CCS Altec

Light Units for Line Sensors

LN-GA / LN-HA Series

High-Level Intensity for the Machine Vision Industry

LN-GA Series

Well-Suited for High-Speed Line Scanning

2.8 Million lx | LED Color

Measured at the illuminating distance of 0 mm, white

Light Emitting Surface Length **Up to 3,000 mm**

LN-HA Series

Compact but High-Performance

1.2 Million lx | LED Color

Measured at the illuminating distance of 0 mm,

Light Emitting Surface Length **Up to 3,000 mm**

Fan-Less

LIGHTING SOLUTION

CCS Inc.

High-Illuminance Line Lights

LN-GA Series

LED Color

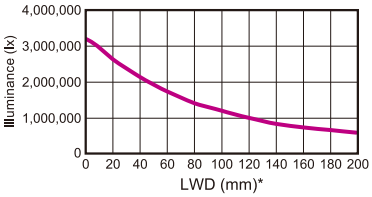
Light Emitting Surface Length Up to 3,000 mm

- Provides High Output to Easily Replace Metal halide lamp Sources
- Light emitting surface length up to 3 m for standard products
  * For sizes longer than 3 m, please contact us
- Forced air cooling system with fans and unique design reduces exhaust airflow directed to the workpiece

■ Fan Exhaust Airflow

Data for LN-GA Series

Illuminance Characteristics



Light Unit: LN-GA-400SW-FN

*Distans from the Light unit to the workpiece.

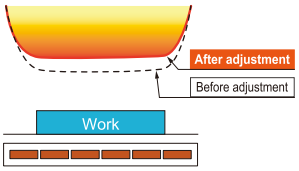
The data included is for reference only. Actual values may vary.

You can adjust the light intensity separately for each LED block. (25 mm)

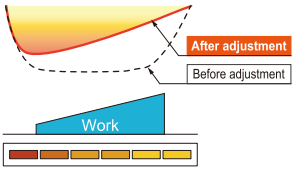
Light distribution control methods

Bright

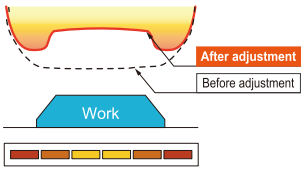
●Control pattern 1
Adjusting illuminance for a flat profile.



●Control pattern 2
Adjusting illuminace for a sloped profile.

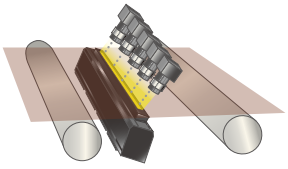


●Control pattern 3
Adjusting illuminance for convex profile.



Imaging Examples

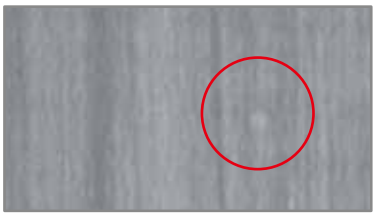
Inspection for Coating Irregularities on Film with Light Transmission



■ Conventional line light

It is difficult to detect the coating irregularities due to lack of brightness.

■ LN-GA-series Light Unit



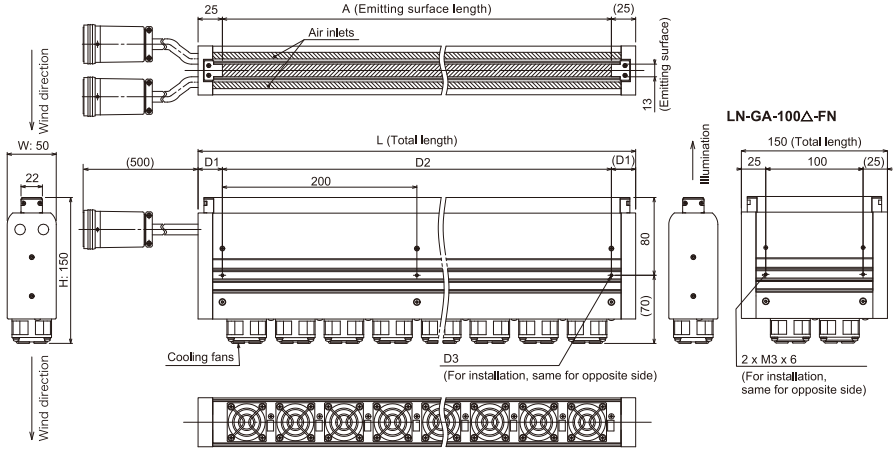
High-power light output makes it possible to detect the coating irregularities.

Other Applications

Steel plate inspection; glass inspection; sheet inspection; metal surface inspection; edge inspection; light source for line sensors, visual inspection, or image processing; etc.

Dimensions

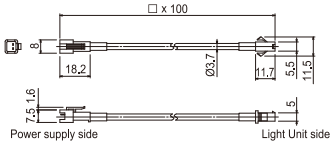
(Unit: mm)



Optional Light Cables (Sold Separately)

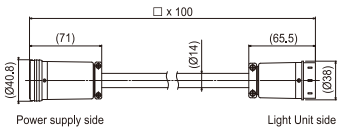
FCB-A-□-SM2

(2-pin fan cables, □ = 2, 3, 5, 10)



FCB-A-□-ME37

(37-pin metal connector cables, □ = 2, 3, 5, 10)



Also refer to the right-hand page for information on other types of cables.

Model name*1	LxWxH (mm)	Emitting surface length (Dimension A)*2	D1	D2	D3	Weight	Number of LED blocks*3	Power consumption	Required light cable connection	Applicable Control Units
LN-GA-100△-FN	150x50x150	100 mm	See the above diagram.			1.5 kg	4	77 W	12-pin metal connector, 5-pin temperature sensor connector, 2-pin fan connector	PSCC-J1A-30048-0401
LN-GA-200△-FN	250x50x150	200 mm	25	1 x 200 = 200	2 x M3 x 6	2.3 kg	8	154 W	12-pin metal connector x 2 pcs., 5-pin temperature sensor connector,2-pin fan connector	
LN-GA-300△-FN	350x50x150	300 mm	75	1 x 200 = 200	2 x M3 x 6	3.2 kg	12	231 W		
LN-GA-400△-FN	450x50x150	400 mm	25	2 x 200 = 400	3 x M3 x 6	4 kg	16	308 W	37-pin metal connector x 2 pcs.	PSCC-J1A-60048-0401
LN-GA-500△-FN	550x50x150	500 mm	75	2 x 200 = 400	3 x M3 x 6	4.8 kg	20	384 W		
LN-GA-600△-FN	650x50x150	600 mm	25	3 x 200 = 600	4 x M3 x 6	5.7 kg	24	461 W		
LN-GA-700△-FN	750x50x150	700 mm	75	3 x 200 = 600	4 x M3 x 6	6.5 kg	28	538 W		PSCC-J1A-10C48-0401
LN-GA-800△-FN	850x50x150	800 mm	25	4 x 200 = 800	5 x M3 x 6	7.4 kg	32	615 W	37-pin metal connector x 3 pcs.	
LN-GA-900△-FN	950x50x150	900 mm	75	4 x 200 = 800	5 x M3 x 6	8.2 kg	36	692 W		
LN-GA-1000△-FN	1,050x50x150	1,000 mm	25	5 x 200 = 1000	6 x M3 x 6	9.1 kg	40	768 W		

*1 "△" mark in the model name indicates the LED color with one of the following letters: SW (white), RD (red), or BL (blue).
*2 The available emitting surface lengths are in units of 100 mm.
*3 An LED block is a batch of LEDs implemented on the same circuit. This is also the minimum scope of settings for light intensity and alarm on the dedicated power supply, PSCC-J1A series. To repair the Light Unit , customers can selectively replace the Implementation Board including the LED blocks. If this replacement is required, please contact your local sales representative.

Notes:
• These Light Units conform to the safety standard EN 62471. • Input voltage : DC48 V
• In addition to the sizes listed above, we can manufacture standard Light Units up to 3,000 mm.

High-Illuminance Slim Line Lights

LN-HA Series

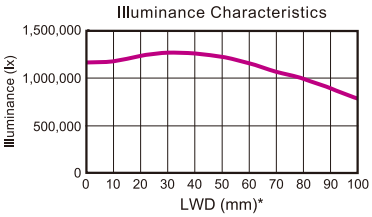
LED Color

Light Emitting Surface Length Up to 3,000 mm

Fan-less

- Industry-leading high illuminance with slim and fan-less case design
- Light emitting surface length up to 3 m
- Fan-less cooling system suitable for use in a clean room environment, such as for medical equipment production

Data for LN-HA Series



Light Unit: LN-HA-400SW

*Distans from the Light unit to the workpiece.

The data included is for reference only. Actual values may vary.

You can adjust the light intensity separately for each LED block.(100 mm)

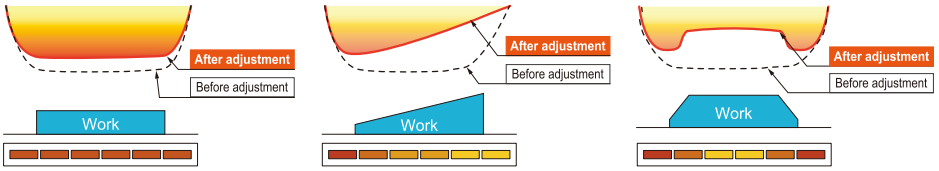
Light distribution control methods

Bright

●Control pattern 1
Adjusting illuminance for a flat profile.

●Control pattern 2
Adjusting illuminace for a sloped profile.

●Control pattern 3
Adjusting illuminance for convex profile.



Imaging Examples

Surface Inspection of Semiconductors

■ Conventional light with a natural air-cooling system

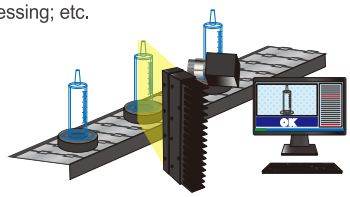
It is difficult to highlight the pinhole due to lack of light quantity.

■ LN-HA-series Light Unit

High-power light output from a low angle makes it possible to highlight the pinhole.

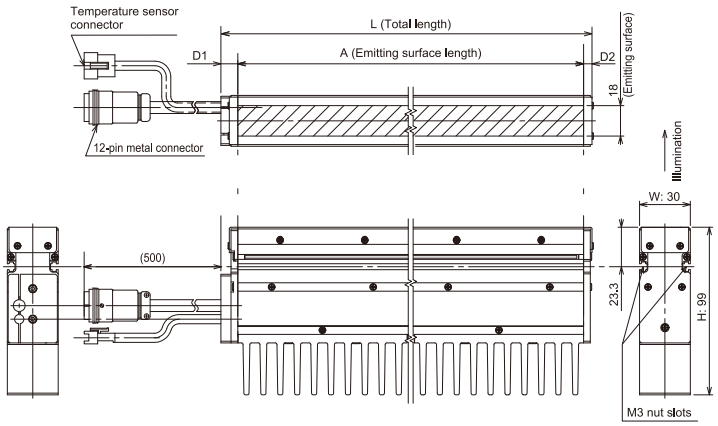
Other Applications

Inspection in a clean room; inspection of medical equipment, hygienic sheets, food packaging, food containers, and sanitary goods; light source for line sensors, visual inspection, or image processing; etc.



Dimensions

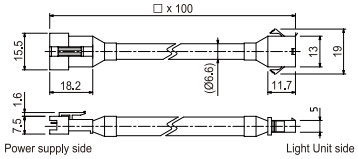
(Unit: mm)



Optional Light Cables (Sold Separately)

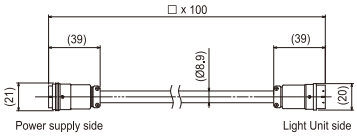
FCB-A-□-SM5

(5-pin temperature sensor cables, □ = 2, 3, 5, 10)



FCB-A-□-ME12

(12-pin metal connector cables, □ = 2, 3, 5, 10)



Model name	LxWxH (mm)	Emitting surface length (Dimension A)*1	D1	D2	Weight	Number of LED blocks*2	Power consumption	Required light cable connection	Applicable Control Units
LN-HA-100SW	115x30x99	100 mm	10	5	0.45 kg	1	20 W	12-pin metal connector, 5-pin temperature sensor connector	PSCC-J1A-30048-0402
LN-HA-200SW	215x30x99	200 mm	10	5	0.95 kg	2	39 W		
LN-HA-300SW	315x30x99	300 mm	10	5	1.35 kg	3	58 W		
LN-HA-400SW	415x30x99	400 mm	10	5	1.75 kg	4	77 W		
LN-HA-500SW	515x30x99	500 mm	10	5	2.15 kg	5	96 W		
LN-HA-600SW	615x30x99	600 mm	10	5	2.55 kg	6	116 W		
LN-HA-700SW	727x30x99	700 mm	16	11	3 kg	7	135 W	12-pin metal connector x 2 pcs., 5-pin temperature sensor connector	
LN-HA-800SW	827x30x99	800 mm	16	11	3.4 kg	8	154 W		
LN-HA-900SW	927x30x99	900 mm	16	11	3.8 kg	9	173 W		
LN-HA-1000SW	1,027x30x99	1,000 mm	16	11	4.2 kg	10	192 W		

*1 The available emitting surface lengths are in units of 100 mm.

*2 An LED block is a batch of LEDs implemented on the same circuit. This is also the minimum scope of settings for light intensity and alarm on the dedicated power supply, PSCC-J1A series. To repair the Light Unit , customers can selectively replace the Implementation Board including the LED blocks. If this replacement is required, please contact your local sales representative.

Notes:

• These Light Units conform to the safety standard EN 62471. • Input voltage : DC48 V

• In addition to the sizes listed above, we can manufacture standard Light Units up to 3,000 mm. Please contact your CCS sales representative for more information.

Light Cable Connectors

Refer to our website for product details. CCS Altec ▶Search

Model name	Light cable connection	Extension cables	Control Units
LN-GA-100△-FN	2-pin SM connector	FCB-A-□-SM2	PSCC-J1A-30048-0401
	5-pin temperature sensor connector	FCB-A-□-SM5	
	12-pin metal connector	FCB-A-□-ME12	
LN-GA-200△-FN LN-GA-300△-FN	2-pin fan connector	FCB-A-□-SM2	
	5-pin temperature sensor connector	FCB-A-□-SM5	
	12-pin metal connector×2	FCB-A-□-ME12×2	
LN-GA-400△-FN LN-GA-500△-FN LN-GA-600△-FN	37-pin metal connector×2	FCB-A-□-ME37×2	PSCC-J1A-60048-0401
LN-GA-700△-FN			PSCC-J1A-10C48-0401
LN-GA-800△-FN LN-GA-900△-FN LN-GA-1000△-FN	37-pin metal connector×3	FCB-A-□-ME37×3	

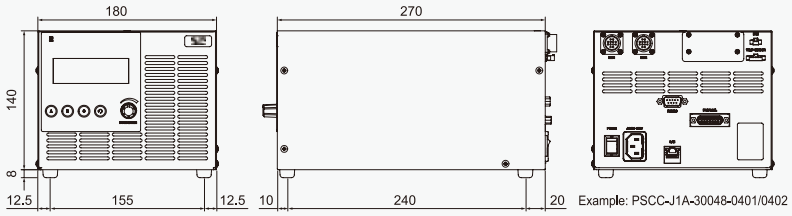
Model name	Light cable connection	Extension cables	Control Units
LN-HA-100SW LN-HA-200SW LN-HA-300SW LN-HA-400SW LN-HA-500SW LN-HA-600SW	5-pin temperature sensor connector	FCB-A-□-SM5	PSCC-J1A-30048-0402
	12-pin metal connector	FCB-A-□-ME12	
LN-HA-700SW LN-HA-800SW LN-HA-900SW LN-HA-1000SW	5-pin temperature sensor connector	FCB-A-□-SM5	
	12-pin metal connector×2	FCB-A-□-ME12×2	

Dedicated Control Units for LN-GA and LN-HA Series

PSCC-J1A Series

- Constant-current power system
- Light intensity can be set in 256 or 1000 levels with digital setting.
- Provides external light intensity control through parallel, RS-232C, and Ethernet communications.
- Detects errors, such as LED burnout, LED overheat, power unit overheat, Control Unit fan stoppage, and abnormal voltage in LED power supply.

Note: The light intensity for the parallel communications can be set only in 256 steps.



Example: PSCC-J1A-30048-0401/0402

(Unit: mm)

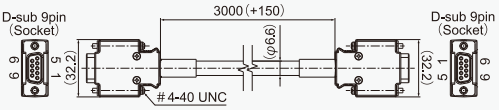
Model name	LN-GA Series	PSCC-J1A-30048-0401	PSCC-J1A-60048-0401	PSCC-J1A-10C48-0401	PSCC-J1A-15C48-0401
	LN-HA Series	PSCC-J1A-30048-0402	PSCC-J1A-60048-0402	PSCC-J1A-10C48-0402	PSCC-J1A-15C48-0402
Drive method		Constant-current system			
Light intensity control method		Digital setting			
Number of channels		1 channel			
Output voltage (rating)		24 to 48 VDC			
Output current (rating)		400 mA / blocks			
Output capacity		251 W (20 W)	550 W (70 W)	877 W (70 W)	1262 W (110 W)
Output connectors		Metal connector (12 pins) x 2 pcs.*	Metal connector (37 pins) x 2 pcs.*	Metal connector (37 pins) x 4 pcs.*	Metal connector (37 pins) x 4 pcs.*
Power supply voltage(rating)		100 to 240 VAC, 50/60 Hz			
Maximum number of blocks		12 blocks	25 blocks	42 blocks	60 blocks
Power consumption (reference value)		480 VA	960 VA	1540 VA	2200 VA
Cooling method		Forced cooling			
External control method: Connector name and format		Parallel communications: D-sub15P connector (M2.6 screws), RS232C communications: D-sub9P connector (#4-40 screws), Ethernet communications: LAN connector / RJ45			
External light intensity control		Parallel communications: Entire intensity control data, RS232C communications: Entire intensity control data and light distribution data, Ethernet communications: Entire intensity control data and light distribution data			
External ON/OFF		Photocoupler input through parallel comm. connector or command communications in RS232C or Ethernet Communications Mode			
CE marking		Safety standard: Conforms to EN61010-1,EN62311 EMC standard: Conforms to EN61000-6-2,EN61000-6-4 EN61000-3-2,EN61000-3-3			
Weight		4.0 kg	5.4 kg	8.4 kg	9.4 kg

* There are individual connectors for temperature sensor (5 pins) and fan (2 pins) each.
* LN-GA Series (the end of the model name:0401) * LN-HA Series (the end of the model name:0402)

External Control Cables

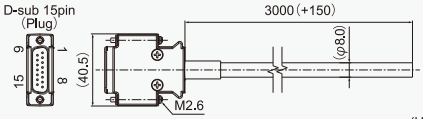
EXCB2 Series

EXCB2-9F-9F-3-CR



* This product is a cross cable.

EXCB2-15M-3



(Unit: mm)

Notes

- To ensure proper and safe use of the product, please read the Instruction Guide completely before using the product.
- The design and specifications of this product are subject to change without notification for product improvement.
- The workpiece imaging examples included in this brochure are intended to serve only as references to help you select a suitable Light Unit. Please verify the functionality and conditions required for your particular application before you make a final selection. The sample workpieces used in this brochure have been processed specifically for sample imaging. They are not intended to represent product quality and performance.

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