

ADMIRAL AX

WITH BUILT-IN CONTROL FUNCTIONS

MAIN FEATURES

- Two self-testing solid state PNP safety outputs.
- Built-in start/restart interlock, selectable.
- Feedback input for external device monitoring (EDM).
- All connections and configurations by means of M12 connectors.
- Use of standard 5-pole and 8-pole cables.
- Suppression of optical interference by means of range selection.
- Master and Slave models for serial connection of 2 light curtains.
- Maximum length of the connections between Master and Slave: 50 metres, with standard cable.

TECHNICAL FEATURES

Safety	Type 4
Protected heights mm	160 ÷ 1810
Resolutions mm	14 - 20 - 30 - 40 - 50 - 90
Number of beams for body detection in access control	2 - 3 - 4
Max range m	selectable 2 - 5 for 14 mm resolution selectable 6 - 18 for 20 - 30 - 40 - 50 - 90 mm resolutions and 2 - 3 - 4 beams
Response time ms	6 ÷ 27
Safety outputs	2 PNP auto-controlled - 500 mA at 24 Vdc with short-circuit, overload, polarity reversal protection
Signalling	seven-segment display and LEDs for light curtain's status and diagnostic
Restart	selectable automatic or manual
External Device Monitoring	external device monitoring feedback input with enabling, selectable
Power supply Vdc	24 ± 20%
Electrical connections per AX e AX Master	M12 - 5 poles for emitter poles for receiver
Electrical connections tra Master e Slave	M12 - 5 poles for emitter and receiver
Max. cable length m	100 (50 between master and slave)
Operating temperature °C	0 ÷ 55
Protection rating	IP 65
Fastening modes	3: back slot, side slot or to the top and lower end
Cross section mm	35 x 45










Safety level: **Type 4.**

Complying with:

- 98/37/EEC "Machine Directive"
- 89/336/EEC "Electromagnetic Compatibility Directive"
- 73/23/EEC "Low Voltage Directive"
- EN 61496-1 and IEC 61496-1-2 "Electrosensitive protection devices"
- UL (C + US) mark for USA and Canada
- ANSI / UL 1998 "Safety Software in Programmable Components"

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	AX 151	AX 301	AX 451	AX 601	AX 751	AX 901	AX 1051	AX 1201	AX 1351	AX 1501	AX 1651	AX 1801
Resolution 14 mm												
 Protected heights mm	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810
Number of beams	15	30	45	60	75	90	105	120	135	150	165	180
Overall height mm	261	411	561	711	861	1011	1161	1311	1461	1611	1761	1911
Resolution 20 mm	AX 152	AX 302	AX 452	AX 602	AX 752	AX 902	AX 1052	AX 1202	AX 1352	AX 1502	AX 1652	AX 1802
 Protected heights mm	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810
Number of beams	15	30	45	60	75	90	105	120	135	150	165	180
Overall height mm	261	411	561	711	861	1011	1161	1311	1461	1611	1761	1911
Resolution 30 mm	AX 153	AX 303	AX 453	AX 603	AX 753	AX 903	AX 1053	AX 1203	AX 1353	AX 1503	AX 1653	AX 1803
 Protected heights mm	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810
Number of beams	8	16	24	32	40	48	56	64	72	80	88	96
Overall height mm	261	411	561	711	861	1011	1161	1311	1461	1611	1761	1911
Resolution 40 mm	AX 304	AX 454	AX 604	AX 754	AX 904	AX 1054	AX 1204	AX 1354	AX 1504	AX 1654	AX 1804	
 Protected heights mm	310	460	610	760	910	1060	1210	1360	1510	1660	1810	
Number of beams	10	15	20	25	30	35	40	45	50	55	60	
Overall height mm	411	561	711	861	1011	1161	1311	1461	1611	1761	1911	
Resolution 50 mm	AX 305	AX 455	AX 605	AX 755	AX 905	AX 1055	AX 1205	AX 1355	AX 1505	AX 1655	AX 1805	
 Protected heights mm	310	460	610	760	910	1060	1210	1360	1510	1660	1810	
Number of beams	8	12	16	20	24	28	32	36	40	44	48	
Overall height mm	411	561	711	861	1011	1161	1311	1461	1611	1761	1911	
Resolution 90 mm	AX 309	AX 459	AX 609	AX 759	AX 909	AX 1059	AX 1209	AX 1359	AX 1509	AX 1659	AX 1809	
 Protected heights mm	310	460	610	760	910	1060	1210	1360	1510	1660	1810	
Number of beams	5	7	9	11	13	15	17	19	21	23	25	
Overall height mm	411	561	711	861	1011	1161	1311	1461	1611	1761	1911	
2-3-4 beams									AX 2B	AX 3B	AX 4B	
 Number of beams									2	3	4	
Distance between beams mm									500	400	300	
Protected heights mm									510	810	910	
Overall height mm									711	1011	1111	

- For accessories list see page 46
- For ordering codes see page 129

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MASTER / SLAVE MODELS

	MASTER		AX	AX	AX	AX	AX	AX	AX	
	Resolution 14 mm		301M	451M	601M	751M	901M	1051M	1201M	1501M
	SLAVE	AX	AX	AX	AX	AX	AX	AX	AX	AX
	Resolution 14 mm	151S	301S	451S	601S	751S	901S	1051S	1201S	1501S
	Protected heights mm	160	310	460	610	760	910	1060	1210	1510
	Number of beams	15	30	45	60	75	90	105	120	150
	Overall height mm *	261	411	561	711	861	1011	1161	1311	1611
	MASTER		AX	AX	AX	AX	AX	AX	AX	
	Resolution 20 mm		302M	452M	602M	752M	902M	1052M	1202M	1502M
	SLAVE	AX	AX	AX	AX	AX	AX	AX	AX	AX
	Resolution 20 mm	152S	302S	452S	602S	752S	902S	1052S	1202S	1502S
	Protected heights mm	160	310	460	610	760	910	1060	1210	1510
	Number of beams	15	30	45	60	75	90	105	120	150
	Overall height mm *	261	411	561	711	861	1011	1161	1311	1611
	MASTER		AX	AX	AX	AX	AX	AX	AX	
	Resolution 30 mm		303M	453M	603M	753M	903M	1053M	1203M	1503M
	SLAVE	AX	AX	AX	AX	AX	AX	AX	AX	AX
	Resolution 30 mm	153S	303S	453S	603S	753S	903S	1053S	1203S	1503S
	Protected heights mm	160	310	460	610	760	910	1060	1210	1510
	Number of beams	8	16	24	32	40	48	56	64	80
	Overall height mm *	261	411	561	711	861	1011	1161	1311	1611
	MASTER		AX	AX	AX	AX	AX	AX	AX	
	Resolution 50 mm		305M	455M	605M	755M	905M	1055M	1205M	1505M
	SLAVE	AX	AX	AX	AX	AX	AX	AX	AX	AX
	Resolution 50 mm	305S	455S	605S	755S	905S	1055S	1205S	1505S	
	Protected heights mm	310	460	610	760	910	1060	1210	1510	
	Number of beams	8	12	16	20	24	28	32	40	
	Overall height mm *	411	561	711	861	1011	1161	1311	1611	
	MASTER							AX	AX	
	2-3 beams							2BM	3BM	
	SLAVE							AX	AX	
	2-3 beams							2BS	3BS	
	Number of beams							2	3	
	Distance between beams mm (mm)							500	400	
	Protected heights mm							510	810	
	Overall height mm *							711	1011	

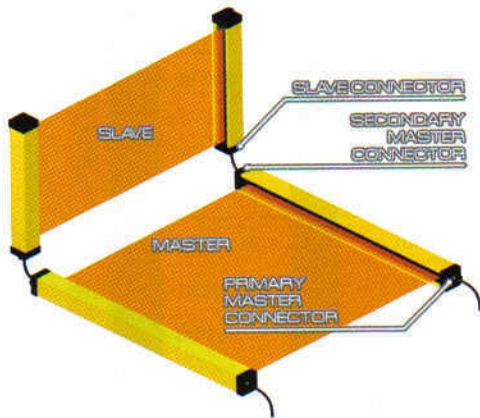
* In the Master models the total light curtain height is increased by 10 mm due to the presence of the secondary connector.

- For accessories list see page 45
- For ordering codes see page 129

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MASTER / SLAVE MODELS

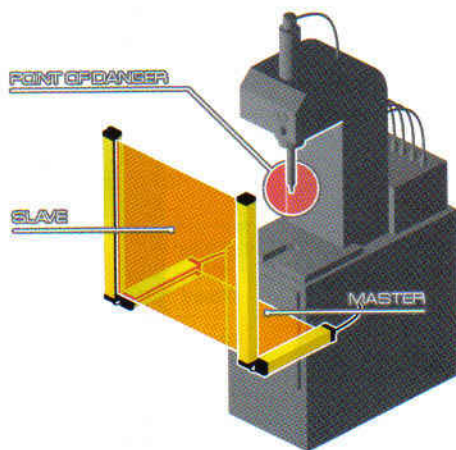


Example of serial connection between a Master light curtain and a Slave light curtain

It is possible to combine any Master model with any Slave model.

All the electrical connections are made using 5-pole M12 connectors, except for the Master receiver, which requires an 8-pole M12 connector.

Accessory cables pre-wired with 2 connectors are available for the connection between Master and Slave.

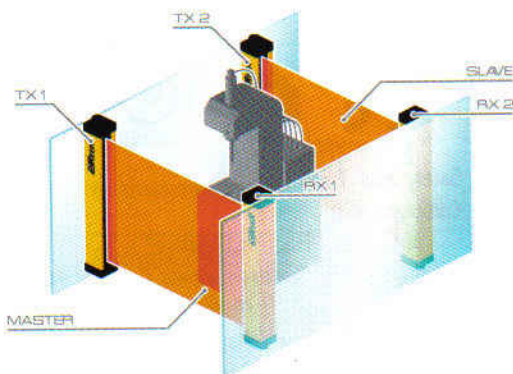


Example of serial connection between a Master light curtain and a Slave light curtain

The Master light curtain is positioned horizontally for detecting the presence of the person while the vertical Slave light curtain detects fingers or hands.

However, it is possible to invert the combination and have the Master light curtain positioned vertically for protection of fingers or hands and the Slave light curtain horizontally for detecting the presence of the person.

The application illustrated is one of the most common: the horizontal light curtain is used for eliminating the possibility for the operator not to be detected between the vertical light curtain and the dangerous machine at the start or restart of the system.



Example of serial connection between a Master light curtain and a Slave light curtain for protection of 2 sides of the machine

In the Admiral AX light curtains the connection cable between Master and Slave is a standard cable that can be up to 50 metres long.

This characteristic allows the application of 2 light curtains in series positioned on the front and on the back of the dangerous machine, with a single connection towards the power and control circuits of the machine.