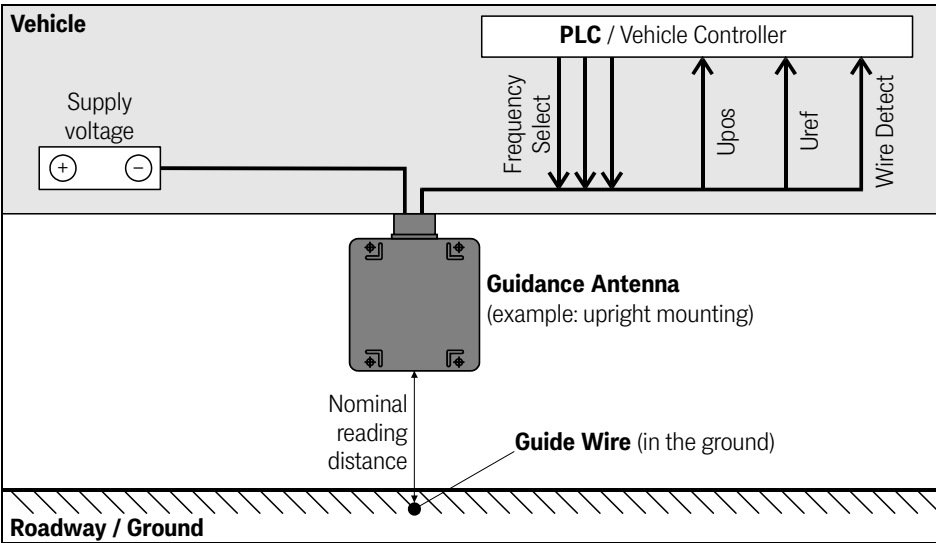


**Operational Description**



**Main Features**

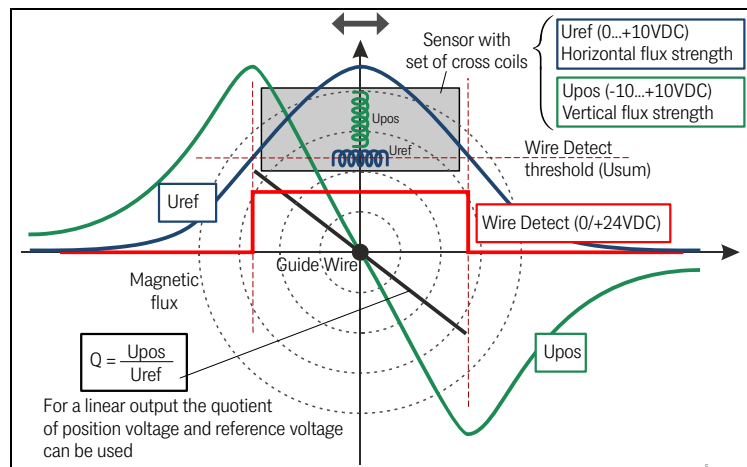
- Inductive track guidance antenna for AGVs
- Glass fibre reinforced plastic casing (IP65, fully sealed)
- 8 fixed default frequencies from the 5,000 ... 12,000 Hz range with dynamic selection of active frequency via 3 digital inputs (Fsel 1-3)
- M3 connector with matching plug (incl. cable sleeves 10-13 mm; 13-16 mm)
- Analog output  
 $U_{ref}$  (0 ... +10 VDC),  
 $U_{pos}$  (-10 ... +10 VDC)
- Digital output  
 $U_{detect}$  (0 / +24VDC)
- Antenna sensitivity and output adjustable by 5 potentiometers
- Available for different wire currents, reading heights and frequency set-ups

For track guiding of automated guided vehicles (AGV), inductive guidance systems have proven to be very reliable. A frequency generator feeds a current into a guidance wire installed in the ground. Along this wire an alternating magnetic field is generated. The inductive antenna detects the horizontal and vertical components of the magnetic field by a specific set of coils.

When moving the antenna perpendicularly over the guide wire two characteristic voltages are induced. The  $U_{ref}$  (sum voltage) shows a bell shaped curve with a maximum directly above the wire. The  $U_{pos}$  (difference voltage) shows maxima at both sides of the wire and falls to zero directly above the wire.

The two output voltages can be used to determine the lateral deviation of the antenna from the wire. For a simple steering function connect  $U_{pos}$  to the steering drive using a P-controller.

The digital Wire-Detect output switches to +24 VDC if the induced  $U_{ref}$  voltage exceeds an adjustable threshold. The wire detect signal is often used to stop the AGV in case it drives off the track.

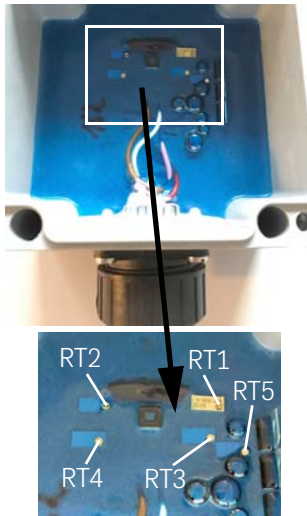


**Schaltbau connector M3 12+1 pin (all wires 0.75 mm<sup>2</sup>)**

Pin	Function	Pin	Function
1	+24V (PWR)	8	Do not connect
2	GND	9	„Wire detected“
3	Fsel1	10	Fsel3
4	Fsel2	11	U <sub>ref</sub>
5	Do not connect	12	U <sub>pos</sub>
6	Do not connect	PE	Shield
7	Do not connect		

**Adjustments**

Adjusting the antenna via spindle potentiometers RT 1 to RT 5. Remove the antenna lid to reach them with a small screw driver. See diagrams to the right for what the potentiometers change.



**Factory Settings**

See table Frequencies/Models to the right.

**Scope of Supply**

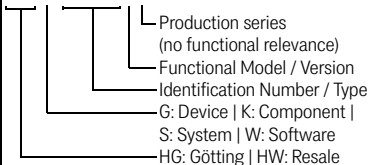
- 1x CONSET00002 included:
- 1x matching M3 plug (female)
- 1x cable sleeve 10-13mm,
- 1x cable sleeve 13-16mm

**Corresponding Products**

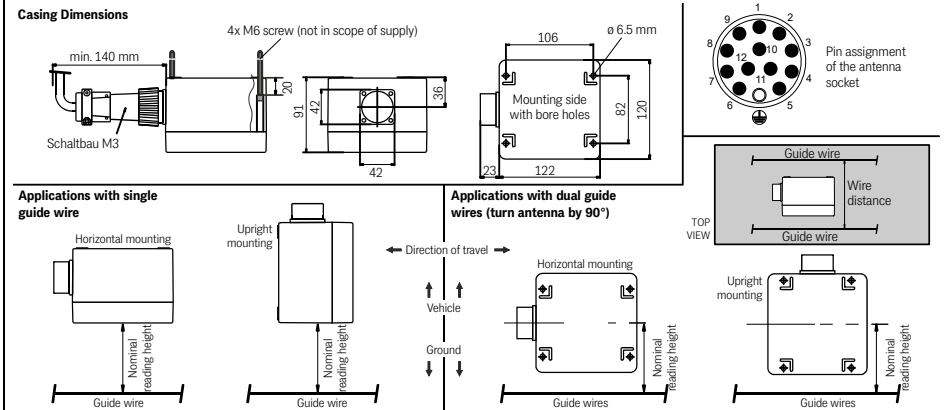
HG G-57401 | Frequency generator

**Götting Product IDs (order codes)**

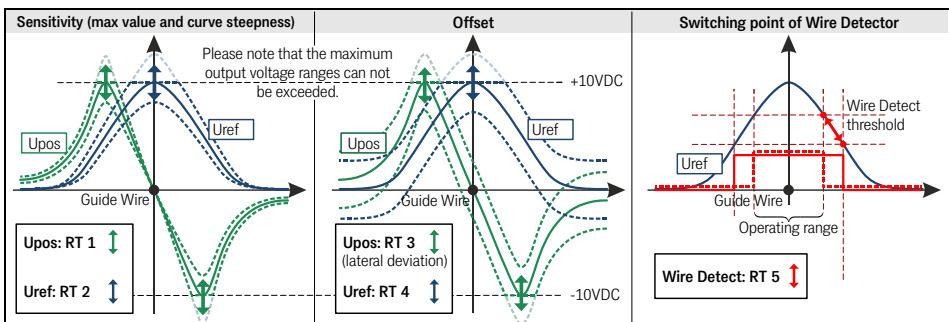
**HG G-19534YA**



**Dimensions / Mounting**



In order to reach the bore holes remove the antenna lid. The antenna may be mounted underneath a vehicle with 4 M6 screws. Its orientation depends on the model (horizontal/upright, see table below).



Input			Frequency [Hz] / Model HG G-19534xx			
Fsel1	Fsel2	Fsel3	ZA	YA	XA	WA
0	0	0	5100	5100	5200	5100
1	0	0	5700	5700	5700	5700
0	1	0	6300	6300	6250	6300
1	1	0	7000	7000	7000	7000
0	0	1	7800	7800	7800	7800
1	0	1	9000	9000	5000	9000
0	1	1	10000	10000	10800	10000
1	1	1	12000	12000	12000	12000
Wire current			300 mA	100 mA	100 mA	100 mA
Nominal reading height			300 mm	100 mm	100 mm	100 mm
Wire Detect Threshold			3 VDC	5 VDC	5 VDC	5 VDC
Mounting			Horizontal	Horizontal	Horizontal	Upright

**Technical Data**

Dimensions	120 x 145 x 91 mm
Casing	Polyester + GRP
Weight	1100 g
Temperature ranges	Operation: -20° C to +50° C / Storage: -20° C to +70° C
Supply voltage	24 V ±10 %
Current consumption	approx. 130 mA
Nominal reading height	100 to 300 mm, depending on the model (see table above)
Frequencies	8 fixed default frequencies, selection of active frequency via dig. inputs Fsel1, Fsel2 and Fsel3 (resulting frequency depending on the model, see table above)
Analog outputs U <sub>ref</sub> /U <sub>pos</sub>	-10 to +10 VDC / I <sub>a</sub> < 1 mA
Wire detect output	24 VDC, 20 mA power restricted
Fsel data inputs	24 VDC, R <sub>i</sub> = 10 KΩ
Antenna calibration	5 potentiometers (see above)
Protection class	IP 65
Mech. stress load	5 g 11 ms / 2 g 10 to 55 Hz
Connector	Schaltbau connector M3 12+1 pin + matching plug (see scope of supply above)

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