



TRElectronic
LIGHTBARRIER™

Safety Light Curtains.

We make safety easy.

*TR*Electronic
LIGHTBARRIER™

**When Safety Matters,
We've got you covered.**



TR Electronic is an industry leader in manufacturing and supporting a complete line of absolute rotary encoders, linear transducers and industrial sensing devices.

TR Electronic now offers Lightbarrier, a complete line of safety light curtains that deliver innovative and easy-to-use safety sensing technology that you can trust.

At TR Electronic we are committed to providing the best possible service to our customers. Therefore, to always ensure that you have the help when you need it, we provide 24/7 technical support.

When protecting personnel is priority, select Lightbarrier by TR Electronic for all of your safety needs.

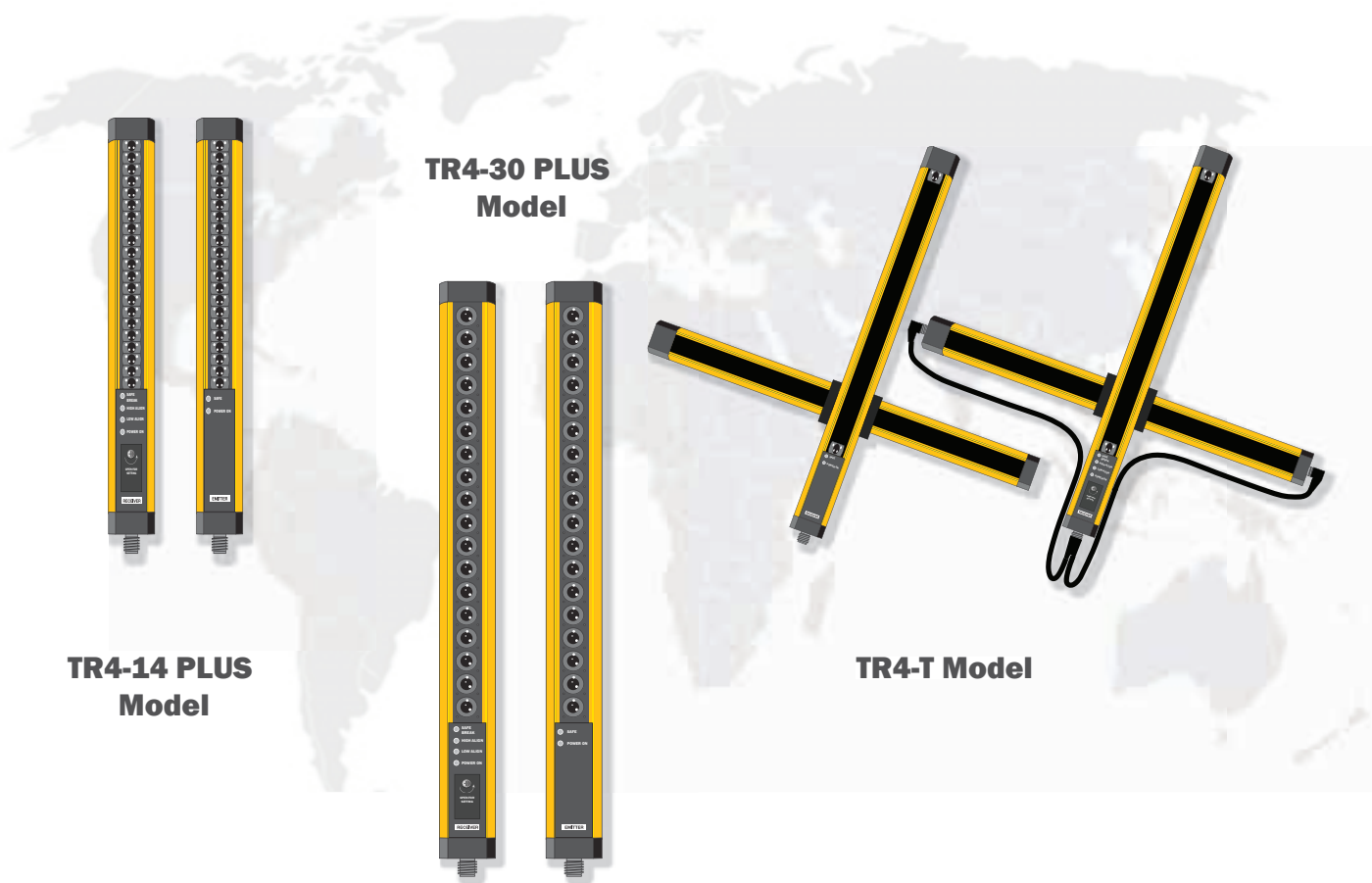
For more information on Lightbarrier products or services visit us on the web at:

www.light-barrier.com

For sales inquiries or technical support, please contact us by phone or e-mail:

Toll-Free: (800) 265-9483

E-mail: customercare@trelectronic.com



TR4-14 PLUS Model

TR4-30 PLUS Model

TR4-T Model

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Our Difference. We Make Safety Easy.



When protecting personnel and machines is a top priority, Lightbarrier by TR Electronic is the trusted solution.

Lightbarrier is a line of type 4 safety light curtains for finger, hand and body protection that comply with international safety standards and regulations.

Designed with our customers in mind, Lightbarrier is the cost-effective solution that provides Easy Installation, Easy Connection, Easy Configuration and Easy Alignment.

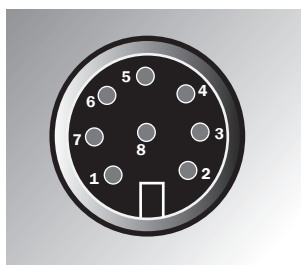
For further information, contact our customer support team who are standing by 24/7/365 to answer your questions.

Easy. How We Do It?



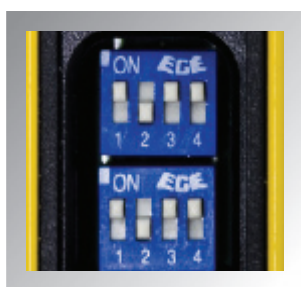
Easy Installation:

Setup of the safety light curtains is quick and simple due to the wide range of mounting brackets and accessories that are available. Thanks to the compact design and double lateral grooves, the safety light curtains can be installed in almost any position.



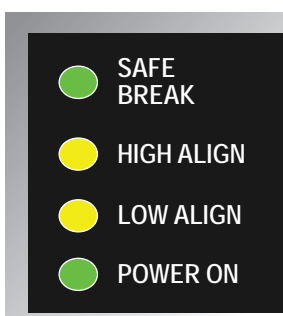
Easy Connection:

Compatible with standard M12 connector cables, TR Electronic Lightbarrier delivers our customers the flexibility when they need it, while reducing costs by eliminating the need for expensive speciality cables. **Muting models are also available with pre-configured and pre-aligned sensors.**



Easy Configuration:

No need for external control units, software or additional connector pins. TR Electronic Lightbarrier safety light curtains are fully configured via dip-switches that are securely enclosed in the receiver unit providing easy setup of advanced functions such as: EDM, Floating Blanking and Automatic or Manual Restart.

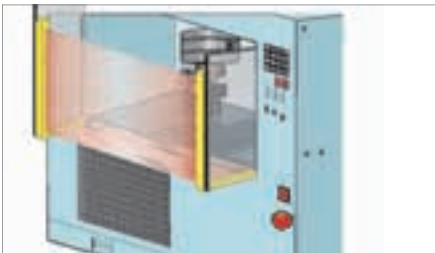


Easy Alignment:

The unique LED alignment tool, built into every TR4 light curtain, allows the operator to align the light curtains quickly and easily. The receiver-mounted LEDs indicate the degree of alignment with different color LEDs and blinking frequencies to ensure optimum alignment. Perfect alignment reduces nuisance obscure from dust and other debris that is often caused from poorly aligned light curtains.

The TR-LP Laser Pointer is also available as an additional accessory to assist with long-range alignment.

Advanced Functions For Enhanced Flexibility.



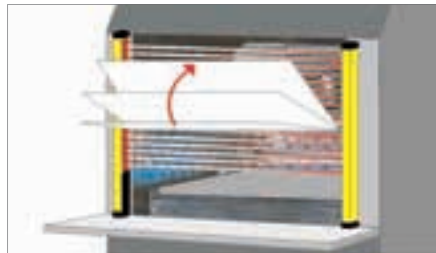
Cascade:

TR Electronic Lightbarrier offers the unique cascade function which enables two adjacent points of entry of a machine to be safeguarded using just a single light curtain system.

With the cascade configuration you can also combine the functions of two pairs of light curtains, which offer protection in different zones to provide a complete safeguarding solution.

EDM:

External Device Monitoring (EDM) is configured via dip-switches that are located on the receiver unit of the safety light curtain. EDM verifies the status of external devices, in order to prevent device malfunctions that could jeopardize correct functioning of the safety light curtains.



Blanking:

The integral blanking operating mode makes machine design simple by providing a flexible and adaptable solution to safeguarding a workplace. Programmable via dip-switches, the blanking function allows the ability to blank out a defined area of the Lightbarrier to allow objects to pass without triggering the safety functions of the device.

The two types of blanking are Fixed and Floating.

- Fixed blanking allows the operator to exclude the control of beams in a pre-set position.
- Floating blanking allows the operator to exclude the control of up to three beams in any position within the detection area.



Muting:

Designed to accommodate applications where it is necessary to allow access for parts or objects to enter a guarded work cell without stopping the machine. Lightbarrier models with integrated muting provide the complete package for guarding entry and exit points where parts or objects need to be able to flow freely into and out of the protected zone. If a person is detected trying to enter the protected zone all dangerous machinery will stop.

Thanks to the pre-assembled, pre-configured and pre-aligned muting sensors available in the TR4-T and TR4-L models, setup just got easier with straight-forward wiring and configuration.

Products. The Complete Solution.

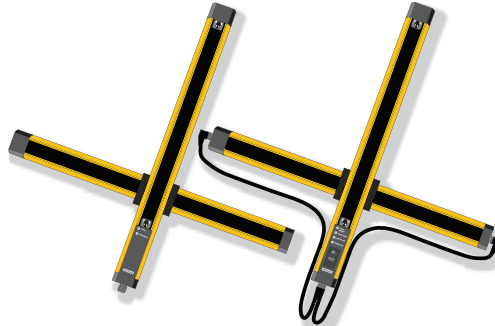


TR4-PLUS Series Type 4 Safety Lightbarriers.

The TR4-PLUS series offers the widest range of TYPE 4 safety light curtains with advanced functions such as Blanking, Cascade and EDM for increased flexibility.

The TR4-PLUS series features height ranges from 150 to 1650 mm with 150 mm increments.

Designed for ease-of-use the TR4-PLUS series offers advanced function configuration via dip-switches.



TR4 T-L Series Type 4 Safety Lightbarriers.

The TR4 T-L series are TYPE 4 safety light curtains that are designed for body protection. Advanced functions include EDM and One-Way/Two-Way Muting for increased flexibility.

Available in 500mm and 800mm heights and 2 or 3 beams.

Save time with the pre-assembled, pre-wired and pre-aligned muting sensors.



TR4-R Series Type 4 Retroreflex Safety Lightbarriers.

The TR4-R series is a retroreflex safety light curtain that is formed by a active unit and by a passive unit with reflectors integrated into the light curtain.

Available in 500mm controlled height, 2 beams for body protection and integrated muting functions.

The TR4-R series is a reliable and cost-effective alternative to standard through-beam safety light curtains.

Unique Dual-LED Muting Lamp:



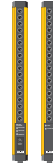
The dual-LED muting indicator beacon located on the top of the receiver unit indicates that either blanking or muting functions have been enabled. Thanks to the unique design, operators will be able to quickly identify when extra-degree of caution is warranted.

The indicator beacon comes integrated into all TR4 series of safety light curtains with either blanking or muting function selected.

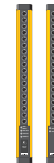
Products. Technical Specifications.



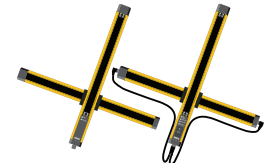
TR4-14-PLUS



TR4-30-PLUS



TR4-S

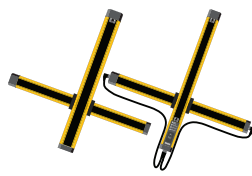


TR4-T

Type:	Finger Protection	Hand Protection	Body Protection / integrated for External Muting Sensors	Body Protection / Integrated Muting Sensors
Power Supply:	24 Vdc.	24 Vdc.	24 Vdc.	24 Vdc.
Resolution / No. of Beams:	14mm	30 mm	2 ... 3	2 ... 3
Operating Range:	0.2 ... 6 m	0.2 ... 15 m	0.5 ... 25 m	0.5 ... 3 m
Controlled Height:	150 ... 1200 mm	150 ... 1650 mm	500 ... 800 mm	500 ... 800 mm
Response Time:	12 ... 68 ms. 14 ... 41 ms EDM models	16 ... 43 ms. 12 ... 26 ms EDM models	14 ms.	14 ms.
Output:	2 PNP Transistor	2 PNP Transistor	2 PNP Transistor	2 PNP Transistor
Connection:	RX: M12 8 poles / TX: M12 4 poles RX: M12 5 poles / TX: M12 5 poles	RX: M12 8 poles / TX: M12 4 poles RX: M12 5 poles / TX: M12 5 poles	RX: M12 8 poles RX: M12 5 poles / TX: M12 4 poles	RX: M12 8 poles RX: M12 5 poles / TX: M12 4 poles
Dimensions (mm):	35 x 40	35 x 40	35 x 40	35 x 40
Device Functions:	Test, Manual / Auto Reset	Test, Manual / Auto Reset	Test, Manual / Auto Reset Selection, Muting time- out, Override	Test, Manual / Auto Reset Selection, Muting time-out, Override
Certifications:				
Plus Functions:	<ul style="list-style-type: none"> • EDM • Cascade • Blanking 	<ul style="list-style-type: none"> • EDM • Cascade • Blanking 	<ul style="list-style-type: none"> • EDM • One-Way or Two- Way Muting 	<ul style="list-style-type: none"> • EDM • Two-Way Muting



TR4-L



TR4-R-T



TR4-R-L

Type:	Body Protection / Integrated Muting Sensors	Type 4 Retroreflex Light Curtain	Type 4 Retroreflex Light Curtain
Power Supply:	24 Vdc.	24 Vdc.	24 Vdc.
Resolution / No. of Beams:	2 ... 3	2	2
Operating Range:	0.5 ... 3 m	0.5 ... 3 m	0.5 ... 3 m
Controlled Height:	500 ... 800 mm	500 mm	500 mm
Response Time:	14 ms.	14 ms.	14 ms.
Output:	2 PNP Transistor	2 PNP Transistor	2 PNP Transistor
Connection:	RX: M12 8 poles RX: M12 5 poles / TX: M12 4 poles	active unit: M12 5 poles / M12 8 poles passive unit: uncabled	active unit: M12 5 poles / M12 8 poles passive unit: uncabled
Dimensions (mm):	35 x 40	active unit: 35 x 40 passive unit: 52 x 55	active unit: 35 x 40 passive unit: 52 x 55
Device Functions:	Test, Manual / Auto Reset Selection, Muting time-out, Override	Test, Manual / Auto Reset Selection, Muting time-out, Override.	Test, Manual / Auto Reset Selection, Muting time-out, Override.
Certifications:			
Plus Functions:	<ul style="list-style-type: none"> • EDM • One-Way Muting 	<ul style="list-style-type: none"> • EDM • Two-Way Muting 	<ul style="list-style-type: none"> • EDM • One-Way Muting

Accessories.



TR-A Series. Shielded Connector Cables

Features include:

- M12 axial or radial connector cable with 4 and 8 poles
- Cable Length: 3, 5, 10, 15 and 25m
- Cable Material: PVC



TR-SR2 Series. Safety Relays

Features include:

- Type 4 safety relays
- Safety contacts: 3 NO
1 NC.



TR-K Series. Mounting Brackets

A set of four standard mounting brackets are supplied with every TR4 series of safety light curtains. Additional brackets include:

- Adjustable
- Anti-vibration
- Anti-scratch



TR Series. Test Pieces

Light curtain test pieces with 14 and 30 mm diameters.



TR-SRT Series. Connection Box.

Connecting box for light curtains with integrated muting function designed to provide quick activation of the override function using key switches and Test/Start commands via a designated push-button.



TR-S Series. Columns and Floor Stands

Designed to be used with the TR4 series of safety light curtains and TR-DM corner mirror series.

Available heights include:

- Heights: 800, 1000 and 1200mm with 30x30mm profile
- Height: 1500 x 1800mm with 45x45mm profile.
- Ground Plate: 240x240mm



TR-P Series. Protective Stands

Designed to protect emitter and receiver optics from accidental impact from parts or equipment. Available in height ranges from 237mm to 1743mm.



TR-DM Series. Corner Mirrors

Features include:

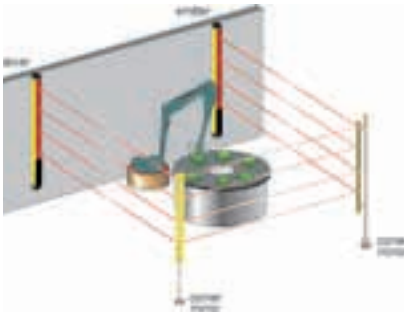
- Height range: 550 to 1800mm
- 124mm width x 6mm depth



TR-LP Series. Laser Pointer

The Laser Pointer is designed to provide easy long-range alignment of the emitter and receiver unit or when using one or more TR-DM corner mirror.

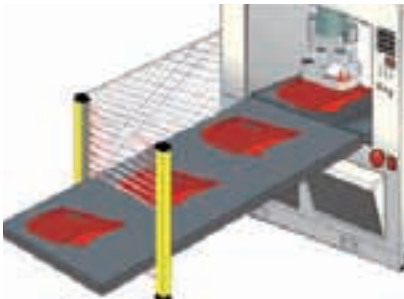
Safety Applications.



Robotic Cell Guarding with Muting

Objective: Guard a robotic cell while allowing materials to enter into the cell.

Solution: The TR4-S series of safety light curtains offer muting functionality to allow for material to enter a robotic cell while the machine is stationary and restrict access while in motion.



Metal Stamping Guarding with Fixed Blanking

Objective: Allow material or tools to pass through the sensing field.

Solution: With fixed-blanking functionality materials or tools can pass through specific beams of the sensing field, while restricting objects that would require protection such as hands or fingers.



Material Handling & Packaging

Objective: Allow objects of different sizes to pass through the sensing field.

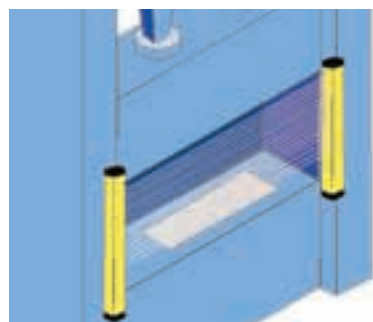
Solution: With the combination of advanced functionality such as fixed and floating blanking an object can pass through the protected zone while allowing a slight variation in size of the object to pass without stopping the machine.



Floating Blanking

Objective: Protect a machine while still allowing material to enter and exit, without activating the safeguard and shutting down the machine.

Solution: The TR4-14 or TR4-30 series of safety light curtains allow floating blanking in order to allow material to be placed and removed from the machine while still protecting from human encroachment.



Punch or Forming Press Protection

Objective: Protect a machine press by stopping motion when the pinch-point or dangerous area is approached.

Solution: Thanks to the easy installation and alignment of the safety light curtains, machines can be protected while in operation while still providing easy access for operators to change dies and tooling. Available in finger or hand protection and cascade models are also available to protect two adjacent points of entry from operator reach around.



Protect Area while Allowing Bidirectional Material Flow

Objective: Allow two-way passage of material into an active work zone while still protecting personnel.

Solution: The TR4-S series of safety light curtains with bidirectional muting functionality allow for material to pass through the light curtain in either direction while the machine is stationary and restrict access while in motion. Ideal for bidirectional conveyors or entry and exit applications.

Fax Cover Sheet.

Knowledgeable customer care representatives are standing by.
Please complete the following fax sheet to have a customer care representative follow up with you.

Date: _____

Your Name: _____

Position Title: _____

Company: _____

City, State: _____

Phone #: _____

E-mail Address: _____

Inquiry: Quote Service Other

Additional Info: **Do you currently use Safety Light Curtains:**

No Yes Manufacturer: _____ Model: _____

What type of Safety Light Curtains are you interested in?

Finger Hand Body

Please briefly explain your application and requirements:

Please complete and fax this document to: (519) 452-1177

A customer care representative will follow up promptly to discuss your safety requirements. **Please visit us online at: www.light-barrier.com**

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