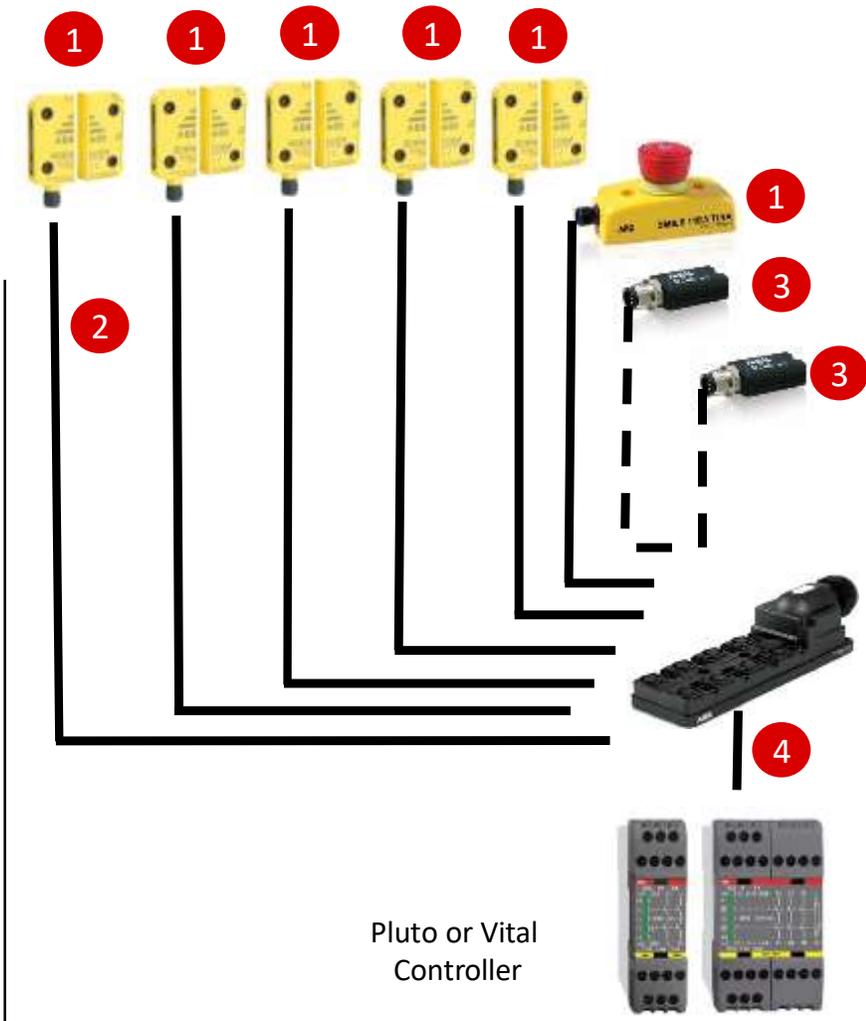
### Bill of Material – Tina 4A/8A Connection (Tina 8A Shown)

- 1** Dynamic Pulse Device (Up to 4 connections for 4A, 8 for 8A)  
 Devices on Example (5) Edens, (1) Smile Tina, (2) Tina 1A
- 2** (6) M12-5 Pin M/F Cable ( Tina 1A can be attached directly to Tina 4A/8A)
- 3** (2) Tina 1A Terminator
- 4** (1) Multi-Conductor Cable  
 -5 Conductor if information outputs are not used (4A only)(StatusBus also)  
 -9 Conductor if information outputs are used (4A only)  
 -5 Conductor if information outputs are not used (8A only)  
 -13 Conductor if information outputs are used (8A only)

Note : Unused connections on Tina 4A/8A must be filled with a Tina1A

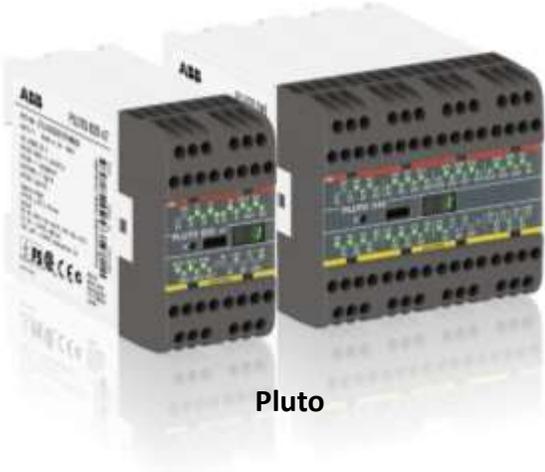
Quantities are for this example only

Cable lengths can vary



# Eden Dynamic

## DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor



	Part Number	Description
Adam	<a href="#">2TLA020051R5100</a>	Adam Dyn-Info M12-5
	<a href="#">2TLA020051R5200</a>	Adam Dyn-Info M12-5, StatusBus (Use on Pluto Only)
Eva	<a href="#">2TLA020046R0800</a>	Eva General Code, All Generals have the same code
	<a href="#">2TLA020046R0900</a>	Eva Unique Code, Unique has 1 of 10,000 codes, EN/ISO 14119 Compliant
Accessories	<a href="#">2TLA020055R0000</a>	M12-3A, Y-Connector, Series Connection to daisy chain DYNLink Devices
	<a href="#">2TLA020055R0100</a>	M12-3B, Y-Connector, one cable to two devices, both devices must be made to send stop signal back
	<a href="#">2TLA020055R0600</a>	M12-3S, Y-Connector for StatusBus Only, Series, (Use on Pluto Only)
	<a href="#">2TLA040033R3600</a>	JSMD4H Eden mounting plate (2 req, 1 per Adam or Eva)
	<a href="#">2TLA030053R0000</a>	Smile 11RA 5 Pin Reset button for use with Vital
	<a href="#">2TLA030053R0100</a>	Smile 11RB 5 Pin Reset button for use with Pluto
	<a href="#">2TLA020052R1000</a>	Vital, Dynamic Pulse Safety Controller, 24VDC, Capable of 30 Dynamic Pulse devices, Cat 4
	<b>Pluto Safety PLC</b>	<b><a href="#">Pluto Safety PLC, See Pluto Section</a></b>
	<a href="#">2TLA020054R0000</a>	Tina 1A Connection Block, Used to fill unused ports on Tina 4A/8ADynamic Pulse devices only
	<a href="#">2TLA020054R0300</a>	Tina 4A Connection Block, 4 Port Connection Block for Dynamic Pulse devices, Also makes it easy to use Status Pin, Male 5 pin to device, See manual for Tina 4A req
<a href="#">2TLA020054R0500</a>	Tina 8A Connection Block, 8 Port Connection Block for Dynamic Pulse devices, Also makes it easy to use Status Pin, Male 5 pin to device, See manual for Tina 8A req	

Many DynLink connections are done with a 5 pin cable but consult the manual to verify

Relays & Pluto PLC

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# Smile & Inca Tina DYNLink E-Stops

Emergency Stop, Reset, & Machine Stop Buttons

## Main features

- Smile is quick disconnect for easy wiring to standard safety relay systems and available with integrated Tina for the Vital/Pluto network
- Inca is the 22.5mm panel mount version of the Smile
- Red/Green status LED for diagnostics
- Slim profile for easy mounting to extruded aluminum Quick Guard Fencing
- Black button versions are for “Production Stops” or “Request to Enter”
- Advanced DYNLink Diagnostics



INCA Tina (DYNLink)

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# Smile & Inca Tina DYNLink E-Stops

Emergency, Reset, & Machine Stop Buttons - DYNLink



Smile Tina Emergency, Reset, & Machine Stop Buttons



Inca Tina Emergency, & Machine Stop Buttons

	Part Number	Description	Smile Tina and INCA Tina
EStops	<a href="#">2TLA030050R0000</a>	Smile 11EA Tina (Red Button)	Emergency stop in Smile enclosure, 1 × M12 5-pin male connector
	<a href="#">2TLA030050R0200</a>	Smile 12 EA Tina (Red Button)	Emergency stop in Smile enclosure, 1 × M12 5-pin male connector and 1 × M12 5-pin female connector
	<a href="#">2TLA030054R0000</a>	Inca 1 Tina (Red Button)	Emergency stop button for panel mounting, 22 5 mm holes, Tina adaption unit included for dynamic circuit, Status LED in button, terminal blocks
	<a href="#">2TLA030054R0400</a>	Yellow Surround for E-Stop	Elevated yellow surround for Inca 22 5 panel mounted (Inca) emergency stop button
	<a href="#">2TLA030054R0900</a>	Yellow Surround for E-Stop	Flat Yellow surround for panel mounted (Inca) emergency stop button, for 22 5 mm hole
Resets	<a href="#">2TLA030053R0000</a>	Smile 11RA (Blue Button)	Reset button in Smile enclosure, Vital Light button connection, 1 button + Blue LED, 1 × M12 5-pin male connector For Vital
	<a href="#">2TLA030053R0100</a>	Smile 11RB (Blue Button)	Reset button in Smile enclosure, Pluto Light button connection, 1 button + Blue LED, 1 × M12 5-pin male connector For Pluto
Mach Stops	<a href="#">2TLA030050R0500</a>	Smile 11 SA Tina (Black Button)	Machine stop (Black button) in Smile enclosure, 1 × M12 5-pin male connector
	<a href="#">2TLA030054R0200</a>	Inca 1S Tina (Black Button)	Machine stop (Black button) for panel mounting, 22 5 mm holes, Tina adaption unit included for dynamic circuit, Status LED in button

Many DynLink connections are done with a 5 pin cable but consult the manual to verify

# Magne DynLink

## Magne 3 & 4 Process Safety Lock



- The Magne 3 does not have an Adam safety sensor built in
- All Magne 4 Series have a built in Adam Safety Sensor
- Magne 4 and 4X requires ordering the Eva (for Magne 4) and Anchor Plate separately
- The metal target (anchor) plate is also ordered separately for all models
- When the Magne 4 is powered up for the first time, the Magne and the Eva will share codes The Eva General can be replaced with another Eva General since they share the same codes The Eva Unique satisfies the requirements of EN/ISO 14119 Only 350mA current draw compared to 2 amps for a solenoid locking switch
- 1500N holding force compared to 1000N for a solenoid locking switch
- Eva and Anchor plate must be ordered separately
- Anchor plate (32B) can be ordered with an embedded magnet to hold door closed (30N) when power is not applied

**Magne Configurator Link**

Part Number	Description	Magne 3X, With No Safety Switch, 24VDC
<a href="#">2TLA042022R2700</a>	Magne 3X	Magne 3x, No Safety Sensor, M12-5,
Part Number	Description	Magne 4X/4, Eden Dyn Safety Switch, 24VDC
<a href="#">2TLA042022R3000</a>	Magne 4X DYN-Info	Magne 4X with Eden Dyn, 5 Pin M12 Connector
<a href="#">2TLA042022R3400</a>	Magne 4 DYN-Info	Magne 4 with Eden Dyn-Info, 8 Pin M12 Connector
<a href="#">2TLA042022R3410</a>	Magne 4 DYN – Info2	Magne 4 with Eden Dyn-Info*, 8 Pin M12 Connector
Part Number	Description	Accessories
<a href="#">2TLA042023R0500</a>	JSM D21B	Mounting kit for Magne For conventional door (5 -15 mm door gap) *
<a href="#">2TLA042023R0300</a>	JSM D24	Mounting kit for Eva For conventional door* JSM D24
<a href="#">2TLA042023R1000</a>	JSM D27	Door handle for JSM D21B
<a href="#">2TLA042023R1300</a>	Anchor 32A	Std Anchor Plate, No Permanent Magnet
<a href="#">2TLA042023R0400</a>	Anchor 32B	With Permanent Magnet (30N) in Anchor Plate
<a href="#">2TLA020046R0800</a>	Eva General	Eva General Code, All Generals have the same code
<a href="#">2TLA020046R0900</a>	Eva Unique	Eva Unique Code, complies with EN/ISO 14119

\*Order Magne anchor plates & Eva (for Magne 4) separately  
 Magne 4 DYN Info2 has (2) locked and door status circuits  
 Dual Channel versions of the Magne 4 are available in the “Dual Channel” tab

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Additional Information

What's new

# Orion Safety Light Curtain

## Orion 1 Base & Extended



### Main features

- Orion Base units are cost effective safety light curtain with automatic/manual reset functions, and built in EDM to eliminate the need for external safety relays
  - EDM – External Device Monitoring
  - Automatic/Manual Reset
- Orion Extended units give you the added functions for the most demanding applications. Features include:
  - EDM – External Device Monitoring
  - Automatic/Manual Reset
  - Muting
    - X, L, & T muting
  - Blanking
    - Fixed and Floating
  - Cascading
    - Up to 3 segments
  - Range select
  - Push Button Programmable
  - No software or DIP switches needed

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# Orion Safety Light Curtain

## Orion 1 Base



### Main features

- Orion Base units are the most economical safety light curtain on the market
- Features include Automatic/Manual Reset
- EDM (External Device Monitoring) allows the device to act as its own safety relay
- Orion 1 Base can be used with the Pluto Safety PLC to “Mute” a circuit Pluto allows for more functionality in the safety system
- 6M Range for 14mm resolution
- 19M Range for 30mm resolution
- Transmitter is a 5 pin male connection
- Receiver is a 8 pin male connection
- Can be made DynLink with a Tina 10A/B/C

14mm Finger Detection	30mm Hand Detection	Protective Height (mm/Inch)	Orion 1 Base (X is 14 or 30)
<a href="#">2TLA022300R0000</a>	<a href="#">2TLA022302R0000</a>	150/5 9	Orion1-4-X-015-B Transmitter+ Receiver
<a href="#">2TLA022300R0100</a>	<a href="#">2TLA022302R0100</a>	300/11 8	Orion1-4-X-030-B Transmitter+ Receiver
<a href="#">2TLA022300R0200</a>	<a href="#">2TLA022302R0200</a>	450/17 7	Orion1-4-X-045-B Transmitter+ Receiver
<a href="#">2TLA022300R0300</a>	<a href="#">2TLA022302R0300</a>	600/23 6	Orion1-4-X-060-B Transmitter+ Receiver
<a href="#">2TLA022300R0400</a>	<a href="#">2TLA022302R0400</a>	750/29 5	Orion1-4-X-075-B Transmitter+ Receiver
<a href="#">2TLA022300R0500</a>	<a href="#">2TLA022302R0500</a>	900/35 4	Orion1-4-X-090-B Transmitter+ Receiver
<a href="#">2TLA022300R0600</a>	<a href="#">2TLA022302R0600</a>	1050/41 3	Orion1-4-X-105-B Transmitter+ Receiver
<a href="#">2TLA022300R0700</a>	<a href="#">2TLA022302R0700</a>	1200/47 2	Orion1-4-X-120-B Transmitter+ Receiver
<a href="#">2TLA022300R0800</a>	<a href="#">2TLA022302R0800</a>	1350/53 1	Orion1-4-X-135-B Transmitter+ Receiver
<a href="#">2TLA022300R0900</a>	<a href="#">2TLA022302R0900</a>	1500/59 0	Orion1-4-X-150-B Transmitter+ Receiver
<a href="#">2TLA022300R1000</a>	<a href="#">2TLA022302R1000</a>	1650/64 9	Orion1-4-X-165-B Transmitter+ Receiver
<a href="#">2TLA022300R1100</a>	<a href="#">2TLA022302R1100</a>	1800/70 9	Orion1-4-X-180-B Transmitter+ Receiver

Relays & Pluto PLC

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Additional Information

What's new

# Orion Safety Light Curtain

## Orion 1 Extended



### Main features

- Orion Extended units give you the added functionality for the most demanding applications
- Automatic/Manual Reset
- Muting applications
- Y cable M12-C02PT62RM connects to receiver and muting sensors
- Standard/Blanking applications
- Use cable M12-C02PT6RB for standard and blanking applications
- Cascading, Use Cascade Cable
- Coding for when close together
- Push Button Programmable
- 7M range for 14mm Resolution
- 20M range for 30mm Resolution
- Can be made DynLink with a Tina 10A/B/C

14mm Finger Detection	30mm Hand Detection	Protective Height (mm/Inch)	Orion 1 Extended (X is 14 or 30)
<a href="#">2TLA022301R0100</a>	<a href="#">2TLA022303R0100</a>	300/11 8	Orion1-4-X-030-E Transmitter+ Receiver
<a href="#">2TLA022301R0200</a>	<a href="#">2TLA022303R0200</a>	450/17 7	Orion1-4-X-045-E Transmitter+ Receiver
<a href="#">2TLA022301R0300</a>	<a href="#">2TLA022303R0300</a>	600/23 6	Orion1-4-X-060-E Transmitter+ Receiver
<a href="#">2TLA022301R0400</a>	<a href="#">2TLA022303R0400</a>	750/29 5	Orion1-4-X-075-E Transmitter+ Receiver
<a href="#">2TLA022301R0500</a>	<a href="#">2TLA022303R0500</a>	900/35 4	Orion1-4-X-090-E Transmitter+ Receiver
<a href="#">2TLA022301R0600</a>	<a href="#">2TLA022303R0600</a>	1050/41 3	Orion1-4-X-105-E Transmitter+ Receiver
<a href="#">2TLA022301R0700</a>	<a href="#">2TLA022303R0700</a>	1200/47 2	Orion1-4-X-120-E Transmitter+ Receiver
<a href="#">2TLA022301R0800</a>	<a href="#">2TLA022303R0800</a>	1350/53 1	Orion1-4-X-135-E Transmitter+ Receiver
<a href="#">2TLA022301R0900</a>	<a href="#">2TLA022303R0900</a>	1500/59 0	Orion1-4-X-150-E Transmitter+ Receiver
<a href="#">2TLA022301R1000</a>	<a href="#">2TLA022303R1000</a>	1650/64 9	Orion1-4-X-165-E Transmitter+ Receiver
<a href="#">2TLA022301R1100</a>	<a href="#">2TLA022303R1100</a>	1800/70 9	Orion1-4-X-180-E Transmitter+ Receiver

For muting applications we recommend using a Orion Base with a S20 Pluto to control the muting function. In blanking situations use the M12-C02PT6RB

Relays & Pluto PLC

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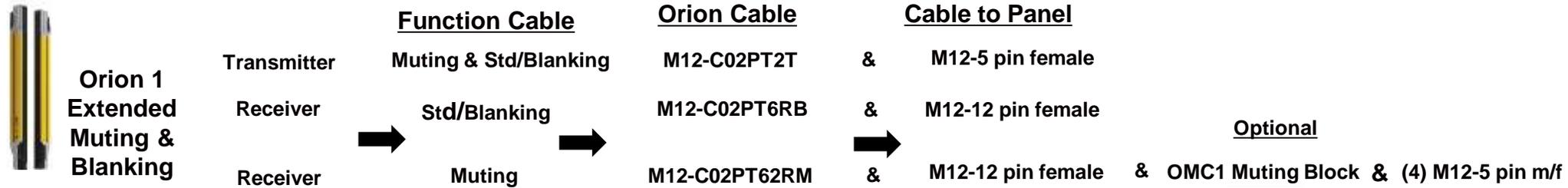
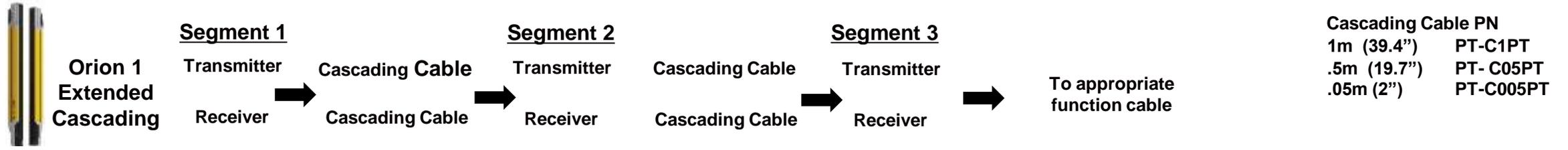
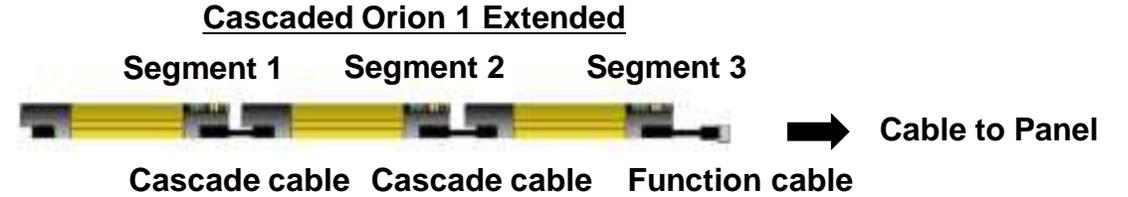
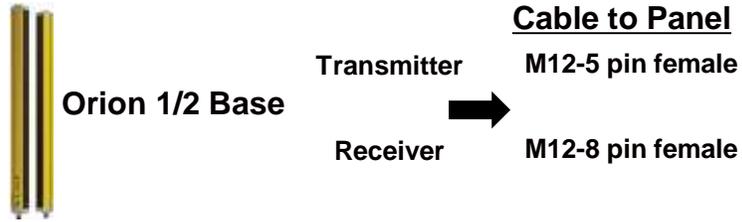
AQG & Eng Services

Additional Information

What's new

# Orion Safety Light Curtain

## Cable Layout



Function cable

The Orion 1 Extended light curtain uses a special connector to attach to the body of the transmitter and receiver.

This special adapter allows the use of a cascade cable to connect up to three segments or the ones listed above.



OMC1

# Orion Safety Light Curtain

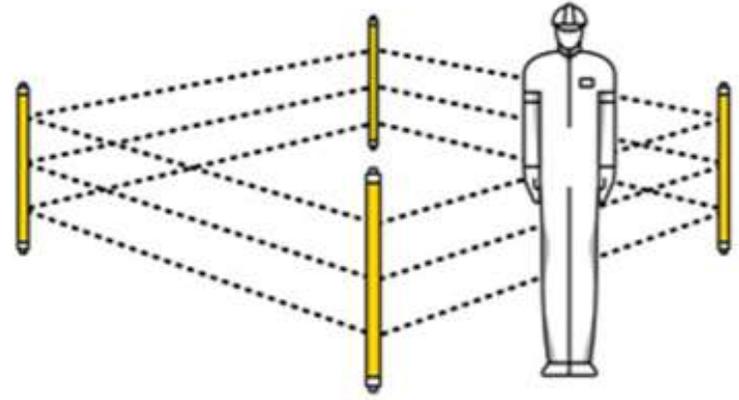
## Orion 2 Base



### Main features

- Easy to use - no more functions or settings than necessary.
- A local reset button can be connected directly to the light grid: no need for cable between the reset button and the electrical cabinet or for an extra control module.
- Alignment help facilitates alignment.
- Rotation brackets simplify alignment too.
- M12 connectors speed up cabling.
- Protective tubes and lens shields protect the devices in harsh environments.
- Body detection 2 to 4 beams
- Automatic/Manual Reset
- External Device Monitoring
- 50m operating distance
- Can be made DynLink with a Tina 10A/B/C

30mm Hand Detection	Protective Height (# Beams)	Orion 2
<a href="#">2TLA022304R0000</a>	500mm (2 Beams)	Orion2-4-K2-050-B Transmitter+ Receiver
<a href="#">2TLA022304R0100</a>	800mm (3 Beams)	Orion2-4-K3-080-B Transmitter+ Receiver
<a href="#">2TLA022304R0200</a>	900mm (4 Beams)	Orion1-4-K4-090-B Transmitter+ Receiver
<a href="#">2TLA022304R0300</a>	1200mm (4 Beams)	Orion1-4-K4-120-B Transmitter+ Receiver



# Orion Safety Light Curtain

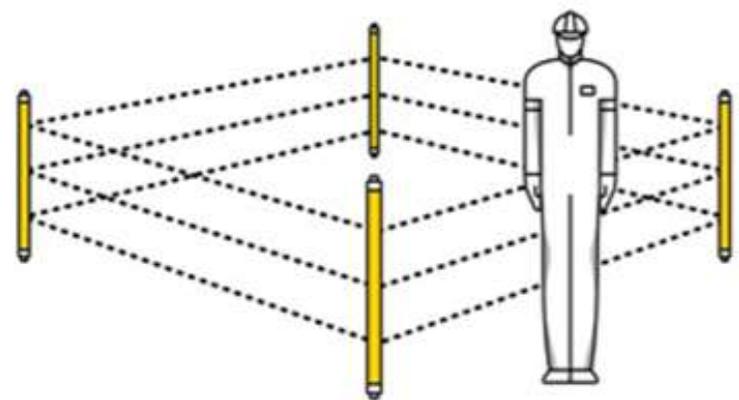
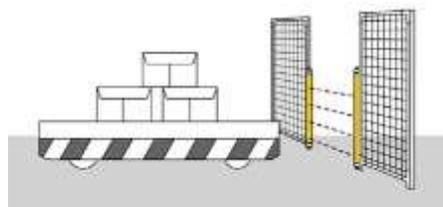
## Orion 2 Extended



### Main features

- Muting sensors are connected directly to the light grid, with no need for a remote muting module.
- A local reset button can be connected directly to the light grid: no need for cable between the reset button and the electrical cabinet or for an extra control module.
- Each light grid can monitor the actuators without any extra control module (EDM function).
- Alignment help and a wide angle facilitate alignment.
- Rotation brackets simplify alignment too.
- M12 connectors speed up cabling.
- Protective tubes and lens shields protect the devices in harsh environments.
- Body detection 2 to 4 beams
- Automatic/Manual Reset
- External Device Monitoring
- 50m operating distance
- Can be made DynLink with a Tina 10A/B/C

30mm Hand Detection	Protective Height (# Beams)	Orion 2
<a href="#">2TLA022305R0000</a>	500mm (2 Beams)	Orion2-4-K2-050-E Transmitter+ Receiver
<a href="#">2TLA022305R0100</a>	800mm (3 Beams)	Orion2-4-K3-080-E Transmitter+ Receiver
<a href="#">2TLA022305R0200</a>	900mm (4 Beams)	Orion1-4-K4-090-E Transmitter+ Receiver
<a href="#">2TLA022305R0300</a>	1200mm (4 Beams)	Orion1-4-K4-120-E Transmitter+ Receiver



For muting applications the Orion 2 Extended has built in muting capability  
See manual for cable options

# Orion Safety Light Curtain

## Cables and Accessories



Orion1 Wet

Orion Stand



Orion Stand Plate



Orion Laser Pointer

OMC1 Muting Block



Orion1 Mirror

Base Trans	Extended	Description	Part Number	Application
	X	M12-C02PT2T	<a href="#">2TLA022315R0100</a>	Orion 1 E Transmitter Cable Connects to M12-5 Pin Female
	X	M12-C02PT6RB	<a href="#">2TLA022315R0200</a>	Orion 1 E Receiver Std/blanking Cable Connects to M12-12 Female
	X	M12-C02PT62RM	<a href="#">2TLA022315R0300</a>	Orion 1 E Receiver Std/muting Cable Connects to M12-12 Female
	X	PT-C1PT	<a href="#">2TLA022315R1000</a>	Orion 1 E Cascade Cable, 1M
	X	PT-C05PT	<a href="#">2TLA022315R1100</a>	Orion 1 E Cascade Cable, 0.5M
	X	PT-C005PT	<a href="#">2TLA022315R1200</a>	Orion 1 E Cascade Cable, 0.05M
X		JSM-03	<a href="#">2TLA022310R0100</a>	JSM-03 Rotational bracket for Orion 1 Base
X	X	M12-5 Female Cable	<a href="#">See Cable Section For lengths</a>	Base – connects to transmitter Extended – Connects to M12-C02PT2T cable Extended – Connects to M12-C02PT62RM Cable
X		M12-8 Female Cable	<a href="#">See Cable Section For lengths</a>	Base – connects to receiver
	X	M12-12 Female Cable	<a href="#">See Cable Section For lengths</a>	Extended - Connects to receiver cable M12-C02PT6RB or M12-C02PT62RM
X	X	M12-5 Female Cable	<a href="#">See Cable Section For lengths</a>	Base – Transmitter Extended – Connects to M12-C02PT2T Extended – Connects to OMC1Muting Cable
X		M12-8 Female Cable	<a href="#">See Cable Section For lengths</a>	Base – connects to Receiver

See the Orion web page for a complete listing of accessories

# MKey

## Mechanical Safety Switch

### Main features

- Available in Metal, Stainless Steel, and Plastic housings
- Industry standard foot prints
- Mkey 8 & 9 Are Solenoid Locking
- Ex Proof versions for harsh environments (See Switch Catalog)
- Ideal for OEM & MRO applications
- Can be used with Sentry Safety Relays or Pluto Safety PLC



MKey 1 Plastic



MKey 2 Plastic



MKey 4 Plastic



MKey 5 Plastic, Plastic with SS Head, All SS



MKey 6 Die Cast, Die Cast with SS HEADS, All SS



MKey 8 & 8M Die Cast, Die Cast with SS HEADS, All SS



MKey 9 & 9M Plastic with SS Heads



Std Key



Flat Key



Plastic Flex Key



SS Flex Key

# MKey

## Mechanical Safety Switch with Standard Key, Order Specialty Key Separately

Part Number	MKey 1, Plastic Body, Mech Safety Switch
2TLA050021R1100	Mkey1, Compact NPT, 2NC/1NO with Angle Key
Part Number	MKey 2, Plastic Body, Mech Safety Switch
2TLA050020R1000	Mkey2, Compact Hinge NPT, 2NC/1NO
Part Number	MKey 4, Plastic Body, Mech Safety Switch
2TLA050001R1100	Mkey4, NPT, 2NC/1NO
2TLA050001R1101	Mkey4+, NPT, 2NC/1NO 40N
2TLA050001R1110	Mkey4, SS Head, NPT, 2NC/1NO
2TLA050001R1111	Mkey4+, SS Head, NPT, 2NC/1NO 40N
Part Number	MKey 5, Mech Safety Switch
2TLA050003R1100	Mkey5, Plastic Body, NPT, 2NC/1NO
2TLA050003R1101	Mkey5+, Plastic Body NPT, 2NC/1NO 40N
2TLA050003R1110	Mkey5, SS Head, NPT, 2NC/1NO
2TLA050003R1111	Mkey5+, SS Head, NPT, 2NC/1NO 40N
2TLA050003R1120	Mkey5Z, SS Body, NPT 2NC/1NO
2TLA050003R1121	Mkey5+Z, SS Body, NPT 2NC/1NO 40N
Part Number	MKey 6, Metal Body, Mech Safety Switch
2TLA050005R1130	Mkey6, NPT, 2NC/1NO
2TLA050005R1131	Mkey6+, NPT, 2NC/1NO 40N
2TLA050005R1140	Mkey6Z, SS Head, NPT 2NC/1NO
2TLA050005R1141	Mkey6+Z, SS Head, NPT 2NC/1NO 40N
2TLA050005R1120	Mkey6Z, SS Body, NPT 2NC/1NO
2TLA050005R1121	Mkey6+Z, SS Body, NPT 2NC/1NO 40N
Part Number	MKey 8, Metal Body, Solenoid Safety Switch
2TLA050011R1132	Mkey8, NPT, 24V Sol, Power to Unlock,
2TLA050011R1142	Mkey8, SS Head, NPT, 24V Sol, Power to Unlock,
2TLA050011R1122	Mkey8Z, SS Body, NPT, 24V Sol, Power to Unlock,

Part Number	MKey 8ER & 8ERZ, Metal Body, Solenoid Safety Switch, 24 VDC
2TLA050015R1132	Mkey8ER, NPT, 24V Sol, Power to Unlock,
2TLA050015R1122	Mkey8ERZ, SS Body, NPT, 24V Sol, Power to Unlock,
Part Number	MKey 8M, Metal Body, Solenoid Safety Switch, 24 VDC
2TLA050013R1132	Mkey8M, Sol NPT, 24V, Power to Lock,
2TLA050013R1142	Mkey8M, SS Head, Sol NPT, 24V, Power to Lock,
Part Number	MKey 9 & 9M, Plastic Body, Solenoid Safety Switch, 24 VDC
2TLA050007R1112	Mkey9, SS Head, Sol NPT, 24V, Power to Unlock,
2TLA050009R1112	Mkey9M, SS Head, Sol NPT, 24V, Power to Lock,
Part Number	Keys
<a href="#">2TLA050040R0201</a>	MKey 4,5 Metal Standard Key (Mkey 4/5 with Plastic Head)
<a href="#">2TLA050040R0202</a>	MKey 4,5,6,8,9 Metal Standard Key (Mkey 4/5 with SS Head)
<a href="#">2TLA050040R0220</a>	MKey 4,5,6,8,9 Metal Flat Key
<a href="#">2TLA050040R0221</a>	MKey 4,5,6 With Plastic Housing, Flex Key
<a href="#">2TLA050040R0203</a>	MKey 4,5,6,8,9 Metal Housing Flex Key
<a href="#">2TLA050040R0204</a>	MKey 6,8,9 SS Housing Flex Key
<a href="#">2TLA050040R0400</a>	MKey 8Z, 8ERZ, Manual Release Key for Solenoid Switches
Part Number	Accessories
2TLA050040R0001	1/2 NPT 316 SS Cable Gland

- Commonly ordered safety switches with only standard keys are listed on this page
- Order specialty key separately, or go to our Safety Switch catalog for other options
- + Indicates Holding force of 40N (9lbs)
- All Shown are 1/2" NPT connections (See catalog for others)
- "Z" in the part description indicates it is stainless steel & IP69k
- All the safety switches on this page are 1/2" NPT and would require a 1/2" NPT cable gland to go to a cable. Consult the manual for the number of conductors required.
- You can also go to a 1/2" NPT conduit connection

# Sense

## Non-Contact Magnetic Safety Switch

### Main features

- Available in Stainless Steel (Z) and Plastic housings
- Industry standard foot prints
- Standard with 5m leads



Sense 1 & 2



Sense 5 & 6



Sense 7 & 8



Sense 3 & 4



Sense 9 & 10



Sense 11 & 12

See Catalog for dimensions

Sense

Non-Contact Magnetic Safety Switch

Sense Coded Magnetic Safety Switch, 5m cable w/flying leads

Part Number	Sense Coded Magnetic Safety Switch
2TLA050050R5108	Sense 1, 5m cable Rt Cable Exit, 2NC/1NO LED, 24VDC
2TLA050050R5107	Sense 1, 5m cable Lt Cable Exit, 2NC/1NO LED, 24VDC
2TLA050052R5100	Sense 3, 5m cable, 2NC/1NO LED, 24VDC
2TLA050052R5120	Sense 3Z, SS 5m cable, 2NC/1NO LED, 24VDC
2TLA050052R5150	Sense 3Z, HYG SS 5m cable, 2NC/1NO LED, 24VDC
2TLA050054R5100	Sense 5, 5m cable, 2NC/1NO LED, 24VDC
2TLA050054R5120	Sense 5Z, SS 5m cable, 2NC/1NO LED, 24VDC
<a href="#">2TLA050056R5100</a>	Sense 7, 5m cable, 2NC/1NO LED, 24VDC
<a href="#">2TLA050056R5120</a>	Sense 7Z, SS 5m cable, 2NC/1NO LED, 24VDC
2TLA050058R5100	Sense 9, 10m cable, 2NC/1NO LED, 24VDC
2TLA050058R5120	Sense 9Z, SS 5m cable, 2NC/1NO LED, 24VDC
2TLA050058R5150	Sense 9Z HYG, SS 5m cable, 2NC/1NO LED, 24VDC
2TLA050060R5100	Sense 11, 5m cable, 2NC/1NO LED, 24VDC
2TLA050060R5120	Sense 11Z, SS 5m cable, 2NC/1NO LED, 24VDC

Coding offers a degree of tamper resistance over uncoded non contact magnetic safety switches

Sense Uncoded Magnetic Safety Switch, 5m cable w/flying leads

Part Number	Sense Uncoded Magnetic Safety Switch
2TLA050070R5108	Sense 2, 5m cable Rt 2NC/1NO, 24 VDC
2TLA050070R5107	Sense 2, 5m cable Lt 2NC/1NO, 24 VDC
2TLA050072R5100	Sense 4, 5m cable, 2NC/1NO, 24 VDC
2TLA050072R5120	Sense 4Z, SS 5m cable, 2NC/1NO, 24 VDC
2TLA050072R5150	Sense 4Z, Hyg, SS 5m cable, 2NC/1NO, 24 VDC
2TLA050074R5100	Sense 6, 5m cable, 2NC/1NO, 24 VDC
2TLA050074R5120	Sense 6Z, SS 5m cable, 2NC/1NO, 24 VDC
2TLA050076R5100	Sense 8, 5m cable, 2NC/1NO, 24 VDC
2TLA050076R5120	Sense 8Z, SS 5m cable, 2NC/1NO, 24 VDC
2TLA050078R5100	Sense 10, 5m cable, 2NC/1NO, 24 VDC
2TLA050078R5120	Sense 10Z, SS 5m cable, 2NC/1NO, 24 VDC
2TLA050078R5150	Sense 10Z HYG, SS 5m cable, 2NC/1NO, 24 VDC
2TLA050080R5100	Sense 12, 5m cable, 2NC/1NO, 24 VDC
2TLA050080R5120	Sense 12Z, SS 5m cable, 2NC/1NO, 24 VDC

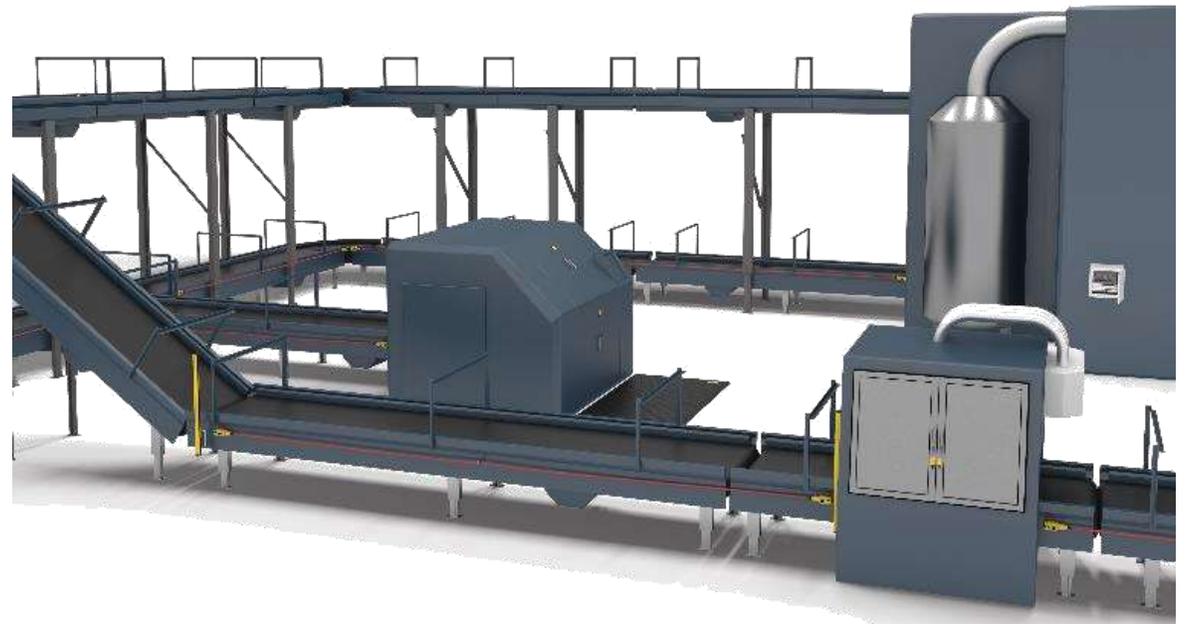
All Sense Magnetic Safety Switches above have 5m cables  
 See main switch catalog for 2 & 10m cable options  
 "Z" in the part description indicates it is stainless steel & IP69k  
 Refer to the catalog for the number of leads per switch

# Line Strong

## Rope Pull Switch

### Main features

- Long range metal robust Emergency Rope Pull Switches
- Available in dual head for “daisy chain” configuration along long conveyors
- Stainless Steel versions for the food industry
- Ex Proof versions for harsh environments
- Available with optional Emergency Stop button or Red/Green Status LED
- Consult the catalog for the correct cable wiring



# Line Strong

## Rope Pull Switch

Order Estop separately  
All Models



**Line Strong 1**  
Protection up to 50 meters



**Line Strong 3DZ**  
W / Optional Estop  
Protection up to 250 meters



**Line Strong 2**  
W / Optional Estop  
Protection up to 80 meters



**Line Strong 3R**  
W / Optional Estop  
Protection up to 125 meters



**Line Strong 2Z**  
W / Optional Estop  
Protection up to 100 meters



**Line Strong 3LZX**  
W / Optional Estop  
Protection up to 125 meters

Part Number	Line Strong 1
2TLA050200R1030	LINE STRONG1, 2NC/2NO, NPT
2TLA050200R1232	LINE STRONG1, 2NC/2NO, NPT LED
Part Number	Line Strong 2
2TLA050202R1020	LINE STRONG2Z, 2NC/2NO, NPT, SS
2TLA050202R1030	LINE STRONG2, 2NC/2NO, NPT
2TLA050202R1222	LINE STRONG2Z, 2NC/2NO, NPT LED, SS
2TLA050202R1232	LINE STRONG2, 2NC/2NO, NPT LED
Part Number	Line Strong 3
2TLA050204R1020	LINE STRONG3DZ, 4NC/4NO, NPT, SS
2TLA050204R1030	LINE STRONG3D, 4NC/4NO, NPT
2TLA050204R1222	LINE STRONG3DZ, 4NC/4NO, NPT LED, SS
2TLA050204R1232	LINE STRONG3D, 4NC/4NO, NPT LED
2TLA050206R1020	LINE STRONG3LZ, 4NC/2NO, NPT, SS
2TLA050206R1030	LINE STRONG3L, 4NC/2NO, NPT
2TLA050206R1222	LINE STRONG3LZ, 4NC/2NO, NPT LED, SS
2TLA050206R1232	LINE STRONG3L, 4NC/2NO, NPT LED
2TLA050208R1020	LINE STRONG3RZ, 4NC/2NO, NPT, SS
2TLA050208R1030	LINE STRONG3R, 4NC/2NO, NPT
2TLA050208R1222	LINE STRONG3RZ, 4NC/2NO, NPT LED, SS
2TLA050208R1232	LINE STRONG3R, 4NC/2NO, NPT LED

See catalog for additional information  
LED versions on this page are 24VDC. 110VAC and 230VAC are also available  
Above models do not include E-stop, order separately, See next page  
For ATEX Explosion Proof See Catalog  
"Z" in the part description indicates it is stainless steel, No "Z" is Die Cast  
Some Model are available in 'Low Temperature' versions  
Stainless Steel (Z) versions are IP69k

# Line Strong

## Rope Pull Switch Accessories



Rope Kit

Part Number	Line Strong Accessories
<a href="#">2TLA050210R4020</a>	LINESTRONG ACCES ROPE TENSIONER, SS
<a href="#">2TLA050210R4030</a>	LINESTRONG ACCES ROPE TENSIONER, GALV
<a href="#">2TLA050210R6020</a>	LINESTRONG ACCES CORNER PULLY, SS
<a href="#">2TLA050210R6030</a>	LINESTRONG ACCES CORNER PULLY, GALV
<a href="#">2TLA050211R0004</a>	LINESTRONG ACCES SPRING, 220MM, SS
2TLA858006R1300	FLEX ROLLER EYEBOLT W/ADJUSTMENT
2TLA050040R0001	1/2 NPT 316 SS CABLE GLAND
<a href="#">2TLA050211R0005</a>	LINE STRONG ACCES E-STOP BUTTON, FOR USE WITH LINE STRONG 1,2,3

Part Number	Stainless Steel Rope Kits (No Spring)
2TLA050210R0020	5M ROPE KIT SS W/ALLEN KEY
2TLA050210R0120	10M ROPE KIT SS W/ALLEN KEY
2TLA050210R0220	15M ROPE KIT SS W/ALLEN KEY
2TLA050210R0320	20M ROPE KIT SS W/ALLEN KEY
2TLA050210R0420	30M ROPE KIT SS W/ALLEN KEY
<a href="#">2TLA050210R0520</a>	50M ROPE KIT SS W/ALLEN KEY
2TLA050210R0620	80M ROPE KIT SS W/ALLEN KEY
<a href="#">2TLA050210R0720</a>	100M ROPE KIT SS W/ALLEN KEY
2TLA050210R0820	126M ROPE KIT SS W/ALLEN KEY
Galvanized Steel Rope Kits (No Spring)	
2TLA050210R0030	5M ROPE KIT, GALV W/ALLEN KEY
<a href="#">2TLA050210R0130</a>	10M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0230	15M ROPE KIT, GALV W/ALLEN KEY
<a href="#">2TLA050210R0330</a>	20M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0430	30M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0530	50M ROPE KIT, GALV W/ALLEN KEY
<a href="#">2TLA050210R0630</a>	80M ROPE KIT, GALV W/ALLEN KEY
<a href="#">2TLA050210R0730</a>	100M ROPE KIT, GALV W/ALLENKEY
2TLA050210R0830	126M ROPE KIT, GALV W/ALLEN KEY



Spring



Corner Pulley



EStop



SS Cable Gland



Flex Roller

(1) Tensioner & (1) Quick link) included with kits 50M or less  
 (2) Tensioners included with kits greater than 50 M (no Quick Link)

# Smile & Inca E-Stops

Emergency, Reset, & Machine Stop Buttons – Dual Channel



Smile Emergency, Reset, & Machine Stop Buttons



Smile Emergency, & Machine Stop Buttons

	Part Number	Description	Smile and INCA Dual Channel
EStops	<a href="#">2TLA030051R0000</a>	Smile 11 EA (Red Button)	Emergency stop in Smile enclosure, 2 × NC, Status LED in button, 1 × M12 5-pin male connector
	<a href="#">2TLA030051R0200</a>	Smile 12 EA (Red Button)	Emergency stop in Smile enclosure, 2 × NC, Status LED in button, 1 × M12 5-pin male connector and 1 × M12 5-pin female connector
	<a href="#">2TLA030054R0100</a>	INCA 1 (Red Button)	Emergency stop (Red Button for panel mounting, 22.5 mm holes, 2 × NC, Status LED in button, terminal blocks)
	<a href="#">2TLA030054R0400</a>	Yellow Surround for E-Stop	Elevated yellow surround for Inca panel mounted emergency stop button
	<a href="#">2TLA030054R0900</a>	Yellow Surround for E-Stop	Flat Yellow surround for panel mounted emergency stop button, for 22.5 mm hole
Mach Stops	<a href="#">2TLA030051R0900</a>	Smile 11 SA (Black Button)	Machine stop (Black button) in Smile enclosure, 2 × NC, Status LED in button, 1 × M12 5-pin male connector
	<a href="#">2TLA030054R0300</a>	INCA 1S (Black Button)	Machine stop (Black button) for panel mounting, 22.5 mm holes, 2 × NC, Status LED in button, terminal blocks

# E-Strong

## Heavy Duty E-Stop



### Main features

- E-Strong Emergency Stop Buttons are designed for the most demanding of environments
- Available with integrated LED or lockable shroud enclosure ideal for the food industry
- Ex Proof rated versions for harsh (see catalog)
- Stainless Steel environments (see catalog)

Part Number	E-Strong
2TLA050220R1020	E-STRONGZ E-STOP 2NC/2NO, NPT, SS
2TLA050220R1222	E-STRONGZ E-STOP 2NC/2NO, LED 24 VDC, NPT, SS
2TLA050220R1223	E-STRONGZ E-STOP 2NC/2NO, LED 110 VAC, NPT, SS
2TLA050220R1224	E-STRONGZ E-STOP 2NC/2NO, LED 230 VAC, NPT, SS

Estrong could be wired to an 8 conductor cable using a ½”NPT cable gland (see Line Strong accessories) or go to ½” NPT conduit

# Safety Mats\*

Integrated and Blunt Trim



## Main features

- Ideal for secondary protection inside a work area or in the front of a machine at the point of operation
- 32 different sizes and styles in stock
- Available with integrated rubber ramp rail or external aluminum trim
- Highest quality, most robust safety mat on the market
- Euro Dot pattern ideal for oily/slippery environments
- Custom mats available upon demand
- Cost effective
- (4) Wires come out long side center
- Safety Mats must be affixed to the floor
- Safe Distance calculations must be made for the application See main catalog for calculation example
- For dual channel applications us a USR10 Safety Relay
- For DYNLink applications (best practice) contact your Jokab support team.

Safety Mats could use a M12-5 pin male field wireable connector and a M12-5 pin female cable for connectivity or wired directly to terminal blocks

\*IMPORTANT - The US Safety Mats differs from the Safety Mats listed in the European catalogs.

Relays &  
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# Safety Mats\*

## Integrated and Blunt Trim

Safety Mat w/o Trim (Blunt)	Safety Mat w Integrated Trim	Protective Dimensions, Inch
2TLA858003R2800	2TLA858003R2900	Safety mat 12" x 12"
2TLA858002R3800	2TLA858002R5600	Safety mat 24" x 24"
2TLA858002R3900	2TLA858002R5700	Safety mat 24" x 30"
2TLA858002R4000	2TLA858002R5800	Safety mat 24" x 36"
2TLA858002R4100	2TLA858002R5900	Safety mat 24" x 42"
2TLA858002R4200	2TLA858002R6000	Safety mat 24" x 48"
2TLA858002R4300	2TLA858002R6100	Safety mat 24" x 60"
2TLA858002R4400	2TLA858002R6200	Safety mat 30" x 30"
2TLA858002R4500	2TLA858002R6300	Safety mat 30" x 36"
2TLA858002R4600	2TLA858002R6400	Safety mat 30" x 42"

Safety Mat w/o Trim (Blunt)	Safety Mat w Integrated Trim	Protective Dimensions, Inch
2TLA858002R4700	2TLA858002R6500	Safety mat 30" x 48"
2TLA858002R4800	2TLA858002R6600	Safety mat 36" x 36"
2TLA858002R4900	2TLA858002R6700	Safety mat 36" x 42"
2TLA858002R5000	2TLA858002R6800	Safety mat 36" x 48"
2TLA858002R5100	2TLA858002R6900	Safety mat 36" x 60"
2TLA858002R5200	2TLA858002R7000	Safety mat 42" x 42"
2TLA858002R5300	2TLA858002R7100	Safety mat 42" x 48"
2TLA858002R5400	2TLA858002R7200	Safety mat 48" x 48"
2TLA858002R5500	2TLA858002R7300	Safety mat 48" x 60"
2TLA858002R7400	Safety mat trim corner connection	
2TLA858002R7500	Safety mat alum Trim (by the inch)(Enter inches into qty )(-1.58 in/conn)	

5m cable come out long side center  
 Aluminum Trim is ordered by the inch  
 Consult your ABB Jokab representative to order properly  
 Alum Trim Shipments - FedEx can only ship 108", It's (\$\$) LTL for longer

\*IMPORTANT - The US Safety Mats differs from the Safety Mats listed in the European catalogs.

# Safety Edges

## TT Series



### Main features

- Ordered per inch, preassembled (no gluing required), supplied with matching aluminum support profile.
- 2 different styles to choose from (30 and 45 mm high)
- The twin cable connection makes it easy to connect several safety edges in series
- The safety edges are made in TPE rubber that has a good resistance to ozone, weather and especially against chemicals
- Cost effective
- For dual channel applications use a USR10 Safety Relay
- For DYNLink applications (best practice) contact your Jokab support team.

\*IMPORTANT - The US Safety Edges differs from the Safety edges listed in the European catalogs.

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# Safety Edges

## TT Series

Product	Catalog Number	Description
SENTIR2530	2TLA858008R0200	SENTIR series safety edge. Ordered per inch. Made of TPE rubber. 25mm wide, 30mm height with T-base for mounting in the AL2514 mounting channel. Must order an end cap assembly.
SENTIR 2530 END CAP ASSEMBLY	2TLA858008R0400	SENTIR2530 series safety edge end cable and cable assembly. Kit comes with 2 end caps with 5m assemblies cables, one out each end, fastened to the SENTIR2530 edge. Order 1 per edge
AL2514 ALUMINUM RAIL	2TLA858004R2200	Aluminum profile for safety edge SENTIR series with T base, width 25mm, height 14mm, ordered per inch
SENTIR2545	2TLA858008R0300	SENTIR series safety edge. Ordered per inch. Made of TPE rubber. 25mm wide, 45mm height with T-base for mounting in the AL2514 mounting channel. Must order an end cap assembly.
SENTIR 2545 END CAP ASSEMBLY	2TLA858008R0500	SENTIR2545 series safety edge end cable and cable assembly. Kit comes with 2 end caps with 5m assemblies cables, one out each end, fastened to the SENTIR2545 edge. Order 1 per edge

5m cable come out of each side  
 Aluminum Trim is ordered by the inch

Example on how to order a 24 inch SENTIR25/30 edge.

Quantity	Product	Catalog Number	Description
24	SENTIR2530	2TLA858008R0200	SENTIR series safety edge. Ordered per inch. Made of TPE rubber. 25mm wide, 30mm height with T-base for mounting in the AL2514 mounting channel. Must order an end cap assembly.
1	SENTIR 2530 END CAP ASSEMBLY	2TLA858008R0400	SENTIR2530 series safety edge end cable and cable assembly. Kit comes with 2 end caps with 5m assemblies cables, one out each end, fastened to the SENTIR2530 edge. Order 1 per edge
24	AL2514 ALUMINUM RAIL	2TLA858004R2200	Aluminum profile for safety edge SENTIR series with T base, width 25mm, height 14mm, ordered per inch

# Safety Bumpers

## ASB Series



### Main features

- Preassembled (no gluing required), supplied with matching aluminum support profile.
- 4 different styles to choose from (60mm x 100mm, 100mm x 200mm, 150mm x 300mm and 200mm x 400mm)
- The twin cable connection (5m cable out or each side with M8 connector + M8 cable with flying leads) makes it easy to connect several safety edges in series
- The safety edges are made of artificial rubber that has a excellent resistance to damage and moisture
- Special foam and cover available for outdoor applications
- For dual channel applications us a USR10 Safety Relay
- For DYNLink applications (best practice) contact your Jokab support team.

\*IMPORTANT - The US Safety Edges differs from the Safety edges listed in the European catalogs.  
Contact [Jokab.service@us.abb.com](mailto:Jokab.service@us.abb.com) for pricing.

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# SafeBall

## Two Hand Control Actuator



### Main features

- Ergonomic with several grip possibilities
- Tactile and audio feedback
- 3<sup>rd</sup> Party safety approved
- Low but distinct activation force
- Flexible mounting
- 1 NO + 1 NC Button
- Several cable lengths are available
- Up to PL e/Cat 4
- Safe distance calculations must be performed for the application
- Connect to Sentry Safety Relay SSR20, SSR20M, USR10, USR22 or Pluto
- Also can be used in hold to run applications

Consult the manual for wiring /cabling considerations

# SafeBall

## Two Hand Control Actuator



**JSTD1-A/B/C/E**  
Does not include JSM-C5  
Order separately



**JSM-C5 Swivel mount**



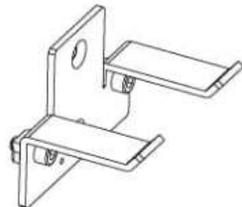
**JSTD25F**



**JSTD25H**



**JSTD25K**



**JSM-C7**

Part Number	Description	SafeBall
<a href="#">2TLA020007R3000</a>	JSTD1-A	JSTD1-A Safeballs each have 1NO & 1NC independent switches, maximum load of 30 VDC - 2A resistive IP67 protection, plastic body, 2 meters molded cable
<a href="#">2TLA020007R3100</a>	JSTD1-B	JSTD1-B Safeballs each have 1NO & 1NC independent switches, maximum load of 30 VDC - 2A resistive IP67 protection, plastic body, 0 2 m wires x 4 for direct connection into an enclosure
<a href="#">2TLA020007R3200</a>	JSTD1-C	JSTD1-C Safeballs each have 1NO & 1NC independent switches, maximum load of 30 VDC - 2A resistive IP67 protection, plastic body, 10 meters molded cable
2TLA020007R3400	JSTD1-E	JSTD1-E Safeballs each have 2NO independent switches, maximum load of 30 VDC - 2A resistive IP67 protection, plastic body, 0 2 m wires x 4 for direct connection
<a href="#">2TLA020007R0900</a>	JSM-C5	JSM-C5, Angled ball joint for installation of a Safeball on a table or a steel housing
<a href="#">2TLA020007R1200</a>	JSM C7	JSM-C7, Suspension shelf for JSTD25 FHK
<a href="#">2TLA020007R6000</a>	JSTD25F	Two-hand device with JSTD1-B Safeballs. Pre-wired to a M12 5-pin connector with protective flanges of the safeballs. Highest level of safety can be achieved when used in conjunction with a JSBR4 safety relay or Pluto Safety PLC.
<a href="#">2TLA020007R6300</a>	JSTD25H	JSTD25H with JSTD1-B Safeballs pre-wired to a M12 8-pin connector with protective flanges for the Safeballs
<a href="#">2TLA020007R6900</a>	JSTD25K	Same as JSTD25H with JSTD1-B Safeballs On top there is a Smile 10 EA mounted All pre-wired to a M12 8-pin connector The Safeballs have protective flanges

Consult the manual for wiring /cabling considerations

# JSHD4 Modular\* Enabling Device

## Three Position Enabling Device

### Main features

- Modular design
- Auxiliary buttons
- LED Indication
- Various connection options
- Highest level of safety
- Ergonomic design
- Safety Category 4/PLe
- Cheat-Safe hand recognition with optional Anti-Tamper board

### Applications

- Robotic cells and automated equipment bypassing
- Machine adjustments
- Teach Processes
- Maintenance process



### It's now easy to specify and order ABB Jokab Safety Three Position Enabling Devices

**STEP 1** – Select the desired Handle from among the 5 Standard Handles shown on the next page, each handle has the features clearly listed

**STEP 2** – Select the desired “Base” from the Step 2 Slides Use the Chart to double check which “Base” options are available for the Handle selected

**STEP 3** -- Select the optional “Accessories”

**STEP 4**– Electrically connect the Handle and Base, then install the fastening screws

Use JSHD4 Modular US part numbers found in this Easy Reference only to order

\* IMPORTANT - The US version differs from the European because the Europeans combine the top and bottom components into one part number. The US lists them as separate part numbers.

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# JSHD4 Modular\* Enabling Device

## Three Position Enabling Device



1 Choose between 5 different top units



- JSHD4-1**  
2TLA020006R2100  
(Cannot use Anti-Tamper Board)
- JSHD4-2**  
2TLA020006R2200
  - LEDs
  - Front button
  - Top Button
- JSHD4-3**  
2TLA020006R2300
  - LEDs
- JSHD4-4**  
2TLA020006R2400
  - LEDs
  - Front Button
- JSHD4-5**  
2TLA020006R2500
  - LEDs
  - Top Button

\*IMPORTANT - The US version differs from the European because the Europeans combine the top and bottom components into one part number. The US lists them as separate part numbers.

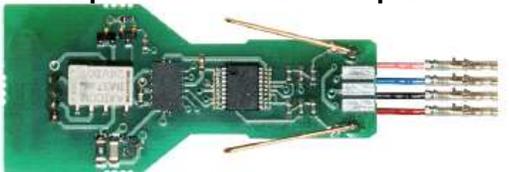
# JSHD4 Modular\* Enabling Device

## Three Position Enabling Device

2. Choose a bottom part suitable for your assembly



3 Choose optional Anti-tamper PCB making your three position device cheat protected



Part Number	Description	Top Assembly
<a href="#">2TLA020006R2100</a>	JSHD4-1	No LED's, No Buttons (Cannot be used with anti tamper board)
<a href="#">2TLA020006R2200</a>	JSHD4-2	LED, 2 buttons, front and top
<a href="#">2TLA020006R2300</a>	JSHD4-3	LED's
<a href="#">2TLA020006R2400</a>	JSHD4-4	LED's, Front Button
<a href="#">2TLA020006R2500</a>	JSHD4-5	LED's, Top Button
Part Number	Description	Bottom Assembly
<a href="#">2TLA020005R1000</a>	AA	with cable gland
<a href="#">2TLA020005R1700</a>	AH	with cable gland and PCB with 10 screw connections
<a href="#">2TLA020005R1800</a>	AJ	with cable gland and PCB with 16 screw connections
<a href="#">2TLA020005R1200</a>	AC	with M12 connection (5 poles)
<a href="#">2TLA020005R1300</a>	AD	with M12 connection (8 poles)
<a href="#">2TLA020005R1400</a>	AE	with M12 connection (8 poles) and emergency stop
<a href="#">2TLA020005R1100</a>	AB	with Cannon connection
<a href="#">2TLA020005R1900</a>	AK	Cannon 12 pin male (for older JSHD4 assemblies)
<a href="#">2TLA020005R2000</a>	AL, Bottom assy	Cable gland and 10 screw connections and holder for Eva
Part Number	Description	Optional Anti Tamper Board
<a href="#">2TLA020005R0900</a>		Anti Tamper Board (cannot be used with JSHD4-1)

A capacitive circuit and accelerometers requires a hand to be operating the JSHD4 in addition to holding the 3 position switch, If any one of these drop out, the JSHD4 sends a signal to shut down the machine  
**IMPORTANT** - The US version differs from the European because the Europeans combine the top and bottom components into one part number. The US lists them as separate part numbers.

See description for cabling requirements

# JSHD4 Modular\* Enabling Device

Three Position Enabling Device



**JSM5B Wall Bracket**  
2TLA040005R0500



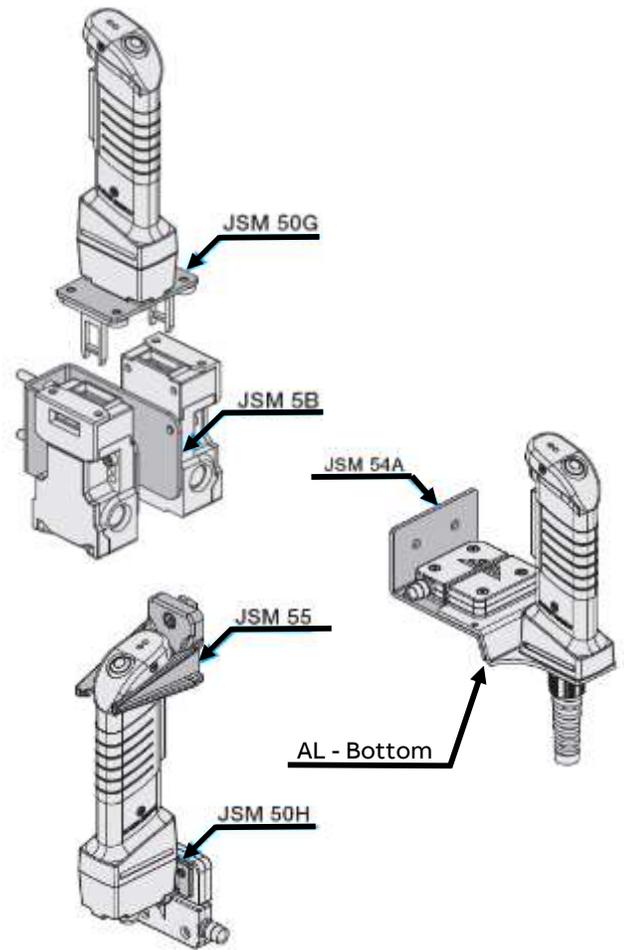
**Bottom Plate JSM50G**  
2TLA020205R6300  
for MKey6



**JSHD4 Protective Coating**  
2TLA020200R4600



**Bottom Plate JSM50H**  
2TLA020205R6400  
for Eden



Part Number	Description	Bracket Description
<a href="#">2TLA040005R0500</a>	JSM55	Wall Bracket
<a href="#">2TLA040005R0700</a>	JSM5B	JSM5B Wall bracket for 2 key switches, for MKey5
<a href="#">2TLA020205R2800</a>	JSM54A	Wall bracket for Adam Used with AL bottom part that has a holder for Eva
<a href="#">2TLA020205R6300</a>	JSM50G	Bottom Plate for Mkey 4/5
<a href="#">2TLA020205R6400</a>	JSM50H	Bracket for Eden sensor
<a href="#">2TLA020200R4600</a>	JSHD4	Protective Coating

\* IMPORTANT - The US version differs from the European because the Europeans combine the top and bottom components into one part number. The US lists them as separate part numbers.

# Magne OSSD

## Magne 3 & 4 Process Safety Lock



### Main features

- Magne 3 and 4 requires ordering the Anchor Plate separately
- All Magne 4 Series has a built in Eden Safety Sensor (Adam)
- For accessories see the Magne Accessory page in the back of the brochure
- Magne 3 does not have Eden safety sensors built into it

**Magne OSSD  
Configurator Link**

Part Number	Description	Magne 3, With No Safety Switch, 24VDC
<a href="#">2TLA042022R2700</a>	Magne 3X	Magne 3x, No Safety Sensor, M12-5 male,
Part Number	Description	Magne 4x, Eden OSSD Safety Switch, 24VDC
<a href="#">2TLA042022R4600</a>	Magne 4 OSSD-Info	Magne 4 with Eden OSSD-Info Safety Switch, M12-8 male connector
Part Number	Description	Accessories
<a href="#">2TLA042023R0500</a>	JSM D21B	Mounting kit for Magne For conventional door (5 -15 mm door gap) *
<a href="#">2TLA042023R0300</a>	JSM D24	Mounting kit for Eva For conventional door* JSM D24
<a href="#">2TLA042023R1000</a>	JSM D27	Door handle for JSM D21B
<a href="#">2TLA042023R1300</a>	*Anchor 32A	Std Anchor Plate, No Permanent Magnet
<a href="#">2TLA042023R0400</a>	*Anchor 32B	With Permanent Magnet (30N) in Anchor Plate
<a href="#">2TLA020046R0800</a>	Eva General	Eva General Code, All Generals have the same code
<a href="#">2TLA020046R0900</a>	Eva Unique	Eva Unique Code, complies with EN/ISO 14119

**\*Order Magne anchor plates & Eva (for Magne 4) separately**  
Consult the description or manual for wiring /cabling considerations

# Cables

## List of Cables



M12-C112 = M12-C, 1m, 5 pin female, 5 pin male  
 M12-C201 = M12-C, 20m, 5 pin female

Cable Description Decoder – M12-CABC			
M12-C	A – Length	B – Connector	C – Connector
	03=0.3m	1=5 pin female	1=5 pin female
	1=1m	2=5 pin male	2=5 pin male
	3=3m	3=8 pin female	3=8 pin female
	6=6m	4=8 pin male	4=8 pin male
	10=10m	5=12 pin female	5=12 pin female
	20=20m	6=12 pin male	6=12 pin male

	Gender	0.06m	0.3m	1m	3m	6m	10m	20m
M12-5	F					<a href="#">M12-C61</a> <a href="#">2TLA020056R0000</a>	<a href="#">M12-C101</a> <a href="#">2TLA020056R1000</a>	<a href="#">M12-C201</a> <a href="#">2TLA020056R1400</a>
M12-5HE*	F					<a href="#">M12-C61HE</a> <a href="#">2TLA020056R8000</a>	<a href="#">M12-C101HE</a> <a href="#">2TLA020056R8100</a>	
M12-5	M					<a href="#">M12-C62</a> <a href="#">2TLA020056R0200</a>	<a href="#">M12-C102</a> <a href="#">2TLA020056R1200</a>	
M12-5	F/Angled 90 Deg					<a href="#">M12-C61V2</a> <a href="#">2TLA020056R0600</a>	<a href="#">M12-C101V2</a> <a href="#">2TLA020056R1500</a>	
M12-5	F/M	<a href="#">M12-C00612</a> <a href="#">2TLA020056R6300</a>	<a href="#">M12-C0312</a> <a href="#">2TLA020056R5800</a>	<a href="#">M12-C112</a> <a href="#">2TLA020056R2000</a>	<a href="#">M12-C312</a> <a href="#">2TLA020056R2100</a>	<a href="#">M12-612</a> <a href="#">2TLA020056R2200</a>	<a href="#">M12-C1012</a> <a href="#">2TLA020056R2300</a>	<a href="#">M12-C2012</a> <a href="#">2TLA020056R2400</a>
M12-8	F					<a href="#">M12-C63</a> <a href="#">2TLA020056R3000</a>	<a href="#">M12-C103</a> <a href="#">2TLA020056R4000</a>	<a href="#">M12-C203</a> <a href="#">2TLA020056R4100</a>
M12-8	F/M	<a href="#">M12-C00634</a> <a href="#">2TLA020056R6400</a>		<a href="#">M12-C134</a> <a href="#">2TLA020056R5000</a>	<a href="#">M12-C334</a> <a href="#">2TLA020056R5100</a>			
M12-8	M						<a href="#">M12-C104</a> <a href="#">2TLA020056R4200</a>	
M12-12	F					<a href="#">M12-C65</a> <a href="#">2TLA020056R7200</a>	<a href="#">M12-C105</a> <a href="#">2TLA020056R7300</a>	<a href="#">M12-C205</a> <a href="#">2TLA020056R7500</a>

Cables with Cannon Connectors are in the Enabling Device section

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# Cables

## Cables Reels and Field Wired Connectors



Desc	50M	100M	200M	500M
M12-5 Bulk Reel	<a href="#">2TLA020057R0005</a>	<a href="#">2TLA020057R0010</a>	<a href="#">2TLA020057R0020</a>	<a href="#">2TLA020057R0050</a>
M12-8 Bulk Reel	<a href="#">2TLA020057R1005</a>	<a href="#">2TLA020057R1010</a>	<a href="#">2TLA020057R1020</a>	<a href="#">2TLA020057R1050</a>

Type	Desc	50M	100M	500M
CAN-Bus cable, yellow, 1 x 2 x 0.75 mm	Bulk Reel	<a href="#">2TLA020070R6805</a>	<a href="#">2TLA020070R6810</a>	<a href="#">2TLA020070R6850</a>

Connector	Description	Part Number
Field Wired F M12-5	M12-C01 M12X5 Female Screw Connector	<a href="#">2TLA020055R1000</a>
Field Wired M M12-5	M12-C02 M12X5 Male Screw Connector	<a href="#">2TLA020055R1100</a>
Field Wired F M12-8	M12-C03 M12X8 Female Screw Connector	<a href="#">2TLA020055R1600</a>
Field Wired M M12-8	M12-C04 M12X8 Male Screw Connector	<a href="#">2TLA020055R1700</a>

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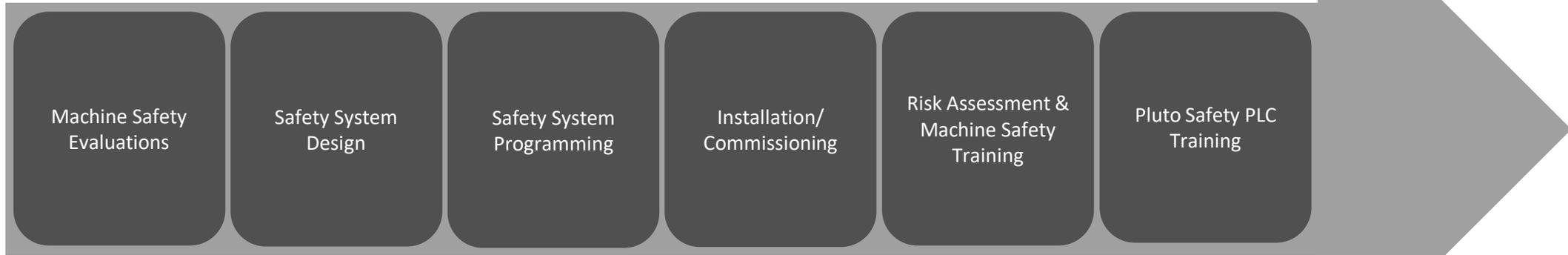
Additional Information

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# Machine Safety Services

List of Machine Safety Services Available



## Machine Safety Services

- Machine Safety Evaluation – Detailed report on the safety of your machine
- Safety System Design – Use our expertise to design a safety system
- Safety System Programming (If Required) – We can program you ABB/Pluto PLC for you
- Installation/Commissioning – Use our years of experience managing, installing & commissioning safety systems
- Risk Assessment and Machine Safety Training customized to your requirements
- Pluto Safety PLC Training for those wanting to take advantage of advanced Pluto functions

**Fully customizable machine safety services to address your company's needs**  
**For assistance contact your local ABB/JOKAB SAFETY representative**

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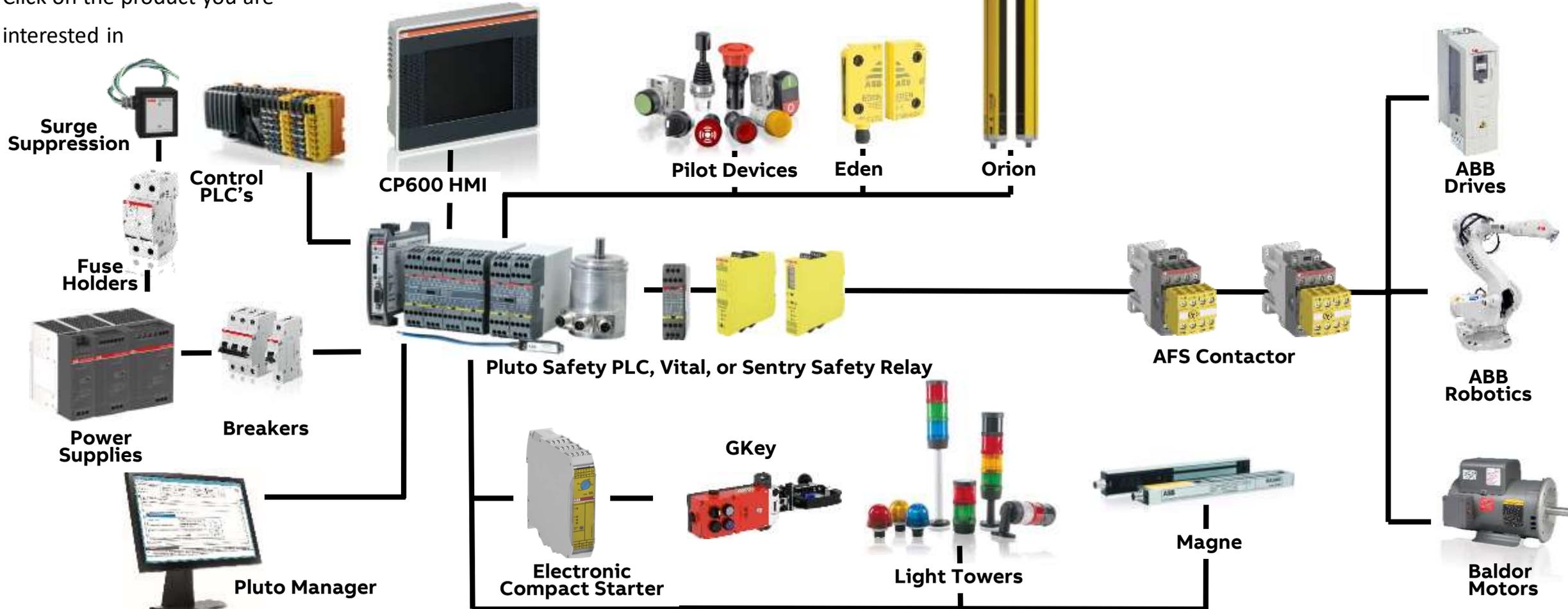
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# ABB complimentary products

ABB products that complement Jokab Safety

Click on the product you are interested in



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DynLink Devices

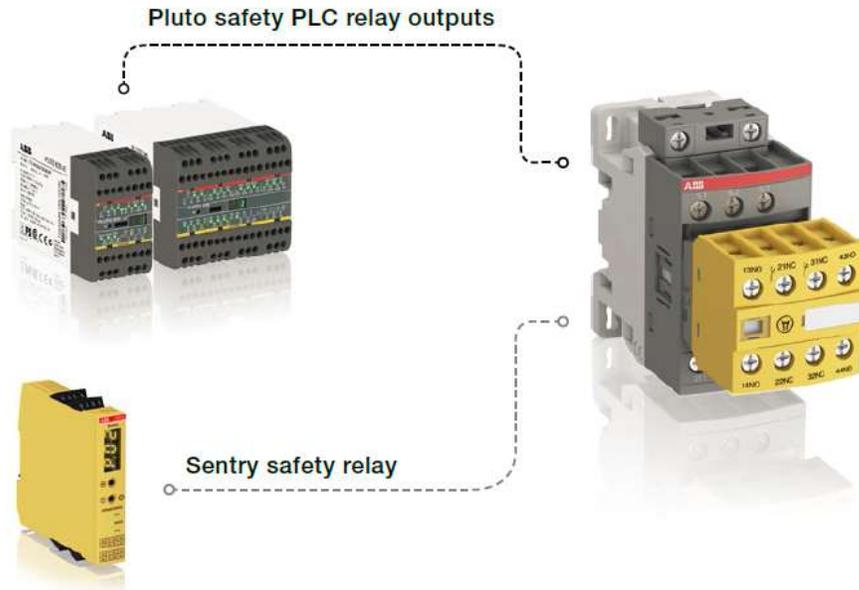
AQG & Eng Services

Additional Information

What's new

# ABB Contactors for Safety Applications

## AFS contactor



### AFS Benefits

- Designed for machine safety applications, AFS contactors come with fixed front auxiliary contact blocks, making them ideal for monitoring and controlling circuits
- Mechanically linked and mirror contacts help make your system safer
- ABB's AFS contactors can be easily integrated in machine manufacturer's systems complying with main standards EN ISO 13849 and EN 62061 - guaranteeing the safe use of your machinery and equipment
- Safety data available in the library of safety software (Sistema, FSDT)...
- Fast response for optimized distances
- Opening time AFS09...AFS38 <35ms
- Flexible mounting Designed for machine safety applications, AFS contactors come with fixed front auxiliary contact blocks, making them ideal for monitoring and controlling circuits
- See AFS brochure for ordering information [Click Here](#)



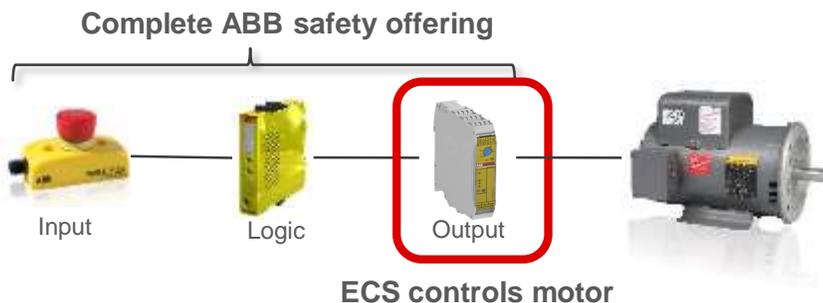
# ABB Electronic compact starters

Direct-on-line / reversing starter with motor protection



## ECS Benefits

- Electronic compact starters: HF range
- Direct-on-line / reversing starter with motor protection Mechanically linked and mirror contacts help make your system safer
- 0.6 A, 2.4 A and 6.5 A, for motors up to 3 kW - 400 V AC
- Up to 9 A for resistive loads
- Rated operational voltage: 500 V AC
- Rated control supply voltage: 24 V DC
- Emergency stop (ATEX, SIL3, PL e) for selected reference
- Automatic, manual or remote reset after thermal trip
- Electrical life: 30 millions operating cycles
- IEC / EN 60947-1, IEC / IEN 60947-4-2
- 22.5 mm Space 90%
- See ECS brochure for ordering information [Click Here](#)



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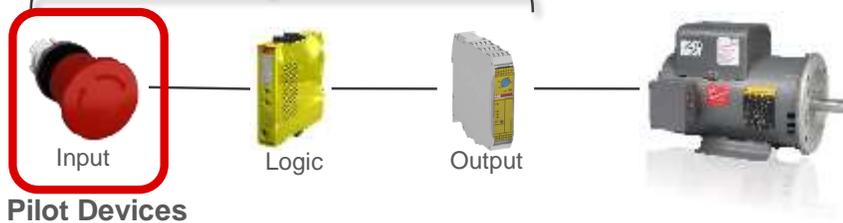
What's new

# ABB Pilot Devices

Modular and Compact Series



Complete ABB safety offering



## ABB Pilot Devices Benefits

- Long life due to wiping action of contacts (Automatic cleaning of contacts for problem-free operation)
- Compact range provides extremely reliable IP66, IP67 and IP69K products in just one ordering code simplifying ordering and administration
- Tested beyond the standards for high reliability
- Save up to 30% installation time with unique tool-free snap on components with modular range
- Increase your uptime with products designed and engineered to deliver total reliability
- Select modular range and get flexible and adjustable products to meet your exact needs
- Save up to 30% installation time with unique tool-free snap on components with modular range
- Reduce your installation size with compact range
- High mechanical durability up to 10 millions operations
- High AC 15 electrical ratings: 6 A at 230 V
- Products available worldwide from ABB
- See Pilot Devices brochure for ordering information [Click Here](#)

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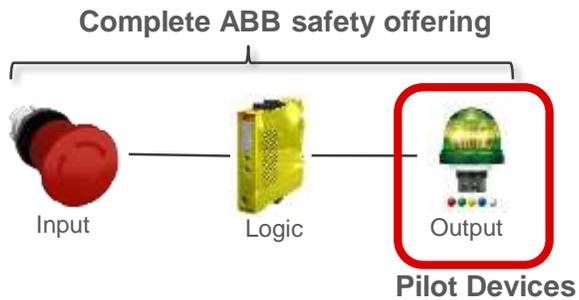
# ABB Signal Tower and Beacons

Modular and Compact Series



## ABB Signal Tower and Beacon Benefits

- Fast mounting of signal elements using bayonet fixing
- No maintenance or replacements needed thanks to LED with long lifetime
- Flexibility of signal element combination
- Easy changing of bulbs for each module without tools
- Permanent, blinking, rotating or flashing light
- Siren and buzzer elements with several types of tones
- LED elements for long life
- High protection degree: signal towers are tested and approved for IP54 and signal beacons for IP65
- See Signal Tower and Beacon brochure for ordering information [Click Here](#)



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# ABB Jokab Safety

## ABB Jokab Safety Support List

### Business Development

Business Development Scott Orr (734) 718-6647  
Business Development John McHale (313) 520-1779  
Business Development Matt Miller (734) 812-5676  
Product Specialist Darrell Burkeen (708) 541-2395

General Sales Inquiries  
General Sales Fencing RFQ

### Technical Support / Electrical Engineering

Technical Support (888) 385-1221 Opt 1  
Jokab Tech Support (519) 982-0976  
Applications Lead Jeff Leslie (519) 982-0976  
Customer Service (800) 435-7365

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[matthew.m.miller@us.abb.com](mailto:matthew.m.miller@us.abb.com)  
[darrell.l.burkeen@us.abb.com](mailto:darrell.l.burkeen@us.abb.com)

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[jeffrey.m.leslie@ca.abb.com](mailto:jeffrey.m.leslie@ca.abb.com)  
[contact.center@us.abb.com](mailto:contact.center@us.abb.com)



Machine Safety Services



Quick Guard aluminum fencing system



Machine Safety Training

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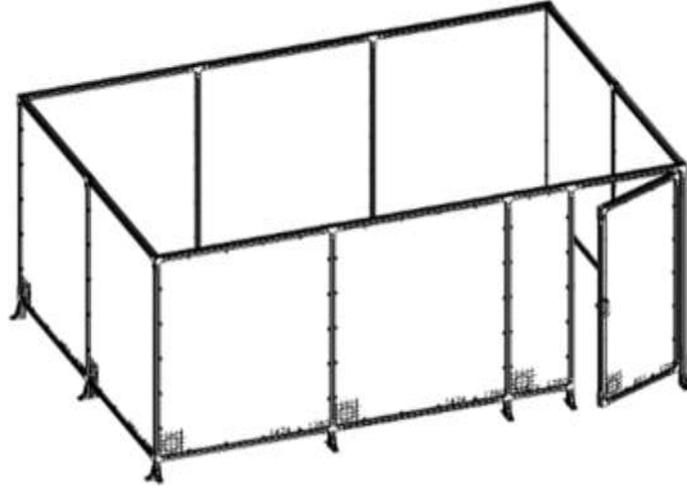
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# ABB Jokab Safety

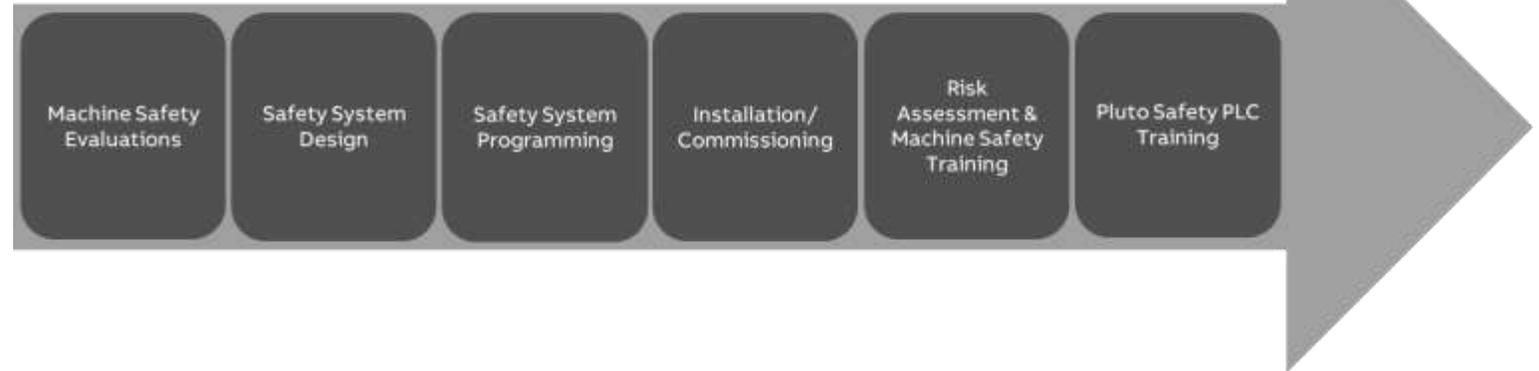
Solution Links

[Americas Quick-Guard E & S \(AQG\) Pages](#)

[Quick-Guard Custom Fencing Pages](#)



[Machine Safety Services \(MSS\) Pages](#)



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# ABB Jokab Safety

## Control Links

### Sentry Safety Relay

[Sentry Safety Relay](#)

[Web - Sentry leaflet](#)

[Web - Sentry manuals](#)

[Web - How to program a Sentry USR video](#)

[Web - ABB Jokab RT to Sentry conversion](#)

[Web - ABB Jokab Sentry Web Page](#)



### Vital Dyn Link Controller

[Vital DynLink Controller Pages](#)

[Web - ABB Jokab Vital Web Page](#)



### Pluto Safety PLC

[Pluto Safety PLC Pages](#)

[Web - Pluto catalog](#)

[Web - Pluto hardware manual](#)

[Web - Pluto Programming manual](#)

[Web - Hot Swapping the Pluto PLC Video](#)

[Web - Pluto D45 Safety PLC combines Process and Functional Safety Video](#)

[Pluto with StatusBus Page](#)

[Web - Statusbus Brochure](#)

[Web - ABB Jokab Pluto Web Page](#)

### How safety systems work

[Dual channel vs DynLink](#)

### 7 Episodes on “Your First Pluto Project”

[Your first Pluto project: Episode 1 – Intro Hardware](#)

[Your first Pluto project : Episode 2 – Adding Pluto units](#)

[Your first Pluto project: Episode 3 – IO configuration](#)

[Your first Pluto project : Episode 4 – Variable names](#)

[Your first Pluto project : Episode 5 – PLC code](#)

[Your first Pluto project: Episode 6 – Compiler](#)

[Your first Pluto project: Episode 7 – Download and Monitor](#)



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## DynLink Links

### DynLink Door & Gate solutions

[Eden Dynamic Safety Sensor](#)  
[Magne Door Locking Solutions](#)

### DynLink Estop solutions

[Smile and Inca Tina DYNLink E-Stops and Resets](#)

### DynLink Dual Channel Adapters solutions

[DynLink Tina DYNLink adapters for Dual Channel devices](#)



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## Catalogs, Brochures and CAD Drawing Files

[ABB Jokab Panorama US](#)

[Protecting your valuable personnel and your company bottom line](#)

[Machine Safety Systems and Components - Product Overview](#)

[Orion safety light guards Reduce complexity and save time](#)

[Orion safety light guards - Summary](#)

[Pluto Safety Controller for Harsh Enviroments](#)

[Sentry Safety Relay Leaflet](#)

[Safety Contact Mats](#)

[Safety Switch Catalog](#)

## Video Links

[Your best Partner for Machine Safety \(NEW\)](#)

[Sentry Safety Relay and Eden OSSD Safety Sensor](#)

[How to configure the ABB Sentry safety relays with the display](#)

[ABB's Orion light guards](#)

[Hot Swapping the Pluto PLC](#)

[Pluto D45 Safety PLC combines Process and Functional Safety](#)

[ABB JOKAB SAFETY - Your best partner for machine safety](#)

[Machine Safety Systems: An open door to smarter operations](#)

[Sentry & Eden Video](#)

## Vertical Market Solutions and Products

[Food and Beverage Industries - Machine Safeguarding Products](#)

[Food and Beverage - Machine Safeguarding Solutions](#)

[Packaging Industries - Machine Safeguarding Products](#)

[Packaging industries - Machine Safeguarding Solutions](#)

[Material Handling industries - Machine Safeguarding Products](#)

[Material Handling industries - Machine Safeguarding Solutions](#)

## ABB Complementary Products

[Complementary Products](#)

[ABB AFS Contactors for Safety Applications](#)

[ABB Electronic Reversing Starters](#)

[ABB Pilot Devices](#)

[ABB Signal Towers and Beacons](#)

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## Articles

[Safe bowling with Jokab](#)

[Less is more when it comes to machine safety](#)

[Simplifying safety](#)

[Superior safety: From switches to sensors](#)

## Connection Diagrams and Certificates

[Connection diagrams and certificates are available at the bottom of this page](#)

[\(New\) Drawing Files](#)

## Application Examples

[Application example - Total solution for a robotic training cell](#)

[Application example - Supervision of hatches for composting machine with Eden and Pluto](#)

[Application example - Supervision of multiple hatches for food and beverage industry with Eden and Pluto](#)

[Application example - Speed monitoring of radio controlled vehicles with Pluto](#)

## Additional Information

[Machine directives, Sistema, etc...](#)

[Life Cycle Management Plan](#)

## European Catalogs (May differ from US offering)

[European main catalog \(European\)](#)

## How to use the Easy Reference

[Using the "Easy Reference"](#)

## ABB Jokab Contacts

[Contact information for the ABB Jokab team](#)

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## Configurator

[Eden OSSD](#)

[Eden DynLink](#)

[Gkey](#)

[Magne](#)

[Americas Quick Guard](#)

[Orion Safety Light Curtains](#) (Coming Soon)

## Configurator Training (Coming Soon)

[Eden OSSD Configurator Training](#) (Coming Soon)

[Eden DynLink Configurator Training](#) (Coming Soon)

[Gkey Configurator Training](#) (Coming Soon)

[Magne Configurator Training](#) (Coming Soon)

[Americas Quick Guard Configurator Training](#) (Coming Soon)

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# ABB Jokab Safety

## Dual Channel Links

### Door & Gate solutions

[Dual Channel Eden OSSD Safety Sensor](#)

[Dual Channel Mkey Mechanical Safety Switch](#)

[Dual Channel Gkey Safety/Process Lock](#)

[Dual Channel Sense Non-Contact Magnetic Safety Switch](#)

[Dual Channel Magne OSSD](#)

[Web - Safety Switch Catalog](#)

### Estop solutions

[Dual Channel Smile and Inca Dual Channel E-Stops and Resets](#)

[Dual Channel E-Strong Heavy Duty Estop](#)

[Dual Channel LineStrong – Rope Pull Switch](#)

### Mats, Two Hand Control, Enabling devices, and DynLink Adapters

[Dual Channel Safety Mats\\*](#)

[Dual Channel TT Edges](#)

[Dual Channel Bumpers](#)

[Dual Channel SafeBall Two Hand Control](#)

[Dual Channel JSHD4 Three Position Enabling Device\\*](#)

[DynLink Tina DYNLink adapters for Dual Channel devices](#)

[Web - Safety Contact Mats](#)

### Orion Safety Light Curtains

[Dual Channel Orion 1 B&E Safety Light Curtain](#)

[Dual Channel Orion 2 B&E Safety Light Grids](#)

Relays &  
Pluto PLC

Dual Channel Devices

DynLink Devices

AQG & Eng  
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# Dual Channel vs DYNLink

## Dual Channel

- Dual channel used either 24VDC and 0VDC on each channel or newer safety relays used 2 different pulses for each channel
- A short between the channels is detected by the safety relay.
- Faults can be masked by cycling power, opening and closing other doors in series or replacing the safety relay.
- Devices can be jumped out.
- Once devices are put in series to a single safety relay the level of safety drops down due to the fault masking

## DYNlink signal

- DYNlink signal is a square wave pulse that inverted 180 degrees through each Eden or Tina adaptor on the circuit.
- With the DYNLINK faults cannot be masked and are identified immediately.
- Devices cannot be jumped out.
- 30 devices to a Vital 1 controller and still achieve the highest level of safety
- 1 input on a Pluto Safety PLC can monitor 10 devices to the highest level of safety.
- DYNlink devices have LED status (green, red, green/red alternating) as well as a status output
- Most DYNLink devices are a 5 wire

Dynamic Signal Saves Money and is Safer!

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# Easy Reference Overview

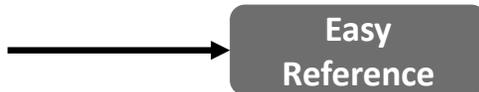
## How to use the Easy Reference



## Using the Easy Reference

- The Easy Reference is meant to be an easy to use presentation for ABB Jokab Safety products that you can take with you and use easily when discussing machine safety applications
- By going to the link below you can update the Easy Reference with the latest version.
- Save the Easy Reference to you device for easy access
- It is designed to fit on the screen of your phone, tablet, or computer and is not available in print form
- Many of the subjects on the pages are linked to web site information, such as manuals, videos ,brochures, and data sheets
- You can open these links and email them easily
- The Easy Reference can be used for presentations, design discussions, reference, and training
- If you have trouble getting the links to work try downloading Adobe Reader at <http://get.adobe.com/reader/>

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## Navigating the Easy Reference

### How to navigate the Easy Reference

- Opening page is where your Easy Reference starts Click the ABB Logo to go to the Home page
- Links to product and information can be found on the Home page, These take you to the beginning of the Product pages
- At the end of the Product pages is the Part Number page, Clicking on a underlined part number will open the Product Data Sheet

Opening Page



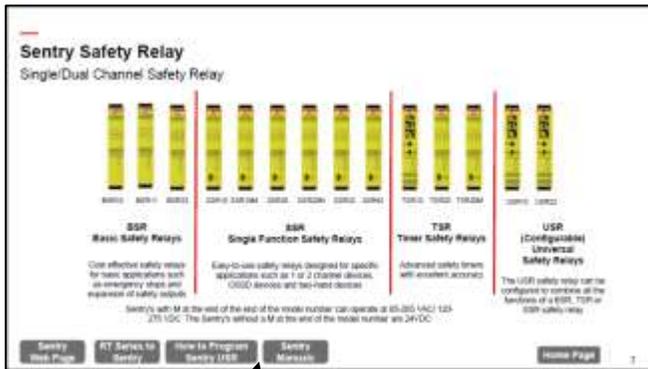
Click here or scroll to Home Page

Home Page



Click here or scroll to Product Page

Product Pages



Click here for additional information

Scroll to part number page

Returns to Home Page

Part Number Page



Click on underlined part numbers to get data sheet

Data Sheet Window



Opens on a separate window

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