

Product Data

Electrical Data

Supply voltage	15-30 V dc / 24V ac	
Power consumption	Max. 2.5 W	
Output: relay	250 VAC / 3 A, 120 VAC / 5 A	
Output: transistor	PNP/NPN 30 V dc / 60 mA	
Alarm output	PNP: 12 V dc / 10 mA	NPN: 12-30 V dc / 10 mA

Environmental Data

Temperature, operation	-10 to +50 °C
Sealing class	IP 40
Approvals	

Applicable Remote Sensors & Sensing Ranges

Series LT/LR	Sensing Range
100	18 m
110	40 m
120	70 m

Comments:

The range is reduced to 30 % in short range mode.

Illustration

Please, refer to figure n° 1.

Indicators

Power On	Green light when power is on
Signal OK	Green light when signal level is sufficient and light beam is unbroken
Output	Yellow light when output is activated
LT error	Red light flashes for light transmitter error (disconnection or shorted)
LR error	Red light flashes for light receiver error (disconnection or shorted)

Connection

Wiring Diagrams

Please, refer to figure n° 2.

Connection Steps

- 1 Check the power supply complies with electrical data.
- 2 Make sure power is off. Mount the amplifiers in the DIN rail.
- 3 Connect all wires to the terminals according to wiring diagrams.
- 4 Switch power on.

Notes:

- The PNP output can optionally be supplied connecting + to terminal E4 and connecting - to the terminals E3.
- The NPN output can optionally be supplied connecting + to the load and - to terminal E2 or E3.

Bus Connection

Up to 10 amplifiers can be supplied by one PPB power supply. Connect the amplifiers and the PPB power supply on the DIN rail using the special bus connectors.
Do not connect wires for power supply to the amplifiers **only** to the PPB. The PPB will supply the amplifier through the bus.

Adjustments

Selectors

Long/short range	<input type="radio"/> Long range	<input type="radio"/> Short range
Light/dark operated	<input type="radio"/> Dark operated (NC)	<input type="radio"/> Light operated (NO)

Output Logic

Detection (thru beam)	Output mode	Relay Output	Transistor output	Output indicator
Object present 	Dark operated		Closed	On
	Light operated		Open	Off
Object absent 	Dark operated		Open	Off
	Light operated		Closed	On

Sensitivity Adjustment

Sensitivity can be adjusted in two large steps with long/ short range selector or continuously with the potentiometer. Maximum sensitivity and long range can be used for most applications and is advised for applications with contaminated environments e.g. dirt, water and dust. Choose long range and increase the sensitivity to maximum by turning the potentiometer to full clockwise position.

More accurate sensitivity adjustment may be required in applications where objects to be detected are small or translucent. Proceed with the following steps:

- 1 Make sure there is no object present between remote transmitter and receiver sensors.
 - 2 Select long or short range according to application.
 - 3 Increase sensitivity slowly from minimum (full anti clockwise) until the yellow output indicator changes. Increase a little further until the green Signal OK indicator is on.
 - 4 Select target object with smallest dimensions and most translucent surface.
 - 5 Place target object between remote transmitter and receiver sensors. If the output changes, the sensitivity is adjusted correct. If the output do not change proceed to step 6.
 - 6 Remove the object and decrease the sensitivity by turning the potentiometer counter clockwise until the green Signal OK indicator is off and the LT/LR error indicator are constantly on.
 - 7 Place target object between remote transmitter and receiver sensors. If the output changes the sensitivity is adjusted to suit the target but the adjustment is very delicate and not advisable, please contact your vendor for further information.
- If the signal level is insufficient, the LT/LR error indicator will switch on with red and yellow light. Check the following:
 Check alignment of sensors
 Check transmitter and receiver sensors are within sensing range
 Check sensitivity adjustment
 Check sensor heads are not excessively contaminated

Potentiometers

Sensitivity	Range adjustment
On delay	Delay on activation of output can be adjusted between 0 s and 10 s
Off delay	Delay on de-activation of output can be adjusted between 0 s and 10 s

Test Input

The transmitter is disabled if the test input is connected to the internal ground . Make sure no object is present in the detection area, between remote transmitter and receiver sensor, when test is activated. When the transmitter is disabled, a change in output will occur.

Alarm output

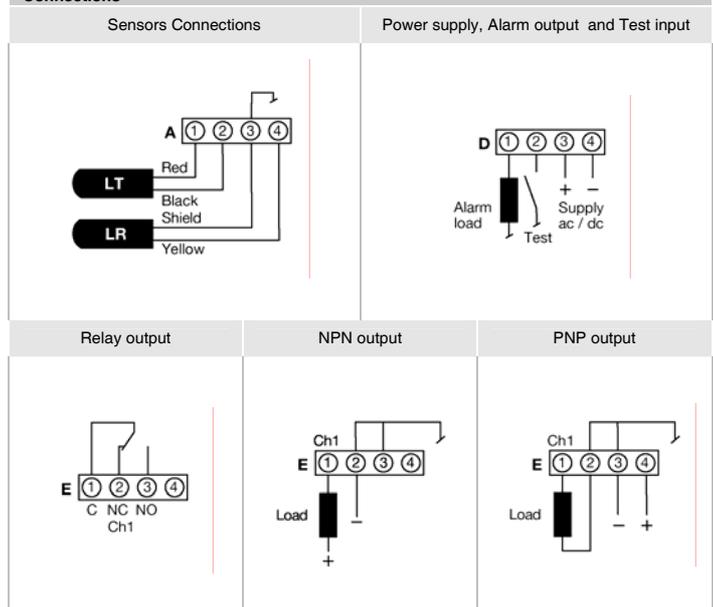
The alarm output of D1 is ON (high for PNP and relay output types and low for NPN output type) if the amplifier does not indicate errors and OFF if it indicates an error. The indicated errors are:
 - LT/LR error, the alarm output is flashing ON/OFF
 - Insufficient signal level, the alarm output is OFF.

Time Delay Adjustment

The on delay enables output signal to only activate if an object in the detection area is present for the adjusted time period. The off delay enables output signal to remain activated for the adjusted time period. The time delay is adjustable between 0-10 s.

Connection

Connections

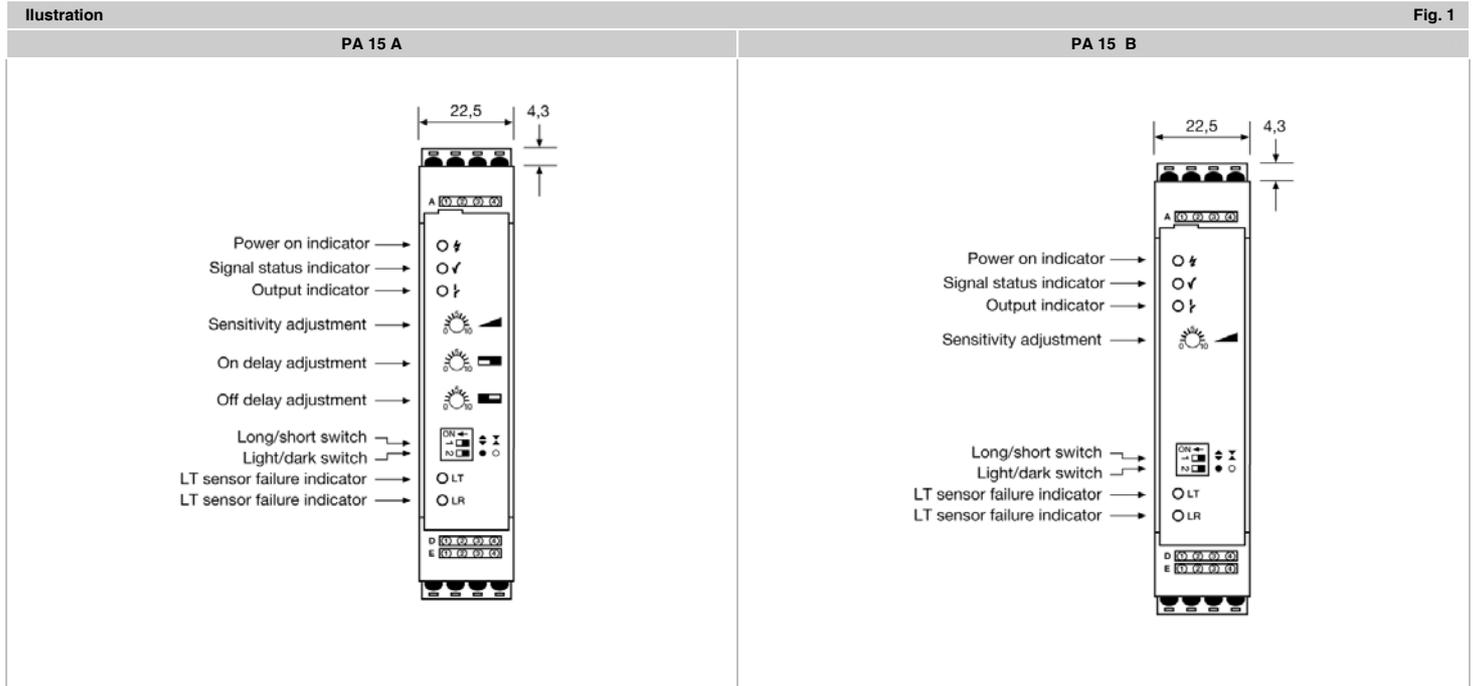


Notice that the terminals can be pulled out as plugs.



Warning

This product is not a safety system and must not be used as such. It is not designed for personnel safety applications, and must not be used as a stand alone personnel safety system.



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