

Light barrier amplifier



IMX-A840

Features

- Multichannel amplifier with modulated infrared light
- 8-channel installation system for tight assembly without cross talk
- Automatic Level Control (ALC) according to assembly distance and direction
- Range up to 55 m (180 ft)
- One relay output for each channel (Form A)
- Test function to check installation and signal strength
- Programmable light/dark function
- Programmable basic transmit level
- Switching-on and switching-off delay (0 - 7 s)
- Master-Slave mode
- Transmitter and receiver terminals are short circuit proof

Safety Instructions



The infrared light barriers IMX-A840 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 8-channel automatic multiplexer Pantron has set a new standard for devices of this type. It is an amplifier with an integrated analysis unit. Up to eight transmitters and receivers can be connected to each unit without possibility of cross talk. The amplifier works with modulated infrared light which provides high immunity to ambient light. The automatic gain setting enables the user to simplify the installation and work.

Each channel has a relay output (Form A) and a status LED.

All channels can be switched independent from each other to the different working conditions. The sensitivity of the device can be switched to 2 basic transmit levels. Also, the transmitter power can be increased to optimize object recognition.

A control unit, which can be activated by simply pressing a button, is used to determine malfunctions in the transmitter or the receiver. If nothing is defective, the test function shows the signal quality by flashing an LED from 1 to 10 times. The flashes are proportional to the received signal.

An alarm display and output, which shows errors and the limit of the transmit power and is connectable with a PLC, enables users to safely work with the photoelectric amplifier.

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

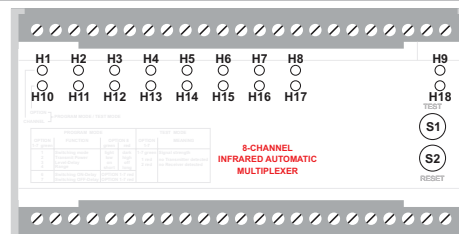


Ordering Table

Operation voltage	Order code
230 V AC	IMX-A840/230VAC
115 V AC	IMX-A840/115VAC
24 V AC	IMX-A840/24VAC
24 V DC	IMX-A840/24VDC

Accessories	Order code
Protective enclosure	PanBox 1x8

Device Overview



Displays and operating elements

- H1-8 – Output status indicator (yellow)
- H9 – Operation mode display (green/yellow)
- H10-17 – Multi function display (green/yellow/red)
- H18 – Slave mode (yellow)
- S1 – Test button
- S2 – Reset button

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Technical Data (at 20 °C / 68 °F)

Operating voltage ...AC	230 V AC, 115 V AC, 24 V AC / ±10%		Mounting	top hat rail EN 60715 or 2 holes (DIN 46121)		
Operating voltage ...DC	24 V DC / ±10%			Electrical connection	screw terminal, 4,0 mm ²	
Power consumption (max.)	...AC: 10 VA	...DC: 10 W	Tightening torque (max.)		0,4 Nm	
Power loss (max.) (EN 61439)	...230 VAC: 7,6 W	...24VDC: 6,3 W	Mounting orientation	free		
	...115 VAC: 7,4 W		Dimensions (mm)	L 75 x B 150 x H 110		
	...24VAC: 7,4 W		Switching output	1 normal open per channel		
Operating basis	modulated infrared light		Switching data (max.)	5 A / 230 V AC (24 V DC)		
Transmit frequency	4,0 kHz		Reaction time T _{ON} / T _{OFF}	45 ms / 45 ms		
Transmit power	automatic		Switching frequency	12 Hz		
Basic transmit level	low / high		Alarm output	pnp		
Switching behavior	light / dark		Switching data (max.)	IMX-A840...AC: 5 mA / 24 V DC		
Multiplex speed	34 ms (30 Hz)			IMX-A840/24VDC: 100 mA / 24 V DC		
Switching delay	0...15 s			Test input	—	
Light curtain function	yes		Analog output	—		
ALC delay	2 s, programmable		COM interface	—		
Master slave function	yes		max. Range (through beam)	Receiver IRL-...	Receiver IR-..., IRH-...	
MTBF (IEC 61709)	0,8 · 10 ⁶ h (T _{ambient} = 40 °C / 104 °F)			Transmitter IT-..., ITL-...	8 m (26 ft)	15 m (49 ft)
Operation temperature	-25 °C ... 60 °C (-13 °F ... 140 °F)			Transmitter IT-...HP, ITH-...	10 m (33 ft)	20 m (66 ft)
Storage temperature	-40 °C ... 80 °C (-40 °F ... 176 °F)			Transmitter ITA-...	20 m (66 ft)	55 m (180 ft)
Housing material	plastic (Makrolon 8030)					
Protection class (EN 60529)	IP20					

Connection Diagram

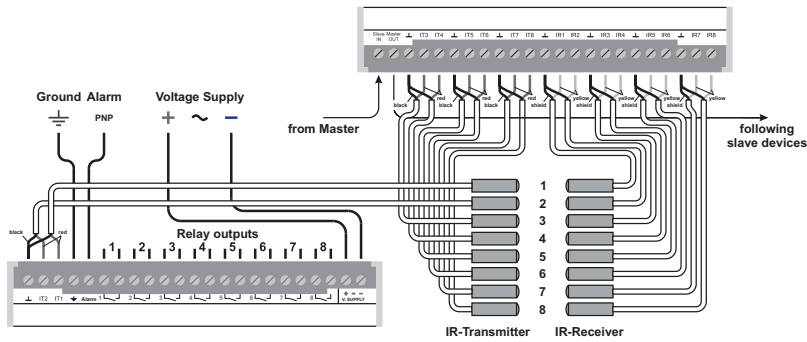


Before connecting the amplifier, look on the type plate and check if the power supply is the same as the connection value. Other values can impair the unit functions or destroy the amplifier.

Caution!

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

In synchronized operation of multiple devices (master/slave), we recommend installation using short connecting cables.



Dimensions (in mm)

