

# SAFETY INTERFACES AND RELAYS



## ■ AD SR1

### MAIN FEATURES

Interface module between the safety light curtains EOS4 A, EOS2 A, Admiral AD, Admiral AX BK, Vision V and the machine control circuits.

With guided-contact safety relays, 2 NO contacts and PNP output for relay status signaling.

- Start/Restart interlock
- EDM Feedback input for extra external contactors monitoring



### TECHNICAL FEATURES

Model	AD SR1
<b>Safety level</b>	Type 4 according to IEC/TS 61496-2 SIL 3 – SILCL 3 according to IEC 61508 - IEC 62061 PL e – Cat. 4 according to ISO 13849-1
<b>Two-channel inputs for safety light curtains</b>	1
<b>Safety relay outputs</b>	2 NO - 2 A 250 VAC
<b>Response time (ms)</b>	≤ 20
<b>Start/Restart*</b>	manual or automatic Start/Restart selectable on terminal block
<b>External Device Monitoring</b>	external relay control feedback input, selectable
<b>Signalling</b>	LED indication of input/output status and diagnosis
<b>Power supply (VDC)</b>	24 ± 20%
<b>Electrical connections</b>	on terminal blocks
<b>Operating temperature (°C)</b>	0 to 55
<b>Protection rating</b>	IP 20 for housing IP 2X for terminal blocks
<b>Fastening</b>	rail fastening according to EN 50022-35 standard
<b>Dimensions - h x w x d (mm)</b>	99 x 22,5 x 114

### ORDERING INFORMATION (for ordering codes see page 226)

#### Each AD SR1 safety interface includes:

- Multi-language instruction manual complete with CE declaration of conformity

#### Safety level: **Type 4 – SIL 3 – SILCL 3 – PL e – Cat. 4**

- 2006/42/EC "Machinery Directive"
- 2004/108/EC "Electromagnetic Compatibility (EMC)"
- 2006/95/EC "Low Voltage Directive (LVD)"
- IEC/EN 61496-1 Ed. 2.1 and IEC/TS 61496-2 Ed. 2 "Safety of machinery - Electro-sensitive protective equipment- General requirements and tests"
- EN ISO 13849-1 "Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design"
- IEC/EN 62061 "Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- IEC 61508 "Functional safety of electrical/electronic/programmable electronic safety-related systems"
- IEC/TS 62046 Ed. 2 "Safety of machinery – Application of protective equipment to detect the presence of persons"
- UL (C+US) mark for USA and Canada.



\* Safe Start/Restart command according to IEC 61496-1

## MAIN FEATURES

Interface module between the safety light curtains EOS4, EOS2, Admiral, Vision, the safety laser PHARO and the machine control circuits, with 2-sensor logic integrated Muting.

With guided contact safety relays, 2 NO contacts and PNP output for relay status signaling.

- Start/Restart interlock
- EDM Feedback input for extra external contactors monitoring
- Muting Timeout selectable, 30 sec, 90 min or infinite
- Integrated Override with selectable 2-mode operation
- Muting Enable input.



## TECHNICAL FEATURES

Model	AD SRM
<b>Safety level</b>	Type 4 according to IEC/TS 61496-2 SIL 3 – SILCL 3 according to IEC 61508 - IEC 62061 PL e – Cat. 4 according to ISO 13849-1
<b>Two-channel inputs for safety light curtains</b>	1
<b>Inputs for Muting sensors</b>	2 - 24 VDC – PNP or relay – dark-on
<b>Muting Enable input</b>	24 VDC – PNP or relay
<b>Safety relay outputs</b>	2 NO - 2A 250 VAC
<b>Safety system status indicator output</b>	PNP – 100 mA at 24 VDC
<b>Muting lamp output</b>	24 VDC; 0.5-5 W
<b>Response time (ms)</b>	≤ 20
<b>Start/Restart*</b>	manual or automatic Start/Restart selectable on terminal block
<b>External Device Monitoring</b>	external relay control feedback input, selectable
<b>Signalling</b>	LED indications of input/output status, Muting sensor inputs, diagnosis
<b>Muting timeout</b>	30 sec. or infinite, selectable
<b>Override</b>	2 operating modes selectable : - manual action with hold to run - automatic with pulse command
<b>Override timeout min</b>	15.
<b>Power supply (VDC)</b>	24 ± 20%
<b>Electrical connections</b>	On terminal block
<b>Operating temperature (°C)</b>	0 to 55
<b>Protection rating</b>	IP 20 for housing - IP 2X for terminal block
<b>Fastening</b>	rail fastening according to EN 50022-35 standard
<b>Dimensions - h x w x d (mm)</b>	99 x 35 x 114

## ORDERING INFORMATION (for ordering codes see page 226)

### Each AD SRM safety interface includes:

- Multi-language instruction manual complete with CE declaration of conformity

Safety level:

**Type 4**

**SIL 3 – SILCL 3  
PL e – Cat. 4**

\* Safe Start/Restart command according to IEC 61496-1

# AD SRT

## MAIN FEATURES

Safety relays for two-hand control.

With 2 NO + 1 NC guided-contact safety relays.

EDM Feedback input for external contactors monitoring.

The AD SRT can be used up to Cat. 4, PL e.

It is certified as Type III C according to the EN 574 standard and monitors the simultaneity between the two inputs (< 0.5 sec).



## TECHNICAL FEATURES

Model	AD SRT
<b>Safety level</b>	PL e, Cat. 4 according to ISO 13849-1
<b>Safety relay outputs</b>	3 NO + 1 NC – 5 A 240 VAC
<b>Min switching current at 24 VDC (mA)</b>	6
<b>Response time (ms)</b>	≤ 30
<b>External Device Monitoring</b>	yes
<b>Signalling</b>	LED indicators for status and supply diagnostic: power, channel 1 and channel 2
<b>Power supply (VDC)</b>	24 (-15 +10%)
<b>Simultaneity (s)</b>	< 0.5 for EN 574 Type III C
<b>Electrical connection</b>	on terminal block
<b>Operating temperature (°C)</b>	- 25 to 55
<b>Protection rating</b>	IP 40 for housing - IP 2X for terminal block
<b>Fastening</b>	rail fastening according to EN 50022-35 standard
<b>Dimensions h x w x d (mm)</b>	99 x 22,5 x 114

## ORDERING INFORMATION (for ordering codes see page 226)

### Each AD SRT safety relay includes:

- Multi-language instruction manual complete with CE declaration of conformity

Safety level: **Cat. 4**

**PL e – Cat. 4**  
**Type III C (EN 574)**

### Safety level: **PL e – Cat. 4 – Type III (EN 574)**

- 2006/42/EC “Machinery Directive”
- 2004/108/EC “ Electromagnetic Compatibility (EMC)”
- 2006/95/EC “Low Voltage Directive (LVD)”
- EN ISO 13849-1 “Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design”
- UL (C+US) mark for USA and Canada.



## AD SRE4 – AD SRE4C

## MAIN FEATURES

Safety relays for monitoring emergency stop buttons, safety switches.

With 3 NO + 1 NC guided-contact safety relays.

- The Start/Restart can be either Automatic/Manual with the AD SRE4 or Manual Monitored with the AD SRE4C.
- EDM Feedback input for external contactors monitoring.

Both models can be used up to safety category 4, PL e according to EN ISO 13849-1



## TECHNICAL FEATURES

Model	AD SRE 4	AD SRE 4C
Safety level	up to PL e, Cat. 4 according to EN ISO 13849-1	
Safety relay outputs	3 NO + 1 NC – 5 A 240 VAC	
Min switching current at 24 VDC (mA)	6	
Response time (ms)	≤ 50	
Start/Restart	Automatic/Manual	Manual - Monitored
External Device Monitoring	Yes	
Signalling	LED indicators for status and supply diagnostic: power, channel 1 and channel 2	
Power supply (VDC)	24 (±10%)	
Electrical connection	on terminal block	
Operating temperature (°C)	- 25 to 55	
Protection rating	IP 40 for housing - IP 2X for terminal block	
Fastening	rail fastening according to EN 50022-35 standard	
Dimensions h x w x d (mm)	99 x 22,5 x 114	

## ORDERING INFORMATION (for ordering codes see page 226)

## Each AD SRE4 and AD SRE4C safety interface includes:

- Multi-language instruction manual complete with CE declaration of conformity

Safety level: **Cat. 4**

**PL e – Cat. 4**

Safety level: **PL e – Cat. 4**

- 2006/42/EC "Machinery Directive"
- 2004/108/EC "Electromagnetic Compatibility (EMC)"
- 2006/95/EC "Low Voltage Directive (LVD)"
- EN ISO 13849-1 "Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design"
- UL (C+US) mark for USA and Canada.



## AD SRE3 – AD SRE3C

### MAIN FEATURES

Safety relays for monitoring emergency stop buttons, safety switches.

With 2 NO + 1 NC guided-contact safety relays.

- The Start/Restart can be either Automatic/Manual with the AD SRE3 or Manual Monitored with the AD SRE3C.
- EDM Feedback input for external contactors monitoring.

Both models can be used up to safety category 3, PL d according to EN ISO 13849-1.



### TECHNICAL FEATURES

Model	AD SRE 3	AD SRE 3C
Safety level	up to PL d, Cat. 3 according to EN ISO 13849-1	
Safety relay outputs	2 NO – 6 A 240 VAC	
Min switching current at 24 VDC (mA)	6	
Response time (ms)	≤ 50	
Start/Restart	Automatic/Manual	Manual - Monitored
External Device Monitoring	yes	
Signalling	LED indicators for status and supply diagnostic: power, channel 1 and channel 2	
Power supply (VDC)	24 (-15 +10%)	
Electrical connection	on terminal block	
Operating temperature (°C)	- 25 to 55	
Protection rating	IP 40 for housing - IP 2X for terminal block	
Fastening	rail fastening according to EN 50022-35 standard	
Dimensions h x w x d (mm)	99 x 22,5 x 114	

### ORDERING INFORMATION (for ordering codes see page 226)

#### Each AD SRE3 and AD SRE3C module includes:

- Multi-language instruction manual complete with CE declaration of conformity

Safety level:

**Cat. 3**

**PL d - Cat. 3**

#### Safety level: **PL d - Cat. 3**

- 2006/42/EC "Machinery Directive"
- 2004/108/EC "Electromagnetic Compatibility (EMC)"
- 2006/95/EC "Low Voltage Directive (LVD)"
- EN ISO 13849-1 "Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design"
- UL (C+US) mark for USA and Canada.



## MAIN FEATURES

MG d1 is a safety control unit for monitoring up to 8 Magnus safety switches in series (see page 159).

It features a two positively mechanically linked contacts and EDM (External Device Monitoring).



## TECHNICAL FEATURES

Model	MG d1
Safety level	up to PL d – SILCL 2
Safety relay outputs	2 NO – 3 A – 250 VAC
Response time (ms)	< 20
Start/Restart	automatic/manual
External Device Monitoring	yes
Signalling	LED indicators for status and diagnostic
Power supply (VDC)	24 (±10%)
Electrical connection	on terminal block
Operating temperature (°C)	0 to 55
Protection rating	IP 40 for housing - IP 2X for terminal block
Fastening	rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	75 x 25 x 94

## ORDERING INFORMATION (for ordering codes see page 226)

### Each MG d1 module includes:

- Multi-language instruction manual complete with CE declaration of conformity

Safety level:

**PL d**

**PL d – SILCL 2 – Cat. 3**

### Safety level: **PL d - SILCL 2 - Cat. 3**

- 2006/42/EC "Machinery Directive"
- 2004/108/EC " Electromagnetic Compatibility (EMC)"
- 2006/95/EC "Low Voltage Directive (LVD)"
- EN ISO 13849-1 "Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design"
- IEC/EN 62061 "Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- IEC 61508 "Functional safety of electrical/electronic/programmable electronic safety-related systems".



## AU SX

### MAIN FEATURES

Control unit for safety photocells ILION and ULISSE, which can be combined to form a Type 2 safety system.  
Up to 4 photocells may be connected.  
With guided-contact safety relays, 2 NO contacts and PNP output for status signaling.  
Start/Restart interlock.  
EDM Feedback input for external contactors monitoring.

Self test every 5 seconds.



### TECHNICAL FEATURES

Model	AU SX
<b>Safety level</b>	Type 2 according to IEC/TS 61496-2 SIL 2 – SILCL 2 according to IEC 61508 - IEC 62061 PL d – Cat. 2 according to ISO 13849-1
<b>Number of photocells</b>	1 – 4
<b>Safety relay outputs</b>	2 NO - 2 A 250 VAC
<b>Safety system status indicator output</b>	PNP – 100 mA at 24 VDC
<b>Response time (ms)</b>	≤ 30
<b>Start/Restart*</b>	manual or automatic Start/Restart selectable on terminal block
<b>External Device Monitoring</b>	external relay control feedback input, selectable
<b>Signalling</b>	LED indication of input/output status and diagnosis
<b>Power supply (VDC)</b>	24 ± 20%
<b>Electrical connections</b>	on terminal block
<b>Operating temperature (°C)</b>	0 to 55
<b>Protection rating</b>	IP 20 for housing - IP 2X for terminal block
<b>Fastening</b>	rail fastening according to EN 50022-35 standard
<b>Dimensions - h x w x d (mm)</b>	99 x 22,5 x 114

### ORDERING INFORMATION (for ordering codes see page 226)

#### Each AU SX module includes:

- Multi-language instruction manual complete with CE declaration of conformity

#### Safety level: **Type 2 – SIL 2 - SILCL 2 - PL d - Cat. 2**

(with ILION or ULISSE photocells)

- 2006/42/EC "Machinery Directive"
- 2004/108/EC "Electromagnetic Compatibility (EMC)"
- 2006/95/EC "Low Voltage Directive (LVD)"
- IEC/EN 61496-1 Ed. 2.1 and IEC/TS 61496-2 Ed. 2 "Safety of machinery - Electro-sensitive protective equipment- General requirements and tests"
- EN ISO 13849-1 "Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design"
- IEC/EN 62061 "Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- IEC 61508 "Functional safety of electrical/electronic/programmable electronic safety-related systems"
- IEC/TS 62046 Ed. 2 "Safety of machinery – Application of protective equipment to detect the presence of persons"
- UL (C+US) mark for USA and Canada.



\* Safe Start/Restart command according to IEC 61496-1



## MAIN FEATURES

In addition to specifications of model AU SX, this unit is equipped with integrated Muting functions:

- 2-sensor Muting logics
- Muting Timeout selectable, 30 sec, 90 min or infinite
- Integrated Override with selectable 2-mode operation
- Muting Enable input.

Only the combined use of ILION or ULISSE photocells with AU SX or AU SXM control units provides the specified safety level.

Self test every 5 seconds.



## TECHNICAL FEATURES

Model	AU SXM
<b>Safety level</b>	Type 2 according to IEC/TS 61496-2 SIL 2 – SILCL 2 according to IEC 61508 - IEC 62061 PL d – Cat. 2 according to ISO 13849-1
<b>Number of photocells</b>	1 – 4
<b>Inputs for Muting sensors</b>	2 - 24 VDC – PNP or relay – dark-on
<b>Muting Enable input</b>	24 VDC – PNP or relay
<b>Safety relay outputs</b>	2 NO - 2A 250 VAC
<b>Safety system status indicator output</b>	PNP – 100 mA at 24 VDC
<b>Muting lamp output</b>	24 VDC; 0,5 - 5 W
<b>Muting timeout</b>	30 sec. or infinite, selectable
<b>Override</b>	2 operating modes selectable : - manual action with hold to run - automatic with pulse command
<b>Override timeout (min)</b>	15
<b>Response time (ms)</b>	≤ 30
<b>Start/Restart*</b>	manual or automatic Start/Restart selectable on terminal block
<b>External Device Monitoring</b>	external relay control feedback input, selectable
<b>Signalling</b>	LED indications of input/output status, Muting sensor inputs, diagnosis
<b>Power supply (VDC)</b>	24 ± 20%
<b>Electrical connections</b>	on terminal blocks
<b>Operating temperature (°C)</b>	0 to 55
<b>Protection rating</b>	IP 20 for housing - IP 2X for terminal blocks
<b>Fastening</b>	rail fastening according to EN 50022-35 standard
<b>Dimensions - h x w x d (mm)</b>	99 x 35 x 114

## ORDERING INFORMATION (for ordering codes see page 226)

### Each AU SXM module includes:

- Multi-language instruction manual complete with CE declaration of conformity

Safety level:

**Type 2**

**SIL 2 – SILCL 2  
PL d – Cat. 2**

\* Safe Start/Restart command according to IEC 61496-1

## ■ AD SRO – AD SROA

### MAIN FEATURES

Interface relay modules for safety light curtains with feedback input for EDM, such as EOS4 X, Admiral AX, EOS2 X, Vision VX/VXL/MXL and Janus.

With guided-contact safety relays, 2 NO + 1 NC (AD SRO) or 2 NO contacts (AD SROA).

Additional NC contact line for the monitoring by light curtain (EDM).



### TECHNICAL FEATURES

Model	AD SRO	AD SROA
Safety relay outputs	2 NO + 1 NC- 2 A 250 VAC *	2 NO - 2 A 250 VAC
Two-channel inputs for safety light curtains	1	
Response time (ms)	≤ 20	
Power supply (VDC)	24 ± 20%	
Electrical connections	on terminal block	
Operating temperature (°C)	0 to 55	
Protection rating	IP 20 for housing - IP 2X for terminal block	
Fastening	rail fastening according to EN 50022-35 standard	
Dimensions - h x w x d (mm)	101 x 35 x 120	
* In AD SRO safety relay each NO safety output line is interrupted twice by the two relays		

### ORDERING INFORMATION (for ordering codes see page 226)

#### Each AD SRO / AD SROA Safety interface includes:

- Multi-language instruction manual complete with CE declaration of conformity



### WARNING!

AD SRO and AD SROA modules can only be connected to safety sensors equipped with feedback input for monitoring external relays (EDM): EOS4 X, EOS2 X, Janus, Admiral AX (excluding AX BK models with Blanking), Pharo and Vision VX, VXL and MXL ranges.

Please contact ReeR for any other type of application.