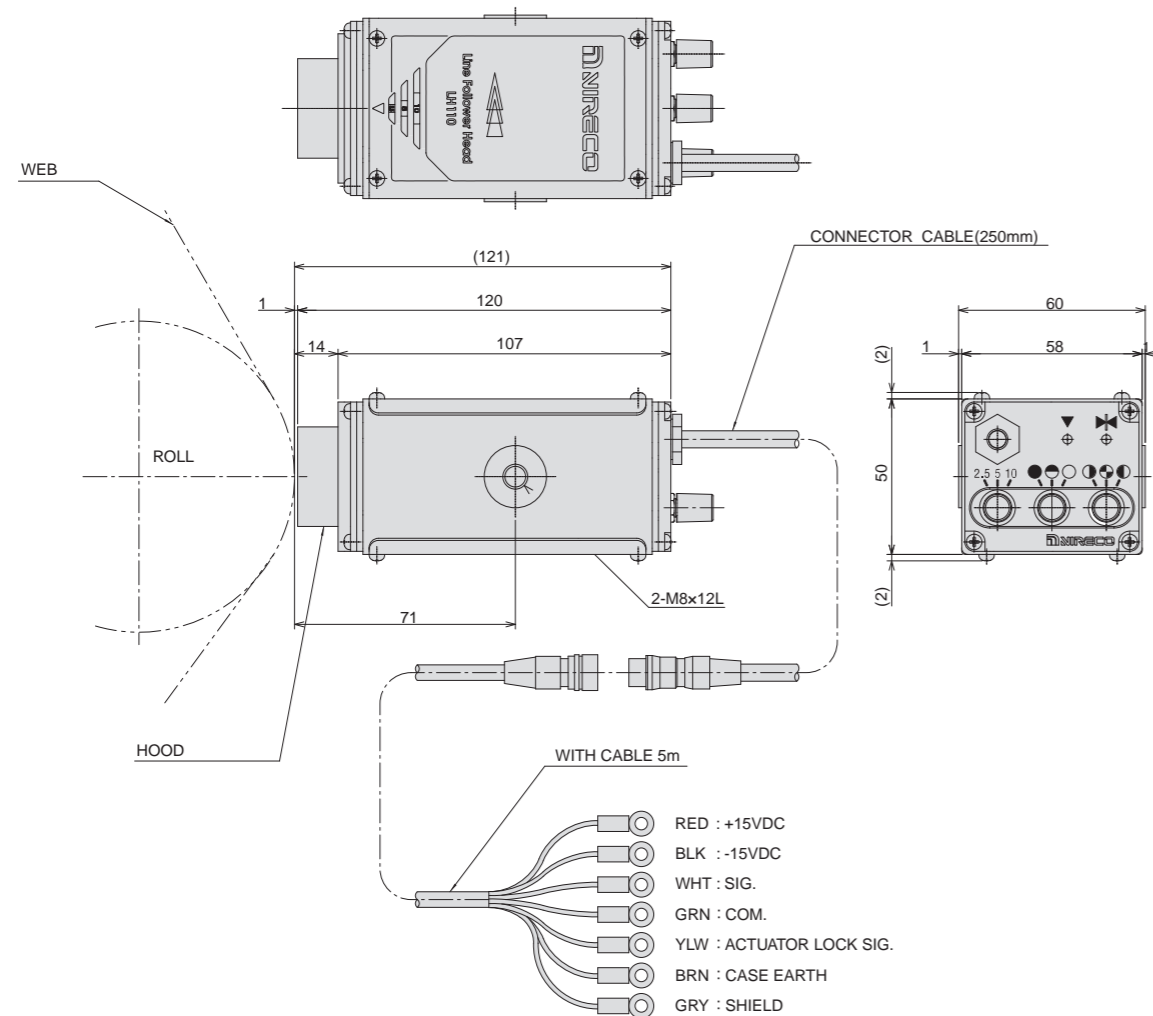


## Diagram of external dimensions



Line Follower Head LH110 Drawing No. MD0000920-EA

## Specifications

Light emission distance	1 mm (from the scattering plate)	Resolution	14 $\mu$ m
Detection view field	2.5 / 5 / 10 mm (switch between these)	Detector element	CCD linear image sensor
Light source	High luminance LED (2 colors: blue and red)	Power supply	+15 V DC, 300 mA / -15 V DC, 50 mA
Output volatage	(1) Position signal	Ambient operating temperature	0 to +50°C
	0 to +5 V DC (high), 0 to +0.5 V DC (low)	Body material	AC4C
	(2) Actuator lock signal	External dimensions (mm)	102 (H) x 58 (W) x 50 (D) (Not including protrusions)
	Open collector 30 V, 0.1 A or less	Mass	Main unit 0.6 kg (not including cables), screw guider 0.5 kg
	ON without line (edge)	Attached cable length	5m

We reserve the right to change the specifications in this catalog without prior notice to improve and update our products.

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**NIRECO**

# Line Follower Head LH110

This new sensor is easy to use, and does not require readjustment — even if the web material or the color of the line changes.



# Line Follower Head LH110



## Improved ability to pick out those hard-to-detect colors of yellow and light blue

The Line Follower Head LH110 is the successor model to our long-serving LH100A. The LH110 can be used on slitting machines as the sensor to optically detect register lines or patterns printed on the web. In combination with an amplifier (Liteguide Controller AE1000, AE900L or Webguide Amplifier EH321A), the LH110 can form an EPC (Edge Position Control) and LFC (Line Follower Control) system.

The LH110 is a very easy sensor to use. You do not need to switch the polarity of the control output signal from the Line Follower Head LH110 to the amplifier, even if the web material or contrast is reversed. Even if the color or width of the register line changes, you do not need to adjust the amplifier.

## Features

### No edge/line changeover required

When detecting a wide width line or pattern edge, there is no need to switch between the edge and line.

### Polarity switching not required

When the gradation of the web material and line, (or that of the left and right edges) is reversed, there is no need to switch control output polarity.

### Gain readjustment not required

The change in output voltage for line (edge) deviation is not influenced by line width or color; therefore, once the gain of the controller is set during a trial run, it is not necessary to readjust the gain.

### Position signal retention function

During the interval when a line (edge) leaves the view field to when it returns, the position signal generated immediately before the line (edge) leaves the view field is retained and output. Therefore, a follow-up operation can be performed when the meander speed of a web is fast and the line (edge) tends to be out of the view field.

### LED indication of optimum attachment position of detector

An LED indicator lights when the focal distance is correct and the mounting interval between the path line and detector are appropriate.

### Line (edge) position indicated by LED

Integral action is the standard control operation; however, when used in combination with a position transmitter, the LH110 is capable of proportion action and integral + proportional action. You can choose the best control action for the machine that you are using.

### An LED indicator lights when the detected edge is at the center of the view field.

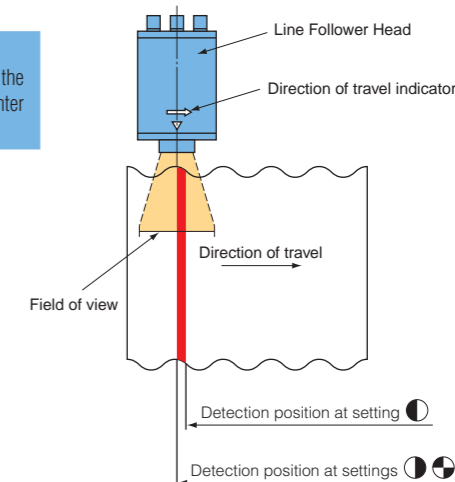
When the device is connected to a controller that has an actuator lock contact input, (in cases of intermittent lines) the actuator is locked when the break in the line is detected and follow-up operation is stopped until the next line appears.

Note: The position signal retention function is not available when an actuator lock signal output is used.

## Easy to understand display and functions

**Focus indicator lamp**  
This lamp lights when the mounting distance and angle between the LH110 and the web are correct and the head is focused.

**Center indicator lamp**  
This lamp lights when the edge of the web or edge of the line is in the center of the field of view of the LH110.



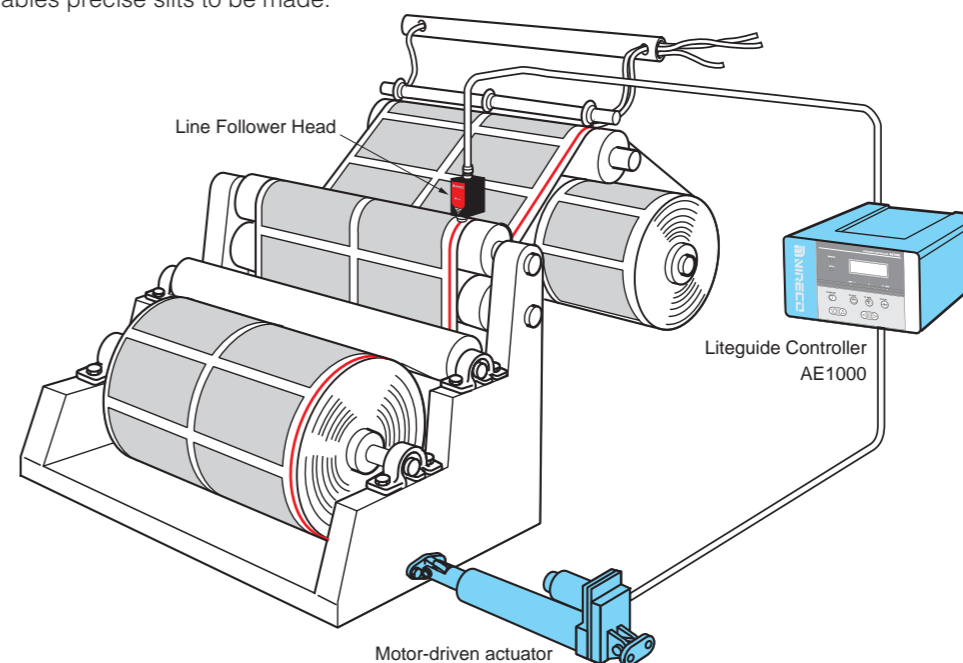
**Field of view switch**  
(2.5 / 5 / 10 mm)  
This switch can change the field of view (detection range).

**Light power switch**  
(Blue / blue-red / red)  
This switch can change the emitted light color.

**Light color layout switch**  
Select which edge of the line to detect by switching the contrast between the web material and the line.

## Applications

This illustration shows an example of the combined application of the LH110 and a Liteguide Controller on a slitting machine. The LH110 detects the register line or pattern printed on the web, and the system moves the unwinding reel in the opposite direction from where it had gone off track, so that the web is always in the reference position. This compensates for the meandering of the web that may occur as a result of web mis-alignment, stretching, shrinking or uneven thickness, and enables precise slits to be made.



Motor-driven actuator



Liteguide Controller AE1000