

AUTOWIDE SENSOR AWL

The Autowide Sensor AWL is used mainly for CPC (Center Position Control) to detect the center line on a strip (web). It can continuously control the center line at a constant position without changing the position of the sensor each time the width of the strip changes (large changes such as seams etc.)

The AWL is a new generation of detector which uses a high-frequency LED as the projector and SPDs (silicon photo diodes) as the detector.



Photo. 1 Autowide Sensor AWL631

FEATURES

- The LED of the light source ensures a longer service life.
- The SPD of the detecting element ensures a higher response than conventional sensors.
- The light source is lit at a high frequency and is synchronized.
There is almost no effect from peripheral light (less than 1/50, compared with a fluorescent lamp-type Autowide Sensor).
- The sensor gap can be fixed at any position.

Combination of the Autowide (AWL) and amplifier

AWL ——— CPC amp SA600
 ——— Strip guide amp SGA3000
 ——— Modular controller MGC1000

SPECIFICATIONS

Model	AWL631	AWL781	AWL931	AWL1081
Effective detecting length mm	450	600	750	900
Strip width mm	265(305)or more	315(355)or more		
Power consumption VA	28×2=56	30×2=60	32×2=64	34×2=68
Mass(1 set) kg	(5.2+5.8)×2=22	(6.8+7.2)×2=28	(9.1+9.5)×2=37	(9.1+9.5)×2=37
Air consumption* m ³ /min	2	3	4	4
Sensor gap	Type T : 300 to 1200 mm ; Type M : 1200 to 3000 mm			
Detecting element	SPD (silicon photo diode)			
Light source	LED (Light emitting diode)			
Frequency response	15 Hz			
Resolution	0.2 mm			
Linearity	±1.5%			
Effect of peripheral light	Almost none			
Power supply	100/110 VAC ±10% 50/60 Hz			
Ambient temperature	0~+50°C			
Painted color	Black			

Note : 1. The values in parentheses are for a model equipped with an air-purge mechanism.

2. * : When an air-purge mechanism is provided, an air source is needed.

The air consumption values listed are for 50kPa.

3. The weights in parentheses are shown in the order of projector and detector.

4. Use type M if the path line fluctuates greatly.

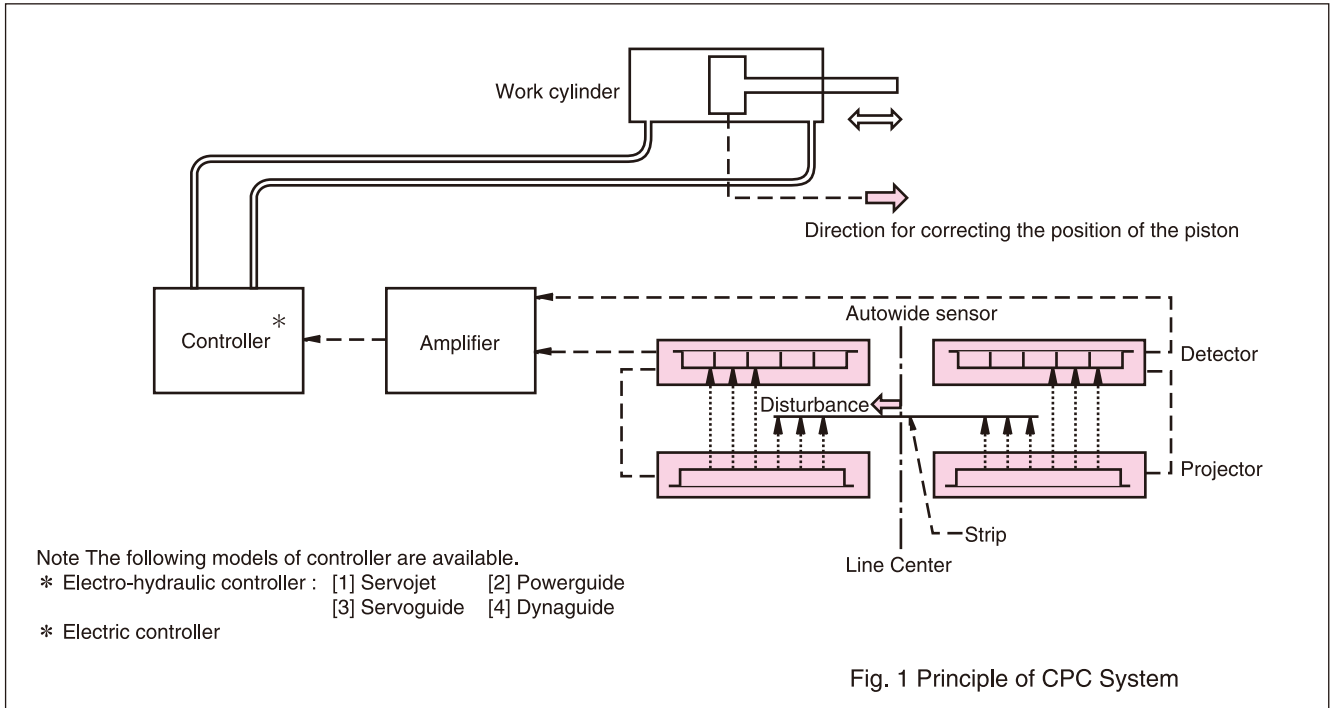
PRINCIPLE OF OPERATION

As illustrated in Fig.1, the right and left detectors detect the deviation of the strip edges from the center line, and send signals to the amplifier.

The amplifier amplifies the difference between the right and left signals and sends the signal to the hydraulic controller or electric controller to perform CPC.

When a strip travels with its center coincident to the

center of the line, the signal from the amplifier is zero. In this state, the work cylinder is positioned at the center. When a strip deviates either to the right or to the left, the positive or negative signal, which is determined by the direction for correction, is transmitted to the controller, and the cylinder works in the direction to correct the displacement of the strip.



MODEL CODE

AWL

	631	450 mm	Effective detecting length
	781	600 mm	
	931	750 mm	
	1081	900 mm	
	T	300 to 1200 mm	Sensor gap
	M	1200 to 3000 mm	
	N	Not provided	
	AA	Projector / Detector	Air-purging mechanism
	AD	Only detector	
	AP	Only projector	
	N	Not provided	Roll-out sensor
	R	Provided	
	N	Not provided	Strip sensor
	S	Provided	
○	C	With connector	Connector
Y	Y is affixed for special specifications.		

AWLS

	451N	150 to 450 mm	Effective detecting length
	751N	150 to 750 mm	
	T	300 to 1200 mm	Sensor gap
	M	1200 to 3000 mm	
	N	Not provided	
	AA	Projector / Detector	Air-purging mechanism
	AD	Only detector	
	AP	Only projector	
	N	Not provided	Roll-out sensor
	R	Provided	
○	C	With connector	Connector
Y	Y is affixed for special specifications.		

For details about AWLS(mono lighting type), Please ask an office.

APPLICATION EXAMPLE OF CPC SYSTEM

1. PAYOFF REEL SYSTEM (Unwinding)

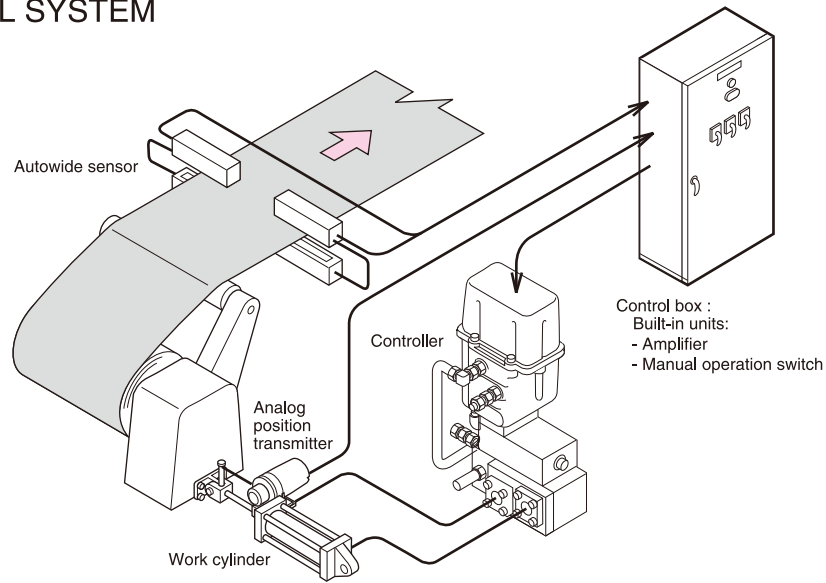


Fig. 2

2. STEERING ROLL SYSTEM (Intermediate Guide Roll)

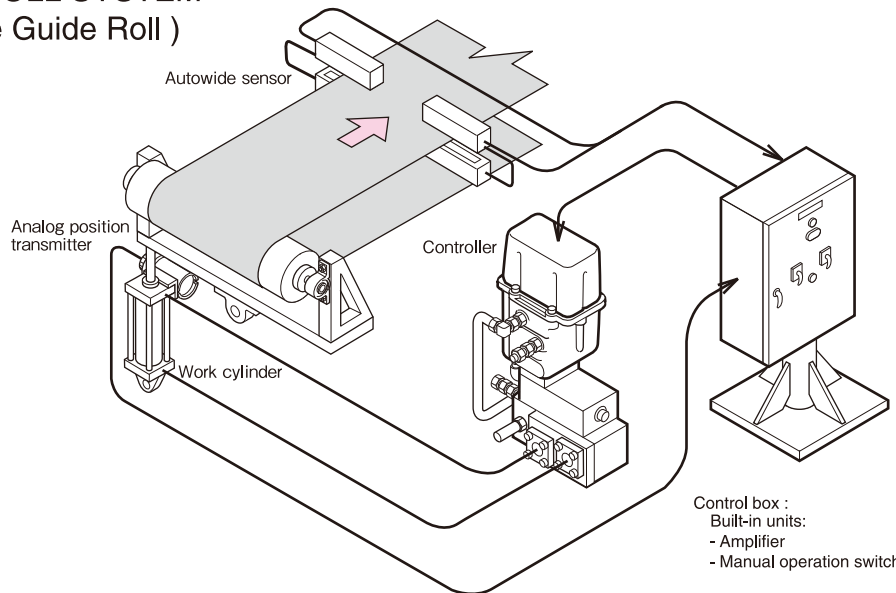


Fig. 3

3. TENSION REEL SYSTEM (Winding Reel)

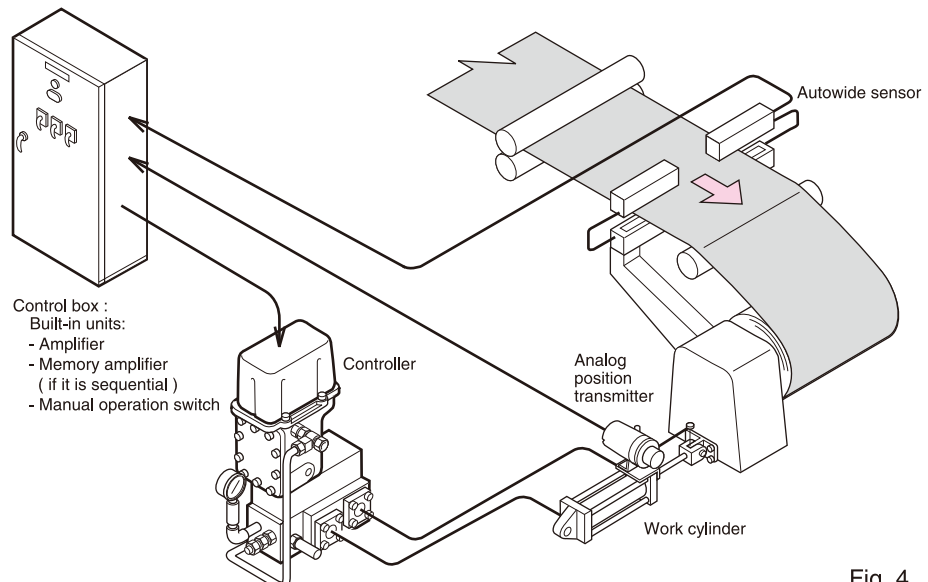
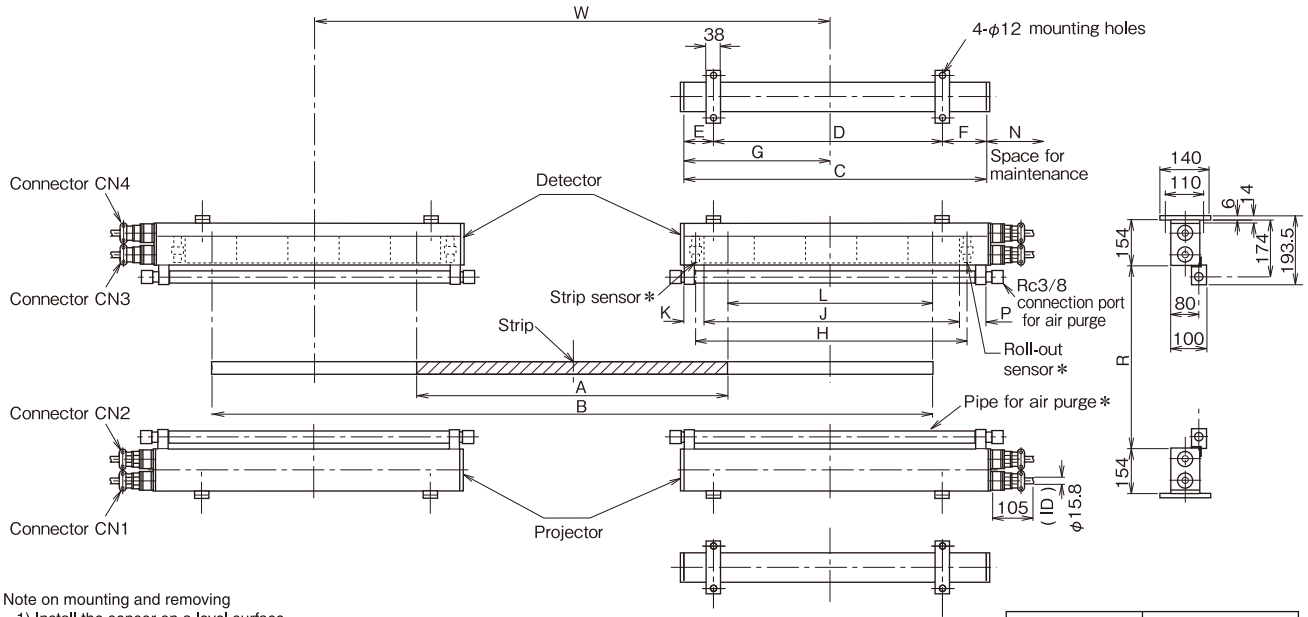


Fig. 4

EXTERNAL DIMENSIONS



- Note on mounting and removing
- 1) Install the sensor on a level surface.
 - 2) Allow space for maintenance.
 - 3) The items marked with * are mouted according to a specification.
 - 4) All wires are equipped with connectors.

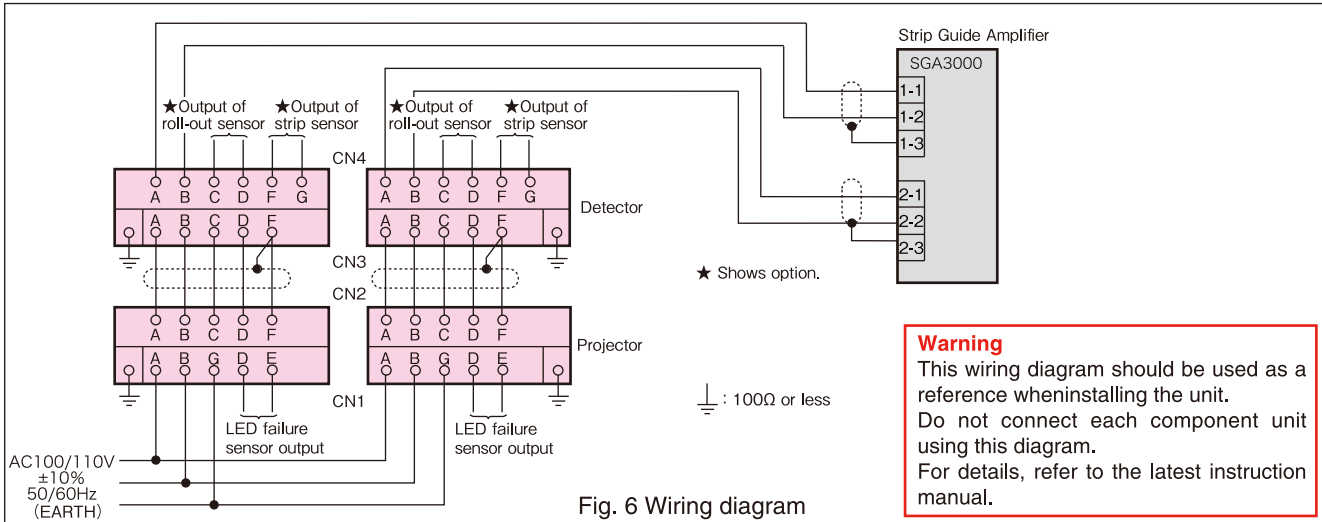
Model	Size "R" [mm]
AWL***T	300 to 1200
AWL***M	1200 to 3000

Fig. 5 AWL

Table of dimensions [mm]

Model	Effective detecting length L	Projecting length	Min. strip width A		Max. strip width B	C	D	E	F	G	H	J	K	N	P
			Air purge												
			None	Provided											
AWL631	450	530	265	305	A+900	740	500	100	140	350	655	621	39.5	800	79.5
AWL781	600	730	315	355	A+1200	940	700	100	140	450	809	775	62.5	1000	102.5
AWL931	750	1098	315	355	A+1500	1310	1000	135	175	527	962	928	63	1350	319
AWL1081	900	1098	315	355	A+1800	1310	1000	135	175	603	1115	1081	63	1350	166

WIRING DIAGRAM



Warning
 This wiring diagram should be used as a reference when installing the unit. Do not connect each component unit using this diagram. For details, refer to the latest instruction manual.

Fig. 6 Wiring diagram

We reserve the right to change the specifications in this catalog without prior notice for improving and updating our products.



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