

Light barrier amplifier

ISM-1530... / ISM-1535...

March 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
- Switching ON and OFF delay adjustable
- Floating distance switching output (ISM-1530... with relay and ISM-1535... 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



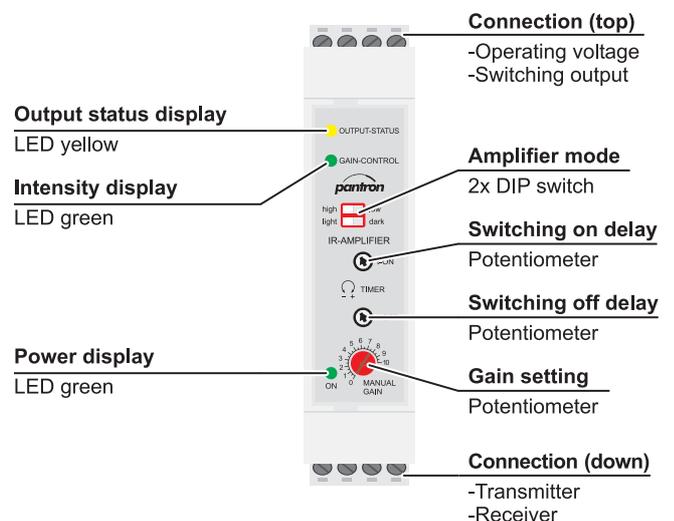
Warning

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-1530 (relay)	ISM-1530/24V
ISM-1535 (semiconductor relay)	ISM-1535/24V
Accessories	
Power supply unit 95...265 V AC	PSU-1000S/95-265VAC
Protective enclosure	PanBox 1x1

Device overview



Light barrier amplifier

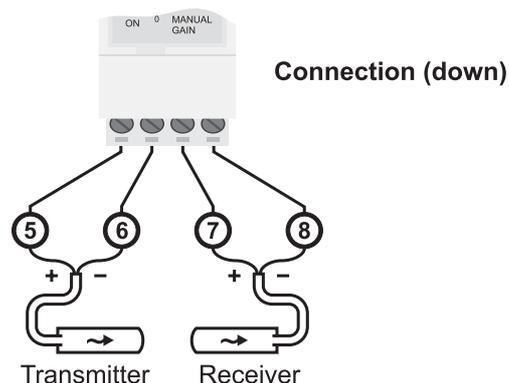
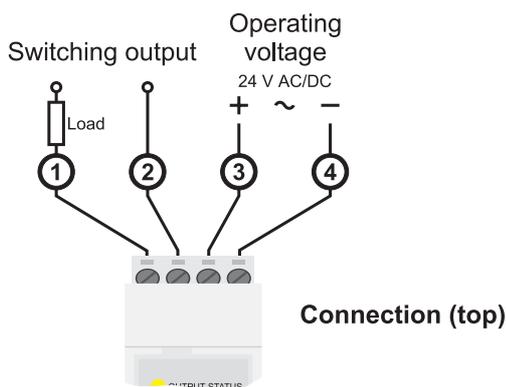
ISM-1530... / ISM-1535...

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	0 ... 10 sec.	
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 ²
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)

