

Active infrared barrier ST-BP5 is designed for automatic door threshold safety applications. Unique resistance to sun, artificial light, humidity, electromagnetic noise and absence of electromechanical and regulation components makes this device highly reliable.

Functional data:

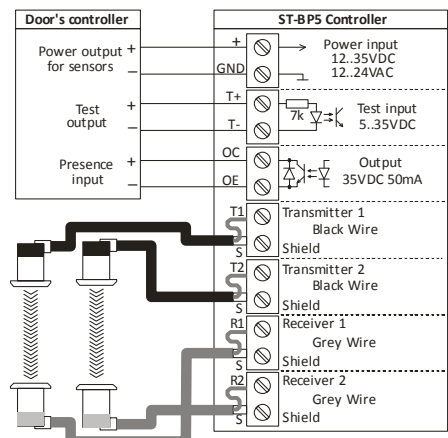
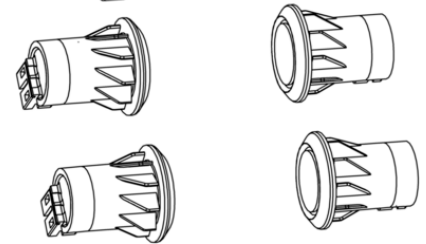
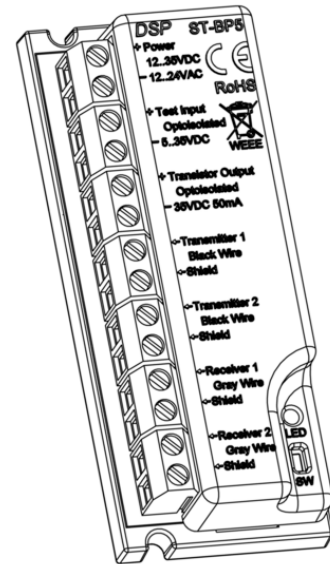
- One controller operates one or two beams
- Range from 0m to 10m
- Easily configured with any automatic door
- Galvanically isolated (floating) test input
- Reliable, noiseless, galvanically isolated (floating) transistor output
- High level of sunlight and artificial light resistance (also fluorescent)
- Transmitter's signal modulation ensures collision-free operation of the two beams (no need to cross mount transmitters and receivers). In addition, ST-BP5 is resistant to infrared signals from devices operating in the vicinity (motion detectors, other barriers)
- Controller is operated by a microprocessor which is safe from any interferences or voltage's supply oscillations and short circuits or incorrect connection heads
- DSP (Digital Signal Processing) algorithms used to filter signal from receivers significantly increased resistance to electromagnetic interference.
- Automatic detection of connected heads and automatic sensitivity adjustment during barrier programming (independent for both beams)
- Very small controller casing with mounting tape and screw holes
- Small detector heads (head's hole: 12mm)
- Cables ends with connectors on the head's side facilitate installation
- Transmitters and receivers protected against electrical damage
- Easily adaptation to all kinds of aluminium profiles
- High resistance to water flowing on the sensor heads
- Cables and heads in different colours: black - transmitter, grey - receiver
- ST-BP5 controller can be used instead BP2 without changing cables and heads

Installation instructions:

- Drill heads' holes to a diameter of 12mm.
- Lay the cables. When laying cables note not to damage the insulation on the sharp edges of the profiles. Wires coming out of the heads should be carried below the heads (about 10cm) to avoid drops of water flowing down into connectors.
- Push the Sensor Head into the drilled hole until the flange meets the door frame.
- Fix the controller to the doors drive. Stick it with montage tape or screw it with two screws.
- Connect cables belonging to heads to the ST-BP5 controller terminal blocks. Centre wire and shield (S - Shield) should be connected to the following terminals: **T1-S** black cable (transmitter No 1), **R1-S** grey cable (receiver No 1), **T2-S** black cable (transmitter No 2), **R2-S** grey cable (receiver No 2).
- The excess cable should be rolled up and fasten down out of the way of moving parts of the door's drive.
- Connect the output of the ST-BP5 controller to input of the door's controller. OC "open collector" to a higher potential +, OE "open emitter" to a lower potential -. ST-BP5 output is a NPN transistor (35V, 50mA) galvanically isolated.
- If the barrier is to be tested, connect the ST-BP5 test input to test output of the door's controller. T+ to a higher potential, T- to a lower potential. Test input is galvanically isolated. Voltage 5..30V activates the test input.
- Connect power supply to the "Power" terminal block of the ST-BP5 controller (12V-24V AC DC).
- Perform programming:

WARNING! Programing must be carried out during each installation and after replacing any of the components of the kit. Automatic sensitivity adjustment is performed during programing process, necessary for the proper operation of the barrier.

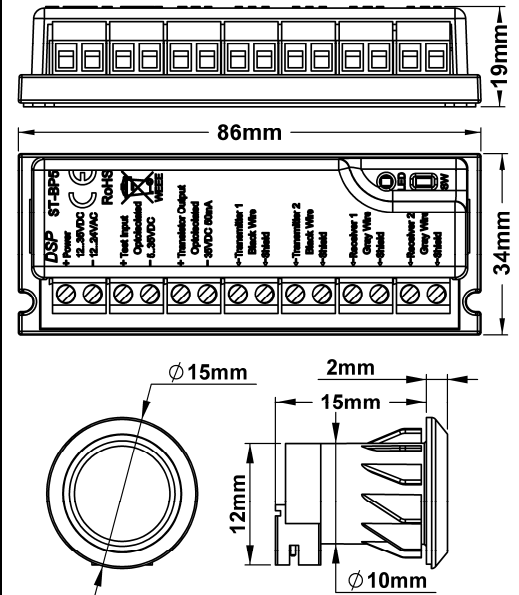
- Set the doors in "always open" mode and keep it open during setup procedure
- Enter programming mode: Press and hold SW switch (about 3s) until the LED blinks 1 time
- Select output type: Press SW switch N times:
 - N=1 – NO (transistor is open when passage free or power off, closed when at least one beam is cut)
 - N=2 – NC (transistor is closed when passage free, open when at least one beam is cut or power off)
- LED will blink N times to confirm the output type selection
- Select test input type: Press SW switch M times:
 - M=1 – test input inactive (not used), transmitters always turned on
 - M=2 – transmitters are turned on when voltage is connected to test input transmitters are turned off when voltage is disconnected from test input
 - M=3 – transmitters are turned on when voltage is disconnected from test input transmitters are turned off when voltage is connected to test input
- LED will blink M times to confirm the test input type selection
- The controller will start automatic sensitivity adjustment, which can take several seconds (LED blinks rapidly)
- LED generates two series of blinks. The first is the sensitivity of beam 1, the second sensitivity of beam 2:
 - 1 blink: heads are damaged or not connected
 - 2 blinks: very low sensitivity, signal strength is high, distance between heads is small
 - ...
 - 18 blinks: very high sensitivity, signal strength is low, distance between heads is large
- After programming process ST-BP5 goes to normal operation. LED may indicate:
 - 1 short blink every 4s: ST-BP5 working properly, passage is free (beams are not cut)
 - 1 blink every 1s: beam No 1 is cut or door's controller is testing the barrier
 - 2 blinks every 1s: beam No 2 is cut or door's controller is testing the barrier
 - 3 blinks every 1s: beams No 1 and 2 are cut or door's controller is testing the barrier



- Programming example: NC output, transmitters turned on when voltage connected to test input, only the first set of beams (R1, T1) is connected:
 - Press and hold SW switch until LED blinks 1 time (about 3s)
 - Press SW switch 2 times, wait until LED blinks 2 times
 - Press SW switch 2 times, wait until LED blinks 2 times
 - ST-BP5 will perform automatic sensitivity adjustment now (LED blinks rapidly a few seconds)
 - LED blinks for example 10 times (average sensitivity is set), then LED blinks 1 time (second set of beams (R2, T2) is not connected)

Technical data:

Description	ST-BP5-1 (one beam)	ST-BP5-2 (two beams)
Detection method	Active infrared 950nm	
Range	0 do 10m	
Power supply	12V-24VAC 12-35VDC ± 10%	
Current consumption	<20mA	<25mA
Output	NPN transistor 35V DC, 50mA galvanically isolated (floating)	
Test input	Galvanically isolated LED diode of an optocoupler with 7kΩ serial resistor. 5..35VDC activates this input.	
Response time	max 20ms when sensitivity is low (lower distances between heads) max 50ms when sensitivity is high (larger distances between heads)	
LED blinks	1 short blink every 4s: ST-BP5 working properly, passage is free (beams are not cut) 1 blink every 1s: beam No 1 is cut or door's controller is testing the barrier 2 blinks every 1s: beam No 2 is cut or door's controller is testing the barrier 3 blinks every 1s: beams No 1 and 2 are cut or door's controller is testing the barrier	
Sensitivity adjustment	Automatic during programming process, independent for both beams	
No of beams selection	Automatic during automatic sensitivity adjustment	
Sunlight resistance	150'000 Lux	
Artificial light resistance	50'000 Lux	
Ambient temperature	-25C do +55C	
Head's colours	Transmitter – black, Receiver – grey Front of heads - transparent	
Cable's colours	Transmitter – black, Receiver - grey	
Ordering codes, cable lengths, weight	ST-BP5-1-06RT 6m 215g gross 185g net ST-BP5-1-10RT 10m 315g gross 280g net ST-BP5-1-12RT 12m 365g gross 330g net	ST-BP5-2-06RT 6m 370g gross 335g net ST-BP5-2-10RT 10m 570g gross 530g net ST-BP5-2-12RT 12m 670g gross 625g net
Kit contents	Controller ST-BP5-C 1pcs Transmitter head with cable 1pcs Receiver head with cable 1pcs Installation instructions 1pcs	Controller ST-BP5-C 1pcs Transmitter head with cable 2pcs Receiver head with cable 2pcs Installation instructions 1pcs



Guarantee:

Senstronix Company guarantees ST-BP5 from all manufacturing defects for a period of one year after the date of installation. Unless Senstronix is notified of the date of installation, the warranty will be in effect for 1 year from the date of shipment from our factory. After post-guarantee period all the products purchased from Senstronix Company are repaired at a minimal service charge.



RoHS

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