

POWERLOOP DRIVER - BSD-340/EX

AutoSafe Interactive Fire Detection System
Product datasheet

Declaration of conformity and instructions

Features

- PowerLoop driver for EX environments
- Controls a PowerLoop with up to 15 detectors
- Ex de version for mounting in hazardous areas: zone 1 and 2
- Conforms to CE standards
- Approved by NEMKO
- Tested according to DNV requirements

Description

The PowerLoop Driver BSD-340/EX functions as a loopdriver and protocol converter between AUTROFIELDBUS and PowerLoop. It is a BSD-340/3 encapsulated in an Ex de encapsulation.

It consists of a PowerLoop interface for power and communication, and an AUTROFIELDBUS interface towards an AUTROFIELDBUS Driver.

The PowerLoop is a two-wire bus capable of delivering 30 VDC/100 W connected in ring topology and is galvanic isolated from the rest of the system. The PowerLoop interfaces detectors and other loop units including a 4-20 mA interface.

The AUTROFIELDBUS address is set by switches. The AUTROFIELDBUS is normally category 5 copper cables.

Details are found in the IFG commissioning guide and the BSD-340 datasheet.

Capacity / Limitations

- Maximum 15 detectors can be connected to each PowerLoop. The number of units is limited due to the total power consumption to PowerLoop units, detectors and cable loss, which must be verified by the PowerLoop Calculator (part of the AutoSafe Configuration Tool)
- Output power depends on maximum ambient temperature


Schedule Drawing

No modifications permitted
without reference to the
Notified Body



Faults monitoring by the BSD-340/EX

- Earth fault on PowerLoop
- PowerLoop open loop, short-circuits, missing units
- Voltage fault on PowerLoop output
- Self-diagnostic of BSD-340

Technical specifications	
Weight (kg)	23
Housing material	Stainless steel SS 316L
Mounting	Wall bracket
Temperature	-20 °C to +70 °C**
Relative Humidity	10 % to 100 %
Degree of protection	IP66
Supply Voltage	18-32 VDC
Current Consumption	5,5 A at 24 VDC, Fuse 8 A slow
Output	30 VDC/100 W**
Maximum Power Consumption	125 W
Approvals	CE, CENELEC Ex
Notified body	Nemko-Oslo-Norway ID No. 0470
Type examination certificate	NEMKO 04ATEX1566 IECEx NEM 12.0002
Directives and standards	94/9/EC (ATEX) EN 60079-0:2009 EN 60079-1:2007 EN 60079-7:2007 IEC 60079-0:2007 IEC 60079-1:2007 IEC 60079-7:2006 89/336/EEC (EMC) Emission: EN 50081-1: 1992 Immunity: EN 50130-4: 1995 EN 61000-6-2: 2001 EN 61000-6-3: 2001 EN 61000-6-4: 2001 EN60945:2002 IEC6533, ed.2 EN54-2:1997 EN54-5:2000 EN54-7:2000 IACS E10:2001
Ex parameters	 II 2 G Ex de IIC T5 Gb

** Output power depends on maximum ambient temperature as calculated in the PowerLoop Calculator.

Part number	Description
116-BSD-340/EX	PowerLoop Driver for hazardous areas
Optional	
116-BSD-340/3	PowerLoop driver spare part
66571-071.2500	Gland M25, EXe
66571-071.2000	Gland M20, EXe
6370-008.0029	Type175x2,8mm O-ring VA70-75

Connections / Dimensions / Mounting

Removal of top cover is recommended done by oil filter wrench type tool. O-ring is recommended changed after every EX-d chamber opening.

Termination

The BSD-340/EX has fixed screw terminal blocks.

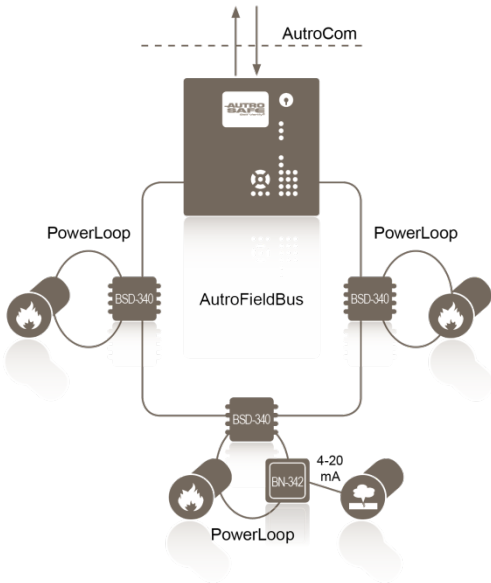
Screw terminal no.	Term size	Signal
Power supply		
1	10 mm ²	+24V DC input
2	10 mm ²	0V input
Earthing		
3	4 mm ²	IE
Power loop interface		
4	4 mm ²	PowerLoop A out plus
5	4 mm ²	PowerLoop A out minus
6	4 mm ²	Cable screen
7	4 mm ²	PowerLoop B out plus
8	4 mm ²	PowerLoop B out minus
9	4 mm ²	Cable screen
AUTROFIELDBUS		
10	4 mm ²	AUTROFIELDBUS A
11	4 mm ²	AUTROFIELDBUS A'
12	4 mm ²	Cable screen
13	4 mm ²	AUTROFIELDBUS B
14	4 mm ²	AUTROFIELDBUS B'
15	4 mm ²	Cable screen
	4 mm ²	6 x PE on earth bar

Cable Glands

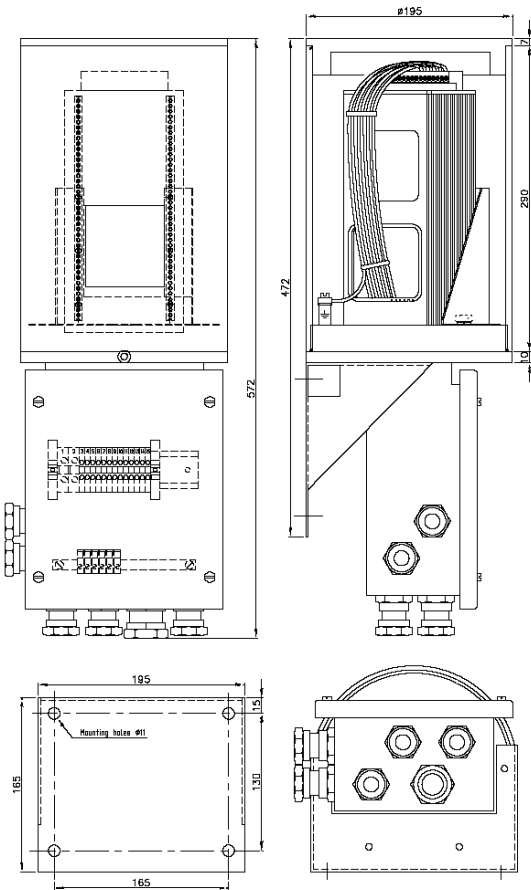
5 x M20

1 x M25

Overview



Note: All PowerLoop cables must be shielded.



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