Light barrier amplifier

ISG-A103

Features

- Amplifier for operation in gate systems
- Range up to 50 m (164 ft)
- Especially short turn on time
- Automatic Level Control (ALC) according to assembly distance and direction
- High immunitity to ambient light and interference from other light barriers
- Very high sensitivity
- Relay output (normally open)
- Transmitter and receiver connections are short-circuit proof
- 11-pin DIN rail mounting socket for simple installation

Ordering Table

Supply voltage	Order code
230 V AC	ISG-A103/230VAC
115 V AC	ISG-A103/115VAC
24 V AC	ISG-A103/24VAC
24 V DC	ISG-A103/24VDC

Accessories	Order code
11-pin DIN mounting socket	ISO1
Protective enclosure	PanBox 1x1
Retaining clip	RTC11

Safety Instructions

Warning!

The infrared light barriers ISG-... are not safety systems and should not be used as such systems.
The devices are not to be used for applications, where personal safety is dependent on their function.

Short Description

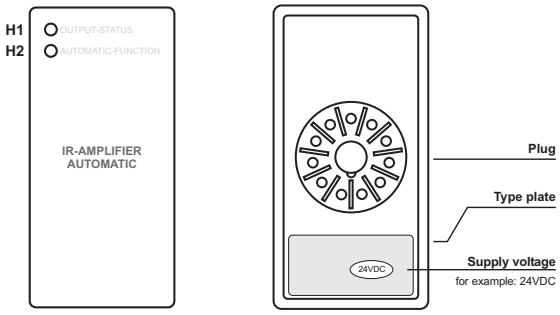
This 1-channel automatic amplifier has set a new standard for devices of this type. It is an amplifier with an integrated analysis unit. The modulation of the infrared light will additionally give the system a high degree of immunity to ambient light, disturbing impulse and influence from other light barriers. The automatic gain setting enables the user to simplify the installation and work.

The amplifier ISG-A103 is intended for the operation of sensors in gate systems with a rubber safety edge. It differs from other amplifiers of the series ISG-A... due to a very high sensitivity and a especially short turn-on time.

The connections of the relay are designed so that older light barrier amplifiers from Pantron with redundant output connections can be replaced without changes of the wiring.

Infrared transmitters and receivers in different, compact and robust designs are described in the sensor heads datasheet.

Device Overview

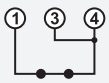
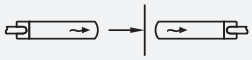
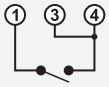


Front view Rear view

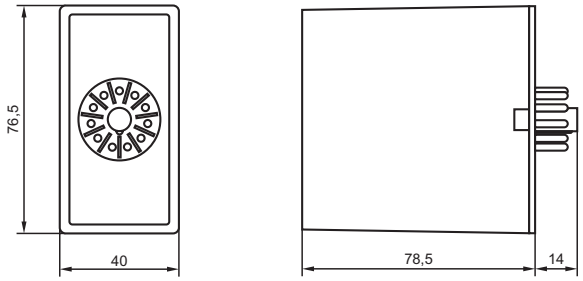
Anzeigen

H1 – Output status (yellow)
H2 – Automatic level control (green)

Switching logic

Beam status	Output status	
	Indicator H1	Relay output
		
		

Dimensions (in mm)



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ISG-A103

Technical Data (at 20 °C / 68 °F)

Supply voltage ...AC	230/115/24 V AC / ±10%	
Supply voltage ...DC	24 V DC / ±10%	
Power consumption (max.)	...AC: 4,1 VA	...DC: 1,9 W
Power loss (max.) (EN 61439)	...230VAC : 3,4 W ...115VAC : 3,4 W ...24VAC : 3,2 W	...24VDC: 1,9 W
max. Range (through beam)	Receiver IRL-...	Receiver IR-..., IRH-...
Transmitter IT-..., ITL-...	7 m (23 ft)	15 m (49 ft)
Transmitter IT-...HP, ITH-...	10 m (33 ft)	25 m (82 ft)
Transmitter ITA-...	20 m (66 ft)	50 m (164 ft)
Operating basis	modulated IR-light	
Transmit frequency (kHz)	3,9	
System power	automatic	
Basic transmit level	low	
Switching behavior	light	
Switching delay	—	
ALC delay	—	

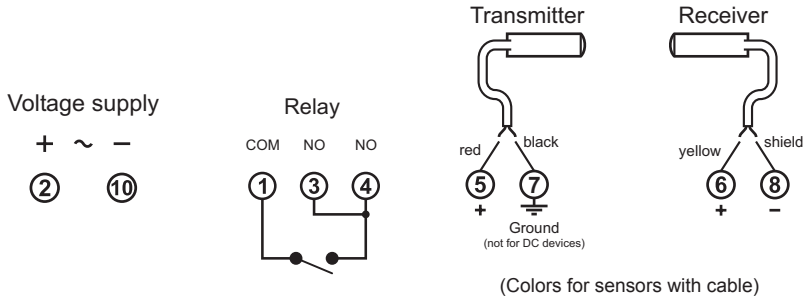
Relay output	normally open
Switching data (max.)	5 A / 230 V AC (24 V DC)
Reaction time T_{ON} / T_{OFF}	20 ms / 20 ms
Transistor output	—
Alarm output	—
Test input	—
MTBF (EN/IEC 61709)	2,7 · 10^6 h ($T_{ambient}$ = 40 °C / 104 °F)
Operating temperature	-25 ... 60 °C (-13 ... 140 °F)
Storage temperature	-40 ... 80 °C (-40 ... 176 °F)
Mounting orientation	see below
Housing material	Plastic
Housing protection	IP 40
Mounting	11-pin DIN socket
Dimensions (mm)	40 x 76,5 x 78,5

Connection Diagram

Caution!

Before connecting the amplifier, look on the type plate and check if the power supply is the same as the connection value. Other values can impair the unit functions or destroy the amplifier.

The AC-supply devices are isolated from main. A grounded connection on the low voltage side is required (PIN 7).



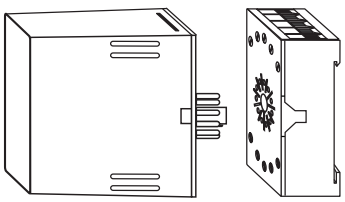
(Colors for sensors with cable)

Mounting orientation

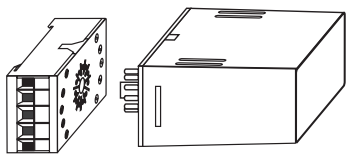
Caution!

For optimum heat dissipation there are ventilation slots in the housing. Ventilation slots must be clean and opened.

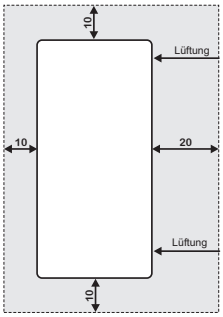
Maintain the minimum distances (see *picture 3: Distances*).



picture 1: Vertical mounting orientation, ventilation slots right



picture 2: Horizontal mounting orientation, ventilation slots top



picture 3: Distances (mm)