

Loop driver module - BSD-310/BSD-311

AutoSafe interactive fire detection systems
Product datasheet

Features

- Each loop driver module allows connection of 127 loop units
- Monitoring function for break or short circuiting on the detection loop
- Fail_Safe function ensures continuous communication on the detection loop
- Easily plugged onto each other or onto other I/O modules on a standard mounting rail
- Automatic addressing
- Designed to meet EN 54 requirements and conforms to CE standards

Description

The loop driver module functions as a modem for data exchange between the control system and the detection loop. The loop driver module is easily plugged onto a mounting rail inside a fire alarm control panel/controller.

1 detection loop for connection of 127 loop units can be connected to each loop driver module. A loop unit is defined either as a point (i.e. a detector or a manual call point), I/O unit or an electronic sounder.

In addition to its main function, the module provides two important monitoring and security features. The loop resistance on the detection loop is continuously monitored to register a possible break or short circuit on the detection loop.

If a communication failure occurs, a Fail_Safe function is automatically activated. A low frequency modulation on the loop will be detected, and a separate control output (F/S) will then be activated.

The module will automatically detect its own address, no dipswitch or jumper settings are required.

Versions

The loop driver module normally comes in two versions, BSD-310 and BSD-311. The BSD-311 is a high power version (refer to technical specifications).

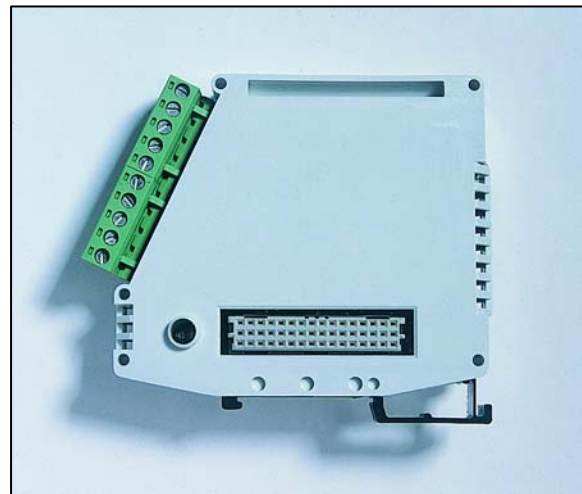
Optionally there is a BSD-310/N version for use when there are zone 2 detectors of type EX n on the loop. This is for type /N detectors only.

Capacity / Limitations

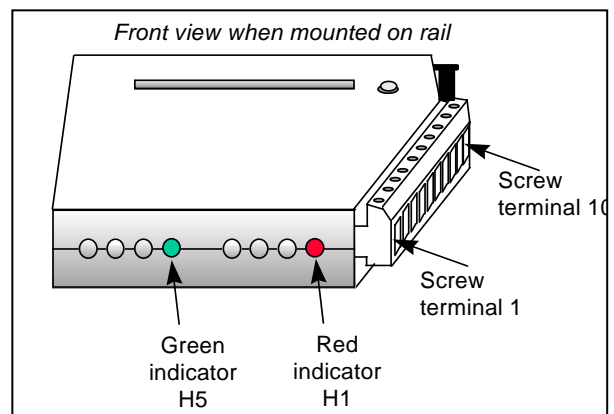
There can be a maximum of 6 Loop driver modules in each fire alarm control panel or controller.

The maximum number of detectors and manual call points that can be connected to these 6 modules are 512 (refer to EN 54).

Due to maximum loading, the maximum number of detectors and manual call points connected to each Loop driver module BSD-310 is 99. The remaining 27 loop units on each Loop driver module can be used for I/O signals. Reducing the number of detectors will allow the use of more I/O signals.



Indicators/connectors



- Green indicator, H5. Communication indicator that gives a pulsing green light during traffic.
- Red indicator, H1. Fail_Safe indicator that gives a steady red light if a communication failure occurs, i.e. the system does not respond to an alarm.

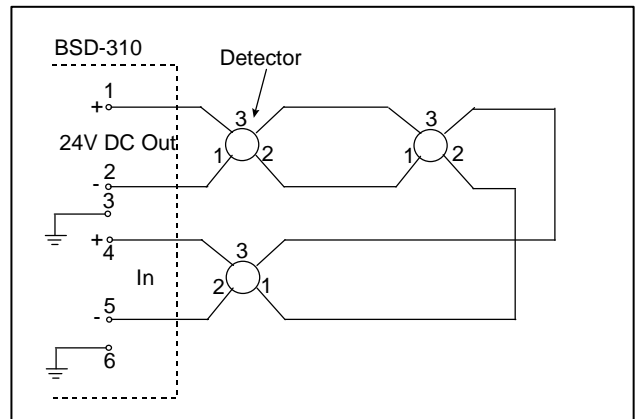
The module has the following connections:

Screw terminal no.	Signal
1	OUT + (+24V)
2	OUT - OV
3	Shield
4	IN +
5	IN -
6	Shield
7	F/S +
8	F/S -
9	Chassis
10	Chassis

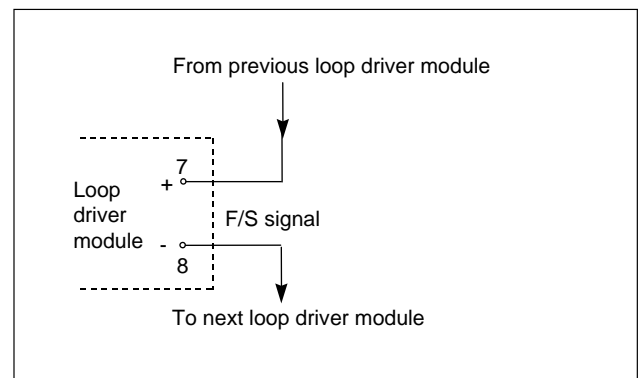
Technical specifications	
Dimensions (mm)	95x89x32
Weight (g)	81
Materials	Top and bottom: Zytel FR7200 Snap on mounting device: Zytel 7335S
Mounting	Onto a standard mounting rail inside the Fire detection control panel or Controller.
Electrical connection	Internal system: plug in connection Detection loop: screw terminals (maximum cable dimension 2,5mm ²)
Loop output voltage	24 VDC
Maximum current output to loop (24VREG)	100 mA (BSD-310) 200 mA (BSD-311)
Internal current consumption	24VREG, idle: 10 mA 24VREG, 12,5% communication capacity: 26 mA
Output resistance (Ohm) measuring accuracy on the loop	+/-15%
Loop resistance measuring range	0-300 Ohm
Maximum capacitance on loop cable	BSD-310 and BSD-311: 500 nF
Maximum resistance on the total cable length (+ and - conductors)	BSD-310: 50 Ohm (each wire maximum 25 Ohm) BDS-311: 20 Ohm (each wire maximum 10 Ohm)
Fail_Safe (F/S) output signal	10 ms OFF, 20 ms ON
Certificate for BSD-310/N	NEMKO 03ATEX217X

Part number	Description
116-BSD-310	Loop driver module
116-BSD-311	Loop driver module H.P.
116-BSD-310/N	Loop driver module certified to drive EXn detectors inside zone 2

Schematics - Detection loop



Schematics - F/S output signal



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