

# Contrinex Safety Light Curtains Selection Guide



Specification	YBB-14x4 Series	YBB-30x4 Series	YCA-50x4 Series
<b>Description</b>	Finger Protection, 14mm resolution	Hand Protection, 30mm resolution	Access Control, 300, 400mm beam gap
<b>Protective Height</b>	142 to 1045mm (5.59 to 41.14 in)	279 to 1827mm (10.98 to 71.65 in)	832 to 1232mm (32.76 to 48.50 in)
<b>Safety Level</b>	Cat.4, PL <sub>e</sub> (EN/ISO 13849-1) Type 4 (IEC 61496-1/2)	Cat.4, PL <sub>e</sub> (EN/ISO 13849-1) Type 4 (IEC 61496-1/2)	Cat.4, PL <sub>e</sub> (EN/ISO 13849-1) Type 4 (IEC 61496-1/2)
<b>Operating Range</b>	0.25 to 3.5m (0.82 to 11.48 ft)	0.25 to 12m. (0.82 to 39.37 ft)	1.0 to 15m (3.3 to 39.37 ft) / 10 to 50m (32.8 to 164 ft)**
<b>Output State</b>	N.C.	N.C.	N.C.
<b>Logic Output</b>	Dual PNP outputs, short-circuit protected	Dual PNP outputs, short-circuit protected	Dual PNP outputs, short-circuit protected
<b>Connection Type</b>	M12 5-pole connector	M12 connector	M12 connector
<b>Supply Voltage</b>	24VDC ± 20%	24VDC ± 20%	24VDC ± 15%
<b>Rating</b>	IEC IP65, IP67 (EN60529)	IEC IP65, IP67 (EN60529)	IEC IP65, IP67 (EN60529)

**\*\*Configurable**



# Contrinex Safety Light Curtains – Finger-safe



## Safety light curtain with 14mm resolution

- Available as a set, or order sender and receiver to make a complete sensor.
- Protective height from 142mm to 1045mm
- Operating distance up to 3.5 m
- M12 quick-disconnect (order cable separately)
- Dual PNP outputs
- Mounting brackets included with all units
- Instruction manual and testing rod included with sender unit
- IP65, IP67 rated
- Type 4 and Category 4 PLe

**YBB-14 Series Safety Light Curtain Selection Table**

Part Number		Price	Protective Height Hs mm[in]	Housing Height Hb mm[in]	Total Height Ht mm[in]	Number of Beams	Current Consumption [mA]	Response Time [ms]	MTTF <sub>d</sub> (years)	DC <sub>avg</sub>	Product Weight per Unit
<b>YBB-14S4-0150-G012</b>	<b>Sender</b>	\$287.00	142 [5.59]	221 [8.70]	251 [9.81]	17	50	5.2	142	96%	470g 1.04 lbs
<b>YBB-14R4-0150-G012</b>	<b>Receiver</b>	\$322.00					90				
<b>YBB-14K4-0150-G012</b>	<b>Set</b>	\$460.00					See above				
<b>YBB-14S4-0250-G012</b>	<b>Sender</b>	\$354.00	271 [10.67]	350 [13.78]	380 [14.96]	33	50	8.4	114	96%	740g 1.63 lbs
<b>YBB-14R4-0250-G012</b>	<b>Receiver</b>	\$406.00					95				
<b>YBB-14K4-0250-G012</b>	<b>Set</b>	\$655.00					See above				
<b>YBB-14S4-0400-G012</b>	<b>Sender</b>	\$420.00	400 [15.75]	479 [18.86]	509 [20.04]	49	50	11.6	96	95%	1000g 2.20 lbs
<b>YBB-14R4-0400-G012</b>	<b>Receiver</b>	\$488.00					100				
<b>YBB-14K4-0400-G012</b>	<b>Set</b>	\$785.00					See above				
<b>YBB-14S4-0500-G012</b>	<b>Sender</b>	\$487.00	529 [20.83]	608 [23.94]	638 [25.12]	65	50	14.8	83	95%	1270g 2.80 lbs
<b>YBB-14R4-0500-G012</b>	<b>Receiver</b>	\$577.00					110				
<b>YBB-14K4-0500-G012</b>	<b>Set</b>	\$915.00					See above				
<b>YBB-14S4-0700-G012</b>	<b>Sender</b>	\$553.00	658 [25.91]	737 [29.02]	767 [30.20]	81	50	18	73	95%	1540g 3.40 lbs
<b>YBB-14R4-0700-G012</b>	<b>Receiver</b>	\$662.00					115				
<b>YBB-14K4-0700-G012</b>	<b>Set</b>	\$1,050.00					See above				
<b>YBB-14S4-0800-G012</b>	<b>Sender</b>	\$620.00	787 [30.98]	866 [34.09]	896 [35.28]	97	50	21.2	65	94%	1800g 3.97 lbs
<b>YBB-14R4-0800-G012</b>	<b>Receiver</b>	\$753.00					120				
<b>YBB-14K4-0800-G012</b>	<b>Set</b>	\$1,180.00					See above				

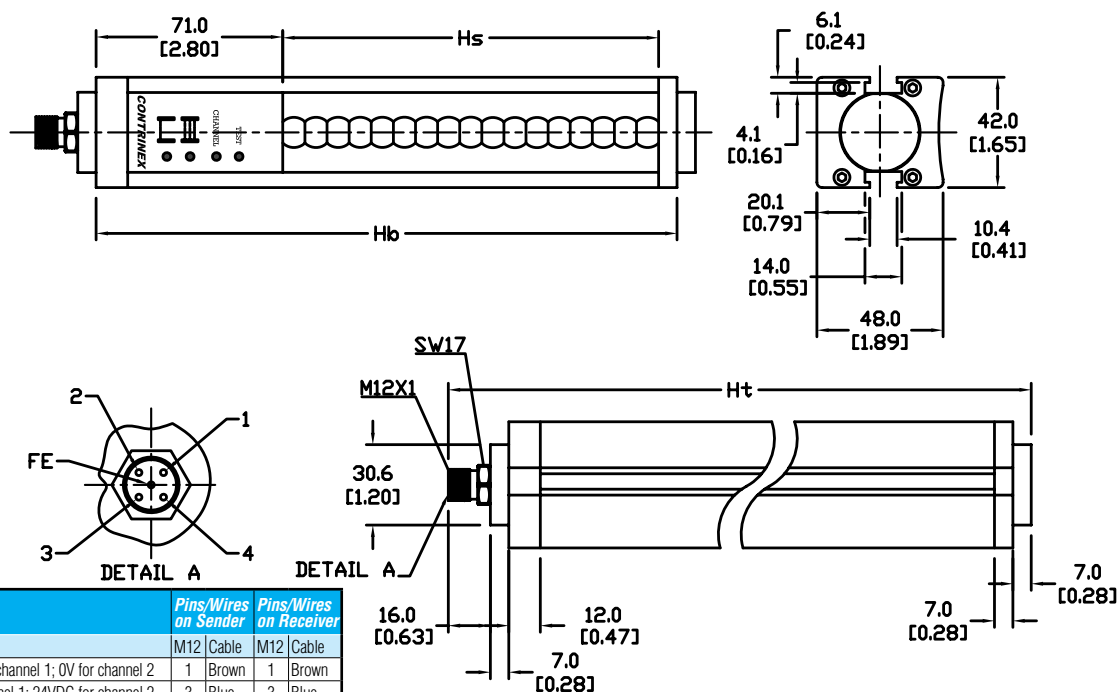
*Note: AutomationDirect does not recommend using these light curtains with any device other than our Safety Relay Light Curtain Controllers.*

# Contrinex Safety Light Curtains – Finger-safe

YBB-14 Series Safety Light Curtain Selection Table											
Part Number		Price	Protective Height Hs mm[in]	Housing Height Hb mm[in]	Total Height Ht mm[in]	Number of Beams	Current Consumption [mA]	Response Time [ms]	MTTF <sub>d</sub> (years)	DC <sub>avg</sub>	Product Weight per Unit
YBB-14S4-0900-G012	Sender	\$686.00	916 [36.06]	995 [39.17]	1025 [40.35]	113	50	24.4	59	94%	2070g 4.56 lbs
YBB-14R4-0900-G012	Receiver	\$837.00					125				
YBB-14K4-0900-G012	Set	\$1,310.00					See above				
YBB-14S4-1000-G012	Sender	\$754.00	1045 [41.14]	1124 [44.25]	1154[45.43]	129	50	27.6	53	94%	2340g 5.16 lbs
YBB-14R4-1000-G012	Receiver	\$930.00					130				
YBB-14K4-1000-G012	Set	\$1,450.00					See above				

Note: AutomationDirect does not recommend using these light curtains with any device other than our Safety Relay Light Curtain Controllers.

## Dimensions mm [in]



## Pin outs

Assignment	Function	Pins/Wires on Sender		Pins/Wires on Receiver	
		M12 Cable	Cable	M12 Cable	Cable
Supply Voltage	24VDC for channel 1; 0V for channel 2	1	Brown	1	Brown
Supply Voltage	0V for channel 1; 24VDC for channel 2	3	Blue	3	Blue
Test Mode	0V test active; 24 V test inactive	4	Black	–	–
Output	OSSD1 (Output Single Switching Device)	–	–	2	White
Output	OSSD2 (Output Single Switching Device)	–	–	4	Black
Functional Earth	Shield (Ground)	FE	Gray	FE	Gray

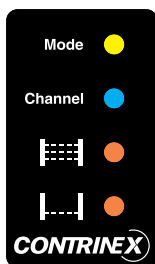
Note: Cable color represents standard industrial pinout. Confirm the specific color and pinout during installation.

# Contrinex Safety Light Curtains – Finger-safe

YBB-14 Series Safety Light Curtain Specifications	
<b>Resolution</b>	14mm
<b>Safety Level</b>	Category 4, PLc (EN/ISO 13849-1), Type 4 (IEC 61496-1/2)
<b>Beam Axis Interval</b>	8mm
<b>Supply Voltage</b>	24VDC ± 20%
<b>Current Consumption</b>	See Selection Table
<b>Outputs</b>	2 PNP outputs, short-circuit protected
<b>Output Current</b>	Maximum 0.2 amps per output (@ 50°C/122°F)
<b>Output Voltage ON minimum</b>	1.0 V less than the supplied operating voltage at 25°C (77°F)
<b>Output Voltage OFF</b>	<1.0 V
<b>Leakage Current</b>	< 1mA
<b>Maximum Load Inductance</b>	100mH
<b>Response Time</b>	See Selection Table
<b>Sender Wavelength</b>	IR 950nm
<b>Operating Range</b>	0.25 to 3.5 m
<b>Protection Class</b>	Class III (IEC 61140)
<b>Startup Delay</b>	< 0.5 seconds
<b>Vibration Resistance</b>	10 to 55Hz, 0.35 mm amplitude, 1 octave/min., 20 sweeps for each axis
<b>Shock Resistance</b>	10g during 16ms, 1000 times for each axis
<b>Light Immunity</b>	Incandescent lamp: 3000lx max. (light intensity on receiver surface) Xenon flash tube: flash duration 1.2 ms max. with a frequency of 2Hz max. (TS 61496-2)
<b>Operating Temperature</b>	0 to 50°C (32 to 122°F)
<b>Storage Temperature</b>	-25 to 70°C (-13 to 158°F)
<b>Humidity</b>	15 to 95% (non-condensing)
<b>Degree of Protection (EN 60529)</b>	IP65
<b>Ambient Brightness</b>	TS 61496-2
<b>Reference Standards</b>	IEC 61496-1: 2004, IEC 61496-2
<b>Housing Material</b>	Aluminum, PMMA (Polymethylmethacrylate [acrylic]) front screen
<b>Material of Upper and Lower Cover</b>	PA (Polyamide [nylon]) + 30% fiberglass
<b>Material of Optics</b>	PMMA (Polymethylmethacrylate [acrylic])
<b>Cable Runs</b>	10m maximum (at 10nF capacitive load)
<b>Approvals</b>	CE, UL file #E321951, RoHS, TUV

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at [www.AutomationDirect.com](http://www.AutomationDirect.com)

## LED Status Indicators



Sender	
<b>LED</b>	<b>Finger &amp; hand protection (YBB)</b>
<b>Mode</b>	Yellow when test mode is active
<b>Channel</b>	Blue when channel 1 is selected
	Purple when channel 2 is selected
<b>Alignment</b>	Steady orange when the screen is not fully aligned
	Flashing orange when the first third of the screen is aligned
	Off when screen is fully aligned
<b>Alignment</b>	Steady orange when the lowest beam is not aligned
	Flashing orange when the lowest beam is aligned
	Off when screen is fully aligned

Receiver	
<b>LED</b>	<b>Finger &amp; hand protection (YBB)</b>
<b>Power</b>	Green when power is ON
<b>Channel</b>	Blue when channel 1 is selected
	Purple when channel 2 is selected
<b>Status</b>	Green when OSSD outputs are ON
<b>Status</b>	Red when OSSD outputs are OFF

# Contrinex Safety Light Curtains Accessories

Safety Light Curtains Accessories Overview			
Part Number	Price	Description	Use With
<b>Mirror Columns</b>			
<b>YXC-1060-M11</b>	\$640.00	Safety light curtain mirror column. 1060mm housing height, 974mm mirror length, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included.	YBB-xxxx-0150-xxx to YBB-xxxx-0800-xxx units
<b>YXC-1360-M11</b>	\$755.00	Safety light curtain mirror column. 1360mm housing height, 1274mm mirror length, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included.	YBB-xxxx-0900-xxx to YBB-xxxx-1000-xxxx units YCA-xxxx-3400-xxx and YCA-xxxx-4300-xxx units
<b>YXC-1660-M11</b>	\$875.00	Safety light curtain mirror column. 1660mm housing height, 1574mm mirror length, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included.	YBB-xxxx-1200-xxx to YBB-xxxx-1400-xxxx units YCA-xxxx-4400-xxx units
<b>YXC-1960-M11</b>	\$995.00	Safety light curtain mirror column. 1960mm housing height, 1874mm mirror length, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included.	YBB-xxxx-1600-xxx to YBB-xxxx-1700-xxxx units
<b>YXC-1360-M23</b>	\$390.00	Safety light curtain mirror column. 1360mm housing height, 2 x 400 beam gap, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included.	YCA-xxxx-3400-xxx units
<b>YXC-1360-M24</b>	\$465.00	Safety light curtain mirror column. 1360mm housing height, 3 x 300 beam gap, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included.	YCA-xxxx-4300-xxx units
<b>Protective Columns</b>			
<b>YXC-1060-F00</b>	\$362.00	Safety light curtain protective column. 997mm housing height, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included. Two required to protect sender and receiver. 1/pk.	YBB-xxxx-0150-xxx to YBB-xxxx-0800-xxx units
<b>YXC-1360-F00</b>	\$400.00	Safety light curtain protective column. 1297mm housing height, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included. Two required to protect sender and receiver. 1/pk.	YBB-xxxx-0900-xxx to YBB-xxxx-1000-xxxx units YCA-xxxx-3400-xxxx to YCA-xxxx-4300-xxxx units
<b>YXC-1660-F00</b>	\$432.00	Safety light curtain protective column. 1597mm housing height, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included. Two required to protect sender and receiver. 1/pk.	YBB-xxxx-1200-xxx to YBB-xxxx-1400-xxxx units YCA-xxxx-4400-xxxx units
<b>YXC-1960-F00</b>	\$451.00	Safety light curtain protective column. 1897mm housing height, aluminum profile with steel floor plates. Powder-varnished yellow (RAL1021) finish. Mounting hardware included. Two required to protect sender and receiver. 1/pk.	YBB-xxxx-1600-xxx to YBB-xxxx-1800-xxxx units
<b>Other</b>			
<b>YXL-0001-000</b>	\$240.00	Laser alignment tool for safety light curtains, class 2 laser, range up to 50 meters, useable and clippable to YBB and YCA light curtains models.	All
<b>YXW-0001-000</b>	\$6.00	Safety light curtain mounting brackets for top and bottom mounting. Plastic. 2/pk.	
<b>YXW-0003-000</b>	\$6.00	Safety light curtain sliding T-nuts for side mounting. Metal. 2/pk. Ideal torque from M5x0.8 thread is 6 Nm (4.42 lb-ft, 53.1 lb-in.).	



### Light Curtain Mirror Columns

- Multi-sided safe guarding of danger zones
- Robust protective profile
- 10% reduction of operating distance for mirror



### Light Curtain Protective Column

- Automatically bounces back after physical shock or vibration.
- Robust baseplate allows radial and vertical alignment.
- Solid aluminum profile



**YXW-0001-000**



**YXW-0003-000**

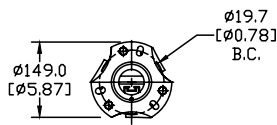
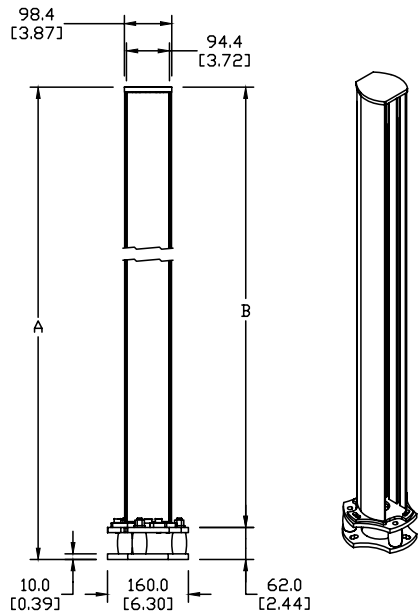


**YXL-0001-000**

# Contrinex Safety Light Curtains Accessories

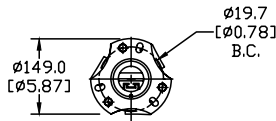
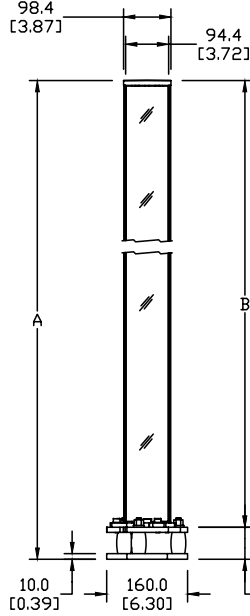
Dimensions mm [in]

## Protective column

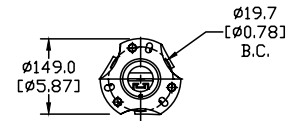
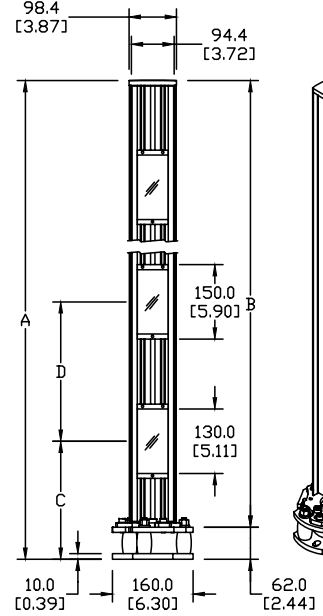


## Mirror column

CONTINUOUS MIRROR



SEGMENTED MIRRORS



### Safety Light Curtains Protective Columns Dimensions

Part Number	Total Height A mm [in]	Housing Height B mm [in]
YXC-1060-F00	1060 [41.73]	997 [39.25]
YXC-1360-F00	1360 [53.54]	1297 [51.06]
YXC-1660-F00	1660 [65.35]	1597 [62.87]
YXC-1960-F00	1960 [77.17]	1897 [74.69]

Note: Full and open top caps are provided to accommodate taller units.

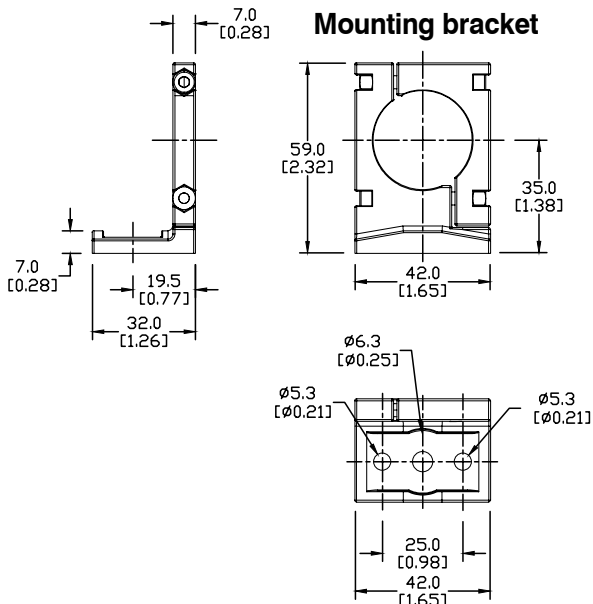
## YXC-xxxx-M11

## YXC-1360-Mxx

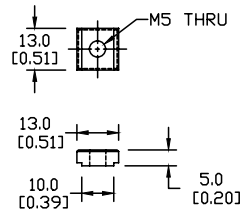
### Safety Light Curtains Mirror Columns Dimensions

Part Number	Total Height A mm [in]	Mirror Height B mm [in]	Height to Lowest Beam C mm [in]	Beam Gap D mm [in]
YXC-1060-M11	1060 [41.73]	974 [38.35]	n/a	n/a
YXC-1360-M11	1360 [53.54]	1274 [50.16]	n/a	n/a
YXC-1660-M11	1660 [65.35]	1574 [61.97]	n/a	n/a
YXC-1960-M11	1960 [77.17]	1874 [73.78]	n/a	n/a
YXC-1360-M23	1360 [53.54]	n/a	2 x 400 [2 x 15.75]	300 [11.81]
YXC-1360-M24	1360 [53.54]	n/a	3 x 300 [2 x 11.81]	300 [11.81]

## Mounting bracket



## T-Nuts for side mounting



# Contrinex Safety Light Curtains Accessories

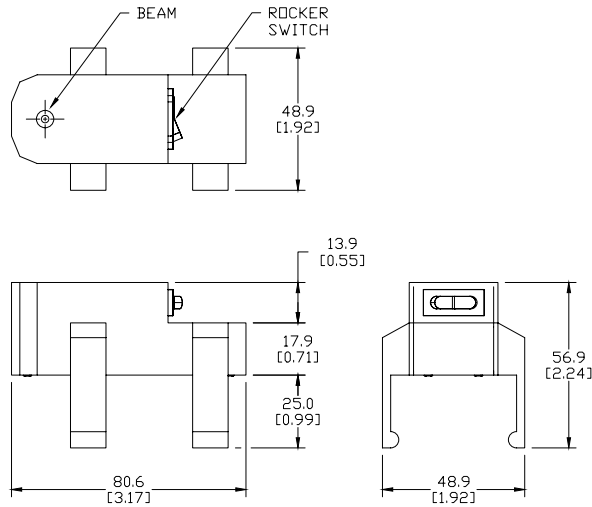


Laser Alignment Tool YXL-0001-000 Specifications	
Supply Voltage Range	2.5 – 3.3 VDC
Laser Module Optical Output Power	<1mW (Class 2)
Range	50m (164ft)
Ambient Temperature Range	0 – 40°C (32 – 104°F)
Storage Temperature Range	0 – 60°C (32 – 140°F)
Wavelength	655nm ± 1%
Laser Beam Spot Size at 10m	< 10mm
Divergence Angle	1.1 mrad
Housing Material	PA with 30% fiberglass
Mounting	clippable onto YBB / YCA devices
Weight	95g (.21 lbs)

## Laser Alignment Tool

- Clips on YBB and YCA Curtains / Barriers
- High quality lens for narrow output beam
- Up to 50m [164ft] range
- <1mW output power
- Standard AA batteries included

## Dimensions mm [in]



**Warning: Safety products sold by AutomationDirect are Safety components only.**

**The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products used solely or in conjunction with other AutomationDirect or other vendors' products will assure safety for any application.**

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