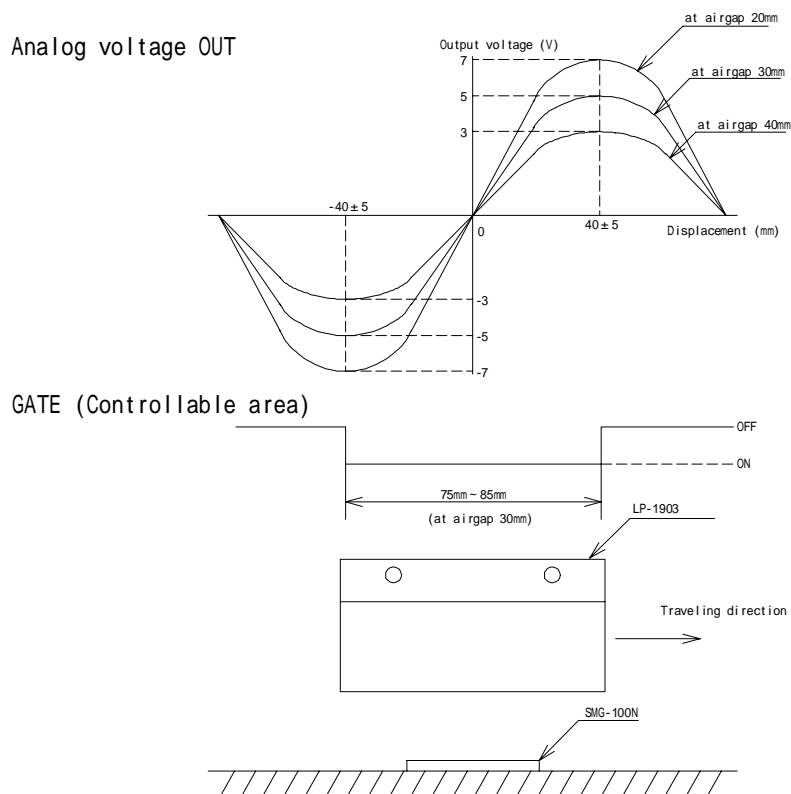


## ***LP-1903 Long range positioning Sensor*** **INSTRUCTIONS**

### 1. Summary

LP-1903 outputs an analog voltage which is proportionate to a displacement from a center of a magnetic tape; SMG-100N (ANALOG OUT) and Gate signal (GATE OUT) which signified that the LP-1903 is on the guide tape.



### 2. Model No.

LP-1903-80; DC+12V power supply, Analog output area 80mm

LP-1903H-80; DC+24V power supply, Analog output area 80mm

### 3. Specifications

Item	Content
Power supply	DC+12V $\pm 5\%$ ripple 1% max. (LP-1903-80) DC+24V $\pm 5\%$ ripple 1% max. (LP-1903H-80)
Power consumption	50mA max.
Operation temperature	-10 to +50 (storage; -20 to +60 )
Operation humidity	35% to 90%RH (non-condensing) (storage; 30% to 90%RH, non-condensing)
Operational Air gap	20 to 40mm (with SMG-100N)
Operational deviation	$\pm 5$ mm (from trucking direction center of SMG-100N)
Target Magnet	SMG-100N (North pole side of magnet should face to LP-1903.)
Insulation resistance	DC500V 100M min. (between case and power) DC500V 100M min. (between analog out and power)
I/O cord	6 0.2mm <sup>2</sup> 1m
<b>ANALOG OUT</b>	(Fig.1)
Voltage	$\pm (5 \pm 1)$ V Insulated output (at air-gap 30mm)
Output impedance	2k max.
Zero offset	$\pm 0.2$ V max.
Temp. drift	3mV/ (0V output point)
<b>GATE OUT</b>	(Fig.2)
Area	75 to 85mm (at air-gap 30mm)
Output logic	Normally open
Circuit	NPN Transistor open collector DC 30V max. sink current 100mA max

Fig.1 (ANALOG output)

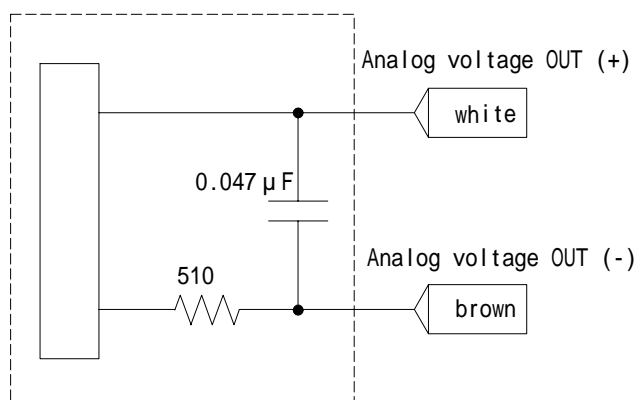
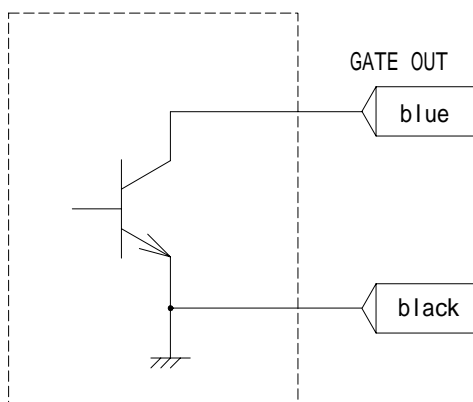
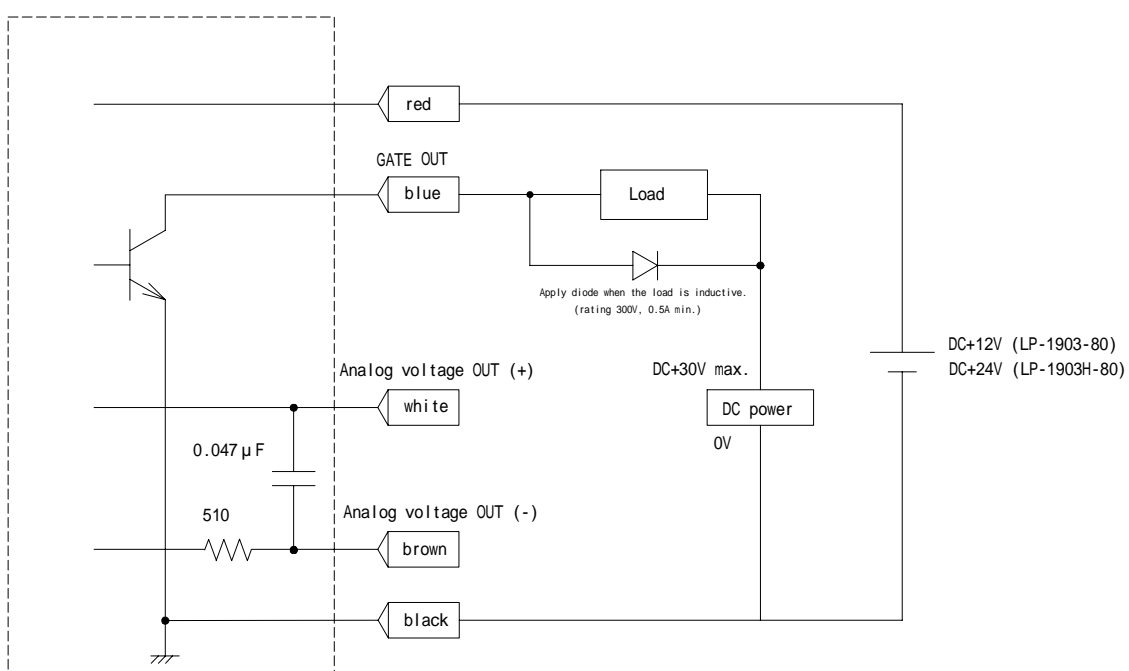


Fig.2 (GATE output)

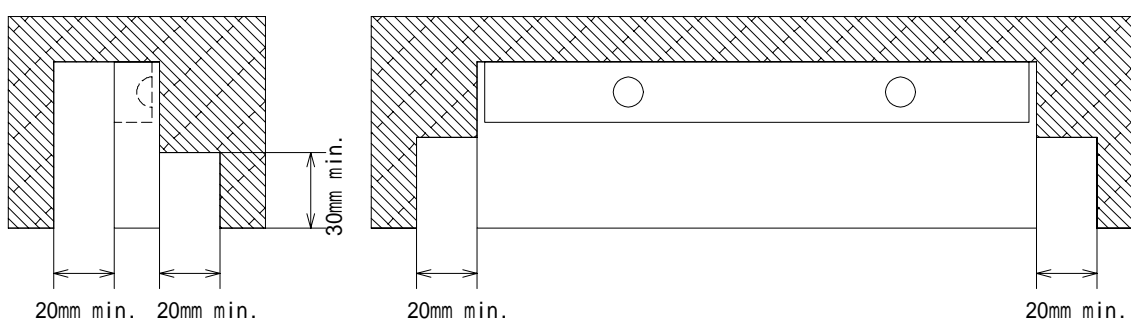


#### 4. Wiring

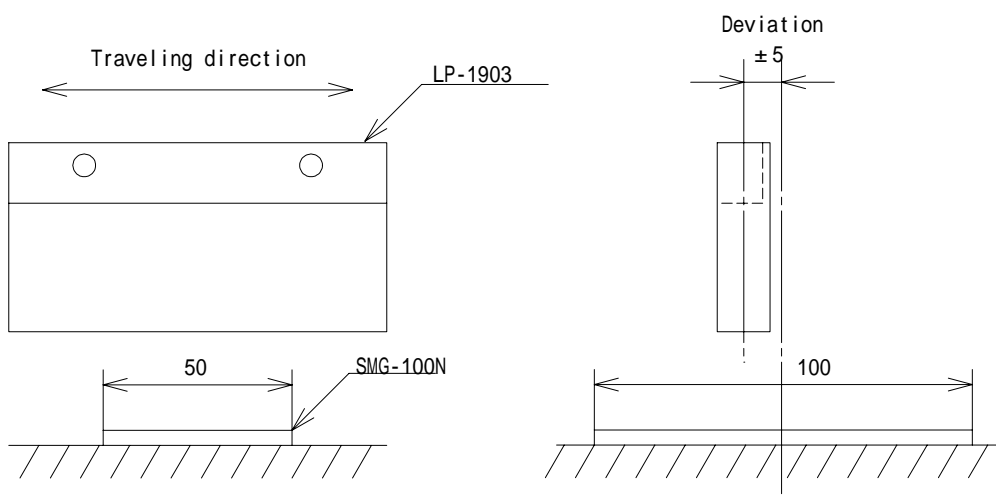


## 5. Mounting

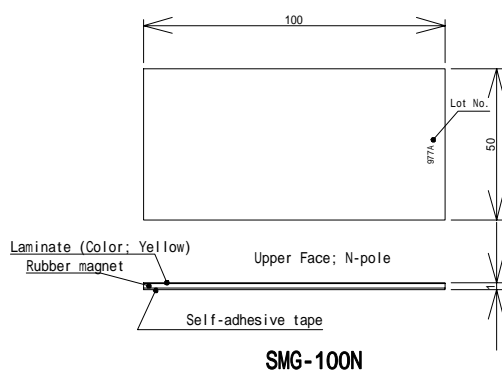
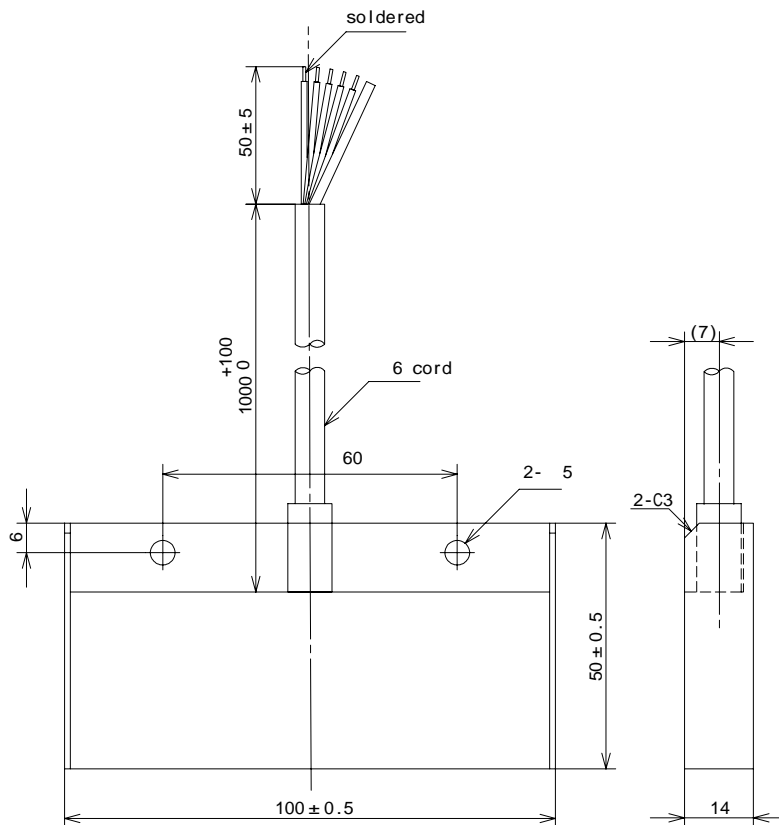
LP-1903 should keep distance from magnetism generators such as motor. Vicinity of magnetic material causes LP-1903 inaccurate output. In case of mounting LP-1903 on magnetic material, keep distance from the material as follows. Use non-magnetic screws in any case.



## Correlation between LP-1903 and SMG-100N



## 6. External Dimensions



## 7. Notices

- (1) Avoid neither noise nor excessive surge on ANALOG OUT and GATE OUT.
- (2) Strong tension or repeatable bending to input/output cord may cause snapping of wires.
- (3) Keep away from water since the housing is neither water nor splash proof.  
Avoid dew-condensation.
- (4) Keep away from solvent chemicals (acetone, thinner), since case or cord may be deformed by those substances.

## 8. Warranty

Goods are warranted (exchange or repair) return to factory basis against defects in workmanship and material for a period of one year from a date of delivery.

The damage caused by following reasons is out of the warranty.

- (1) Inappropriate installation and usage.
- (2) Abnormal effect from peripheral equipment.
- (3) Alternation or repair without us.
- (4) Force majeure.

The Induced damage is out of the warranty.

## 9. Range of service

Prices on the price list are not including following fees. Consult us for the fees.

- (1) Adjustment, instruction and presence at installation.
- (2) Maintenance and repair.
- (3) Technical advice and training.

\* Specifications are subject to change without notice. \*