PROFIBUS converter – BSL-332

AutroSafe interactive fire detection system
Product Datasheet

Features
- Interactive
- Converts the AutroSafe AutroCom protocol to PROFIsafe (or PROFIBUS DP)
- Redundant channels for improved reliability
- Shows AutroSafe point data; Disable, Fault, Alarm or PreAlarm. Gas: High or Low
- Resetting of AutroSafe system from PLC
- Silencing of AutroSafe system from PLC
- Initialising of AutroSafe system from PLC
- Galvanically isolated interface to PROFIBUS

Applications
The PROFIBUS converter reads data from AutroCom, which is the communication to third-party systems from AutroSafe. It converts these data to a PROFIBUS connection, where PROFIsafe is used for the safety-related data.

The PROFIsafe is a safety add-on to PROFIBUS.

The module has space for 2 converters and includes a common power supply, which converts the 24V source to local sources used internally. Options are to make one or two single channels in one box or redundancy.

AutroSafe to PROFIsafe PLC data:
Each AutroSafe point is reported as a 2-bit presentation, which combines the state of the point: (Bit1, Bit0, Bit 0 is LSB).
00 Normal (Quiescent) state.
01 Fault or Disabled state (Point not valid).
10 Alarm state (High level Gas Alarm).
11 Alarm state (Low level Gas Alarm or PreAlarm).
AutroSafe System Disablement flag – 1 bit common for all disablements.
AutroSafe System Fault flag – 1 bit common for all faults
AutroSafe to BSL-332 Communication Fault flag.
AutroSafe command in progress – flag showing the PROFIsafe PLC command is being processed, not yet fulfilled.
BSL-332 PROFIsafe protocol version – 8-bit value to show implemented version in case of incompatibility.

PROFIsafe PLC to AutroSafe data:
- Silence System
- Reset System
- Initialise System

Options
- BSL-332/1 AutroSafe PROFIBUS converter – Single
- BSL-332/2 AutroSafe PROFIBUS converter – Dual

Both variants are delivered with communication cable XBA-055 (1 cable with BSL-332/1, 2 cables with BSL-332/2), plus a bracket for flat panel mounting.

Parameter settings
Start address of AutroSafe points (for multiple PROFIBUS converters). The GSD file selects PROFIBUS DP or PROFIsafe protocol. PROFIBUS address number of points (<472).

Capacity
Allows 472 points to be handled. Additional increments of 472 points may be handled by installing multiple BSL-332. (Recommended contiguous sequence of Unit-IDs). Allows internal isolated supply for the local termination of the PROFIBUS (5V). PROFIBUS termination is made by the use of termination resistors across the cable termination block.

Redundancy
Cold Standby. The PROFIsafe PLC uses one communication path, and determines AutroSafe system/point status by this primary channel. The other channel is polled reguarly for verification. The PROFIsafe PLC determines the definition of primary channel simply by using the channel. Preferred implementation is to alternate between the two channels.

There are no mechanisms in AutroSafe or BSL-332 to handle redundancy. All data from AutroSafe is simultaneously available at both BSL-332 converters. Response and result of commands to AutroSafe will be reported equally at both modules.

Software parameters
- DP normal slave (using SPC3).
- Configurable size of input and output buffers up to a total of 242 bytes.
- Supports PROFIsafe profile.
- DPV1 not supported.
- PNO ID: 80E6 (version V2 of ConSiSAFE uses PNO ID EF00).
- Baudrate up to 187.5 kbps.
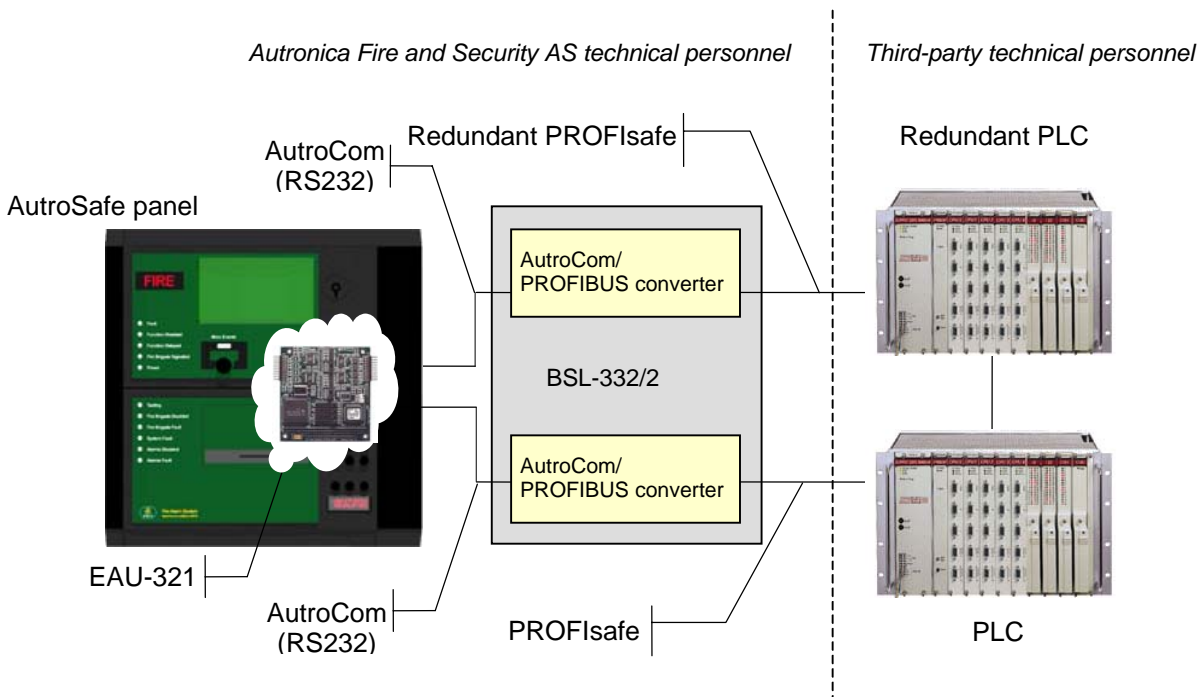- FREEZE and SYNC signals not supported

Note: *Preparing the PLC to accept the PROFIBUS / PROFIsafe data frames is a task for specialists knowing the actual PLC.*
AFS supports the generic information for this, not the actual implementation.

Protecting life, environment and property…

Technical specifications	
Dimension (mm)	230 x 67 x 111 (without bracket)
Weight	1100 g
Materials	Glass fibre PCB, aluminium encapsulation
Mounting	To flat panel by use of bracket
Degree of protection	IP20
Power supply	18-36 VDC, isolated from RS232 and chassis
Current consumption	Maximum 20W BSL-332/1: Typ 4,5W BSL-332/2: Typ 7W
Capacity	472 Fire / Gas points
PROFIBUS	PROFIBUS DP or PROFIsafe protocol
Connections	CombiCon pin headers, 2.5mm spacing
Temperature	$0 - 55^{o}C$
Humidity	10% to 95%, Non-condensing
Mechanical vibration/shock	DnV – Rules for Ships
Type approvals	Tested according to requirements for Maritime environment DnV/Class A

Part number	Description
116-BSL-332/1	AutroSafe PROFIBUS converter – Single
116-BSL-332/2	AutroSafe PROFIBUS converter – Dual
116-SW-110	Service tool for BSL-332

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Installation