SAFETY INTERFACES AND RELAYS

AD SR1

TYPE 4 INTERFACE FOR LIGHT CURTAINS

MAIN FEATURES

Interface module between the safety light curtains EOS4 A, EOS2 A, Admiral AD, Admiral AX BK, Vision V with self-testing solid state safety outputs, 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
Ordering code	**1330900**
Safety level	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
Two-channel inputs for safety light curtains	1
Safety relay outputs	2 NO - 2 A 250 VAC
Status output	PNP – 100 mA at 24 VDC
Response time (ms)	≤ 20
Start/Restart command according to IEC 61496-1	manual or automatic Start/Restart selectable on terminal block
External Device Monitoring	external relay control feedback input, selectable
Signalling	LED indication of input/output status and diagnosis
Power supply (VDC)	24 ± 20%
Electrical connections	on terminal blocks
Operating temperature (°C)	0 ... 55
Protection rating	IP 20 for housing - IP 2X for terminal blocks
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	99 x 22,5 x 114

ORDERING INFORMATION

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.

AD SRM

TYPE 4 INTERFACE WITH MUTING FOR LIGHT CURTAINS

MAIN FEATURES

Interface module between the safety light curtains EOS4, EOS2, Admiral, Vision (any resolution and haights), 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 Time-out selectable.
Integrated Override with 2 operating modes selectable.
Muting Enable input.

TECHNICAL FEATURES

Model	AD SRM
Ordering code	1330904
Safety level	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
Two-channel inputs for safety light curtains	1
Inputs for Muting sensors	2 inputs 0 or 24 VDC – PNP or relay – dark-on
Muting Enable input	0 or 24 VDC – PNP or relay
Safety relay outputs	2 NO - 2A 250 VAC
Status output	PNP – 100 mA at 24 VDC
Muting lamp output	24 VDC; 0,5 ... 5 W
Response time (ms)	≤ 20
Start/Restart command according to IEC 61496-1	manual or automatic Start/Restart selectable on terminal block
External Device Monitoring	external relay control feedback input, selectable
Signalling	LED indications of input/output status, Muting sensor inputs, diagnosis
Muting time-out	30 sec. or infinite, selectable
Override	2 operating modes selectable: - manual action with hold to run - automatic with pulse command
Override time-out min	15.
Power supply (VDC)	24 ± 20%
Electrical connections	On terminal block
Operating temperature (°C)	0 ... 55
Protection rating	IP 20 for housing - IP 2X for terminal block
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	99 x 35 x 114

Safety Level:

TYPE 4

SIL 3 – SILCL 3
PL e – Cat. 4

ORDERING INFORMATION

Each AD SRM safety interface includes multi-language instruction manual complete with CE declaration of conformity

AD SRT

PL e SAFETY INTERFACE FOR TWO-HAND CONTROL

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
Ordering code	**1330915**
Safety level	PL e, Cat. 4 according to ISO 13849-1
input for two-hand control unit	input with 3 or 4 contacts
Safety relay outputs	2 NO + 1 NC – 6 A 240 VAC / 24 VDC Each NO safety output line is interrupted twice by the two relays
Response time (ms)	≤ 30
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 ... 55
Protection rating	IP 40 for housing - IP 20 for terminal block
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	99 x 22,5 x 114

ORDERING INFORMATION

Each AD SRT safety relay includes multi-language instruction manual complete with CE declaration of conformity

Safety level:

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

PL e SAFETY INTERFACES FOR EMERGENCY STOP BUTTONS AND SAFETY SWITCHES

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
Ordering code	1330913	1330914
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 / 24 VDC Each NO safety output line is interrupted twice by the two relays	
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 ... 55	
Protection rating	IP 40 for housing - IP 20 for terminal block	
Fastening	DIN rail fastening according to EN 50022-35 standard	
Dimensions h x w x d (mm)	99 x 22,5 x 114	

Safety level:

PL e

PL e – Cat. 4

ORDERING INFORMATION

Each AD SRE4 and AD SRE4C safety relay includes multi-language instruction manual complete with CE declaration of conformity

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

PL d SAFETY INTERFACES FOR EMERGENCY STOP BUTTONS AND SAFETY SWITCHES

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
Ordering code	**1330911**	**1330912**
Safety level	up to PL d, Cat. 3 according to EN ISO 13849-1	
Safety relay outputs	2 NO – 6 A 240 VAC / 24 VDC Each NO safety output line is interrupted twice by the two relays	
Response time (ms)	≤ 50	
Start/Restart command according to IEC 61496-1	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 ... 55	
Protection rating	IP 40 for housing - IP 20 for terminal block	
Fastening	DIN rail fastening according to EN 50022-35 standard	
Dimensions h x w x d (mm)	99 x 22,5 x 114	

ORDERING INFORMATION

Each AD SRE3 and AD SRE3C safety relay includes multi-language instruction manual complete with CE declaration of conformity

Safety level:

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.

MG d1

PL d FOR MAGNUS MAGNETIC SWITCHES CONTROL UNIT

MAIN FEATURES

MG d1 is a safety control unit for monitoring up to 8 Magnus safety switches in series
With 1 safety switch connected reach the PLd safety level
With up to 4 safety switch connected reach the PLc safety level

► see page 159

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

TECHNICAL FEATURES

Model	MG d1
Ordering code	1291050
Safety level	up to PL d – SILCL 2
Safety relay outputs	2 NO – 3 A – 250 VAC Each NO safety output line is interrupted twice by the two relays
Response time (ms)	< 20
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 ... 55
Protection rating	IP 40 for housing - IP 2X for terminal block
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	75 x 25 x 94

Safety level:

PL d

SILCL 2 - Cat. 3

ORDERING INFORMATION

Each AD SRT module includes multi-language instruction manual complete with CE declaration of conformity

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

TYPE 2 CONTROL UNIT FOR ILION AND ULISSE PHOTOCELLS

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 signalling.
Start/Restart interlock.
EDM Feedback input for external contactors monitoring.
Self test every 5 seconds.

TECHNICAL FEATURES

Model	AU SX
Ordering code	**1201710**
Safety level	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
Number of photocells	1 ... 4
Safety relay outputs	2 NO - 2 A 250 VAC
Status output	PNP - 100 mA at 24 VDC
Response time (ms)	≤ 30
Start/Restart command according to IEC 61496-1	manual or automatic Start/Restart selectable on terminal block
External Device Monitoring	external relay control feedback input, selectable
Signalling	LED indication of input/output status and diagnosis
Power supply (VDC)	24 ± 20%
Electrical connections	on terminal block
Operating temperature (°C)	0 ... 55
Protection rating	IP 20 for housing - IP 2X for terminal block
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	99 x 22,5 x 114

ORDERING INFORMATION

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
- 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.

AU SXM

TYPE 2 CONTROL UNIT WITH MUTING FOR ILION AND ULISSE PHOTOCELLS

MAIN FEATURES

AU SXM control unit, with integrated Muting functions, for safety photocells ILION and ULISSE, which can be combined to form a Type 2 safety system. Up to 4 photocells may be connected.

2-sensor Muting logics.
Muting Time-out selectable.
Integrated Override with selectable 2-mode operation.
Muting Enable input.

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

Self test every 5 seconds.

TECHNICAL FEATURES

Model	AU SXM
Ordering code	**1201711**
Safety level	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
Number of photocells	1 ... 4
Inputs for Muting sensors	2 inputs 0 or 24 VDC – PNP or relay – dark-on
Muting Enable input	0 or 24 VDC – PNP or relay
Safety relay outputs	2 NO - 2A 250 VAC
Status output	PNP - 100 mA at 24 VDC
Muting lamp output	24 VDC; 0,5 - 5 W
Muting time-out	30 sec. or infinite, selectable
Override	2 operating modes selectable: manual action with hold to run or automatic with pulse command
Override time-out (min)	15
Response time (ms)	≤ 30
Start/Restart command according to IEC 61496-1	manual or automatic Start/Restart selectable on terminal block
External Device Monitoring	external relay control feedback input, selectable
Signalling	LED indications of input/output status, Muting sensor inputs, diagnosis
Power supply (VDC)	24 ± 20%
Electrical connections	on terminal blocks
Operating temperature (°C)	0 ... 55
Protection rating	IP 20 for housing - IP 2X for terminal blocks
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	99 x 35 x 114

ORDERING INFORMATION

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

AD SRO – AD SROA

SAFETY RELAY MODULES FOR DEVICES WITH INTEGRATED FEEDBACK INPUT FOR EDM

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
Ordering code	**1330902**	**1330903**
Safety relay outputs	2 NO + 1 NC- 2 A 250 VAC Each NO safety output line is interrupted twice by the two relays	2 NO - 2 A 250 VAC
Response time (ms)	≤ 20	
Power supply (VDC)	24 ± 20%	
Electrical connections	on terminal block	
Operating temperature (°C)	0 ... 55	
Protection rating	IP 20 for housing - IP 2X for terminal block	
Fastening	DIN rail fastening according to EN 50022-35 standard	
Dimensions h x w x d (mm)	101 x 35 x 120	

ORDERING INFORMATION

Each AD SRO and AD SROA module 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.