

## Description

- Operation mode and max sensing range:  
Thru-beam: 0-70 m  
Diffuse proximity: 0-4 m
- 24 V ac/dc or 90-240 V ac supply voltage
- Manual sensitivity adjustment
- Sensor LED-drive
- Automatic sensor test
- Adjustable on/off time delay
- 1 relay or 1 transistor output
- Switch selectable light or dark function
- Switch selectable long or short range
- Test input
- Power, output, alarm, signal level and master/slave indicators
- Alarm output
- DIN rail mounting with bus function



The PAB 10 is a 1-channel photoelectric amplifier, which is to be used in conjunction with a set of remote transmitter LT and receiver LR from the series 100, 110 and 120.

This amplifier series offers manual sensitivity adjustment via an integral potentiometer located on the front panel of the amplifier. Output can be selected from either a relay or transistor output, with an adjustable 0-10 sec on/off time delay. Light or dark function and long or short range are switch selectable.


The amplifiers from the PAB 10 A series can be connected together with up to 9 amplifiers from the PAB series via a bus rail connector positioned on the DIN rail, to form a modular master/slave system with up to a total of 28 channels. The bus connection enables communication between

the amplifiers, which allows the channels of all the amplifiers to be multiplexed ensuring that optical cross talk between channels is prevented and allows a common output from the amplifier modules. Both the PAB 10 A and PAB 10 S can share power supply via the bus connection (except 90-240 V ac types).

The amplifier offers a test input, which is used for either disabling or enabling the transmitting power temporarily for test purposes. The amplifier includes an alarm output, which is used to indicate if the signal level is insufficient or if a sensor is faulty. The sensor LED drive powers the optional monitor LEDs available on the remote sensors – output (LT) and power (LR).

Technical Data				
Supply voltage			10-30 V dc or 24 V ac	90-240 V ac
Voltage tolerance		ac	+/- 10 %	
Current consumption			Max. 1,7 W	
Output	Relay		250 V ac / 3 A, 120 V ac / 5A	
	Transistor		30 V dc / 100 mA	
Alarm output	Transistor		30 V dc / 100 mA	
Power on indicator			Green LED	
Output indicator			Yellow LED	
Signal level indicator			Green LED	
Alarm indicator			Red / yellow LED	
LR receiver failure indicator			Yellow LED	
LT transmitter failure indicator			Red LED	
Master/slave indicator		PAB 10 A	Green / orange LED	
Sensor monitor LED drive			Green monitor LED on receiver indicates 'Power ON' Yellow monitor LED on the transmitter indicates 'PAB output activated'	
Hysteresis			Approx. 35 %	
Operation frequency	Relay	Short range	21 Hz	
		Long range	12 Hz	
	Transistor	Short range	42 Hz	
		Long range	17 Hz	
Response time t <sub>ON</sub> / t <sub>OFF</sub>	Relay	Short range	27 ms / 20 ms	
		Long range	45 ms / 38 ms	
	Transistor	Short range	12 ms / 12 ms	
		Long range	30 ms / 30 ms	
Delay t <sub>ON</sub> / t <sub>OFF</sub>			0-10 sec, adjustable	
Housing material			Polyamide	

## Environmental Data

Temperature, operation	-10 to +50 °C
Temperature, storage	-40 to +80 °C
Sealing class	IP 40
Approvals	CE 

## Available Types

Model	Connection	Time Delay	Supply Voltage	10-30 V dc / 24 V ac	90-240 V ac
			Output	Order Reference	
PAB 10 A	Removable screw terminals	On/Off delay	Relay	PAB 10 A 009 <sup>12</sup>	PAB 10 A 008 <sup>2</sup>
			NPN	PAB 10 A 109 <sup>12</sup>	PAB 10 A 108 <sup>2</sup>
			PNP	PAB 10 A 209 <sup>12</sup>	PAB 10 A 208 <sup>2</sup>
PAB 10 S			Relay	PAB 10 S 009 <sup>1</sup>	PAB 10 S 008
			NPN	PAB 10 S 109 <sup>1</sup>	PAB 10 S 108
			PNP	PAB 10 S 209 <sup>1</sup>	PAB 10 S 208

Note: 1. Amplifiers marked <sup>1</sup> can share power supply via bus connection.

2. Amplifiers marked <sup>2</sup> can form modular master/slave via bus connection.

3. Remote sensors and bus rail connector to be ordered separately.

## Applicable Remote Sensors and Ranges

Series	Amplifier Model	Mode	Thru-beam		Diffuse Proximity	
			Short range	Long range	Short range	Long range
100	PAB 10 A/S	Single	6 m	18 m	0,5 m	1,1 m
	PAB 10 A	Bus Modular	4 m	12 m	0,4 m	0,8 m
110	PAB 10 A/S	Single	13 m	40 m	0,9 m	2,7 m
	PAB 10 A	Bus Modular	9 m	27 m	0,7 m	1,7 m
120	PAB 10 A/S	Single	23 m	70 m	1,7 m	4,0 m
	PAB 10 A	Bus Modular	16 m	47 m	1,2 m	2,6 m

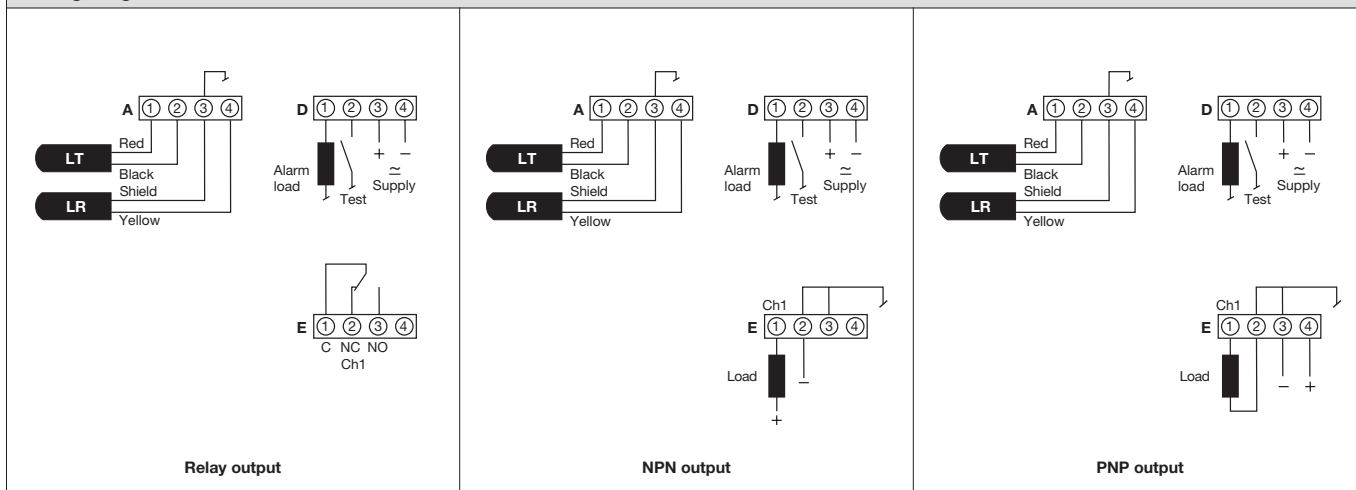
## Response Times in Bus Connection

## PAB 10 A

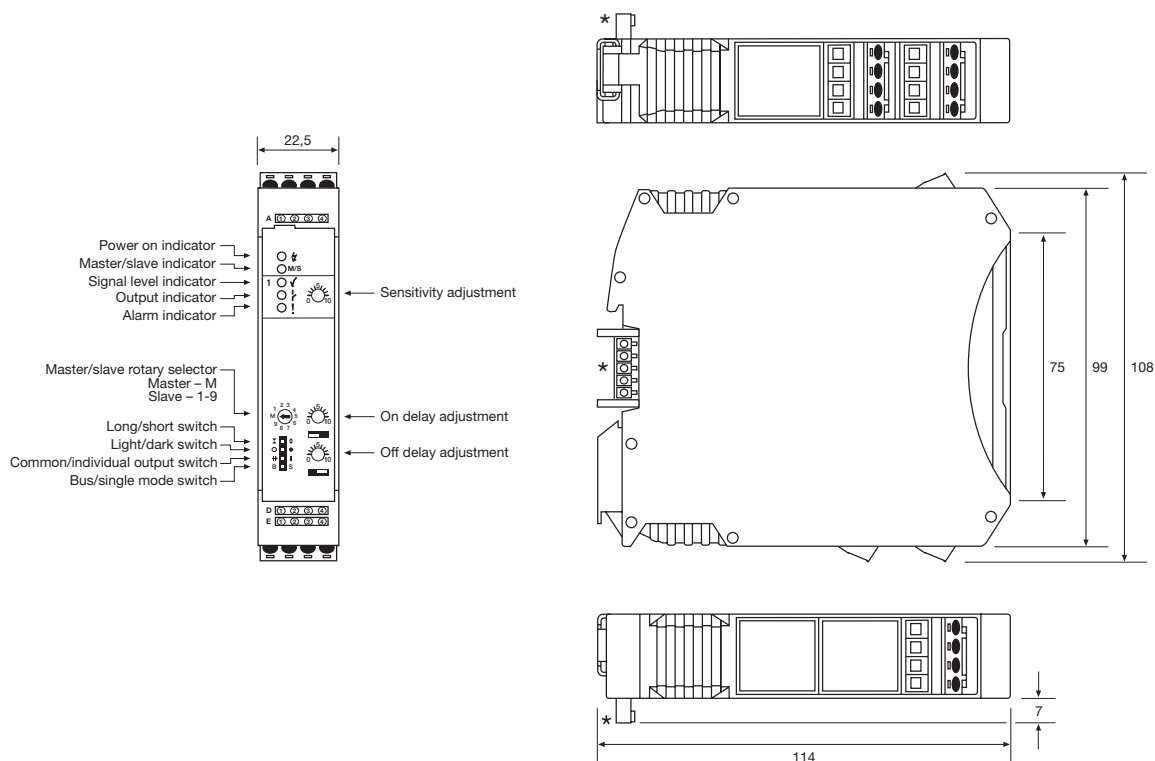
		Relay		Transistor	
		Short range	Long range	Short range	Long range
Response time	t <sub>ON</sub>	6 ms x (N + 1) + 15 ms	15 ms x (N + 1) + 15 ms	6 ms x (N + 1)	15 ms x (N + 1)
	t <sub>OFF</sub>	6 ms x (N + 1) + 8 ms	15 ms x (N + 1) + 8 ms	6 ms x (N + 1)	15 ms x (N + 1)
Operation frequency		83 Hz / (N + 2,9)	33 Hz / (N + 1,8)	83 Hz / (N + 1)	33 Hz / (N + 1)

Note: "N" is equal to the total number of channels connected in the bus connection.

## Wiring Diagrams

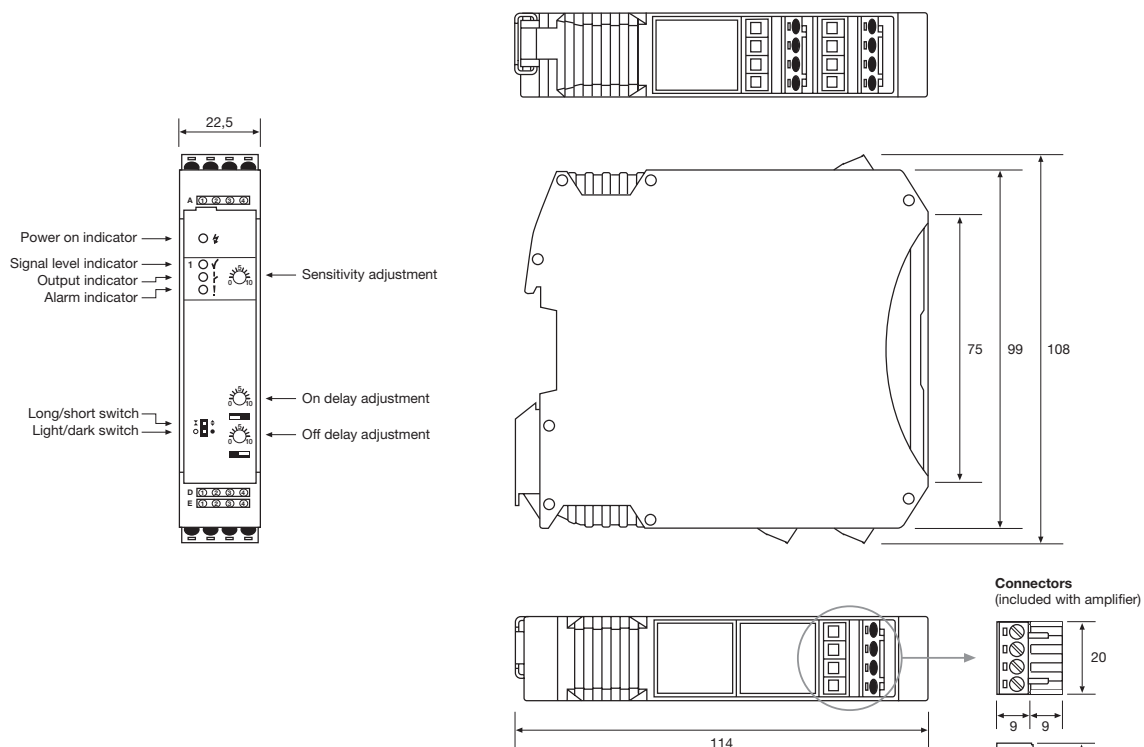


Dimensions and Descriptions



PAB 10 A

★ Shown with Bus Rail Connector 22,5 connected in position (to be ordered separately).



PAB 10 S

(Units in mm)

Telco reserves the right to change specifications without notice.