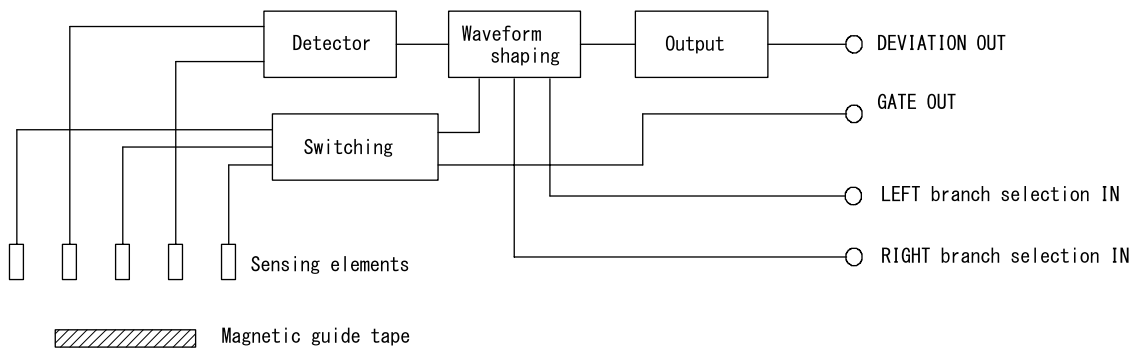


GS-1919 Guide Sensor **INSTRUCTIONS**

1. Summary

GS-1919 is an analog voltage output (DEVIATION OUT) type magnetic navigation sensor for AGV. MACOME original magnetic sensor elements "saturable coil" are applied in GS-1919. An analog voltage changes proportional to a relative position between GS-1919 and a magnetic guide tape. GS-1919 has a route selection function (straight, right or left) at a junction. By inputting branch selections signal the analog voltage (DEVIATION OUT) shifts upward or downward according to the instruction signal. Gate signal (GATE OUT) indicating a controllable area is simultaneously output.

Compositions



Model number

GS-1919 ; Power supply DC+12V

GS-1919-24 ; Power supply DC+24V

2. Specifications

Item	Content															
Power supply	DC+12 V $\pm 2\%$, ripple 1% max.(GS-1919)															
	DC+24 V $\pm 2\%$, ripple 1% max.(GS-1919-24)															
Power consumption	100mA max.															
Operation temperature	from -10 to +60°C															
Operation humidity	from 30% to 90%RH(avoid dew condensation)															
Housing	IP-54															
Operation Air gap	from 20 to 40mm (with MGL, MGR series & MG-611A)															
Target Magnet	MGL series MGR series & MG-611A															
	(North pole side of magnet should be faced to GS-1919)															
Cord length	2000mm															
Insulation resistance	100M Ω min. (between 0V and case under DC500V)															
DEVIATION OUT																
Wave form	Fig. 1															
Direction	Fig. 2															
Circuit	Fig. 3															
Output element	NPN transistor Emitter															
Load resistor	20k Ω min.															
Inclined area	100 \pm 10mm															
Inclination	1 \pm 0.3V/cm															
Center voltage	5V \pm 0.5V															
Upper clamp voltage	9 to 10V															
Lower clamp voltage	0 to 1V															
Shift voltage	1 to 2V (Fig. 4)															
GATE OUT																
Area	350 \pm 20mm															
Output logic	Negative															
Circuit	NPN Transistor open collector															
	DC 30V max. sink current 50mA max															
	Fig. 5															
SELECTION IN																
Combination	L: Disconnect H: DC+12V \pm 2%															
	<table border="1" data-bbox="576 1592 1401 1890"> <thead> <tr> <th data-bbox="576 1592 1038 1630">Mode</th> <th data-bbox="1038 1592 1230 1630">Right</th> <th data-bbox="1230 1592 1401 1630">Left</th> </tr> </thead> <tbody> <tr> <td data-bbox="576 1630 1038 1668">Straight</td> <td data-bbox="1038 1630 1230 1668">L</td> <td data-bbox="1230 1630 1401 1668">L</td> </tr> <tr> <td data-bbox="576 1668 1038 1706">Right branch</td> <td data-bbox="1038 1668 1230 1706">L</td> <td data-bbox="1230 1668 1401 1706">H</td> </tr> <tr> <td data-bbox="576 1706 1038 1744">Left branch</td> <td data-bbox="1038 1706 1230 1744">H</td> <td data-bbox="1230 1706 1401 1744">L</td> </tr> <tr> <td data-bbox="576 1744 1038 1783">*Don't use this combination*</td> <td data-bbox="1038 1744 1230 1783">H</td> <td data-bbox="1230 1744 1401 1783">H</td> </tr> </tbody> </table>	Mode	Right	Left	Straight	L	L	Right branch	L	H	Left branch	H	L	*Don't use this combination*	H	H
Mode	Right	Left														
Straight	L	L														
Right branch	L	H														
Left branch	H	L														
Don't use this combination	H	H														
Circuit	Fig. 6															

Fig. 1 (Deviation output Waveform)

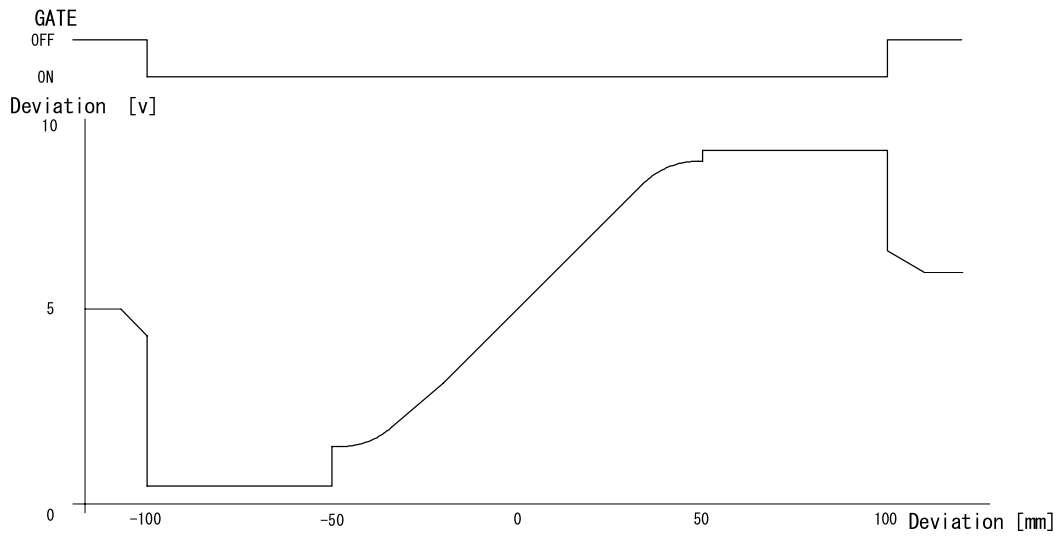


Fig. 2 (Deviation output direction)

Voltage is about 5V when a center of GS-1919 is in line with a center of guide tape. Voltage will be increased from 5V to 10V when the GS-1919 deviates as following position.

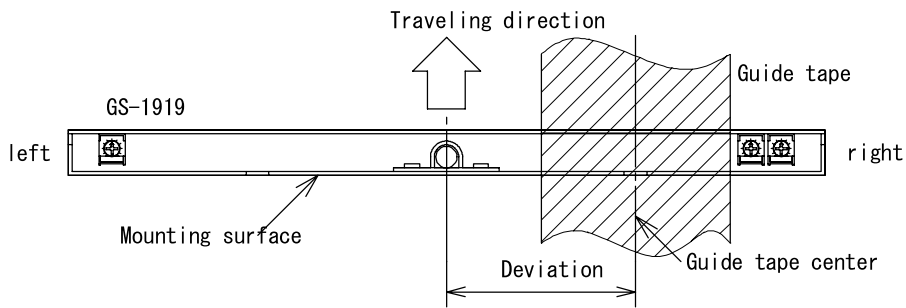


Fig. 3 (Deviation output circuit)

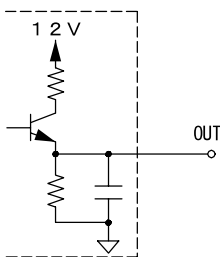


Fig. 4 (Shift voltage)

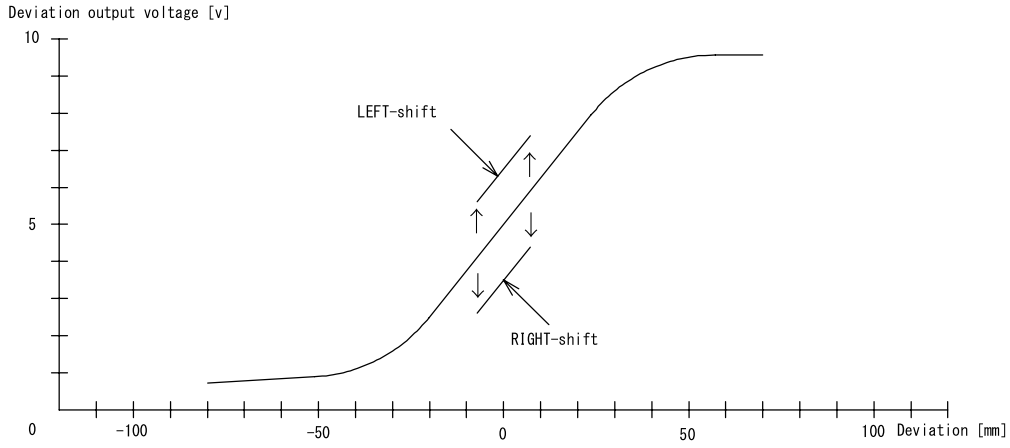


Fig. 5 (GATE output circuit)

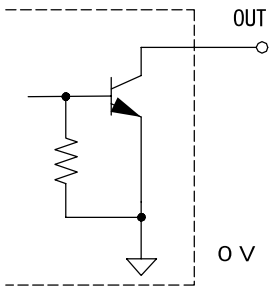
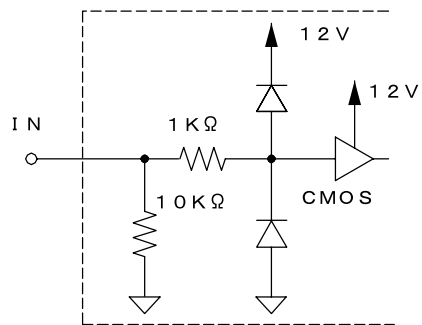


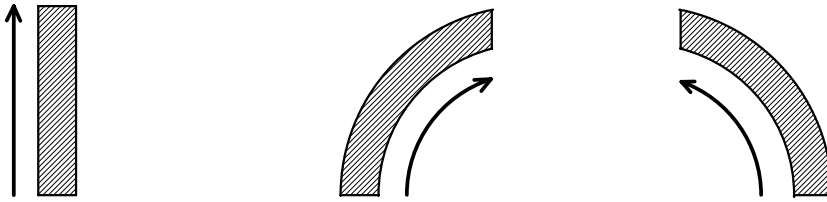
Fig. 6 (Route selection input circuit)



3. Course selection

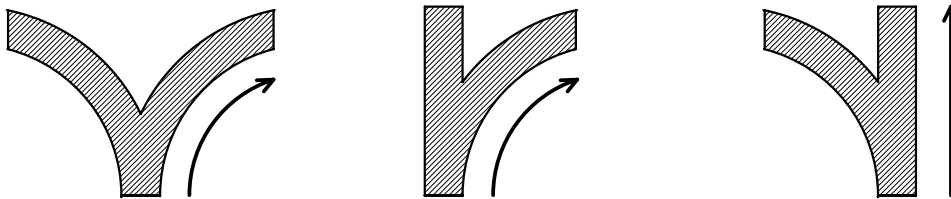
1) Straight mode

Normally this mode should be selected.



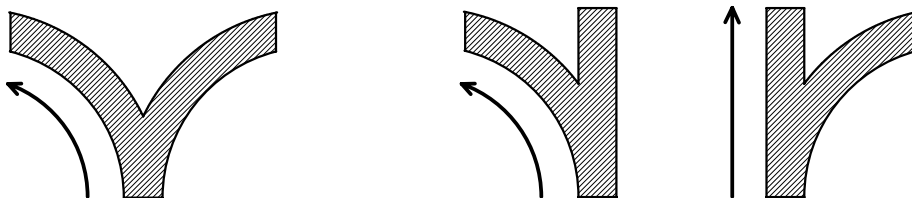
2) Right branch selection mode

This mode should be selected to choose following route at a junction.

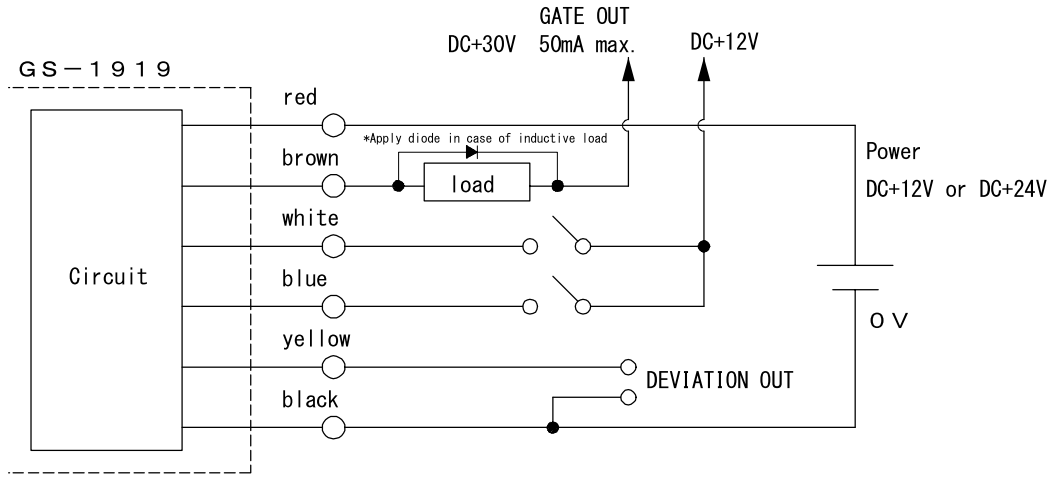


3) Left Branch selection mode

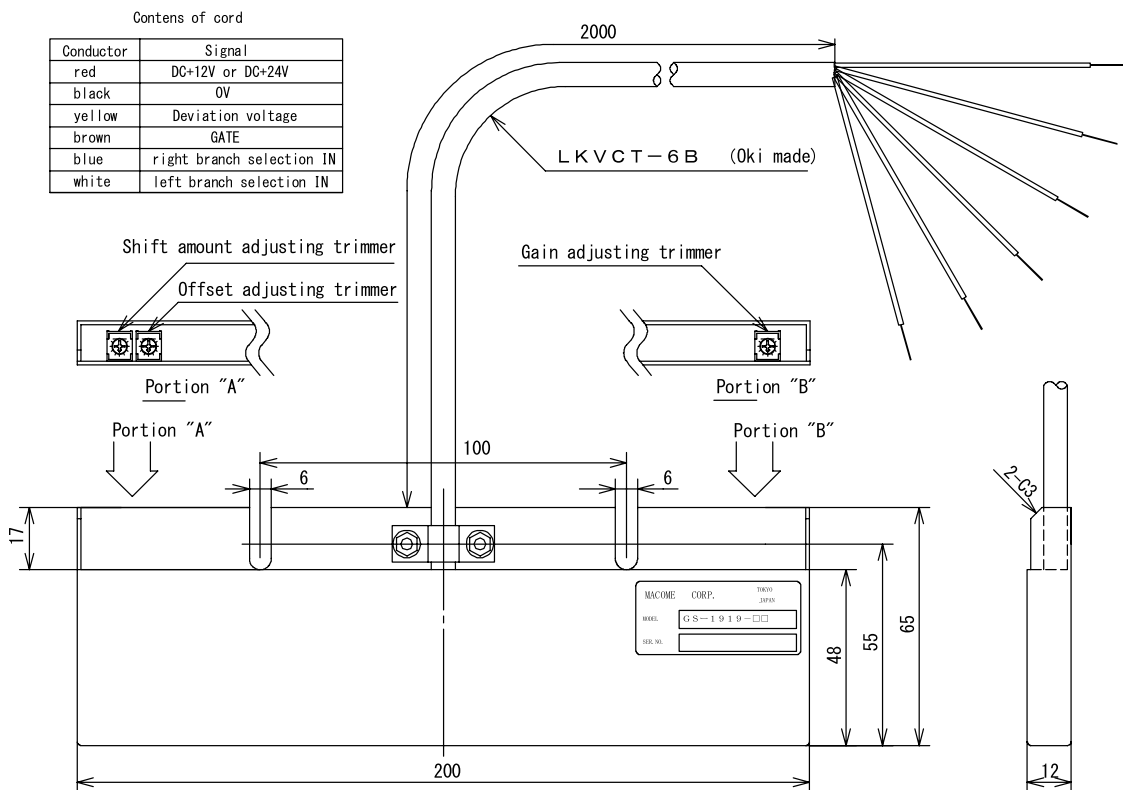
This mode should be selected to choose following route at a junction.



4. Wiring

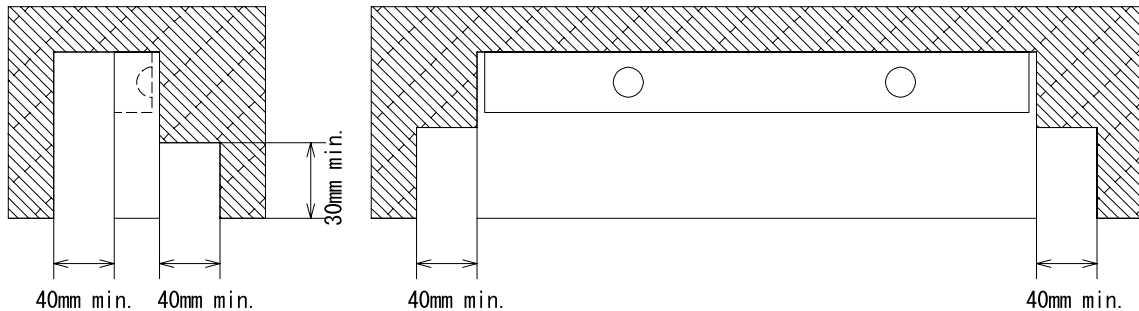


5. External Dimensions



6. Mounting

GS-1919 should keep distance from magnetism generators such as a motor. Vicinity of a ferrous material causes GS-1919 inaccurate output. In case of mounting GS-1919 on ferrous material, keep distance from the material as follows.



7. Notices

- Wire input/output cable separately from power line.
- Strong tension or repeatable bending to input/output cable may cause snapping of wires.
- Keep away for water since the housing is neither water nor splash proof.
- Keep away from solvent chemicals (acetone, thinner) since a case or a cable may deformed by those substances.
- In case of connecting inductive loads such as relays on a data code output terminal, apply spark killers to the noise generating elements.
- Magnetic guide tape should not be embedded in a ferrous material floor, since magnetic flux from guide tape will be greatly reduced when it is buried in ferrous material.

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. *