

Guardscan GSI40 Type 4 Safety Light Curtains

Independently approved to the highest applicable standards

Light curtains can be the best way to protect employees from dangerous machinery (where the risk assessment shows light curtains to be appropriate for the application).

Based on Guardscan's successful B-Series platform, the GSI40 provides state of the art features with the added reliability of proven technology. They also conform to EN61508, which defines additional requirements for microprocessor based systems.



Range of options (see page 2)

The GSI40 is available with a range of options including beam blanking, alpha-numeric diagnostic display or exclusive Blueview™ alignment tool. Select the exact light curtain for your safety application without paying for features that you don't need. The GSI40 is a really cost effective safety solution.

Safety to the highest standard

The GSI40 is a Type 4 safety curtain, making it suitable for high-risk applications. In medium-risk applications, the Type 2 Guardscan GSI20 light curtain will be a lower cost option (see page 2 for full compatibility and option availability). Call 01254 685900 for a dedicated GSI20 datasheet.

Features include

- Approved to all relevant standards
- 14mm, 30mm or 70mm detection
- 2, 3 or 4 multi-beam version available
- British designed and manufactured
- Proven hardware design
- Beam blanking capability
- Optional diagnostic display
- Optional Blueview™ alignment



GS I 40 Technical Specification

Common specification

Curtain lengths200mm - 1800mm

Cross section36mm x 45mm

Weight0.3kg plus 0.2kg per 100mm

Response times

14mm detection - 18ms (up to 300mm curtain plus 4ms for each additional 100mm of curtain)

30mm detection - 18ms (up to 600mm curtain plus 4ms for each additional 200mm of curtain)

70mm detection - 18ms (up to 1800mm curtain plus 4ms for each additional 600mm of curtain)

Operating temperature0° to +50°C

Wavelength880nm

Enclosure ratingIP65

Effective aperture angle+/- 2.5°

Safety outputs2 x PNP (fail-safe)
100mA at 24Vdc

Supply voltage24Vd.c.

Power consumption< 12V A

Standard GSI 40 light curtains

Detection capability14, 30 or 70mm

Operating range14mm = 0.5 - 6m

30mm = 0.5 - 15m

70mm = 0.5 - 15m

Protected height14mm = 0.2 - 1.2m

30mm = 0.2 - 1.8m

70mm = 0.6 - 1.8m

Multi-beam GSI40 light curtains

Number of beams2, 3 or 4

Operating range0.5 - 30m

Beam spacing2 beam - 0.5m
3 beam - 0.4m, 4 beam - 0.3m

Safety standards/approvals

(by TÜV Germany)

IEC/EN61496Parts 1 & 2 Type 4

IEC/EN61508SIL 3

EN62061SIL 3

EN ISO 13849-1Performance level e

Failure data

EN61508PFH 3.04 x 10⁻⁹

EN62061PFH_{DSSD} 6.02 x 10⁻⁹

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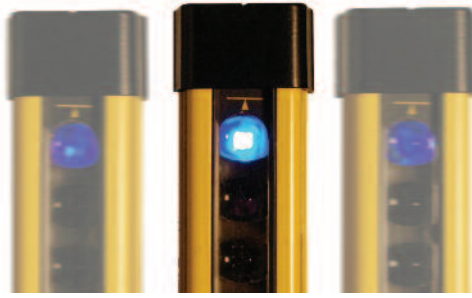
Guardscan Light Curtain Options

Blueview™ alignment (GS140 only)

Guardscan have taken the trial and error out of light curtain alignment with their unique Blueview™ option. The visible blue LED indicates the axis of the invisible infra-red beams, making it easy to align or re-align the light curtains.

It reduces installation time and makes it easy to spot and rectify curtain mis-alignment due to vibration from everyday production machinery and forklift trucks etc.

Especially useful in longer range or mirror applications, it also allows the light curtains to be adjusted by employees with a very small amount of training.



- Initial alignment is quicker and easier
- Ongoing adjustments are possible with very limited training
- Less downtime due to mis-alignment

Diagnostic display

Both GS120 & GS140 are available with a scrolling alpha-numeric display which shows the curtain status. For example, if the curtain is seriously out of alignment the LED is red and 'SYNC' shows on the screen. When the curtain is correctly aligned and functioning, the LED is green and the screen will read 'CURTAIN OK'.

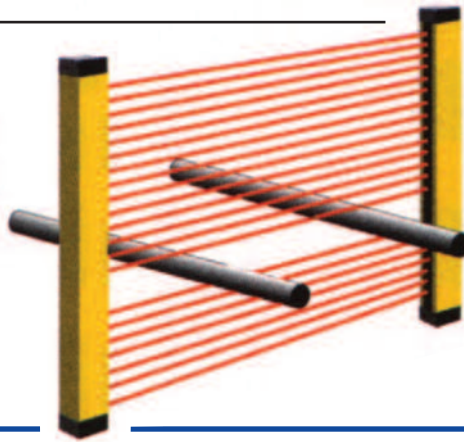


- Better information can reduce the risk of simple light curtain errors
- The display also identifies faults with external causes (e.g. wiring error)

Beam blanking (GS140 only)

Beam blanking modifies the detection characteristics to ignore obstructions such as a loading conveyor, while still protecting employees from danger.

Both fixed blanking (certain beams are permanently obstructed) and floating blanking (obstructed beams can be anywhere in the curtain) are programmed using a hand-held programming unit.



- Keeps employees safe while maintaining production efficiency
- Both fixed and floating blanking options are available
- Programmed using a hand-held unit



Option/feature availability on GS140 and GS120

Guardscan GS140 (Type 4)

Curtain Type	Beam Blanking	Blue-view	Diagnostics		Aux	EN61508 Approval
			Display	PC Software		
14mm	✓	✗	✓	✓	✓	✓
30mm	✓	✓	✓	✓	✓	✓
70mm	✓	✓	✓	✓	✓	✓
Multi-beam	✗	✓	✓	✓	✓	✓

Guardscan GS120 (Type 2)

Curtain Type	Beam Blanking	Blue-view	Diagnostics		Aux	EN61508 Approval
			Display	PC Software		
30mm	✗	✗	✓	✗	✓	✗
70mm	✗	✗	✓	✗	✓	✗
Multi-beam	✗	✗	✓	✗	✓	✗

The Guardscan GS120 is a Type 2 light curtain for less hazardous applications, please call 01254 685900 for more details about light curtain suitability.

Don't forget to order your cables and other accessories

It is important to order the right cables for your light curtain application. LC Automation also supply a range of power supplies, control units, stands and other accessories - see the Light Curtain Accessory Datasheet for details.

We can supply standard 10m light curtain emitter and receiver cables from stock at our

Blackburn Logistics Centre (other sizes may also be available, please call for details).

These high quality cables offer optimum performance and reliability. Designed to work in industrial environments, you can be sure that our cables are right for your installation.

See our accessory datasheet for our range of controllers, power supplies, stands and other accessories.



Order Code	Description	Cable Length
Emittercable10m	Emitter Cable	10m
Receivercable10m	Receiver Cable	10m
Slavecable300mm	Slave Cable	0.3m

Only available from LC Automation Ltd



01254 685900

How to order your GSI40 light curtain

Light curtain order code: **GSI40 / S / 1000 / 70 / 6 / LED / AB / - / -**

Curtain Type _____
S=Single, M=Master, A=Slave, D=Double-ended slave

Protection Height (mm) _____
Up to 1200mm (14mm detection), Up to 1800mm (30/70mm detection)

Detection Capability (mm) _____
14 = 14mm, 30 = 30mm, 70 = 70mm

Operating Range (m) _____
6 = 0.5-6m (14mm detection), 15 = 0.5-15m (30mm & 70mm detection)

Curtain Display _____
LED - Discrete LED's, DIAG - Dot Matrix Diagnostic Display

Bracket Type (AB, CB or EB) _____

Blanking (B = Blanking, - = Non-blanking) _____

Blueview Alignment Option (BV = Blueview, - = No Blueview) _____

This example has a protective height of 1000mm, a 70mm detection capability and range of 6m with AB bracket. Note: AB brackets are supplied as standard with all curtains

The Guardscan GSI40 range of light curtains are available in several different variants. Our step-by-step order code generator quickly helps you to select and order the correct unit for your specific requirements.

It is really easy. Simply decide on the correct specification and size of the light curtain you need. Complete the order code as shown here and call LC Automation on 01254 685900 or e-mail sales@lca.co.uk, for an accurate price and delivery information.

Unsure about which light curtain you need? Call the LC Automation Technical Support Team on 01254 685900 for expert advice and support.

Light curtain order code: **GSI40 / S / 3 / 30 / LED / AB / - / -**

Curtain Type _____
S=Single, M=Master, A=Slave, D=Double-ended slave

Number of beams _____
2, 3 or 4

Operating Range (m) _____
30 = 0.5 - 30m

Curtain Display _____
LED - Discrete LED's, DIAG - Dot Matrix Diagnostic Display

Bracket Type (AB, CB or EB) _____

Blanking (B = Blanking, - = Non-blanking) _____

Blueview Alignment Option (BV = Blueview, - = No Blueview) _____

How to order multi-beam light curtains

Use our order code generator to select the correct unit for your specific requirements.

This example is a single light curtain with; 3 beams, 15m range, discrete LED display and standard AB bracket. It doesn't include blanking or blueview alignment option.

Light Curtain Application Information

The overall safety level which can be achieved by using light curtains is affected by:

- The machine characteristics e.g. the machine stopping time
- Installer/designer's safety knowledge
- The safety integrity of the interface to the machine control system
- The positioning of the light curtain

Useful Light Curtain Application Information

HSG180

Application of electro-sensitive protective equipment using light curtains and light beam devices to machinery. (HSE)

DD CLC/TS 62046: 2008

Safety of Machinery - Application of protective equipment to detect the presence of persons. (BSI)

ISO 13855/BS999: Safety of Machinery -

The positioning of protective equipment in respect of approach speeds of parts of the human body. (BSI)

Guidance specific to the design of the safety related control system is contained in;

EN954-1: 2006

Safety of machinery - Safety-related parts of control systems (valid until end Nov 2009).

EN ISO 13849-1: 2006

Safety of machinery - Safety-related parts of control systems (replaces EN954-1 above).

EN62061: 2005

Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems (this standard is more relevant to complex software based safety systems).



What can LC Automation offer your business?

100% customer focus and commitment

Our customers are at the centre of everything we do. You can be sure that everyone at LC Automation will go the extra mile to ensure you get the service you are looking for.

A team of local Field Sales Engineers

Our field sales team can develop a better understanding of your needs and requirements, with the flexibility to respond quickly at a local level.

The right service and support, right when you need it

Before, during or after you place your order, you can be sure that LC Automation will be there with all the support you need.

Ongoing development of our high quality product range

We know that our customers are looking to source more high quality products from fewer suppliers. So LC Automation are constantly looking to improve our product range, which in turn will help to improve our long term customer relationships.

Don't forget to check out www.lcautomation.com

Additional services from LC Automation

Safety Services

LC Automation are able to offer a series of safety services ranging from a Risk Assessment, to safety system design, build and installation. We can provide the expertise you need to complement your own knowledge and experience. Call one of our safety experts on 01254 685900 to discuss your requirements.

System design and sub-contract control panel assembly

Our Panel Building team can design and build high-quality and reliable safety control panels to your specific requirements. Please call us on 01254 685900 to discuss your application.

Relevant information in the right format to suit you

We want to keep you up to date by using opt-in e-mail, relevant direct mail and our website, www.lcautomation.com. Just let us know which is the right format to keep in touch with you.



LC Automation Regular News Updates

With 18 suppliers, there is always something going on at LC Automation. So we send out regular newsletters which will keep you up to date with all of our latest product news.

