LOOP DRIVER MODULE - BSD-310/N

Interactive fire detection system
Product Datasheet

Features

- Loop driver interface of EX zone 2 approved loop units
- Each loop driver module allows connection of 127 loop units approved for use in EX zone 2
- Monitoring function for break or short circuiting on the detection loop
- Fail_Safe function ensures alarm function I communication fails 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 / Application

The loop driver module functions as a modem for data exchange between the control system and the detection loop. It will also limit the amount of energy that can be supplied to the hazardous area. The loop driver module is easily plugged onto a mounting rail inside the fire alarm control panel or the controller.

1 detection loop for connection of 127 loop units can be connected to each loop driver module. All loop units connected to a BSD-310/N must be approved for use in zone 2.

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 of 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.

AutroGuard Compatibility

AutroGuard is compatible with BSD-310/N firmware revision 7 or newer.

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/N is 99. The remaining 27 loop units on each Loop driver module can be used for I/O units. Reducing the number of detectors will allow the use of more I/O units.

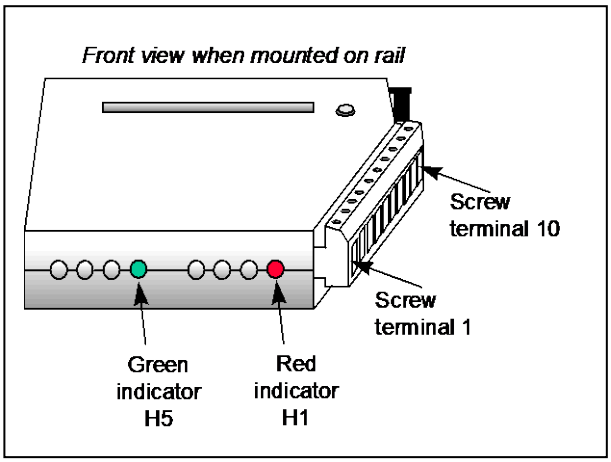
Related Drawing
No modifications permitted without reference to Ex Technical Responsible

AUTRONICA

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 2,5 mm2)
Loop output voltage	24 VDC
Maximum current output to loop (24 VREG)	100 mA
Internal current consumption	24 VREG, idle: 10 mA 24 VREG, 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	500 nF
Maximum resistance on the total cable length (+ and - conductors)	50 Ohm (each wire maximum 25 Ohm)
Fail_Safe (F/S) output signal	10 ms OFF, 20 ms ON
Certificates	See website
Notified body	NEMKO ID no. 0470 CSA
EX certificates	NEMKO 03ATEX217x IECEx NEM 11.0017x
Directives and standards	Refer to Doc-1004552 (Schedule drawing: “Control Drawing/User Manual/Technical Specifications and Instructions”) where this information is listed. A link to this document is included on the product page for this product at www.product.autronicafire.com.
Ex parameters	⟨Ex⟩ II (3) G[Ex ic Gc] IIB Class I, Zone 2, [AEx ic Gc]IIB ***Warning**: Do not rub.*
Approvals	www.autronicafire.com

Product Name	Part number	Description
BSD-310/N	BSD-310/N	Loop driver module certified to drive Ex ic detectors inside zone 2

Indicators/connectors



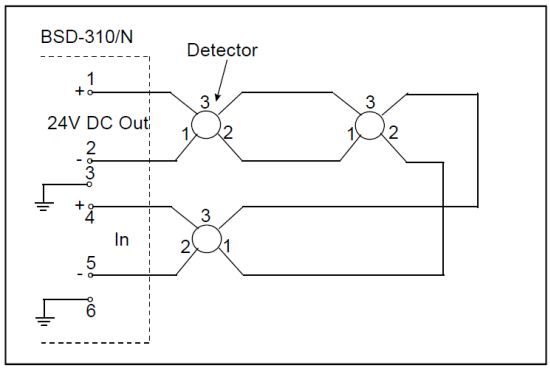
- Green indicator, H5. Communication indicator that gives a pulsing green light during traffic.

- 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.

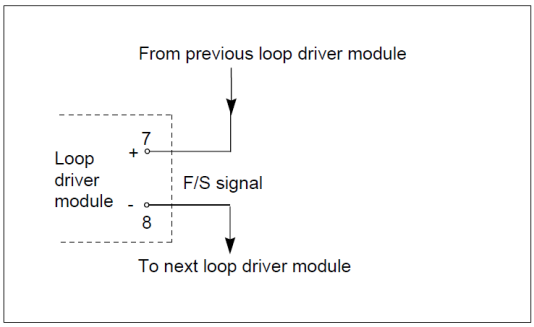
The module has the following connectors:

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

Schematics - detection loop



Schematics – F/S output signal



Control drawing