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AREX 400
Safety

MSP, December 2018

Safety

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Safety sub-15 socket

- Old circular Interlock was removed, in favor of dedicated SAFETY sub-15.
- VCC @ 24 VDC.

- PRO models: two relays K1, K2 and feedback circuitry (Category 3, double channel).
- BASIC models: one relay K1 and feedback circuitry (Category 1, single channel).
  - Consult User Manual for Safety Functions parameters according to EN 13849-1 and for timing diagrams.

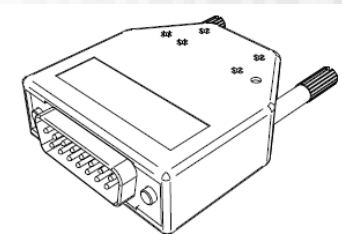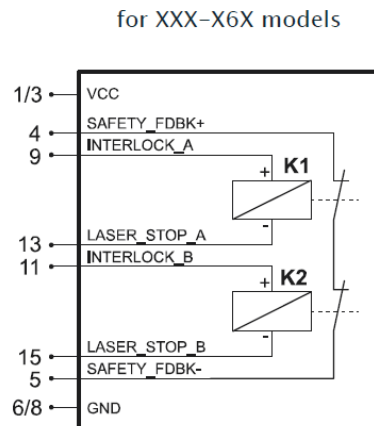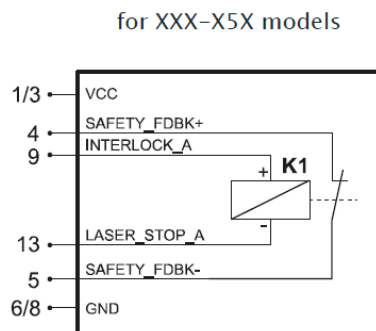- Muting device provided.

Safety Circuit Electric Diagram

for XXX–X5X models

Pin	Signal
1/3	VCC
4	SAFETY_FDBK+
9	INTERLOCK_A
	K1 +
13	LASER_STOP_A -
5	SAFETY_FDBK-
6/8	GND

for XXX–X6X models

Pin	Signal
1/3	VCC
4	SAFETY_FDBK+
9	INTERLOCK_A
	K1 +
13	LASER_STOP_A -
11	INTERLOCK_B
	K2 +
15	LASER_STOP_B -
5	SAFETY_FDBK-
6/8	GND

Figure 6: Safety Circuit Muting Device provided

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Muting device

- A muting device is provided within the box.

- 2 contacts closed for INTERLOCK
- 2 contacts closed for LASER_STOP.

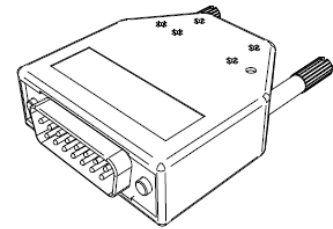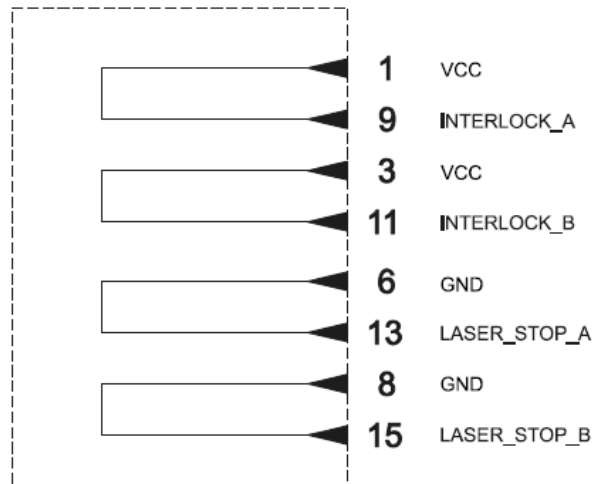Figure 6: Safety Circuit Muting Device provided

Internal electric diagram

Pin	Signal
1	VCC
9	INTERLOCK_A
3	VCC
11	INTERLOCK_B
6	GND
13	LASER_STOP_A
8	GND
15	LASER_STOP_B

Figure 7: Safety Circuit Muting Device electric diagram

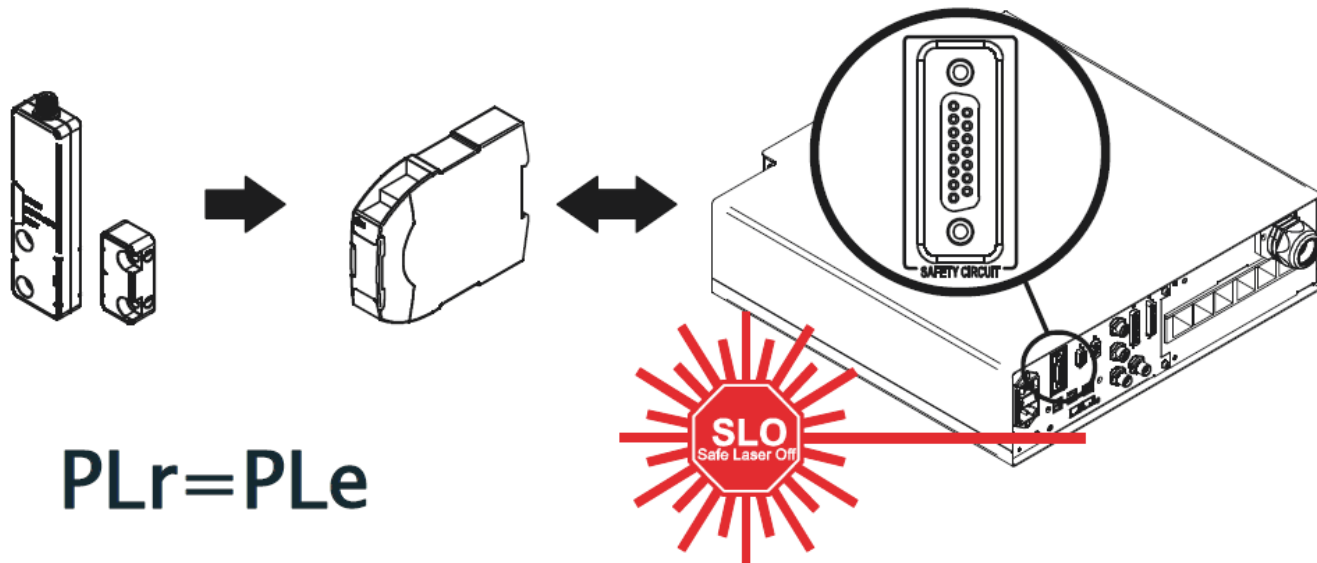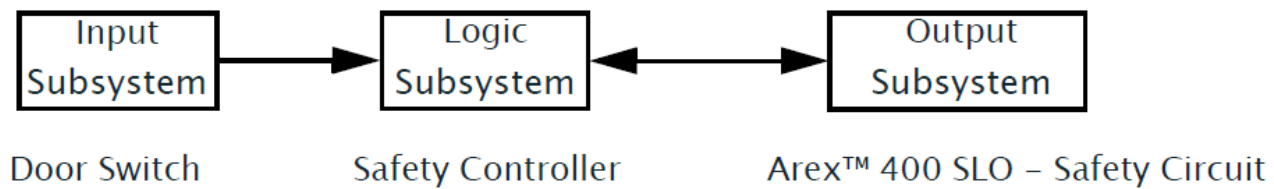DATALOGIC
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INTERLOCK

- INTERLOCKs are the emergency stops. Two channels for AREX PRO, one channel for AREX STD.

- If either INTERLOCK is removed, the laser source is powered off (within 420 ms). The Embedded PC stays on.

- The laser goes into «Interlock Error» state (red blinking + popup).

- INTERLOCK is an emergency that <u>needs manual reset</u>:
  - Switch INTERLOCKs to 1 (reaction time 520 ms).
  - Switch KEY=0 and ENABLE=0 (from front console or DB25 CBOX).
  - KEY=1
  - Then ENABLE=1.

- INTERLOCK is normally used for emergency stops or maintenance operations.

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LASER STOP

- LASER STOPs are the «operational» stops. Two channels for AREX PRO, one channel for AREX STD.

- If either LASER_STOP is removed, the laser source is powered off (within 420 ms). The Embedded PC stays on.

- The laser goes from «Laser Ready» status into «Stand By Shutter Closed» status (orange steady).

- LASER_STOP does not need manual reset. LASER_STOPs can be reactivated to go prompty into LASER_READY status (within 520 ms).

- LASER_STOP is normally used as «process shutter», ex. manual piece loading and unloading through door. The machine changes status READY->STBY->READY as happens for legacy ENABLE, but LASER_STOP is a safety contact!

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LASER STOP

- Example

| Input Subsystem | → | Logic Subsystem | ←→ | Output Subsystem |

Door Switch   Safety Controller   Arex™ 400 SLO – Safety Circuit

SAFETY CIRCUIT

SLO
Safe Laser Off

$PLr=PLe$

Restart: automatic

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