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safety interfaces and relays

product catalogue



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SAFETY LEVEL

TYPE 4SILCL 3
PL e - Cat. 4

Interface module for safety light curtains EOS4 A, EOS2 A, Admiral AD, Admiral AX BK, Vision V. Includes self-testing solid state safety outputs.

- Guided-contact safety relays
- Start/Restart interlock
- EDM Feedback input for extra external contactors monitoring

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- IEC 61496-1: 2013 (Type 4) "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61496-2: 2013 (Type 4) "Safety of machinery - Electro-sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)"
- IEC 62061 (ed. 1); am1 (SILCL3) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- ISO 13849-1: 2008/AC: 2009 (Cat. 4, PL e) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178:1997 "Electronic equipment for use in power installations"
- EN 55022:2010 "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"
- EN 61000-4-3 : 2006 + A1:2007 + A4:2010 "Electromagnetic compatibility (EMC) - Part 4-1: Testing and measurement techniques - Overview of immunity tests"
- UL (C+US) mark for USA and Canada
- The S-Mark carries the same weight in Korea as the CE-Mark does in Europe

TYPE 4 INTERFACE FOR SAFETY LIGHT CURTAINS

TECHNICAL FEATURES

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
Status display	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	IP20 for housing IP2X 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

PART NUMBERS

AD SR1 safety interface includes multi-language instruction manual and CE declaration of conformity.

Ordering code: 1330900





Interface module for safety light curtains EOS4, EOS2, Admiral, Vision (any resolution and heights), safety laser scanner Pharo.

- 2-sensor logic integrated Muting
- Guided contact safety relays
- 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

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- IEC 61496-1: 2013 (Type 4) "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61496-2: 2013 (Type 4) "Safety of machinery - Electro-sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)"
- IEC 62061 (ed. 1); am1 (SILCL3) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- ISO 13849-1: 2008/AC: 2009 (Cat. 4, PL e) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178:1997 "Electronic equipment for use in power installations"
- EN 55022:2010 "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"
- EN 61000-4-3 : 2006 + A1:2007 + A4:2010 "Electromagnetic compatibility (EMC) - Part 4-1: Testing and measurement techniques - Overview of immunity tests"
- UL (C+US) mark for USA and Canada
- The S-Mark carries the same weight in Korea as the CE-Mark does in Europe

TYPE 4 SAFETY INTERFACE WITH INTEGRATED MUTING

TECHNICAL FEATURES

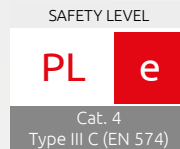
Inputs for Muting sensors	2 inputs 0 or 24 VDC - PNP or relay - dark-on
Muting Enable input	0 or 24 VDC – PNP or relay
Safety relay outputs	2 NO - 2A 250 VAC
Status output	PNP – 100 mA at 24 VDC
Muting lamp output	24 VDC; 0,5 ... 5 W
Response time (ms)	≤ 20
Start/Restart command according to IEC 61496-1	Manual or automatic Start/Restart selectable on terminal block
Status display	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	IP20 for housing IP2X 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

PART NUMBERS

AD SRM safety interface includes multi-language instruction manual and CE declaration of conformity.

Ordering code: **1330904**





Safety relay for two-hand control.

Input with 3 or 4 contacts for two-hand control unit.

Certified as Type III C according to the EN 574 standard, monitors the simultaneity between the two inputs (< 0.5 sec).

- Guided-contact safety relays
- EDM Feedback input for external contactors monitoring
- Can be used up to Cat. 4, PL e

APPROVALS

- 2006/42/CE: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN ISO 13849-1: 2008/AC: 2009 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN60947-5-1: 2004 + A1:2009 "Low Voltage Switchgear and Controlgear - Part 5 - 1: Control Circuit Devices and Switching Elements - Electromechanical Control Circuit Devices"
- EN60204-1: 2006 "Safety of machinery - Electrical equipment of machines – Part 1 - General requirements"
- Type III C according to the EN 574: 1996 + A1: 2008 standard and monitors the simultaneity between the two inputs (< 0.5 sec)
- UL (C+US) mark for USA and Canada



PL E SAFETY INTERFACE FOR TWO-HAND CONTROL

TECHNICAL FEATURES

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
Status display	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	IP40 for housing IP20 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

PART NUMBERS

AD SRT safety relay includes multi-language instruction manual and CE declaration of conformity.

Ordering code: **1330915**



Safety relay for emergency stop buttons and safety switches monitoring.

- Guided-contact safety relays
- EDM Feedback input for external contactors monitoring

Start/Restart can be:

- Automatic/Manual (AD SRE4)
- Manual Monitored (AD SRE4C)

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

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN ISO 13849-1: 2008 /AC: 2009 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN60947-5-1: 2004 + A1:2009 "Low Voltage Switchgear and Controlgear - Part 5 - 1: Control Circuit Devices and Switching Elements - Electromechanical Control Circuit Devices"
- EN 60204-1:2006 "Safety of machinery - Electrical equipment of machines - Part 1: General requirements"
- UL (C+US) mark for USA and Canada



PL E SAFETY INTERFACES FOR EMERGENCY STOP BUTTONS AND SAFETY SWITCHES

TECHNICAL FEATURES

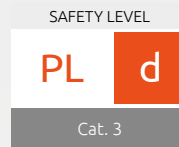
Safety relay outputs	3 NO + 1 NC - 5 A 240 VAC / 24 VDC Each NO safety output line is interrupted twice by the two relays
Response time (ms)	≤ 50
Start/Restart	AD SRE4 - Automatic/Manual AD SRE4C - Manual monitored
Status display	LED indicators for status and supply diagnostic: power, channel 1 and channel 2
Power supply (VDC)	24 (±10%)
Electrical connection	On terminal block
Operating temperature (°C)	-25 ... +55
Protection rating	IP40 for housing IP20 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

PART NUMBERS

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

Ordering code AD SRE 4: **1330913**

Ordering code AD SRE 4C: **1330914**



Safety relay for emergency stop buttons and safety switches monitoring.

- Guided-contact safety relays
- EDM Feedback input for external contactors monitoring

The Start/Restart can be:

- Automatic/Manual (AD SRE3)
- Manual Monitored (AD SRE3C)

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

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN ISO 13849-1: 2008 /AC: 2009 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN60947-5-1: 2004 + A1:2009 "Low Voltage Switchgear and Controlgear - Part 5 - 1: Control Circuit Devices and Switching Elements - Electromechanical Control Circuit Devices"
- EN 60204-1:2006 "Safety of machinery - Electrical equipment of machines - Part 1: General requirements"
- UL (C+US) mark for USA and Canada

PL D SAFETY INTERFACES FOR EMERGENCY STOP BUTTONS AND SAFETY SWITCHES

TECHNICAL FEATURES

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	AD SRE3 - Automatic/Manual AD SRE3C - Manual monitored
Status display	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	IP40 for housing IP20 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

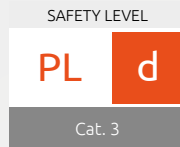
PART NUMBERS

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

Ordering code AD SRE 3: **1330911**

Ordering code AD SRE 3C: **1330912**





MG d1 is a safety control unit for monitoring up to 8 Magnus safety magnetic sensor switches in series.

With 1 safety switch connected, a PL d safety level is reached.

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

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN 61508-1:1998 "Functional safety of electrical/electronic programmable electronic safety related systems - General requirements"
- EN 61508-2:2000 "Functional safety of electrical/electronic/programmable electronic safety related systems - Requirements for electrical/electronic/programmable electronic safety-related systems"
- EN 61508-3:1998 "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements"
- ISO 13849-1:2008 "Safety of machinery:- Safety-related parts of control systems - Part 1: General principles for design"
- IEC 62061: "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"

PL D CONTROL UNIT FOR MAGNUS MAGNETIC SWITCHES

TECHNICAL FEATURES

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
Status display	LED indicators for status and diagnostic
Power supply (VDC)	24 (±10%)
Electrical connection	On terminal block
Operating temperature (°C)	0 ... +55
Protection rating	IP40 for housing IP2X 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

PART NUMBERS

Ordering code: **1291050**

To be used in conjunction with ReeR Magnus magnetic sensors. See catalog "SAFETY CONTACTLESS SENSORS AND DEVICES".





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.

- Guided-contact safety relays
- Start/Restart interlock
- EDM Feedback input for external contactors monitoring
- Self test every 5 seconds

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN 61496-1:2013 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- IEC 62061 (ed.1) (SILCL1) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- EN ISO 13849-1: 2008 (Cat. 2, PL c) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178: 1997 "Electronic equipment for use in power installations"
- EN 55022: 2010 "Information Technology Equipment- Radio Disturbance Characteristics- Limits and Methods of Measurement"
- UL (C+US) mark for USA and Canada.

TYPE 2 CONTROL UNIT FOR ILION AND ULISSE PHOTOCELLS

TECHNICAL FEATURES

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
Status display	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	IP20 for housing IP2X 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

PART NUMBERS

AU SX module includes multi-language instruction manual and CE declaration of conformity.

Ordering code: **1201710**

To be used in conjunction with ReeR Ilion and Ulisse photocells. See catalog "SAFETY CONTACTLESS SENSORS AND DEVICES".





AU SXM control unit with integrated Muting functions. For safety photocells Ilion and Ulisse. 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

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN 61496-1:2013 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- IEC 62061 (ed.1) (SILCL1) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- EN ISO 13849-1: 2008 (Cat. 2, PL c) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178: 1997 "Electronic equipment for use in power installations"
- EN 55022: 2010 "Information Technology Equipment- Radio Disturbance Characteristics- Limits and Methods of Measurement"
- UL (C+US) mark for USA and Canada

TYPE 2 CONTROL UNIT WITH INTEGRATED MUTING FOR ILION AND ULISSE PHOTOCELLS

TECHNICAL FEATURES

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
Status display	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	IP20 for housing IP2X 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

PART NUMBERS

AU SXM module includes multi-language instruction manual and CE declaration of conformity.

Ordering code: **1201711**

To be used in conjunction with ReeR Ilion and Ulisse photocells. See catalog "SAFETY CONTACTLESS SENSORS AND DEVICES".





SAFETY LEVEL

SIL 3

SIL3 - SILCL3
PL e - Cat. 4

Safety speed monitoring interfaces. Safety level up to PL e - SIL 3.

- SV MR0 - Safety speed monitoring relay for Overspeed and Zero speed control
- SV MR0 U - Safety speed monitoring relay for Underspeed control

Both modules integrate:

- Selectable manual or Automatic restart
- EDM feedback input for external contactors monitoring
- Enable inputs used, for instance, when monitoring the same axis, in different working phases, with more modules configured with different thresholds
- Faults are signalled by LED "Fault" and a PNP system status output. PNP status output indicating overspeed or underspeed thresholds crossing
- 2 inputs for PNP proximities switches
- 3 front panel selectors allow configuration of the speed threshold

APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN ISO 13849-1:2008 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 61508-1:2010 (SIL3) "Functional safety of electrical/electronic programmable electronic safety related systems - General requirements"
- EN 61508-2:2010 (SIL3) "Functional safety of electrical/electronic/programmable electronic safety related systems - Requirements for electrical/electronic/programmable electronic safety-related systems"
- EN 61508-3:2010 (SIL3) "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements"
- EN 61508-4:2010 (SIL3) "Functional safety of electrical/electronic programmable electronic safety related systems - Definitions and abbreviations"
- EN 62061:2005 (SILCL3) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- UL (C+US) mark for USA and Canada

PL E - SIL 3 SAFETY SPEED MONITORING INTERFACE

TECHNICAL DATA

Overspeed Underspeed status output	PNP - 100 mA 24 VDC
Power supply	24 VDC ± 20%
Safety relay outputs	2 NO - 6A 250 VAC
Electrical connections	Removable terminal blocks, screw contacts
Start/Restart	Automatic/Manual
Maximum input Frequency (Hz)	2000
Selectable Frequency Threshold (Hz)	0,5 ... 990
Selectable Frequency Threshold (rpm)	10 ... 49500 equivalent to 0,17 ... 825 Hz
Hysteresis	5%
External Device Monitoring	Yes
Status display	LED indicators for status and diagnostic
Protection rating	IP20 for housing IP2X for terminal block
Operating temperature	-40 ... +55 °C
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	108 x 22,5 x 114,5

PART NUMBERS

Ordering code SV MR0: **1100078**

Ordering code SV MR0U: **1100088**





SAFETY RELAY MODULES FOR DEVICES WITH INTEGRATED FEEDBACK INPUT FOR EDM

TECHNICAL FEATURES

Safety relay outputs	AD SR0 2 NO + 1 NC - 2 A 250 VAC Each NO safety output line is interrupted twice by the two relays
	AD SR0A 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	IP20 for housing IP2X 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

PART NUMBERS

AD SR0 and AD SR0A module includes multi-language instruction manual and CE declaration of conformity

Ordering code AD SR0: 1330902

Ordering code AD SR0 A: 1330903

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.

- Guided-contact safety relays
- Additional NC contact line for the monitoring by light curtain (EDM)

AD SR0 and AD SR0A 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.

Certified by
TÜV Rheinland
Product Safety GmbH

This product uses two guided contact safety relays manufactured by DOLD (type OA or OA 5643 5644) and certified by TUEV Rheinland.





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A steady growth throughout the years allowed ReeR to become a point of reference in the safety automation industry at a worldwide level.

The Safety Division is in fact today a world leader in the development and manufacturing of safety optoelectronic sensors and controllers.

ReeR is ISO 9001, ISO 14001 and ISO 45001 certified.



ReeR SpA
Via Carcano, 32
10153 Torino, Italy

T +39 011 248 2215
F +39 011 859 867

www.reersafety.com | info@reer.it



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