

## ISM-4000

- 4-channel multiplex light barrier with modulated infrared light
- Range up to 25 m
- Menu-driven operation via display
- 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
- Master-Slave mode
- 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 25 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. The exact error cause, short circuit or

broken wire at the transmitter or receiver, may also be read on the display.

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 make an examination of the light barrier system's functionality. For this, the transmitter will be switched off by activation and the switching output must change the status.

If more than 4 channels are necessary a synchronized operation, to prevent influences between the channels form additional devices, is possible by connecting the master-slave connection.

As a special feature, the device includes a serial interface for easy operation with a PC. (Software is optional available)

### Ordering Table

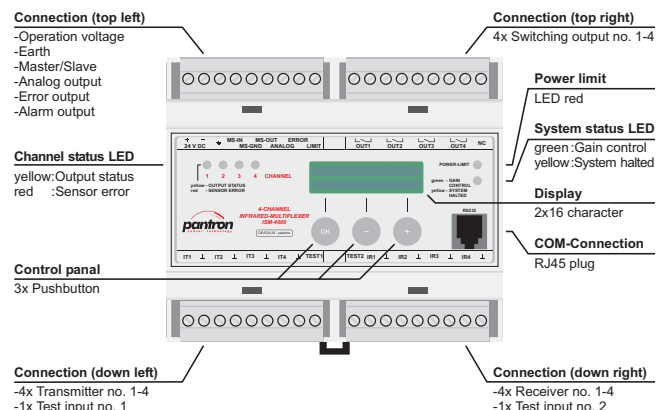
Typ	Order code
ISM-4000 pluggable	ISM-4000/24VDC
<b>Accessories</b>	
Communication cable	CAB-COM-2m
Power supply unit 95...265 V AC	PSU-1000S/95-265VAC
Protective enclosure	PanBox 1x4

### 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

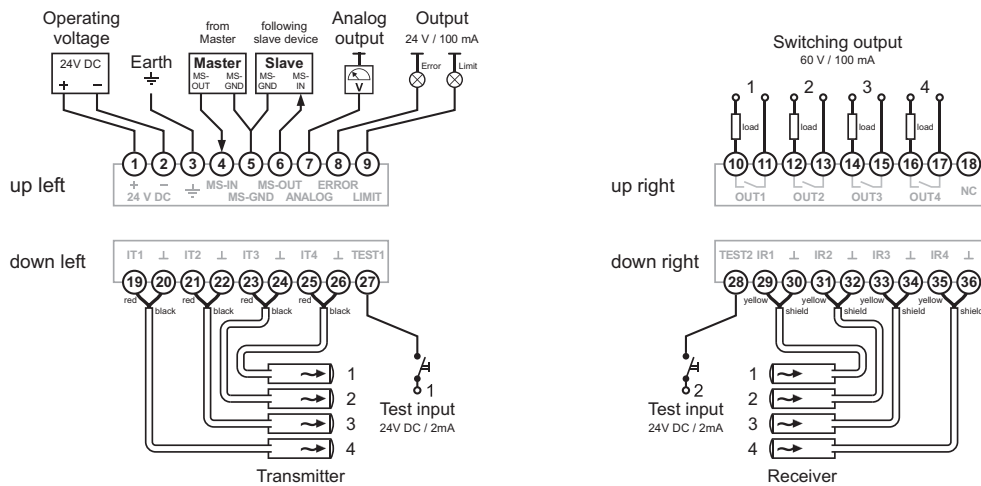
## ISM-4000

### Technical Data

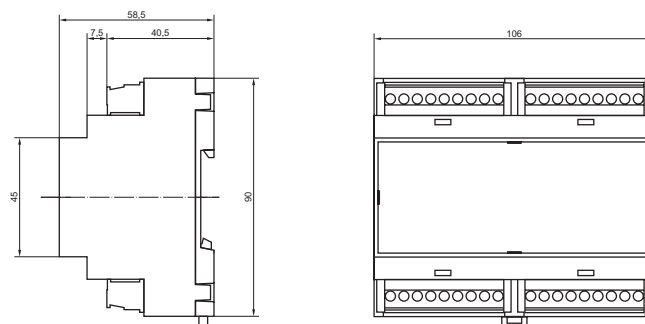
Operating voltage	24 V DC / $\pm 20\%$ / 6,5 W
Operating basis	modulated infrared light
Transmit frequency	4,0 kHz
Transmit power	manual / automatic
System power	low / high
Multiplex speed	34 ms
Operation mode	light / dark
Switching delay	---
max. range (through beam)	
Sensors ITL... + IRL...	10 m
Sensors ITH... + IRL...	12 m
Sensors ITL... + IR-P10...	15 m
Sensors ITH... + IR-P10...	25 m
Housing material	NORYL (self-extinguishing)
Protection class	IP 20
Operation temperature	0 °C ... +50 °C
Storage temperature	-10 °C ... +60 °C

Switching output	NO (semiconductor relay) floating distance, short circuit proof
max. operation value	60 V AC (DC) / 100 mA
reaction time	36 ms
Alarm output	pnp, 24 V DC
current carrying capacity	100 mA
Error output	pnp, 24 V DC
current carrying capacity	100 mA
Analog output	0...10 V DC or 10...0 V DC
Test input	max. 30 V DC / 2 mA
response voltage	low < 5 V DC; high > 15 V DC
COM interface	RS 232
Mounting	top hat rail DIN 50 022
Electrical connection	0,14 - 2,5 mm <sup>2</sup> pluggable

### Connection Diagram



### Dimensions



dimensions in millimeter