

# Light barrier amplifier

## ISM-1520... / ISM-1525...

April 2007

- Light barrier with modulated infrared light
- High degree of immunity to ambient light, disturbing impulse and influence from other light barriers
- Range up to 70 m
- Operating voltage 24 V AC/DC
- Light or dark switching selectable
- Floating distance switching output (ISM-1520... with relay and ISM-1525... with semiconductor relay )
- Transmitter and receiver connections are short circuit proof
- Connections are pluggable
- Mounting for DIN rail



### Short description

Light barrier amplifiers are used for the detection of objects in machines or production systems. They form, in conjunction with one infrared transmitter and receiver a powerful light barrier and they are useable in areas with a long range or an extreme degree of pollution in which traditional light barriers reach their limits. 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 amplifiers of the ISM-1500 series are low cost devices which make simple light barrier applications

are possible. The user must adjust the transmit power to the special terms of his application by using a potentiometer. A green LED shows the optimal set point of the transmit power and also shows when the power exceeds this set point during operation. A floating distance switching output reports the light beam status, free or interrupted, to an evaluation unit, (e.g. a PLC).

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

### Safety instructions



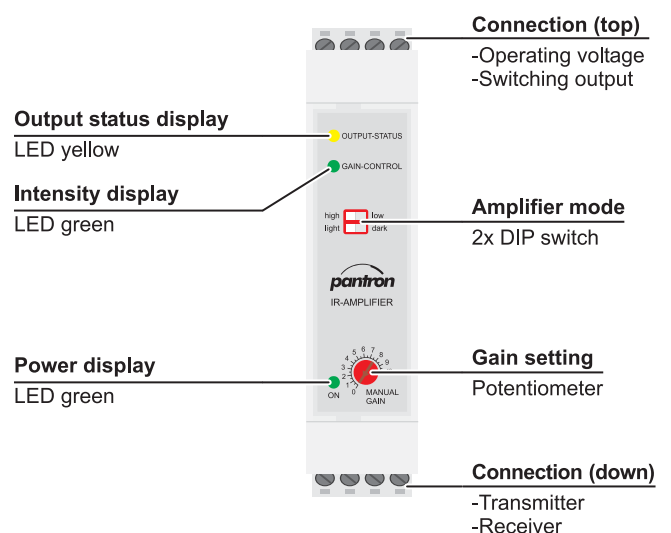
#### Warning

The light barrier amplifier ISM-... are not safety systems and should not be used as such systems. The devices are not be used for applications where personal safety is dependent on their function.

### Ordering table

Type	Order code
ISM-1520 (relay)	ISM-1520/24V
ISM-1525 (semiconductor relay)	ISM-1525/24V
<b>Accessories</b>	
Power supply unit 95...265 V AC	PSU-1000S/95-265VAC
Protective enclosure	PanBox 1x1

### Device overview



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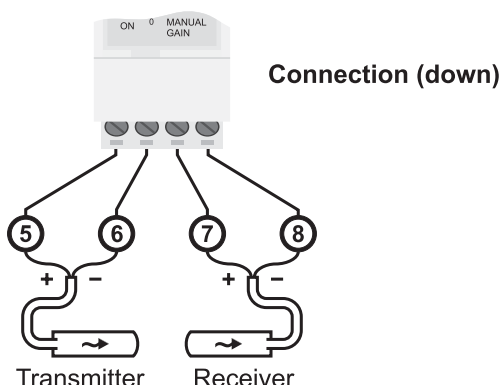
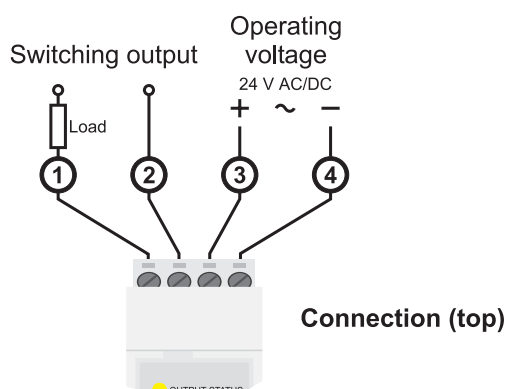
## ISM-1520... / ISM-1525...

### Technical data (+20 °C, 24V DC)

Operating voltage	24 V DC / ±20% / 2,4 W 24 V AC / ±10% / 2,4 VA		
Operation basis	modulated infrared light		
Transmit frequency	4,0 kHz		
Transmit power	manual gain setting		
Basic transmit level	low / high		
Switching behavior	light / dark		
Switching delay	-		
max. Range (through beam)			
		Receiver IRL-...	Receiver IR-...
Transmitter IT-...		20 m	25 m
Transmitter IT-...HP...		30 m	35 m
Transmitter ITA-...		50 m	70 m

Switching output ISM-1510...	NO, floating distance
max. operation values	250 V AC (24 V DC) / 5 A
reaction time	36 ms
Switching output ISM-1515...	NO (semiconductor relay)
	floating distance, short circuit proof
max. operation values	60 V AC (DC) / 100 mA
reaction time	36 ms
Mounting	Top hed rail EN 60 715
Electrical connection	0,2 - 2,5 mm <sup>2</sup>
Housing material	Polyamide, light gray
Flammability class (UL 94)	V0
Protection class (EN 60 529)	IP 20
Operation temperature	-25 °C ... +50 °C
Storage temperature	-40 °C ... +80 °C

### Connection diagram



### Dimenions (in mm)

