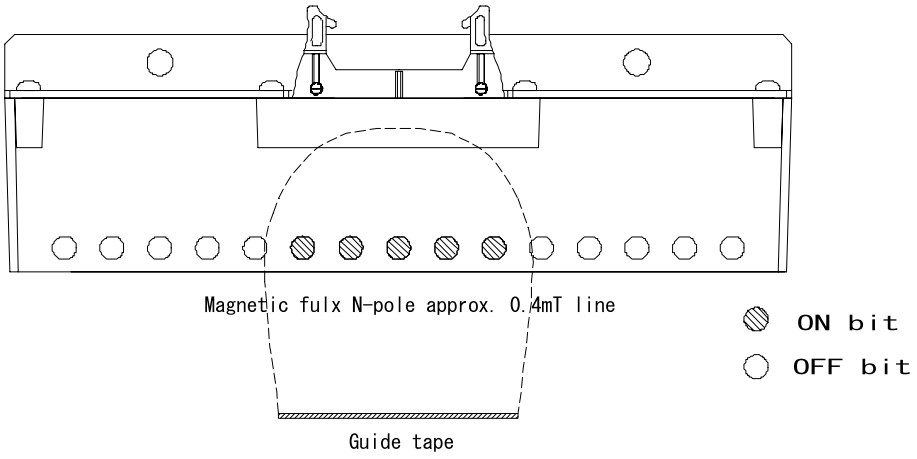
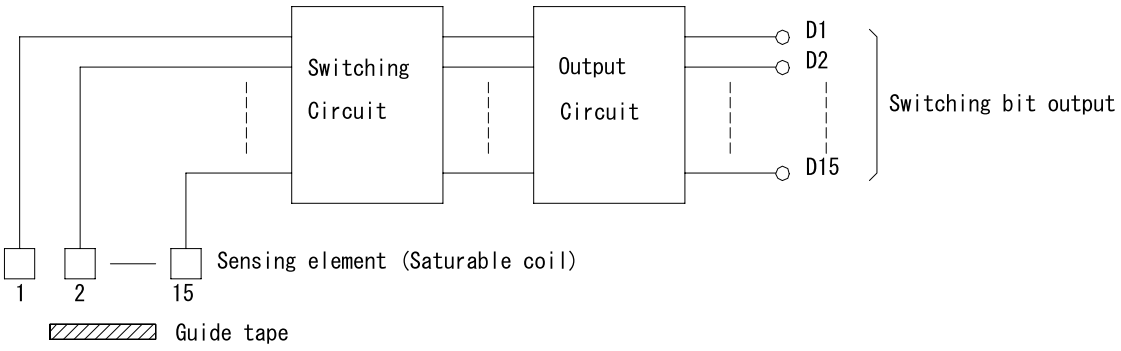
GS-115 Guide Sensor
INSTRUCTIONS

1. Summary

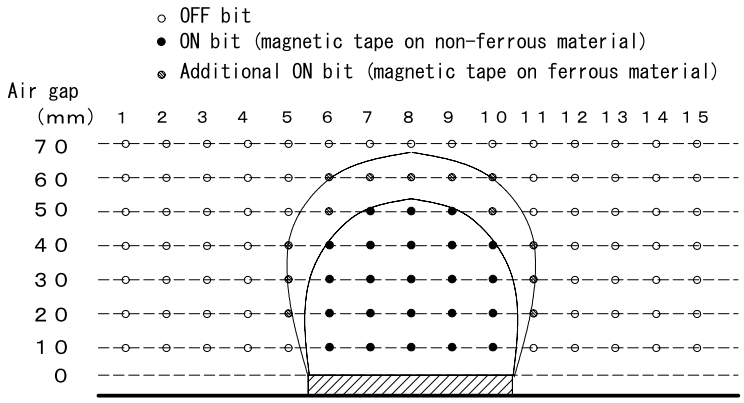
GS-115 is a 15 bits multiple switching output type guide sensor for magnetic tape navigation AGV. Built-in 15 bits magnetic switches formed a line in every 10mm pitch detect magnetic flux from a magnetic guide tape. The correlation between GS-115 and a magnetic guide tape can be recognized by output ON/OFF parallel bit pattern.



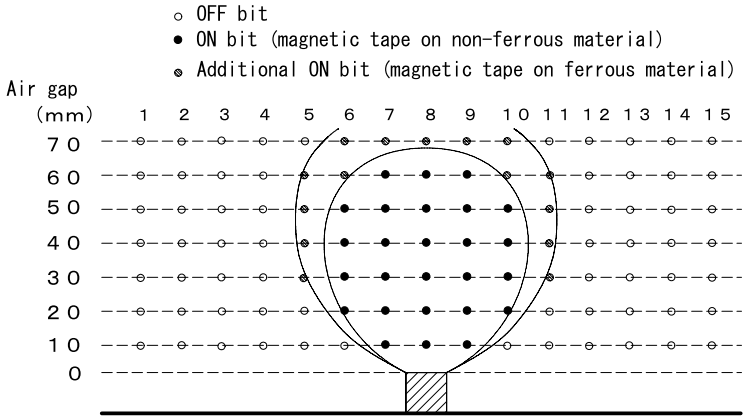


2. Operation air gap

Following figures show rough switching patterns of GS-115 against magnetic tape MGL-50 series and MG-611A at air gap from 10mm to 70mm. Magnetic flux from a guide tape is enlarged when it is on ferrous material. Therefore activating numbers of switches are magnified.



Magnetic guide tape (MGL-50 series)



Magnetic guide tape (MG-611A)

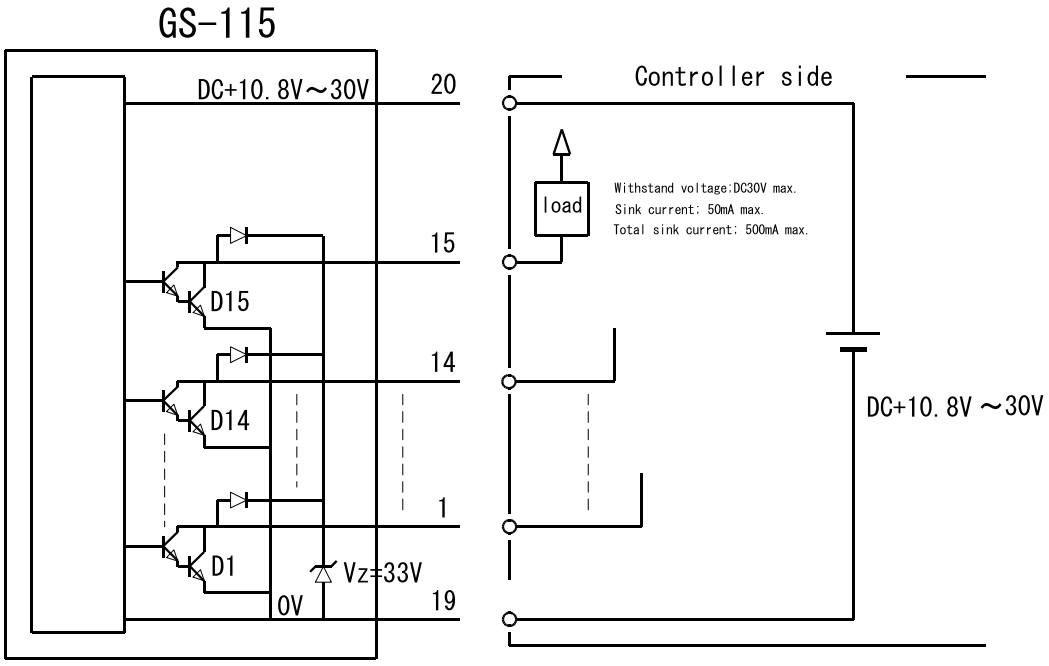
NOTE:

Both magnets 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.

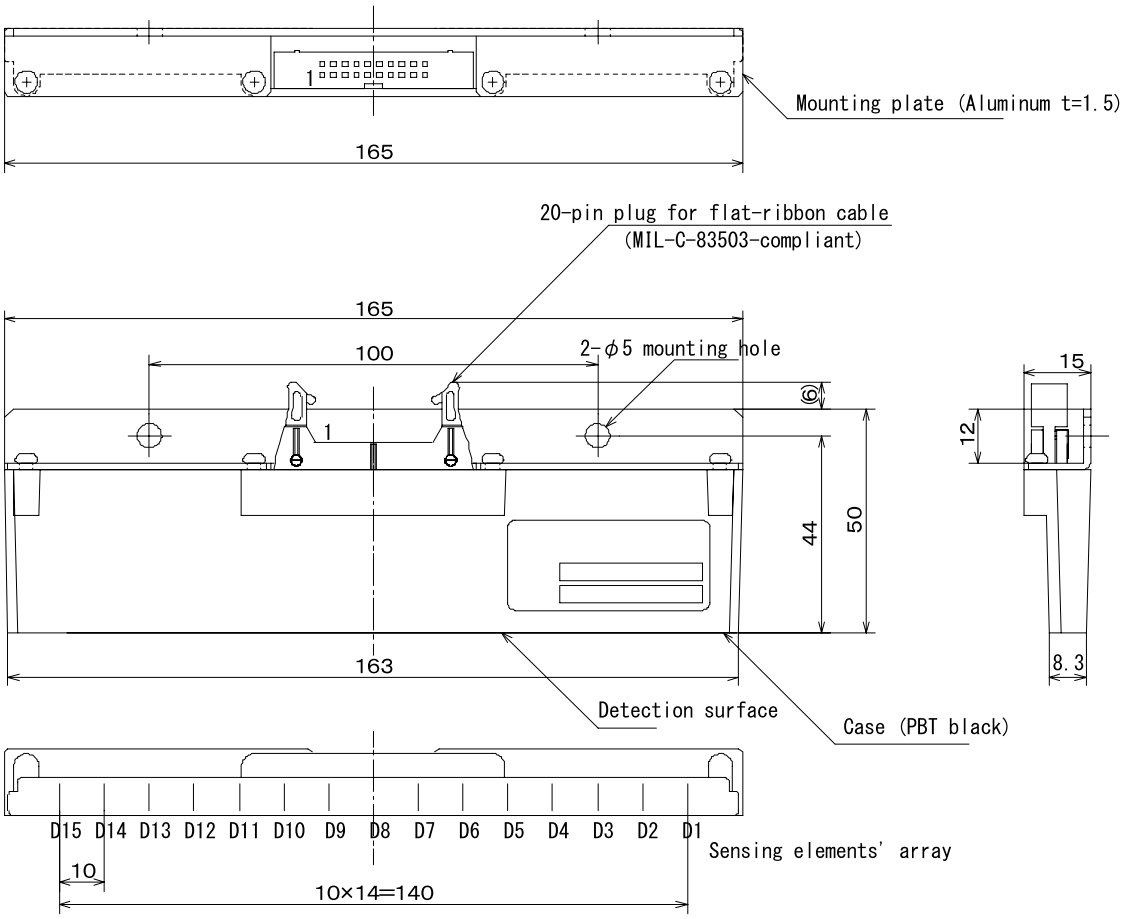
3. Specifications

Items	Contents
Power supply	DC+10.8 to +30V; ripple 2% max.
Power consumption	35mA max. (at DC+24V) 70mA max. (at DC+12V) 75mA max. (at DC+10.8V)
Operating Temperature	from -10 to +60℃
Operation Humidity	from 35% to 95%RH (no condensation)
Storage Temperature	from -30 to +80℃
Storage Humidity	from 35% to 95%RH (no condensation)
Target	MGL, MGR series and MG-611A Guide Tape
Operation Air gap	from 5 to 40mm (with MGL and MGR series) from 20 to 50mm (with MG-611A)
Sensitivity	N-pole;0.4mT and over/ S-pole; 6mT and over
Output	
Element	15 bits
Pitch	10mm at even intervals
Logic	Normally open
Circuit	NPN open collector (DC30V, 50mA max.)
Residual voltage	2V max. (at 50mA)
Response	1ms

4. Wiring

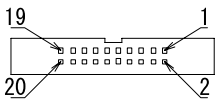


5. External Dimensions



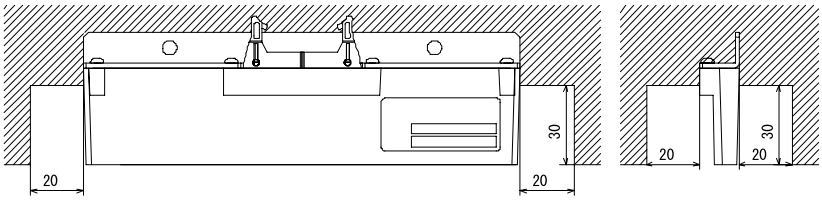
Approx. 110g

Pin No.	Contents	Pin No.	Contents
1	D1 out	11	D11 out
2	D2 out	12	D12 out
3	D3 out	13	D13 out
4	D4 out	14	D14 out
5	D5 out	15	D15 out
6	D6 out	16	Not connected
7	D7 out	17	Not connected
8	D8 out	18	Not connected
9	D9 out	19	0V
10	D10 out	20	+V



6. Mounting

GS-115 should keep distance from magnetism generators such as a motor. Vicinity of a ferrous material causes GS-115 inaccurate output. In case of mounting GS-115 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.

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. *