

Steering Antenna

HG 193

For guiding unmanned vehicles inductive systems have proven to be an excellent choice. In order to meet the requirements of such systems with regards to accuracy, various steering antennas have been developed.

Steering antenna HG 193 is a very affordable high performance device. It uses a cross coil system for the assumption of horizontal and vertical field lines. Output voltage, which is proportional to the vertical shares of field lines, is a measure for lateral displacement. These output values are valid for constant wire current and constant sensor height above the guidance wire.

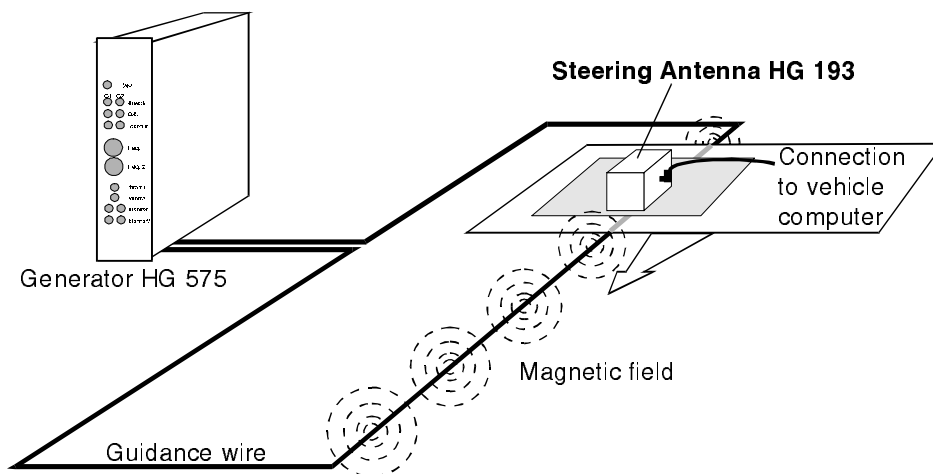
Spindle potentiometers within the antenna enable setting four important parameters (also refer to back page).

In addition, the steering antenna houses a detector assembly (squelch) for sum voltage. This detector assembly will output a zero level whenever sum voltage exceeds a certain value. It enables detecting whether or not a guidance wire is available.

Due to its extremely competitive price and its extraordinarily large variety of possibilities, steering antenna HG 193 is especially suitable for so-called 'low cost' AGV concepts.



Inductive Track Guiding System including Steering Antenna HG 193 and Frequency Generator HG 575



Pre-Setting and Trimming Steering Antenna HG 193

Pre-Settings

The following values are pre-set within the steering antenna:

- Driving current = 150 mA
- Height of sensor above guidance wire = 200 mm

The driving current detector is set to approx. 30 mA.

In case these values do not match the values required for your system, it is possible to adjust them accordingly.

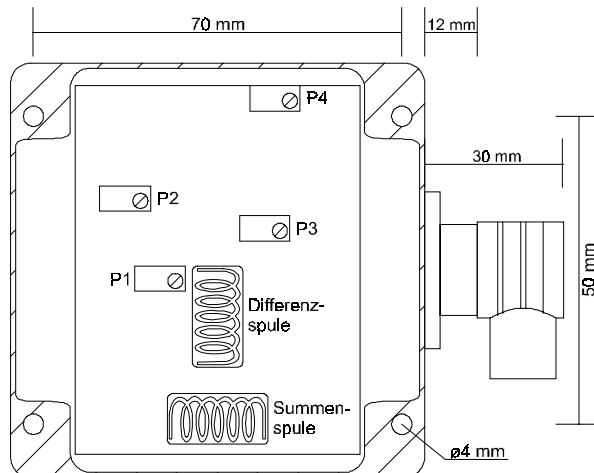
Trimming the Steering Antenna

The following four values may be set by using the spindle potentiometer within the antenna enclosure:

- P1 zero point of difference voltage
- P2 sensitivity of difference voltage
- P3 sensitivity of sum voltage
- P4 switching point of sum voltage detector

We strongly recommend not changing zero point of the difference voltage (P1) and sensitivity of the sum voltage (P3).

Position of the Spindle Potentiometers within the Steering Antenna



Technical Data

- Dimensions	Enclosure: 80 x 82 x 55 mm
- Connector	optionally available: mating connector (6 wire) allocation: Pin1 Shield Pin2 0 Volt (Ground) green cable Pin3 Difference voltage grey cable Pin4 Sum voltage detector brown cable Pin5 Sum voltage white cable Pin6 +12 V yellow cable
- Operating voltage	12 V
- Current assumption	approx. 20 mA
- Variation range or output voltage	1 to 10.7 V
- Ambient temperature	0 to 40° C
- Operating frequency	10 kHz
- Settings	via spindle potentiometers