



OCT 2019

ABB Jokab Safety

Easy Reference Overview – US



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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Easy Reference

Link to Adobe Reader

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Easy Reference Overview

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



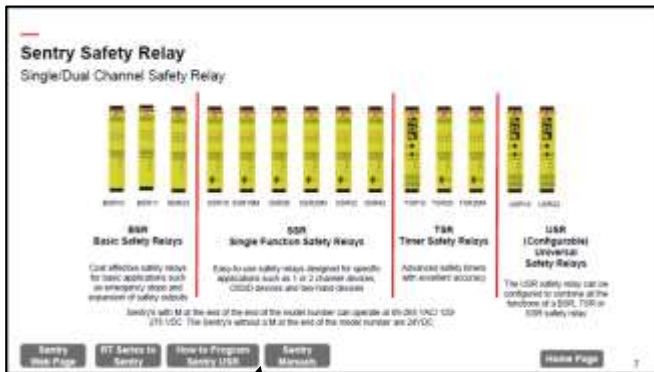
Click here or scroll to Home Page

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

Home Page

Easy Reference

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For additional information go to our web site
<http://new.abb.com/low-voltage/products/safety-products>

Technical Support

Email EPPC.Support@us.abb.com

1-888-385-1221 Option 1

ABB Jokab
Video

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 - Articles
 - Connection Diagrams and Certificates
 - Additional Information

Note: Asi components can be found in the Main Catalog that can be found on the global web site.

Note: Some components have US part numbers that differ from the European offering. An * in the title of the page indicates US only part numbers

Controls

Sentry, Vital, and Pluto

Sentry Safety Relay

- Dual Channel
- Continuous Operation
- Optimized Logistics
- Easy to Install

Vital Safety Controller

- DYNLink Safety Controller
- Reduces the wiring points
- Advanced diagnostics
- Easily scalable

Pluto Programmable Safety Controller

- Works with Dual Channel and/or DYNLink
- Cost Effective
- Pluto Manager Software included
- Stand Alone, Networkable, Analog, and As-i versions available
- Works with StatusBus devices

DYNLink Tina Dual Channel Adapters

- Tina changes dual channel devices into DYNLink
- Available in different configurations



Sentry Safety Relay



Vital Safety Controller



Pluto Programmable Safety Controller



DYNLink Tina Dual Channel Adapters

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 BSR11 BSR23

BSR Basic Safety Relays

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



SSR10 SSR10M SSR20 SSR20M SSR32 SSR42

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 TSR20 TSR20M

TSR Timer Safety Relays

Advanced safety timers with excellent accuracy



USR10 USR22

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 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

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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 1NC & 1NC Contacts	1 channel contact
BSR10	2TLA010040R0000	24 VDC	No	3NO+1NC	No				a)	X	X
TSR20	2TLA010061R0000	24 VDC	Off Delay .5 & 1.5 s	3NO+1NC	No			X		X	X
TSR20M	2TLA010061R0100	c) AC/DC	Off Delay .5 & 1.5 s	3NO+1NC	No						X
TSR10	2TLA010060R0000	24 VDC	0-999s b)	3NO+1NC	No			X		X	X
BSR11	2TLA010040R0200	24 VDC	No	4NO	No				a)	X	X
BSR23	2TLA010041R0600	24 VDC	No	4NO+1NC	No					X	X
SSR32	2TLA010052R0400	24 VDC	Off Delay .5 s	2NO+2NO Delayed	Yes			X		X	X
SSR42	2TLA010053R0400	24 VDC	Off Delay 1.5 s	2NO+2NO Delayed	Yes			X		X	X
USR22 d)	2TLA010070R0400	24 VDC	0-999s b)	2NO+2NO Delayed	Yes					X	X
SSR10	2TLA010050R0000	24 VDC	No	3NO+1NC	Yes			X		X	X
SSR20	2TLA010051R0000	24 VDC	No	3NO+1NC	Yes	X				X	X
SSR10M	2TLA010050R0100	c) AC/DC	No	3NO+1NC	Yes					X	X
SSR20M	2TLA010051R0100	c) AC/DC	No	3NO+1NC	Yes	X				X	X
USR10	2TLA010070R0000	24 VDC	0-999s b)	3NO+1NC	Yes	X	X	X	X	X	X
USR22 d)	2TLA010070R0400	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

Sentry
Web Page

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Sentry

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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
2TLA020052R1000	Vital 1	Vital DYNLink controller, 24 VDC

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

Vital
Web Page

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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.



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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



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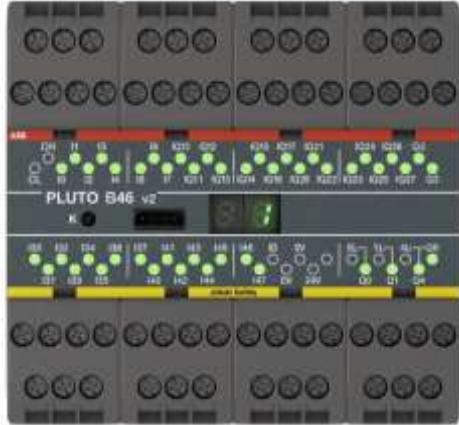
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Pluto Programmable Safety Controller

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

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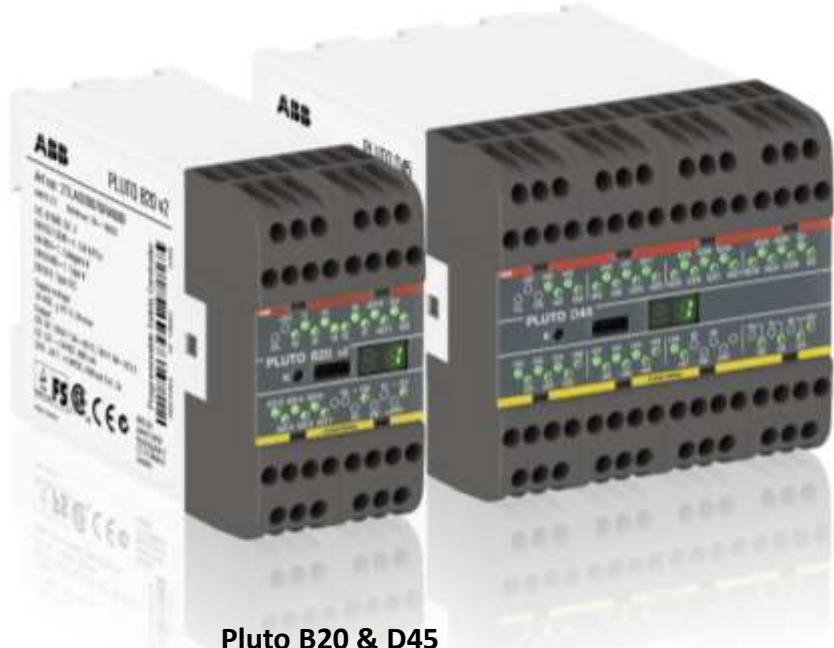
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Pluto Programmable Safety Controller

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

1-888-385-1221 Option 1

	Part Number	Description
Stand Alone	2TLA020070R4700	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
	2TLA020070R1800	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	2TLA020070R4600	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
	2TLA020070R4800	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
	2TLA020070R1700	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	2TLA020070R6400	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
	2TLA020070R6600	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	2TLA020070R1100	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
	2TLA020070R1400	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

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Pluto Programmable Safety Controller

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Gateway Family



IDFIX-PROG 10k
External Memory



USB Programming Cable
Used with Pluto Manager

	Part Number	Description
Gateways	2TLA020071R8000	GATE-P2, Gateway for 2-way communication between the Pluto bus and Profibus
	2TLA020071R8100	GATE-C2, Gateway for 2-way communication between the Pluto bus and CANopen
	2TLA020071R8200	GATE-D2, Gateway for 2-way communication between the Pluto bus and DeviceNet
	2TLA020071R9000	GATE-EIP, Gateway for 2-way communication between the Pluto bus and Ethernet/IP
	2TLA020071R9100	GATE-EC, Gateway for 2-way communication between the Pluto bus and EtherCat
	2TLA020071R9200	GATE-S3, Gateway for 2-way communication between the Pluto bus and Sercos III
	2TLA020071R9300	GATE-PN, Gateway for 2-way communication between the Pluto bus and ProfiNet
	2TLA020071R9400	GATE-MT, Gateway for 2-way communication between the Pluto bus and Modbus TCP
Accessories	2TLA020070R8500	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)
	2TLA020070R2000	IDFIX-R, Identifier, read only For assigning Pluto an address on the Pluto bus
	2TLA020070R2100	IDFIX-RW, Identifier, read/write For assigning Pluto an address on the Pluto bus
	2TLA020070R2400	IDFIX-PROG 2k5, External memory, 2.5 kbyte For projects with only one Pluto, store the PLC program, required for Pluto Bus
	2TLA020070R2600	IDFIX-PROG 10k, External memory, 10 kbyte For projects with only one Pluto, store the PLC program, required for Pluto Bus
	2TLA020070R2300	IDFIX-DATA Identifier, read/write and AS-i safety codes
	2TLA020070R2200	R-120, Terminating resistor for Pluto bus
	2TLA020070R6805	CAN-Bus cable, 50M, yellow, 1 x 2 x 0.75 mm, 100/500M see cable section
	2TLA020070R5800	Programming Cable USB, For connecting PC, USB port to Pluto for programming with Pluto Manager

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Smile 41 for Pluto

Smile 41



Part Number	Description	Smile 41
2TLA030057R0000	Smile 41 WWWP	Push button box according to Smile design with 4 buttons. The box is adapted for connection to Pluto IQ using light button function. Connection via a M12 8-pin male connector. 4 push-buttons and kit of filters
2TLA030057R0100	Smile 41 EWWP	Push button box according to Smile design with 4 buttons, one of which is an emergency stop. The box is adapted for connection to Pluto IQ using light button function. Connection via a M12 8-pin male connector. 1 emergency stop + 3 push-buttons and kit of filters



Smile 41 with E-Stop should be used with a Pluto*

Smile 41 without E-Stop is not a safety device and should be used with a Pluto*

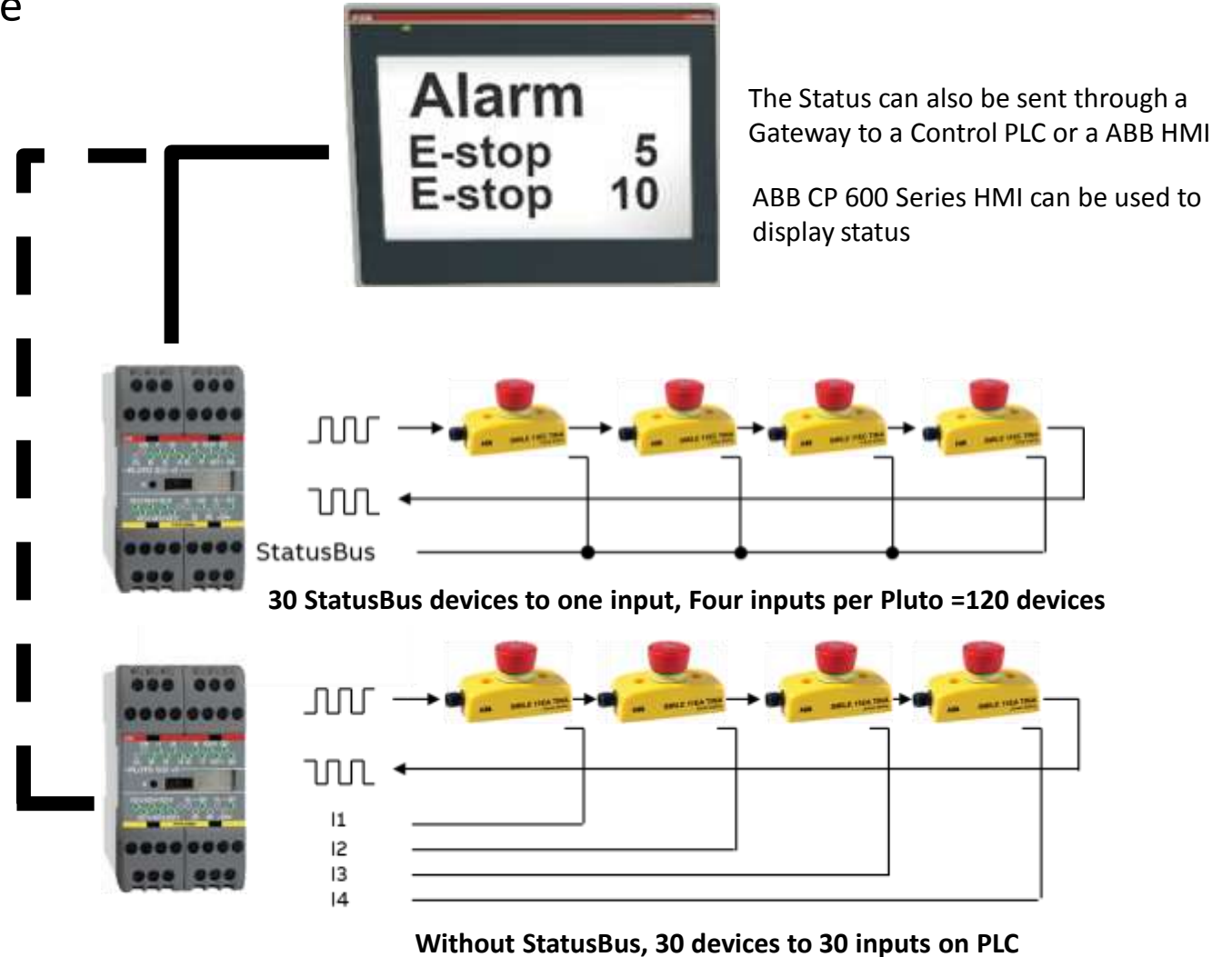
*Pluto has the ability to accept the button input and control the light on the same input
Smile 41 uses a a 8 pin cable

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



Pluto Programmable Safety Controller with StatusBus

Simplified Status Monitoring Reduces Downtime



Smile StatusBus



INCA StatusBus



FIXA Programming Tool
Optional Not Required



Eden StatusBus



M12-3S Y-Connector



**Tina 4A Safety Port Block



**Tina 8A Safety Port Block

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

StatusBus
Web Page

FIXA
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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
2TLA020054R0000	Tina 1A	Tina 1A M12 Dynamic Port Plug
2TLA020054R0100	Tina 2A	Tina Adapter that screws into M20 (No M12)
2TLA020054R1100	Tina 2B	Tina 2B Can be hidden inside device (No M12)
2TLA020054R0200	Tina 3A	4 wire adapter to Dyn Pulse, M12-5Pin
2TLA020054R1400	Tina 3Aps	Tina 3A with 24VDC power circuit, M12-8Pin
2TLA020054R0300	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
2TLA020054R1900	Tina 5A	Bypass Unit
2TLA020054R0600	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
2TLA020054R0700	Tina 7A	DIN Rail Mounted Tina
2TLA020054R0500	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
2TLA020054R1210	Tina 10A *V2	Light Curtain, adapts OSSD to DYNLink (Needs adapter cable for Orion)(Only goes to receiver)
2TLA020054R1310	Tina 10B *V2	Light Curtain, adapts OSSD to DYNLink (Needs adapter cable for Orion)(Goes to receiver and the third port for reset button)
2TLA020054R1610	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)
2TLA020054R1700	Tina 11A	Two port Block M12-5 Pin devices, (2) 5 pin male, (1) 5 pin female
2TLA020054R1800	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

DYNLink Components

Eden, Smile, Inca, and Magne

Eden Dynamic Safety Sensor

- IP69K with connector at the Sensor
- Works on RF, very tolerant to misalignment and vibration
- Advanced Diagnostics and StatusBus

Smile and Inca Tina DYNLink E-Stops and Resets

- Advanced Diagnostics and Status Bus
- Comes with mounting hardware
- M12 connections optimizes installation time
- Surface mount or In Cabinet

Magne Door Locking Solutions

- DYNLink models
- Strong magnetic holding force of 1500N (337 lbs)
- Can be connected in series with Eden sensors
- For process locking applications
- StatusBus version available



Eden Dynamic



Smile and Inca Tina DYNLink E-Stops and Resets



Magne Door Locking Solutions

Eden Dynamic

DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor



**Adam Dynamic
Info, Reset, or
StatusBus**

**Eva
Unique or
General**

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

[Eden DYN
Web Page](#)

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Eden Dynamic

DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor

Bill of Material – Single Run Connection – Only one Eden

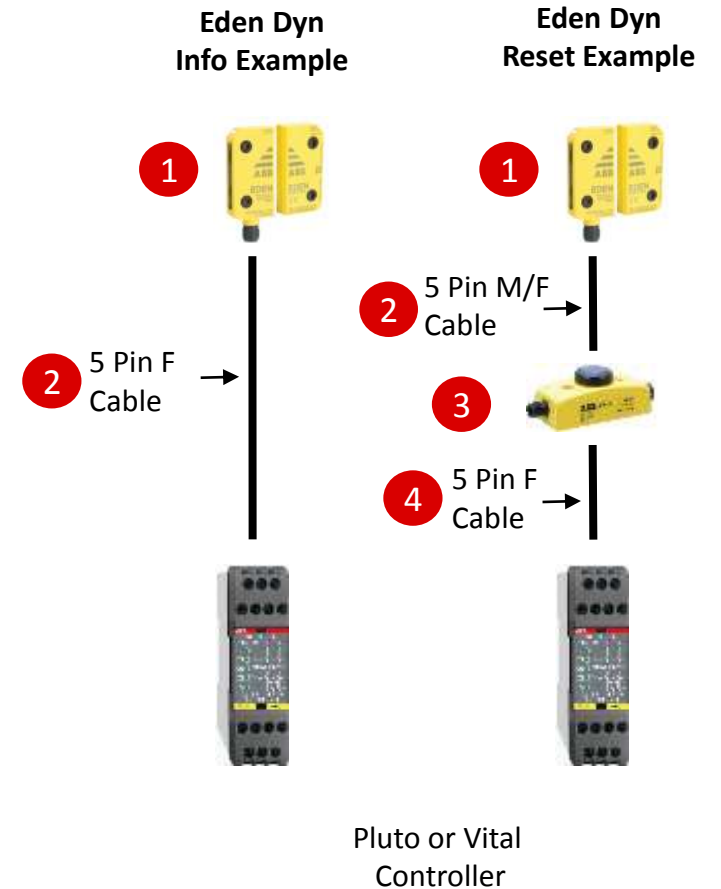
Eden Dyn-Info Example

- 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

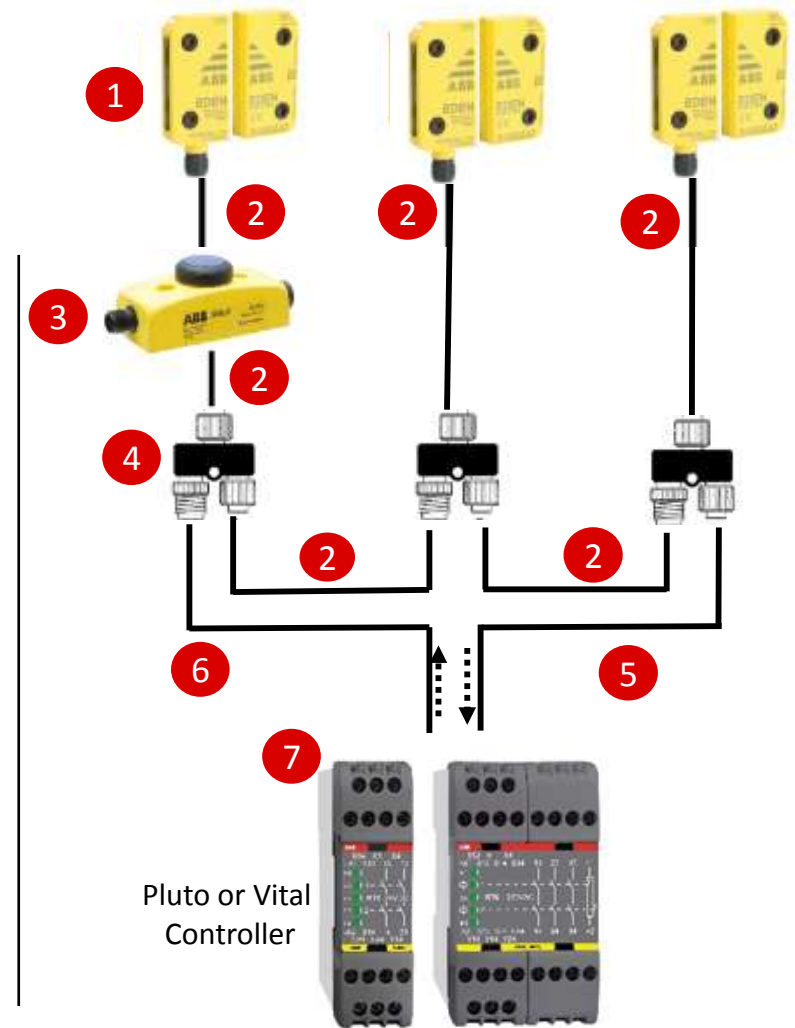
Bill of Material – Series Connection

- 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

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



Eden DYN
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Eden Dynamic

DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor

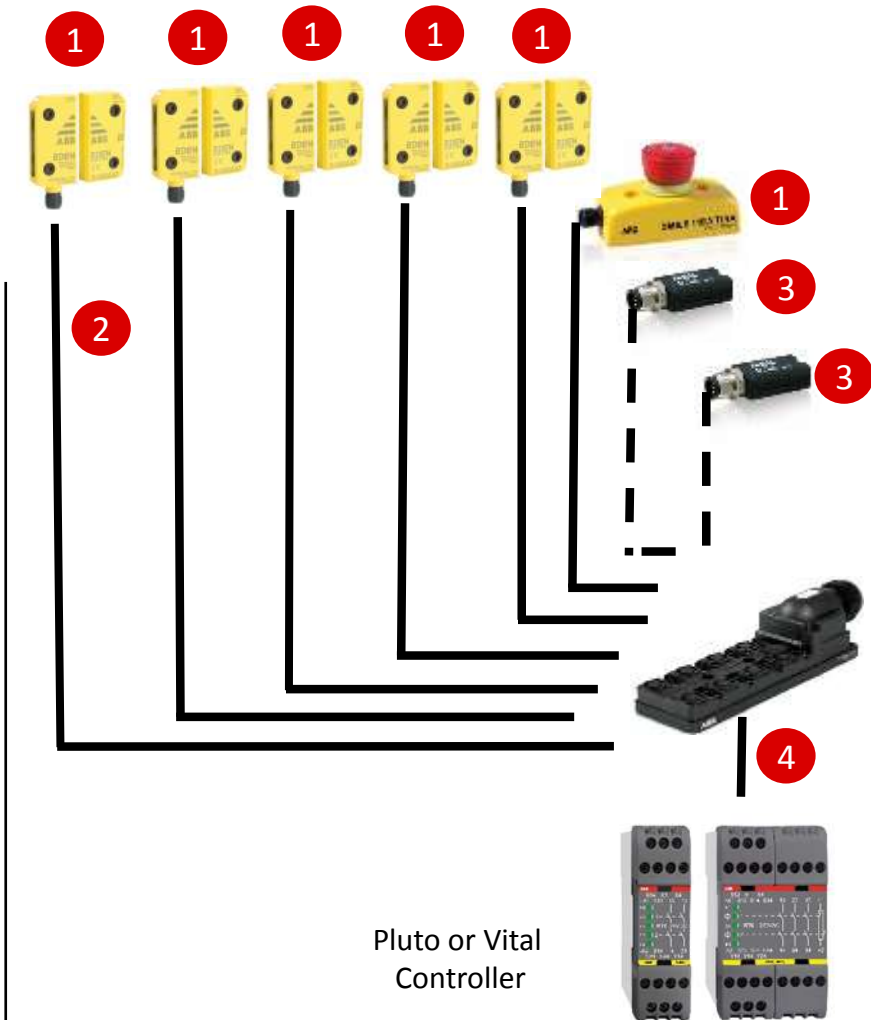
Bill of Material – Tina 4A/8A Connection (Tina 8A Shown)

- 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



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[Tina 4A
Manual](#)

[Tina 8A
Manual](#)

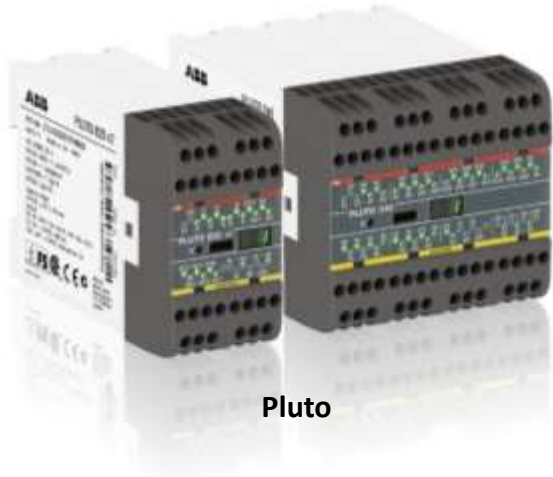
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Eden Dynamic

DYNLink, Dynamic Pulse Non-Contact RF Safety Sensor



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

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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	2TLA030050R0000	Smile 11EA Tina (Red Button)	Emergency stop in Smile enclosure, 1 × M12 5-pin male connector
	2TLA030050R0200	Smile 12 EA Tina (Red Button)	Emergency stop in Smile enclosure, 1 × M12 5-pin male connector and 1 × M12 5-pin female connector
	2TLA030054R0000	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
	2TLA030054R0400	Yellow Surround for E-Stop	Elevated yellow surround for Inca 22 5 panel mounted (Inca) emergency stop button
	2TLA030054R0900	Yellow Surround for E-Stop	Flat Yellow surround for panel mounted (Inca) emergency stop button, for 22 5 mm hole
Resets	2TLA030053R0000	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
	2TLA030053R0100	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	2TLA030050R0500	Smile 11 SA Tina (Black Button)	Machine stop (Black button) in Smile enclosure, 1 × M12 5-pin male connector
	2TLA030054R0200	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



Main features

- Magne is an electro magnetic device used for securing doors or hatches closed for non-inertia, process sensitive applications. When applied with the Eden Sensors, Category 4 / Plc level of safety can be achieved
- Magne 3X does not have an integrated safety sensor
- Magne 4 has integrated Eden (All Versions)
- 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

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[Magne 3-4 Manual](#)

[Magne 1-2 Conversion](#)

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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

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

***Order Magne anchor plates & Eva (for Magne 4) separately**

Magne DynLink connections are done with a 5 or 8 pin cable depending on model

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Magne OSSD

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Dual Channel Components

Eden OSSD, Orion, Mkey, Sense, LineStrong

Eden OSSD, Mkey, Magne OSSD, Sense

- Eden OSSD Safety Sensor that can work with a Standard Safety Relay
- Mkey Mechanical Safety Switch in plastic, metal, and SS
- Magne OSSD magnetic door locking solution
- Sense Non Contact Magnetic safety sensors in plastic and SS

Smile, Estrong, LineStrong

- Smile eStops with M12 connections
- Estrong heavy duty IP69k eStop
- LineStrong rope pull solution for many applications

Orion Light Curtains

- Orion 1 Base safety light curtain for basic applications
- Orion 1 Extended safety light curtain for advanced applications

Safeball, JSHD4 Enabling Devices*

- Safeball is an ergonomic two hand control solution
- JSJD4 Modular Enabling Device for extended control applications

Safety Mats*

- Heavy duty safety mat solution
- Available in standard sizes
- Two styles, blunt for use with aluminum trim or with an integrated ramp



Eden OSSD, Mkey, Magne OSSD, Sense



Smile, Estrong, LineStrong



Orion Light Curtains



Safeball, JSJD4 Enabling Devices*



Safety Mats*

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.



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

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[Eden OSSD Manual](#)

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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

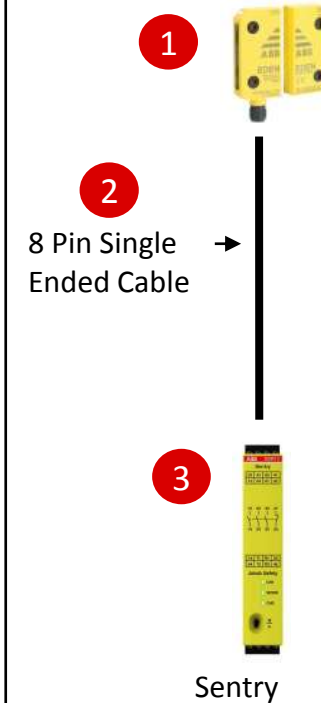
Cable lengths can vary

[Eden OSSD
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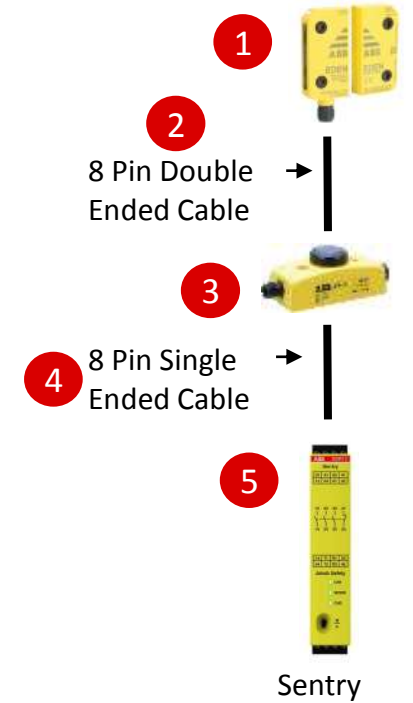
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Adam OSSD- Info Example



Adam OSSD - Reset Example



Does not show Terminal Blocks

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Eden OSSD

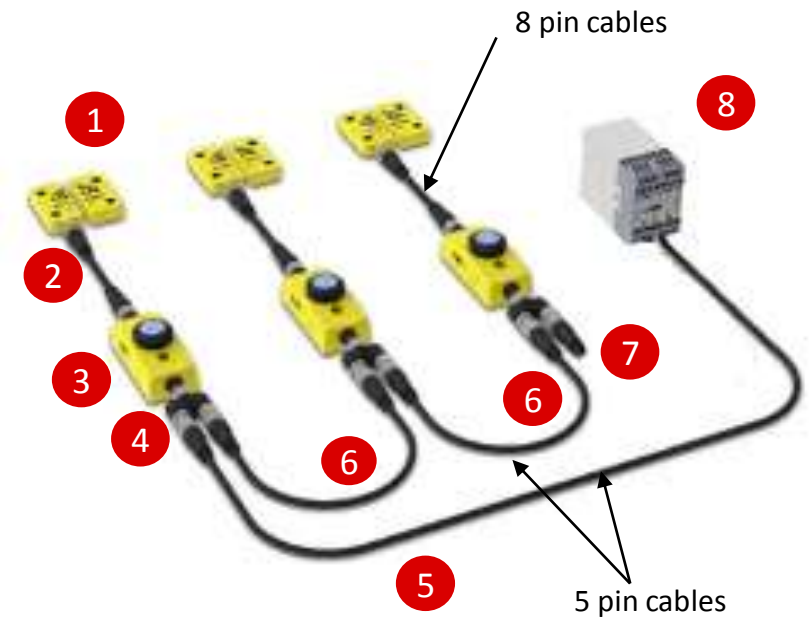
Dual Channel Non-Contact RF Safety Sensor

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

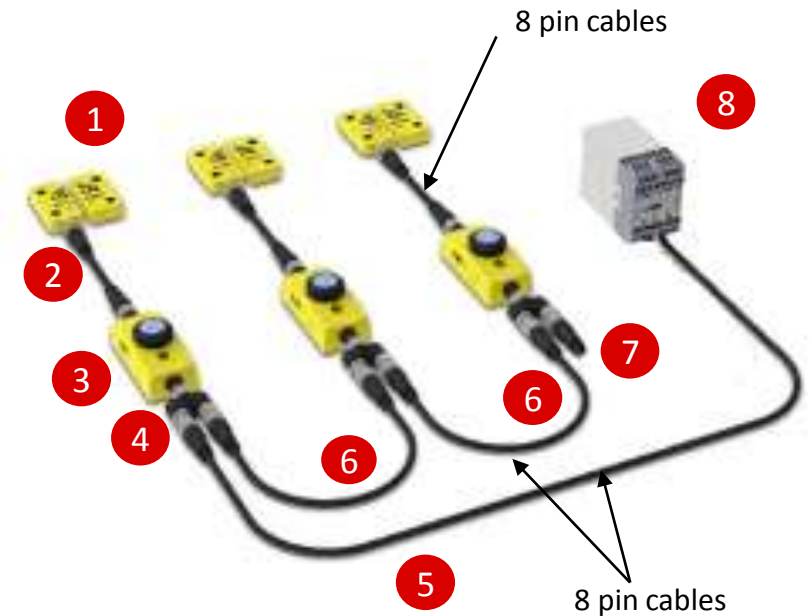
Dual Channel Non-Contact RF Safety Sensor

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



	Part Number	Description
Adam	2TLA020051R5700	Adam OSSD-Info M12-8 for single & series applications
	2TLA020051R5900	Adam OSSD-reset M12-8 for single & series applications
Eva	2TLA020046R0800	Eva General Code, All Generals have the same code
	2TLA020046R0900	Eva Unique Code, One of 1,000 codes, complies with EN/ISO 14119
Accessories	2TLA020055R0800	M12-3H Y-Connector 5Pin, (1) 8 Pin to Eden, (2) 5 Pin for series connection
	2TLA020053R7000	JSOP-1 5 Pin Terminator for M12-3H serial connector
	2TLA040033R3600	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

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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 1 Base Manual](#)

[Orion 1 Ext Manual](#)

[Orion Connections](#)

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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

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

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Orion 1 Ext
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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

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

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Orion 1 Base
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Orion 1 Ext
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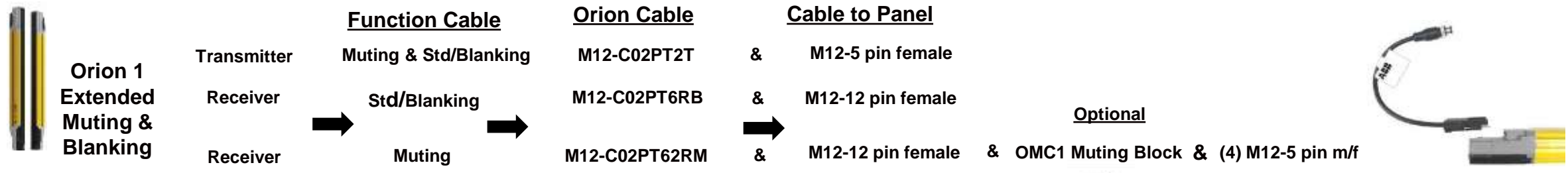
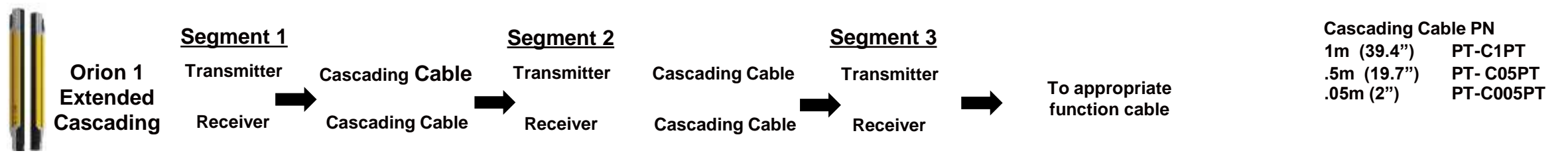
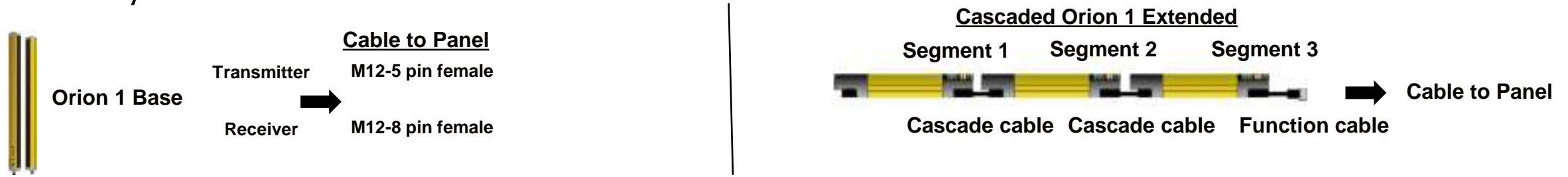
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Orion Safety Light Curtain

Cable Layout



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



Function cable

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

See the Orion web page for a complete listing of accessories

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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
2TLA050040R0201	MKey 4,5 Metal Standard Key (Mkey 4/5 with Plastic Head)
2TLA050040R0202	MKey 4,5,6,8,9 Metal Standard Key (Mkey 4/5 with SS Head)
2TLA050040R0220	MKey 4,5,6,8,9 Metal Flat Key
2TLA050040R0221	MKey 4,5,6 With Plastic Housing, Flex Key
2TLA050040R0203	MKey 4,5,6,8,9 Metal Housing Flex Key
2TLA050040R0204	MKey 6,8,9 SS Housing Flex Key
2TLA050040R0400	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 ½" 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 ½" NPT and would require a ½" NPT cable gland to go to a cable. Consult the manual for the number of conductors required.
- You can also go to a ½" NPT conduit connection

Mkey Catalog

MKey 8 Series
Manual

MKey 9 Series
Manual

Cables

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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.

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
2TLA050304R0002	GKey4 RU, No Pilot Devices, 24 VDC
Part Number	GKey, Mounting Plate with Front Handle
2TLA050310R0032	FHS GKey4
Part Number	GKey, Accessories
2TLA050040R0510	RHS Gkey MKey
2TLA050040R0511	SCS Gkey MKey
Part Number	GKey Pilot Devices Commonly Used
1SFA619501R1051	Emergency stop button, Dual Channel. 24VDC 1/pkg
1SFA619200R1026	2 Position Selector switch, 24 VDC 10/pkg
1SFA619100R1112	Push button Illuminated 24 VDC Green 10/pkg
1SFA619100R1113	Push button Illuminated 24 VDC Yellow 10/pkg
1SFA619100R1114	Push button Illuminated 24 VDC Blue 10/pkg
1SFA619100R1118	Push button Illuminated 24 VDC White/Clear 10/pkg
1SFA619101R1016	Push button Not Illuminated 24 VDC Black 10/pkg
1SFA611920R8130	Blanking plug Black 10/pkg
1SFA616920R8120	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

[Gkey Web Page](#)

[Gkey Manual](#)

[Gkey Product Sheet](#)

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Sense

Non-Contact Magnetic Safety Switch

Main features

- Available in Stainless Steel (Z) and Plastic housings
- Industry standard foot prints
- Over 1200 available
- See catalog for Explosion Proof



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
2TLA050056R5100	Sense 7, 5m cable, 2NC/1NO LED, 24VDC
2TLA050056R5120	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 options
 "Z" in the part description indicates it is stainless steel & IP69k
 Refer to the catalog for the number of leads per switch

Sense
Catalog

Sense 7 Series
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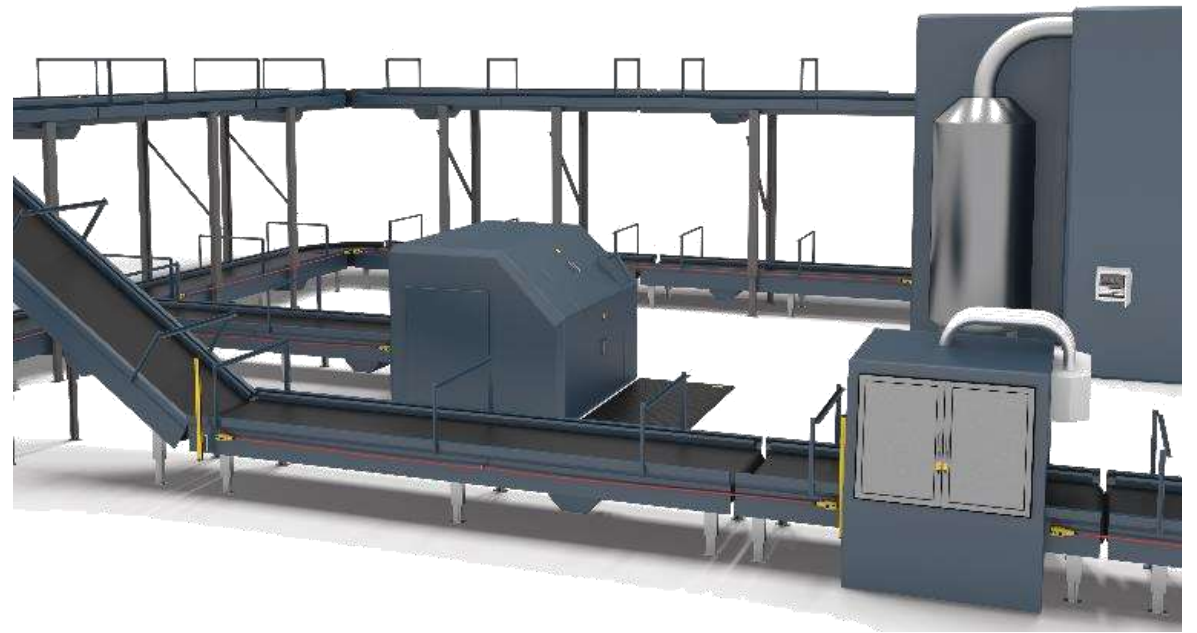
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Line Strong

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



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Line Strong

Rope Pull Switch

Order Estop separately
All Models



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



Line Strong 1
Protection up to 50 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

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Line Strong

Rope Pull Switch Accessories



Rope Kit

Part Number	Line Strong Accessories
2TLA050210R4020	LINESTRONG ACCES ROPE TENSIONER, SS
2TLA050210R4030	LINESTRONG ACCES ROPE TENSIONER, GALV
2TLA050210R6020	LINESTRONG ACCES CORNER PULLY, SS
2TLA050210R6030	LINESTRONG ACCES CORNER PULLY, GALV
2TLA050211R0004	LINESTRONG ACCES SPRING, 220MM, SS
2TLA858006R1300	FLEX ROLLER EYEBOLT W/ADJUSTMENT
2TLA050040R0001	1/2 NPT 316 SS CABLE GLAND
2TLA050211R0005	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
2TLA050210R0520	50M ROPE KIT SS W/ALLEN KEY
2TLA050210R0620	80M ROPE KIT SS W/ALLEN KEY
2TLA050210R0720	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
2TLA050210R0130	10M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0230	15M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0330	20M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0430	30M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0530	50M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0630	80M ROPE KIT, GALV W/ALLEN KEY
2TLA050210R0730	100M ROPE KIT, GALV W/ALLEN KEY
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)

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LineStrong Manual

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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	2TLA030051R0000	Smile 11 EA (Red Button)	Emergency stop in Smile enclosure, 2 × NC, Status LED in button, 1 × M12 5-pin male connector
	2TLA030051R0200	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
	2TLA030054R0100	INCA 1 (Red Button)	Emergency stop (Red Button for panel mounting, 22.5 mm holes, 2 × NC, Status LED in button, terminal blocks)
	2TLA030054R0400	Yellow Surround for E-Stop	Elevated yellow surround for Inca panel mounted emergency stop button
	2TLA030054R0900	Yellow Surround for E-Stop	Flat Yellow surround for panel mounted emergency stop button, for 22.5 mm hole
Mach Stops	2TLA030051R0900	Smile 11 SA (Black Button)	Machine stop (Black button) in Smile enclosure, 2 × NC, Status LED in button, 1 × M12 5-pin male connector
	2TLA030054R0300	INCA 1S (Black Button)	Machine stop (Black button) for panel mounting, 22.5 mm holes, 2 × NC, Status LED in button, terminal blocks

Smile 41

Smile 41



Part Number	Description	Smile 41
2TLA030057R0000	Smile 41 WWWWP	Push button box according to Smile design with 4 buttons. The box is adapted for connection to Pluto IQ using light button function. Connection via a M12 8-pin male connector. 4 push-buttons and kit of filters
2TLA030057R0100	Smile 41 EWWWP	Push button box according to Smile design with 4 buttons, one of which is an emergency stop. The box is adapted for connection to Pluto IQ using light button function. Connection via a M12 8-pin male connector. 1 emergency stop + 3 push-buttons and kit of filters



Smile 41 with E-Stop should be used with a Pluto*

Smile 41 without E-Stop is not a safety device and should be used with a Pluto*

*Pluto has the ability to accept the button input and control the light on the same input

Smile 41 uses a M12-8 pin male cable

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.

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.

SafeBall

Two Hand Control Actuator



Main features

- Ergonomic with several grip possibilities
- Tactile and audio feedback
- 3rd 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



JSTD25H



JSTD25K

Part Number	Description	SafeBall
2TLA020007R3000	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
2TLA020007R3100	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
2TLA020007R3200	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
2TLA020007R0900	JSM-C5	JSM-C5, Angled ball joint for installation of a Safeball on a table or a steel housing
2TLA020007R6300	JSTD25H	JSTD25H with JSTD1-B Safeballs pre-wired to a M12 8-pin connector with protective flanges for the Safeballs
2TLA020007R6900	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

JSHD4

JSHD4 *
Wiring Only

JSHD4*
Old to New

Cables

Home Page

* 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



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

JSHD4*
Wiring Only

JSHD4*
Old to New

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JSHD4 Modular* Enabling Device

Three Position Enabling Device

2. Choose a bottom part suitable for your assembly



AA, AH, AJ



AB, AK



AC, AD

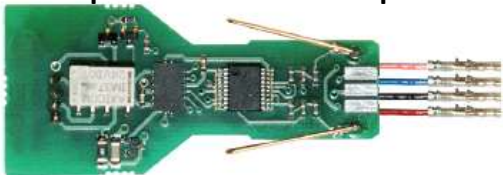


AF, AG



AE

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



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



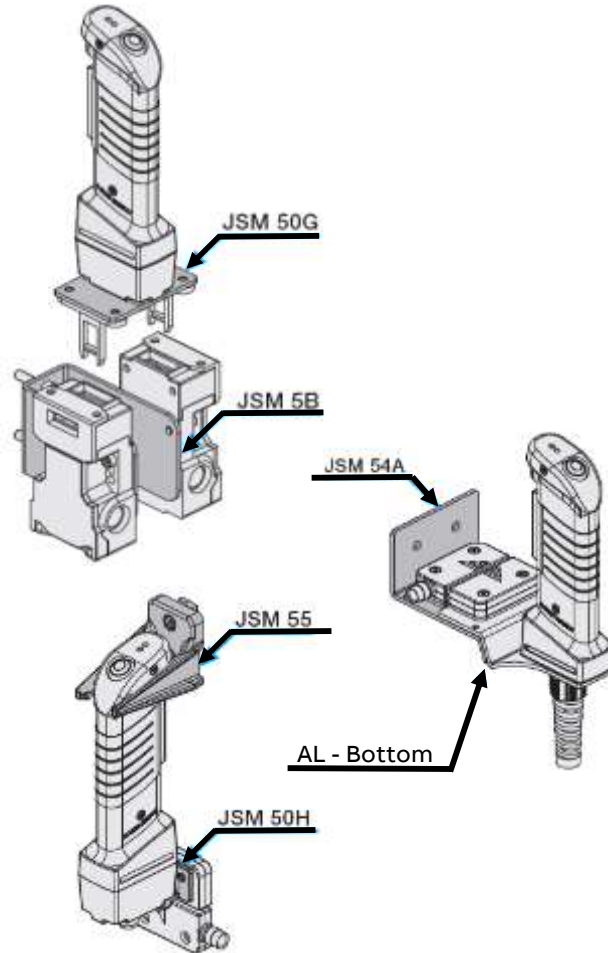
Bottom Plate JSM50G
2TLA020205R6300
for MKey6



JSHD4 Protective Coating
2TLA020200R4600



Bottom Plate JSM50H
2TLA020205R6400
for Eden



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

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

Magne
Web Page

Magne 3-4
Manual

Magne 1-2
Conversion

Magne
DYNLink

Cables

Home Page

Solutions

Quick Guard, Machine Safety Services

Quick Guard Fencing System

- Cost Effective
- Labor Effective
- Strong
- Easily modified in the field
- Easy to Design

Machine Safety Services

- Machine Safety Evaluation
- Safety System Design
- Safety System Programming (If Required)
- Installation/Commissioning
- Risk Assessment Training
- Machine Safety Training
- Pluto Safety PLC Training



Machine Safety Services



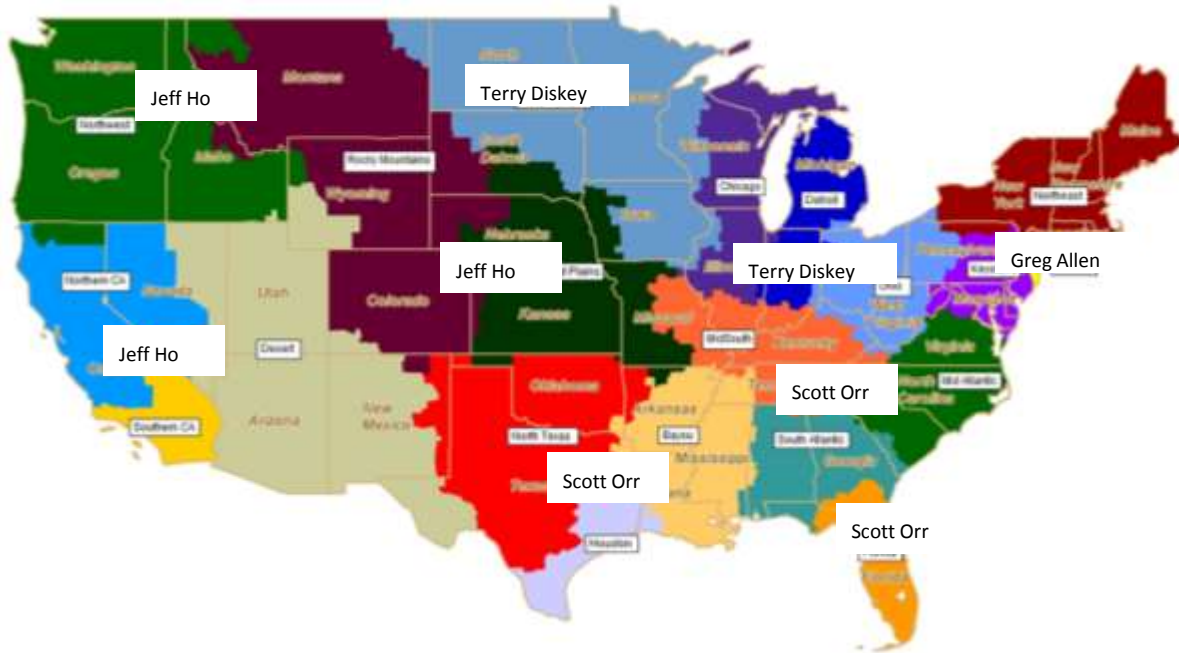
Quick Guard aluminum fencing system



Machine Safety Training

Quick Guard

Aluminum Fencing System



Quick Guard is supported by a growing network of fencing integrators and distributors across the nation

Use the Contact Forms below to submit projects for RFQ

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

[Fencing Web Page](#)

[Contact Greg Allen](#)

[Contact Terry Diskey](#)

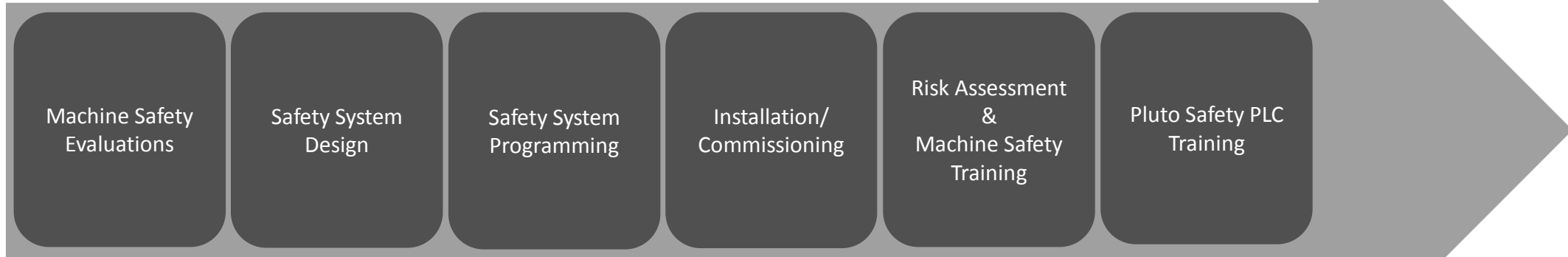
[Contact Scott Orr](#)

[Contact Jeff Ho](#)

[Home Page](#)

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

[Training](#)

[Contact Form](#)

[Home Page](#)

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

Cables with Cannon Connectors are in the Enabling Device section

Cables

Cables Reels and Field Wired Connectors



Desc	50M	100M	200M	500M
M12-5 Bulk Reel	2TLA020057R0005	2TLA020057R0010	2TLA020057R0020	2TLA020057R0050
M12-8 Bulk Reel	2TLA020057R1005	2TLA020057R1010	2TLA020057R1020	2TLA020057R1050

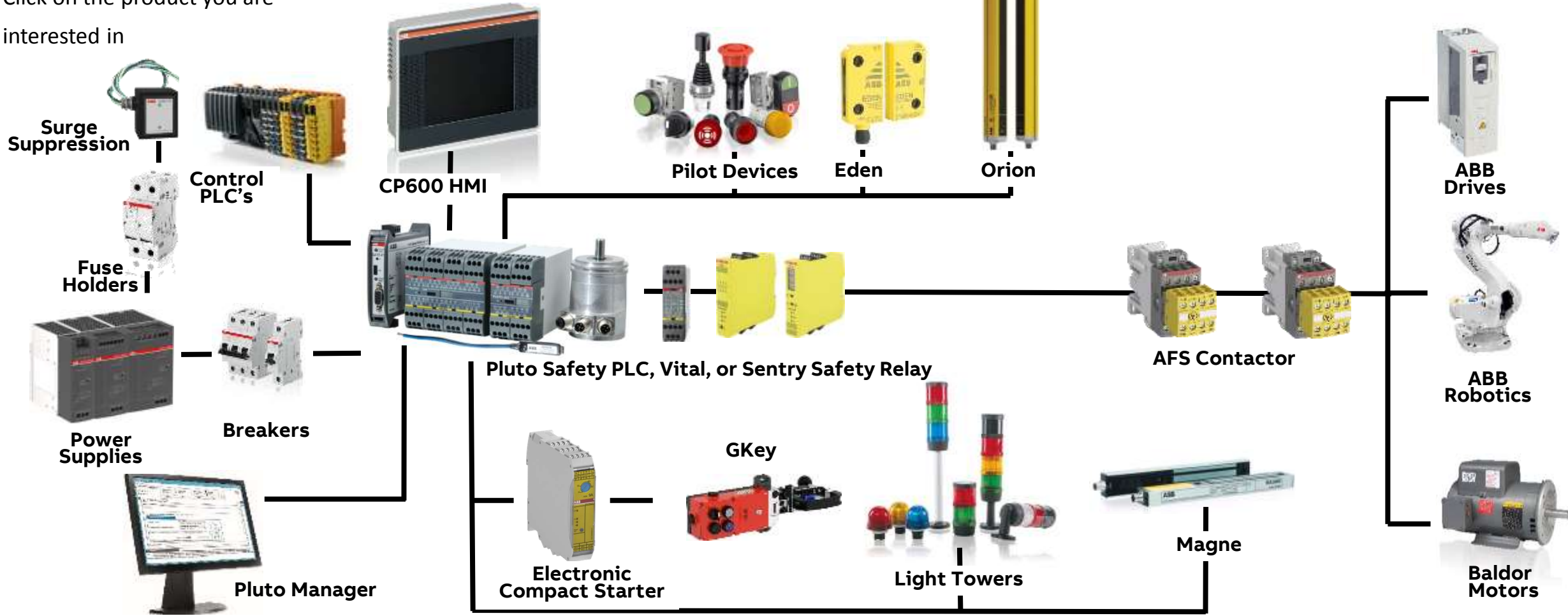
Type	Desc	50M	100M	500M
CAN-Bus cable, yellow, 1 x 2 x 0.75 mm	Bulk Reel	2TLA020070R6805	2TLA020070R6810	2TLA020070R6850

Connector	Description	Part Number
Field Wired F M12-5	M12-C01 M12X5 Female Screw Connector	2TLA020055R1000
Field Wired M M12-5	M12-C02 M12X5 Male Screw Connector	2TLA020055R1100
Field Wired F M12-8	M12-C03 M12X8 Female Screw Connector	2TLA020055R1600
Field Wired M M12-8	M12-C04 M12X8 Male Screw Connector	2TLA020055R1700

ABB complimentary products

ABB products that complement Jokab Safety

Click on the product you are interested in

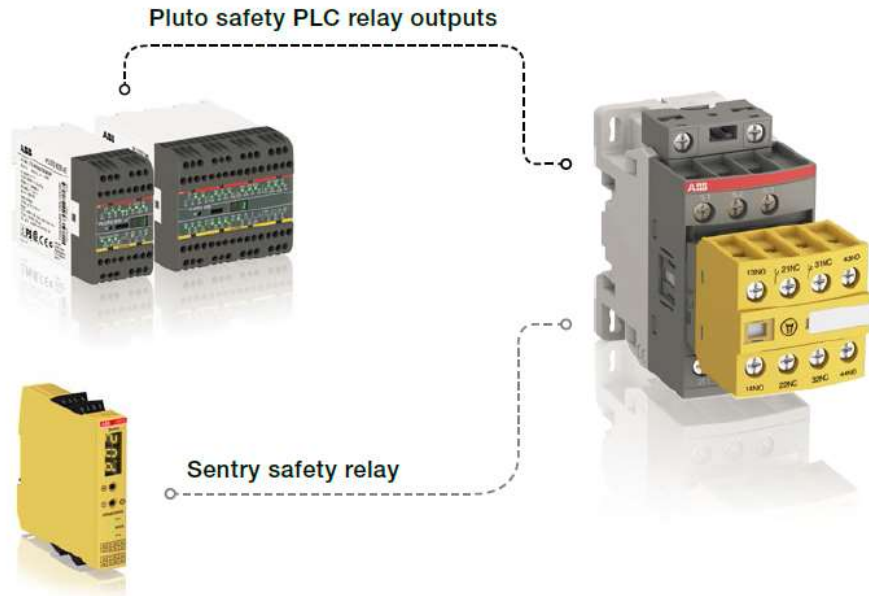


[Complementary Products](#)

[Home Page](#)

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

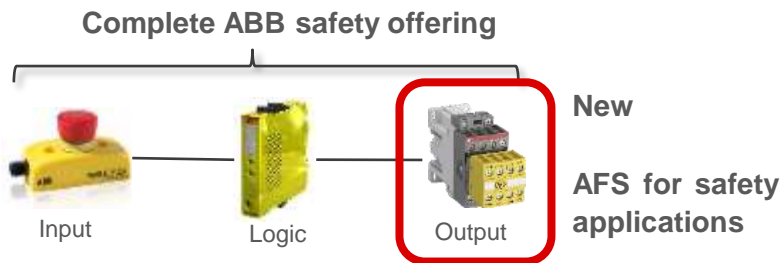


ABB Electronic compact starters

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

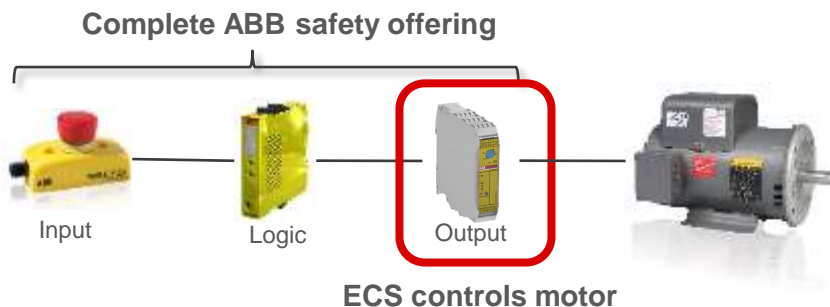


ABB Jokab Safety

ABB Jokab Safety Support List

North Region

Product Specialist North East

Product Specialist Terry Diskey

(260) 409-6258

terry.e.diskey@us.abb.com

South Region

Product Specialist Scott Orr

(734) 718-6647

scott.j.orr@us.abb.com

West Region

Product Specialist West

Business Development

Product Manager Rich Gibson

(248) 514-9643

richard.a.gibson@us.abb.com

Product Marketing Darrell Burkeen

(708) 541-2395

darrell.l.burkeen@us.abb.com

General Sales Inquiries

jokab.sales@us.abb.com

Technical Support / Electrical Engineering

Technical Support

(888) 385-1221 Opt 1

EPPC.Support@us.abb.com

Engineering Manager John McHale

(313) 520-1779

robert.j.mchale@us.abb.com

Sr. Electrical Eng. Matt Miller

(734) 812-5676

matthew.m.miller@us.abb.com

Applications Lead Jeff Leslie

(519) 982-0976

jeffrey.m.leslie@ca.abb.com

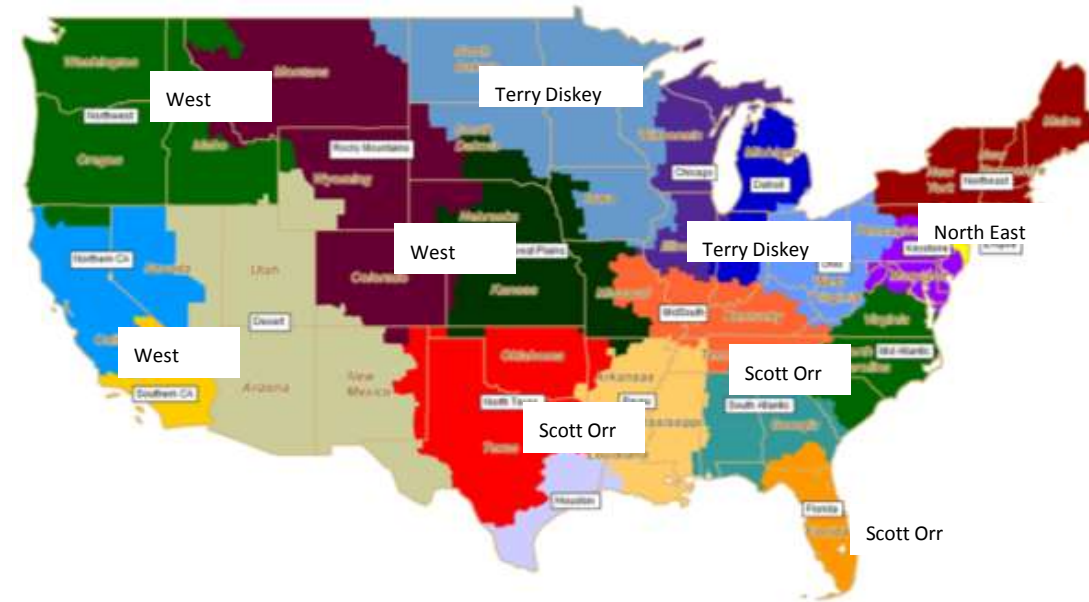
Design & Fencing Requests

Contact Your Local Jokab Specialist

Customer Service

(800) 435-7365

contact.center@us.abb.com





eConfigure Links

- [Pluto](#)
- [Sentry Safety Relay](#)
- [Orion](#)
- [Eden](#)

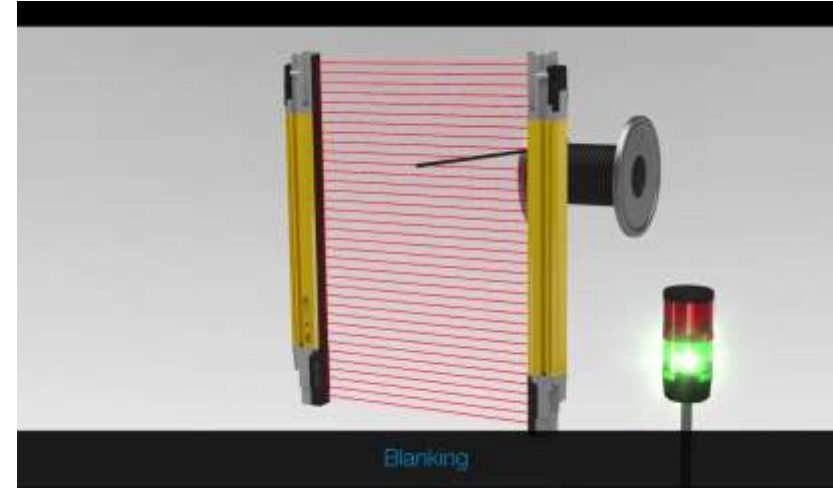


ABB Jokab Safety

ABB Jokab Safety video links

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](#)
- [3D Line Card](#)
- [ABB JOKAB SAFETY - Your best partner for machine safety](#)
- [Machine Safety Systems: An open door to smarter operations](#)
- [Sentry & Eden Video](#)

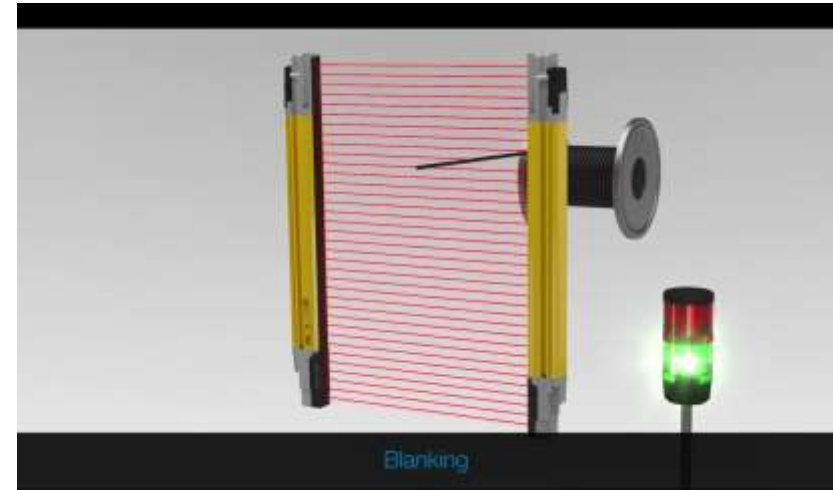


ABB Jokab Safety

ABB Jokab Safety Pluto Training

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](#)
-
- For more advanced training contact the Jokab Safety Support Team



ABB Jokab Safety

ABB Jokab Safety Literature

Catalogs, Brochures and CAD Drawing Files

- [Protecting your valuable personnel and your company bottom line](#)
- [Machine Safety Systems and Components - Product Overview](#)
- [ABB Jokab Panorama US](#)
- [Orion safety light guards Reduce complexity and save time](#)
- [Orion safety light guards - Summary](#)
- [Pluto Safety PLCs - Product Overview](#)
- [Pluto Safety Controller for Harsh Enviroments](#)
- [Sentry Safety Relay Leaflet](#)
- [Safety Contact Mats](#)
- [Safety Switch Catalog](#)
- [Statusbus Brochure](#)
- [\(New\) Drawing Files](#)
- [Life Cycle Management Plan](#)



ABB Jokab Safety

ABB Jokab Safety Literature

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](#)

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](#)



Food and Beverage
Stainless steel, IP69k



Packaging Industry
Diagnostics, modularity



Material Handling
Conveyors, robots



Industrial Manufacturing
Presses, robotics, plastics, etc.

ABB Jokab Safety

ABB Jokab Safety Literature

European Catalogs (May differ from US offering)

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

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](#)

Additional Information

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





ABB