

# Light Barrier Amplifier

## ISM-2000 / ISM-2000S

- 2-channel multiplex light barrier with modulated infrared light
- High degree of immunity to ambient light, disturbing impulse and influence from other light barriers
- Range up to 30 m
- Manual / automatic operation selectable
- Permanent sensor monitoring
- Test function
- Switching output 60V / 100mA, floating distance
- Alarm output for power limit
- Test input for external test equipment
- Sensor connections are short circuit proof
- Mounting for DIN rail EN 50 022



### Short Description

The light barrier amplifier ISM series were specially designed for areas with a high range or extreme dirt in which other light barriers reach their limits.

The system includes an amplifier, transmitter IT..., and receiver IR..., and has very high power. Distances up to 30 m are possible. 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 amplifier is equipped with an automatic power adjustment, with which the transmit power adjusts to the special environments of the application.

To increase the overall accuracy of the device, permanent sensor monitoring was included, which detects errors at the sensor heads and signals this to the user by the

alarm output. A red LED illuminates to show the error combined with a yellow LED (error transmitter) or a green LED (error receiver).

A floating distance and short circuit proof switching output give the light beam status, free or interrupted, to the following evaluation unit, e.g. a PLC. A yellow LED shows this.

Included as extra equipment is the integrated test input with which it is possible to examine the light barrier system's functionality. When the test input is activated, the transmitter will be switched off and the status of the switching output should change.

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

### Ordering Table

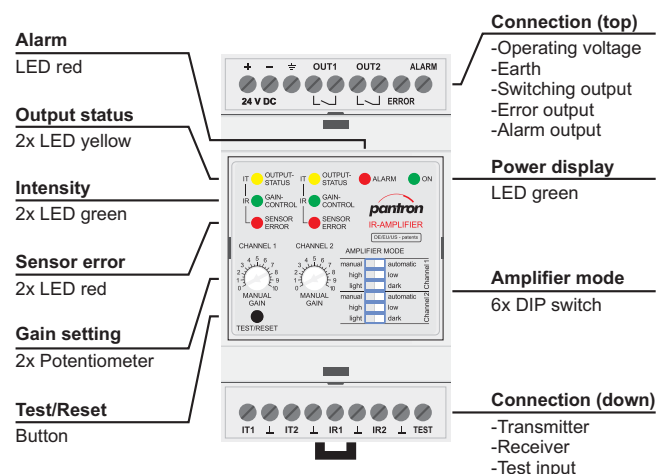
Typ	Order code
ISM-2000 with screw terminals	ISM-2000S/24VDC
ISM-2000 pluggable	ISM-2000/24VDC
<b>Accessories</b>	
Power supply unit 95...265 V AC	PSU-1000S/95-265VAC
Protective enclosure	PanBox 1x2

### Safety Instructions



The infrared light barriers are not to be used for applications, where personal safety is dependent on their function.

### Device Overview



# Light Barrier Amplifier

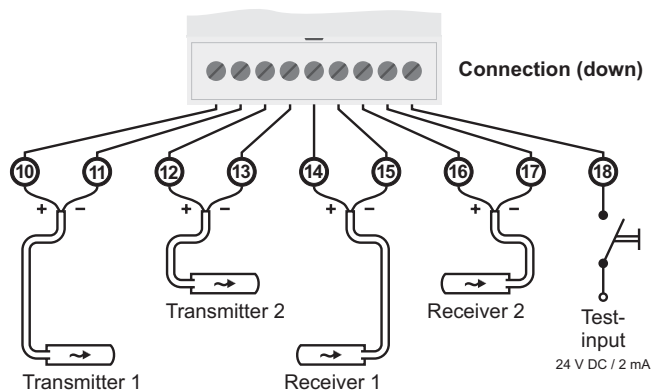
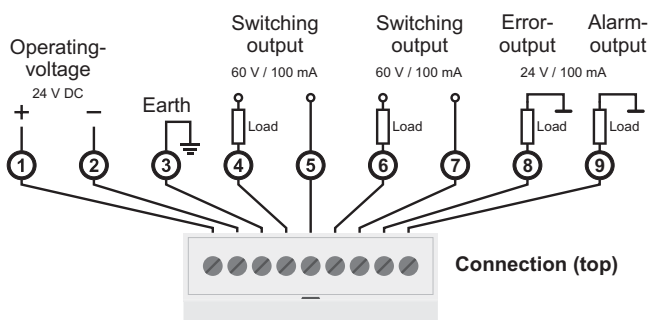
## ISM-2000 / ISM-2000S

### Technical Data

Operating voltage	24 V DC / $\pm 20\%$ / 3,6 W
Operating basis	modulated infrared light
Transmit frequency	3,9 kHz
Transmit power	manual / automatic
System power	low / high
Multiplex speed	8 ms
Operation mode	light / dark
Switching delay	---
max. range (through beam)	
Sensors ITL... + IRL...	8 m
Sensors ITH... + IRL...	10 m
Sensors ITL... + IR-P10...	20 m
Sensors ITH... + IR-P10...	30 m
Housing material	NORYL (self-extinguishing)
Protection class	IP 20
Operation temperature	-25 °C ... +50 °C
Storage temperature	-40 °C ... +80 °C

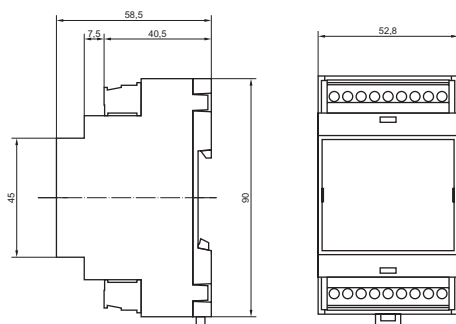
Switching output	NO (semiconductor relay) floating distance, short circuit proof
max. operation value	60 V AC (DC) / 100 mA
reaction time	24 ms
Alarm output	pnp, 24 V DC
current carrying capacity	100 mA
Error output	---
current carrying capacity	---
Analog output	---
Test input	max. 30 V DC / 2 mA
response voltage	low < 5 V DC; high > 15 V DC
COM interface	---
Mounting	top hat rail DIN 50 022
Electrical connection	0,14 - 2,5 mm <sup>2</sup>
ISM-2000...	pluggable
ISM-2000S...	screw terminal

### Connection Diagram

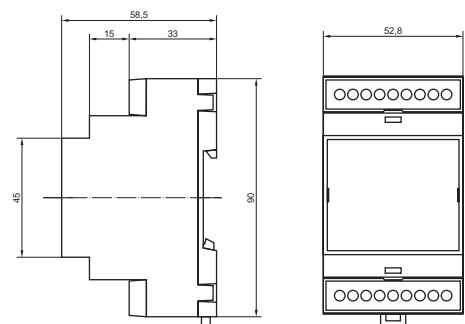


### Dimensions

ISM-2000



ISM-2000S



dimensions in millimeter