FIFE GUIDING SOLUTIONS

SE-26B

Line Guide Sensor

Installation Manual

EN

MI 1-928 1 B

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About these operating instructions

All of the information herein is the exclusive proprietary property of Maxcess International, and is disclosed with the understanding that it will be retained in confidence and will neither be duplicated nor copied in whole or in part nor be used for any purpose other than for which disclosed.

Periodically there will be updates to this manual. The latest version is available on our website or by calling your regional office listed on the back page of this publication.

The line guiding sensor must not be installed or used in a machine or system which does not comply with the machinery directive 2006/42/EC.

These line guiding sensors were designed and manufactured to be installed as Partly Completed Machinery into a machine or partly completed machine.

The instructions must be read and used by all persons who have the responsibility of installing and maintaining this line guide sensor.

These instructions must be retained and incorporated in the technical documentation for the machine or partly completed machinery into which the line guide sensor is installed.

CE marking

This line guiding sensor is marked with the CE sign according to the EMC directive 2004/108/EC.

Conventions used in this manual

All dimensions and specifications are shown in the format mm [inches] unless specified otherwise.

Language

These are the original instructions, written in English.

Product overview

The SE-26B is a visible white LED light sensor that can be used to guide to the center of a line or to an edge. The sensor provides two output signals to the Fife guiding controller, one for EDGE mode and one for LINE mode.

The lens and cover components can be unscrewed and interchanged to change the sensing orientation.

Model number format

The model number consists of the base model "SE-26B" and may be followed by optional alphanumeric characters.

Serial number format

LMMDDYYNNN

L = manufacturing location
MM = 2 digit month
DD = 2 digit day
YY = 2 digit year
NNN = 3 digit sequential number

Available accessories

Cable assemblies

Connect the SE-26B pigtail to a Fife guiding controller. The maximum length is 15 m [49 ft].

Maxcess part number	Length
29L224616-005	5.0 m [16 ft]
29L224616-XXX	As specified in meters

M20 Fine adjustment bracket

See page 3-3.

Maxcess part number
29L72962001

Instructions for use

To ensure safe and problem free installation of the line guiding sensor, the sensor must be properly transported and stored, professionally installed and placed in operation. Proper operation and maintenance will ensure a long service life of the device. Only persons who are acquainted with the installation, commissioning, operation and maintenance of the system and who possess the necessary qualifications for their activities may work on the line guiding sensor. Note: The safety information may not be comprehensive.

Please note the following:

- The content of these operating instructions
- Any safety instructions on the device
- The machine manufacturer's specifications
- All national, state, and local requirements for installation, accident prevention and environmental protection

Safety symbols

Information about safety symbols

The safety instructions and symbols described in this section are used in these operating instructions. They are used to avoid possible dangers for users and to prevent material damage.

SIGNAL WORD
Source of danger and its results
Avoiding dangers

The signal word **DANGER** refers to the danger of death or serious bodily injuries.

The signal word **WARNING** refers to the danger of moderate to severe bodily injuries.

The signal word **CAUTION** refers to the danger of slight to moderate bodily injuries or material damage.

The signal word **NOTICE** refers to the possibility of damage to equipment.

Symbols used

The following safety identification symbols are used in these operating instructions.

WARNING/CAUTION – General danger or important note
Reference to general hazards that may result in bodily injuries or damage to device or material.

WARNING/CAUTION – Danger due to crushing
Reference to danger of injury caused by crushing.

WARNING/CAUTION – Danger due to cutting
Reference to danger of injury caused by cutting.

WARNING/CAUTION – Danger due to voltage, electric shock
Reference to danger of injury caused by electric shock due to voltage.

WARNING/CAUTION – Danger due to hot surfaces
Reference to risk of injury caused by burning.

Basic safety information

Proper use

The line guiding sensor is intended to be used on machines or systems to sense the position of a line or an edge of a moving web and give this signal to a guding controller.

Indoor operation, see environmental specifications.

Improper use

Operation outside the technical specifications
Operation in an Ex-area or intrinsically safe area
Outdoor operation
Any other use than the proper use shall be deemed inappropriate

Installation and commissioning

Any line guiding sensor which is damaged must not be installed or put into operation.

Only perform installation, maintenance or repair tasks on the line guiding sensor when the machine into which the SE-26B is installed has been stopped and is secured from being turned on.

Only perform installation, maintenance or repair tasks on the line guiding sensor when there is no electrical power in the system.

The line guiding sensor must be securely mounted before being placed in operation.

Only replacement parts obtained from Maxcess may be used.

No modifications may be made to the line guiding sensor.

Do not place electrical cables under mechanical strain.

Basic safety information

(continued)

Operation

None, as tasks performed by the operator are generally not required.

Maintenance and repair

WARNING – Death or injury can result from unexpected movement of the machine into which the SE-26B is installed. Protect against unexpected movement by removing electrical power from the line guiding sensor and the machine into which the line guiding sensor is installed.

Decommissioning

The line guiding sensor must be disposed of in accordance with all the applicable national, state and local regulations.

Product dimensions

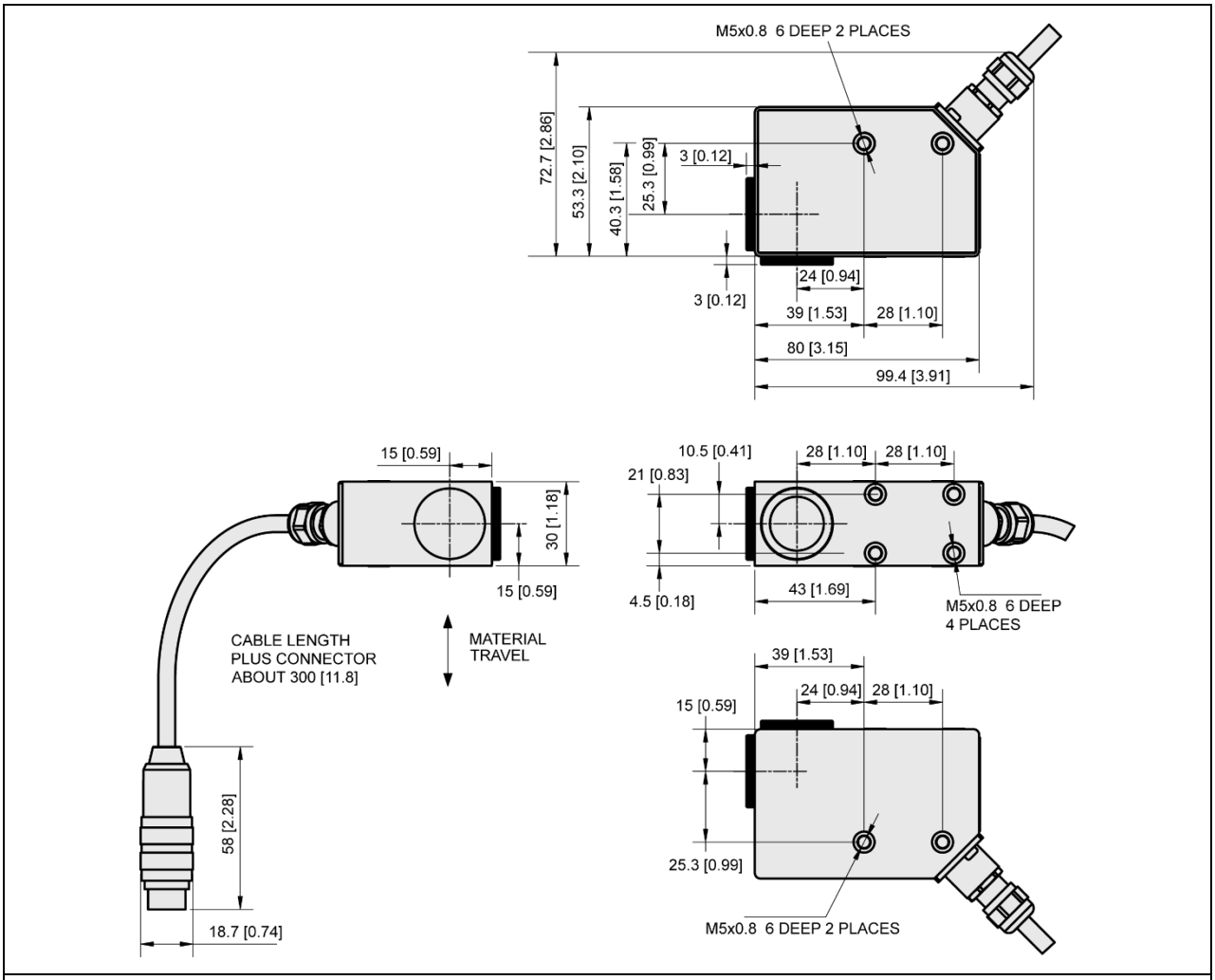


Figure 1. SE-26B Outline dimensions

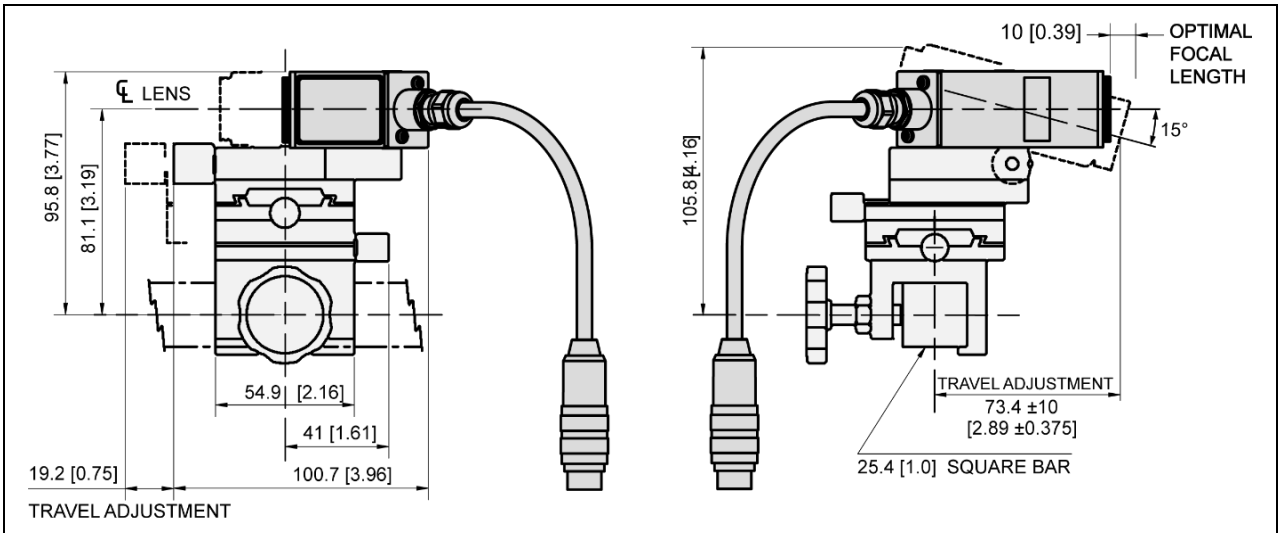


Figure 2. SE-26B Mounted on M20 mounting bracket

Mechanical installation

WARNING – Death or injury can result from unexpected movement of the machine into which the SE-26B is installed.

Protect against unexpected movement by removing electrical power from the SE-26B and the machine into which the sensor is installed.

WARNING – Danger of injury from crushing.

Maintenance and repair tasks on the SE-26B must be performed only when the machine into which the SE-26B is installed has been stopped and has been secured from being turned on again.

Guiding types supported

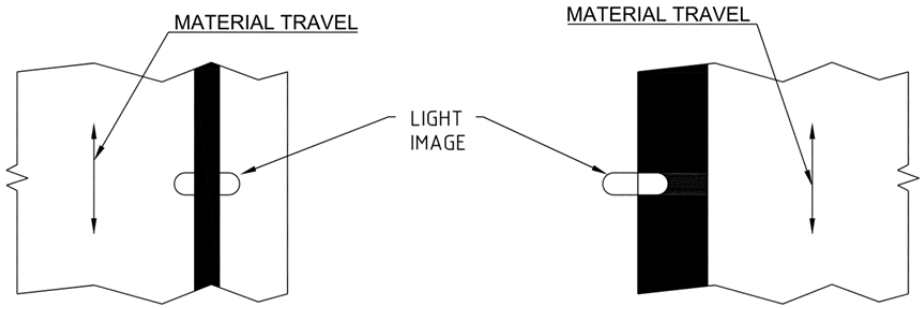


Figure 3. Guiding types

Install the SE-26B

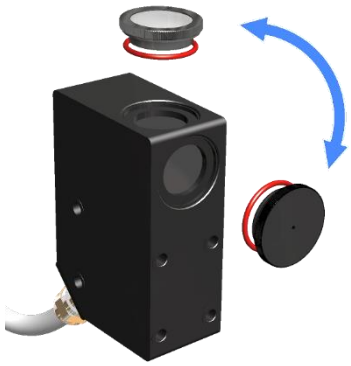


Figure 4.
Changing sensing orientation

1. Center the edge or line on the web in the sensor's light spot.
2. Install the sensor using two M5 bolts.
   - The web surface at the guide point must be supported.
   - The web surface must be 10 [0.394] from the front surface of the sensor lens; see Figure 2.
   - No web plane change can be tolerated by the sensor.

To change the sensing orientation:

Unscrew the lens and hole cover components and interchange them. Note that each part has a corresponding o-ring. See Figure 4.

Using the M20 mounting bracket

The M20 fine adjustment mounting bracket clamps onto a 25.4 [1.0] square bar. Dimensions from the centerline of the square bar to the web surface permit plus and minus adjustments of the system. See Figure 2 on page 3-1.

When the M20 tilt feature is used, the sensor must be readjusted.

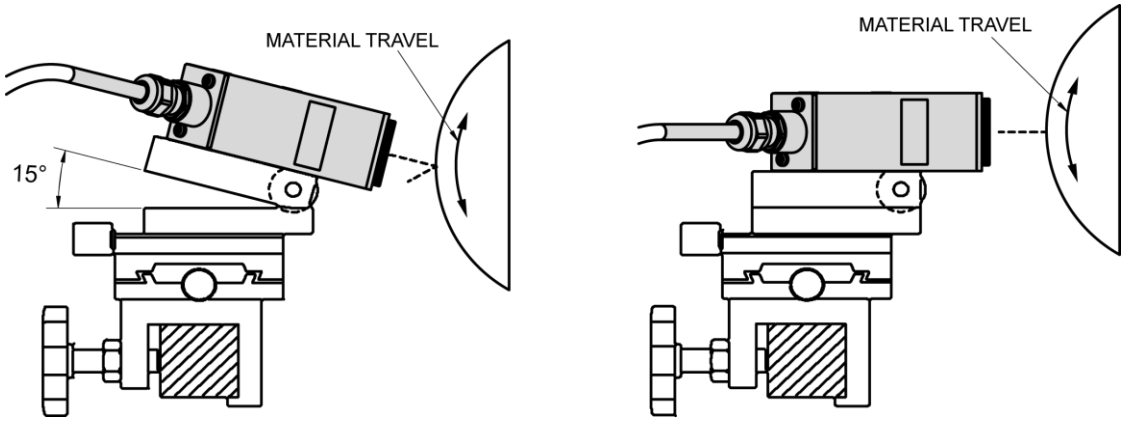
Different material types

FLAT non-reflective materials

Mount the SE-26B sensor perpendicular to the web so that all of the light from the sensor is reflected back into the lens.

GLOSSY reflective materials

(Example: glossy laminates, metallic materials, shiny Mylar®) Mount the SE-26B sensor at a 15° angle from perpendicular by tilting the mounting bracket. This causes a portion of the sensor light to be reflected away from the lens. See Figure 5.



For glossy materials

For flat materials

Figure 5. Guiding different material types

Electrical installation

CAUTION – Never place electrical cables under mechanical strain. Always provide mechanical support of wiring with either clamps or flexible or rigid conduit.

All wiring must comply with the essential requirements of the appropriate standard(s) and is the responsibility of the installer.

Modes of operation

There are two modes of operation: line guiding and edge guiding. See Figure 3.

Line guiding

LINE mode is for guiding to the center of a printed line 1.27 [0.050] to 2.54 [0.100] wide with a minimum of 2.54 [0.100] of plain background on both sides of the line.

Lines as small as 0.25 [0.010] with good contrast are possible to guide from. The line may be continuous or broken.

Edge guiding

EDGE mode is for guiding to the edge of a material on a roller or backup plate, to the edge of a continuous printed pattern, or to the edge of line wider than 2.54 [0.100] on a solid background.

Select the mode

Select the mode in the Fife guiding controller that is connected to the sensor; edge guiding on Sensor 1 and line guiding on Sensor 2.

ASC mode

ASC mode prevents large guide movements when the line or edge of the material is lost by the sensor. When guiding to a non-continuous line or edge, enable ASC mode in the Fife guiding controller.

Maintenance

No regular maintenance is required on the SE-26B. The sensor is not field serviceable.

Contact Maxcess for service requests: page 8-1.

6-1 TROUBLESHOOTING

Fault description	Probable cause	Solution
No Light Spot	No power to Fife guding controller.	Check Fife guding controller power wiring.
	Cable connection loose.	Check cable connections on SE-26B pigtail and Fife guiding controller.

General

Supply voltage range	–	+/-12V supply from Fife controller
Supply current	–	50 mA, +12 VDC 40 mA, -12 VDC
Temperature range		
Operating	–	0° to 50°C (-32° to 122°F)
Storage	–	0° to 80°C (-32° to 176°F)
Focus Distance	–	10 mm [0.394 in.] From web surface to sensor lens surface.
Illumination	–	White LED
Light Spot Size	–	1.2 x 4.2 mm [0.047 x 0.165 inch]
LED Light Lifetime	–	100,000 hours
Enclosure	–	IP65
Climatic class	–	3K3 (EN60721)
Relative humidity	–	5% to 85%
Pollution degree	–	2 (IEC664-1)
Sensor Output Range	–	-20 mA to +20 mA for line guiding -20 mA to +10 mA for edge guiding

Certifications and environmental compatibility

Product certifications	–	CE RoHS

Service requests and replacement parts

To request service contact one of the following addresses or your regional office listed at the bottom of this page.

Fife
222 West Memorial Rd.
Oklahoma City, OK, 73114
USA
Phone: 1.405.755.1600
Fax: 1.405.755.8425
Web: www.maxcessintl.com

Fife-Tidland GmbH
Max-Planck-Strasse 8
65779 Kelkheim
Deutschland
Telefon: +49.6195.7002.0
Fax: +49.6195.7002.933
Web: www.maxcess.eu

If it is necessary to return the SE-26B for service, care must be taken to properly package the unit to prevent damage during shipment. If possible, use the original shipping containers.