Fire Alarm Control Panel

BS-100 *DYFI*®

Applications

Fire alarm control panel type BS-100 *DYFI* ® is a control panel for analogue addressable fire detectors for medium and larger installations. *DYFI* ®(Dynamic Filter Process) is the registered name for a number of dynamic filters built into the BS-100 software that ensure discrimination between "real" fire conditions and other "non-fire" phenomena.

Features

* Standard unit includes two detector loops, each allowing connection of up to 99 addresses. Additional modules can be added to allow a total of 16 loops (1584 addresses).
* "Pre-warning" enables the system to inform about a fire, in its earliest stages.
* Faulty, damaged or missing detectors are reported without compromising the system.
* User controls through multi-level menu.
* All detectors and manual callpoints have a unique address.
* Multiple microprocessor control for increased reliability.
* Cause and effect, and message data stored in non-volatile memory with on-site changing capability.
* Monitoring of all field devices *and* alarm path.

* Optional programmable control outputs, in modules of 16 to a maximum of 240 outputs.
* RS232C and 20 mA current loop interface for data communication to remote text or graphics displays, repeaters or building management systems.
* 2 x 40 character fluorescent dot-matrix alpha-numeric display for clarity.
* Detector or loop disablement with timed automatic or manual restoration.
* Historical event logging. On optional printer, all events and changes of status are printed.
* Day/night alarm organisation facility.
* Self-diagnosis of "fault" condition.
* Sensitivity of all devices easily examined.
* Reduces maintenance costs due to inherent reliability.
* Tested and complies with BS-5839 part 4: 1988 for control and indicating equipment.
* Full range of devices for hazardous areas available.

Protecting environment, life and property ...

BS-100 *DYFI*® System design

Communication line: ASSP, BS
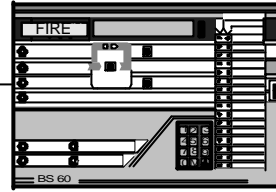
BS-60 fire alarm control panel.
Here connected as a sub-unit to the BS-100 *DYFI.*®
The total number of detector loops including the number of BS-60s must not exceed 16.

FIRE   AL 1 UPPER DECK:CORRIDOR. STB
    AL 2 BRIDGE DECK:WHEEL HOUSE

SOUNDER SILENCE

MORE ALARMS   RESET

DEVICE 31 STILL IN ALARM COND.

PREWARNING

FAULT

FUNCTION DISABLED

MAINS

BS-100 *DYFI*® fire alarm control panel

230 V AC mains

24 V DC

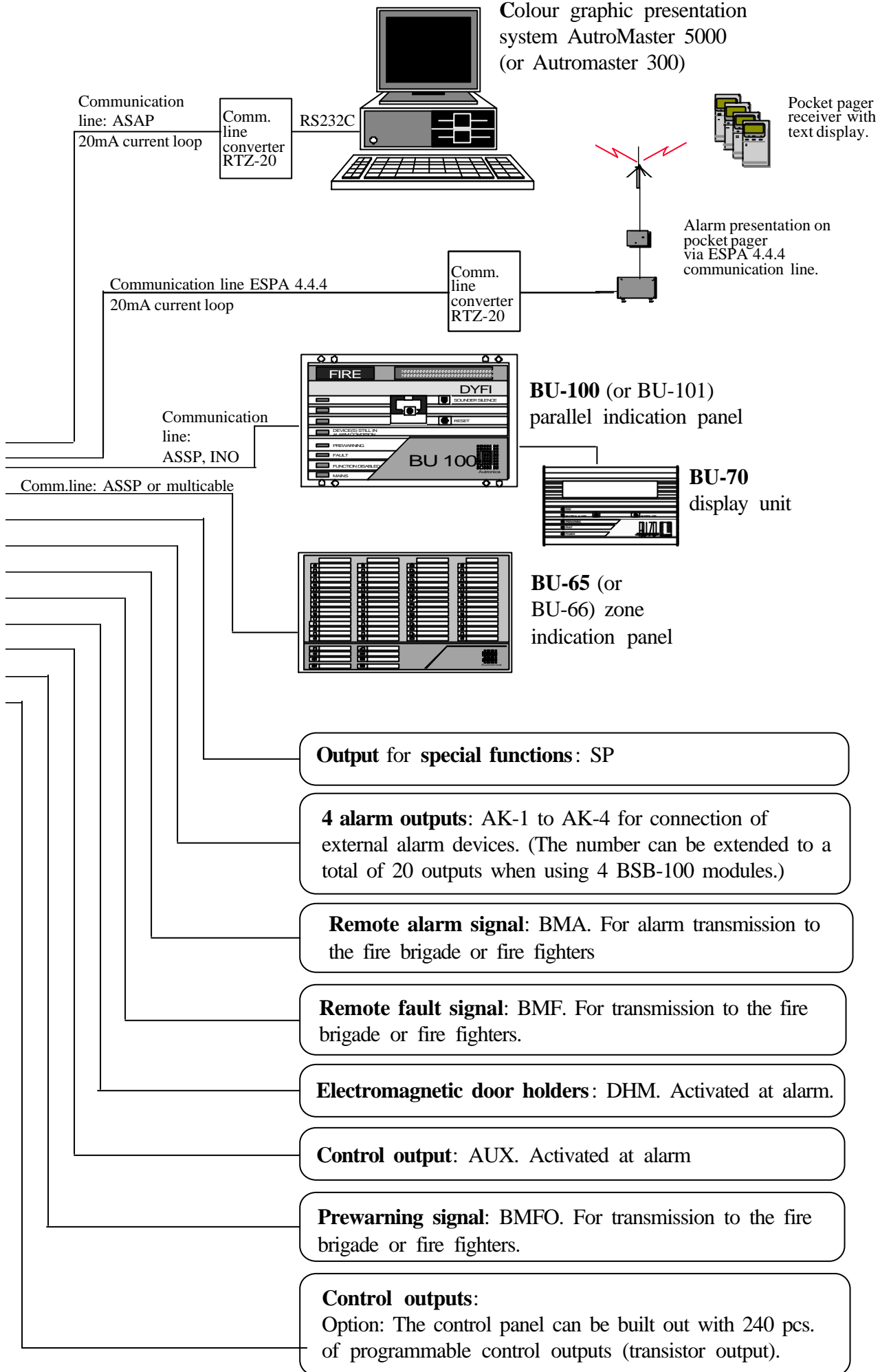**General alarm** input: GA

3 inputs for **(detector) group disablements**: GRU-1 to GRU-3

Input for monitoring of **external equipment**: E (EKFE)

Input for **day-/night alarm organization** of the fire alarm control panel: D/N

Colour graphic presentation system AutroMaster 5000 (or Autromaster 300)

Communication line: ASAP
20mA current loop

Comm. line converter RTZ-20

RS232C

Pocket pager receiver with text display.

Alarm presentation on pocket pager via ESPA 4.4.4 communication line.

Communication line ESPA 4.4.4
20mA current loop

Comm. line converter RTZ-20

FIRE

DYFI

SOUNDER SILENCE

RESET

DEVICE(S) STILL IN ALARM CONDITION

PREWARNING

FAULT

FUNCTION DISABLED

MAINS

BU 100

Autronics

Communication line: ASSP, INO

BU-100 (or BU-101) parallel indication panel

BU-70 display unit

Comm.line: ASSP or multicable

BU-65 (or BU-66) zone indication panel

Output for **special functions**: SP

4 alarm outputs: AK-1 to AK-4 for connection of external alarm devices. (The number can be extended to a total of 20 outputs when using 4 BSB-100 modules.)

Remote alarm signal: BMA. For alarm transmission to the fire brigade or fire fighters

Remote fault signal: BMF. For transmission to the fire brigade or fire fighters.

Electromagnetic door holders: DHM. Activated at alarm.

Control output: AUX. Activated at alarm

Prewarning signal: BMFO. For transmission to the fire brigade or fire fighters.

Control outputs:
Option: The control panel can be built out with 240 pcs. of programmable control outputs (transistor output).
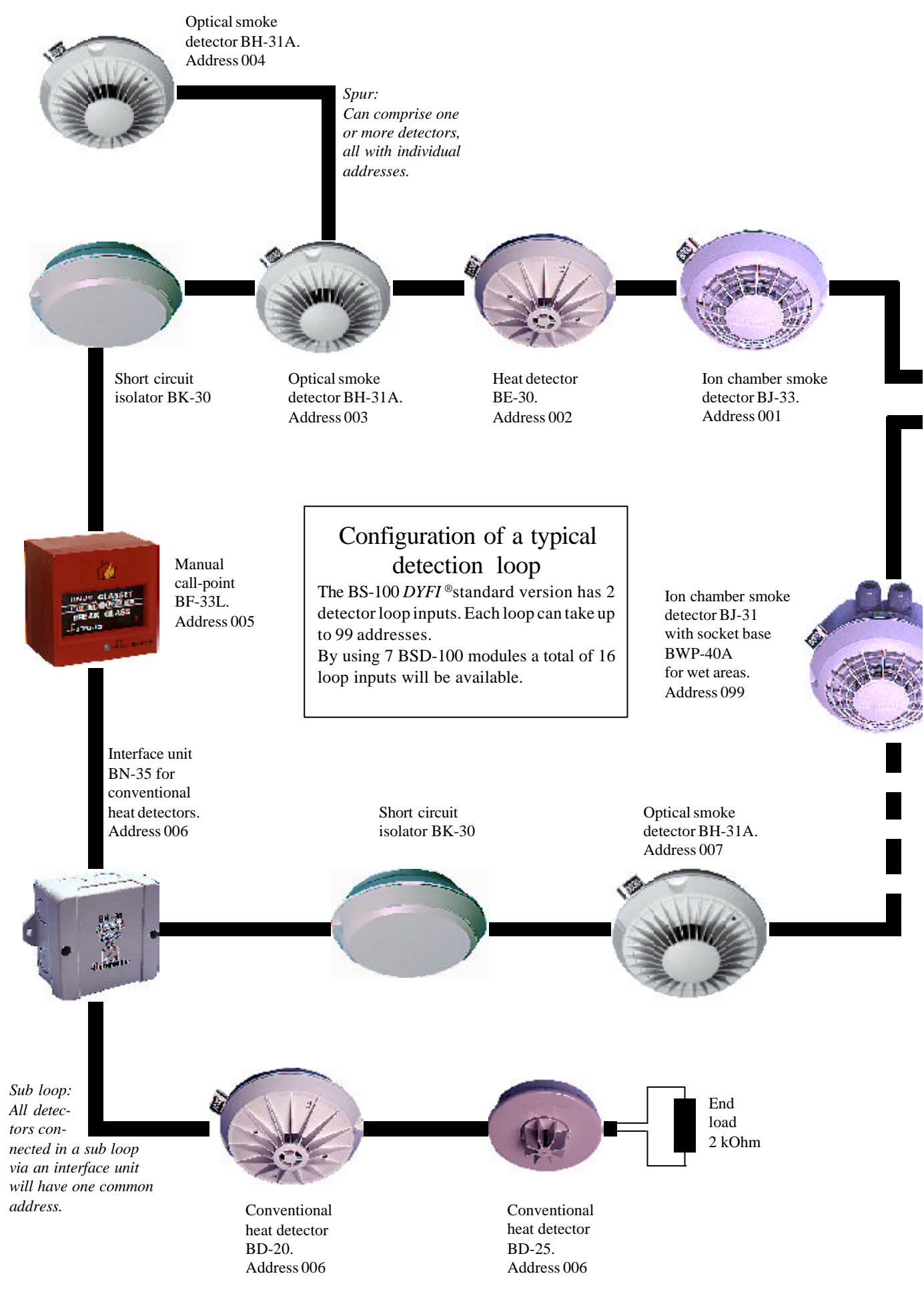
Optical smoke
detector BH-31A.
Address 004

Spur:
Can comprise one
or more detectors,
all with individual
addresses.

Short circuit
isolator BK-30

Optical smoke
detector BH-31A.
Address 003

Heat detector
BE-30.
Address 002

Ion chamber smoke
detector BJ-33.
Address 001

Manual
call-point
BF-33L.
Address 005

Configuration of a typical detection loop

The BS-100 *DYFI* ®standard version has 2
detector loop inputs. Each loop can take up
to 99 addresses.
By using 7 BSD-100 modules a total of 16
loop inputs will be available.

Ion chamber smoke
detector BJ-31
with socket base
BWP-40A
for wet areas.
Address 099

Interface unit
BN-35 for
conventional
heat detectors.
Address 006

Short circuit
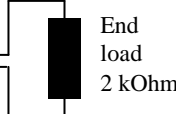isolator BK-30

Optical smoke
detector BH-31A.
Address 007

Sub loop:
All detec-
tors con-
nected in a sub loop
via an interface unit
will have one common
address.

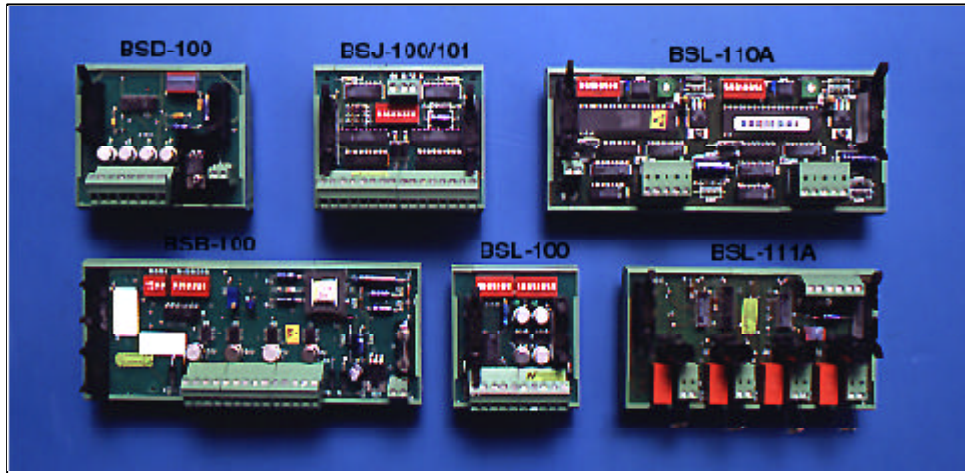Conventional
heat detector
BD-20.
Address 006

Conventional
heat detector
BD-25.
Address 006

End
load
2 kOhm

BS-100 *DYFI*® expansion modules

BS-100 *DYFI* ® is of a modular construction and allows for expansion of all parts of the system.

BSD-100
Additional detection loops.
Each BSD-100 module allows for the connection of 2 additional detection loops each with a maximum of 99 addresses. The BS-100 can monitor up to 16 detection loops. (7 additional BSD-100 modules per BS-100).

BSB-100
Additional alarm outputs.
The BSB-100 module allows for the connection of 4 additional alarm outputs, each with a maximum of 1 Amp loading at 24 volt DC. The BS-100 can control up to 20 standard sounder outputs (4 addi-tional BSB-100 modules per BS-100).

BSJ-100 (BSJ-101)
Programmable control outputs.
Each BSJ-100 and BSJ-101 can provide 16 programmable control outputs. The BS-100 can control up to 240 programm-able control outputs. (8 BSJ-100 modules and 7 BSJ-101 modules per BS-100).

BSL-100
Communications output.
The BSL-100 module providesa single output which can be selected as either RS232C or 20mA current loop. The module is used to operate remote displays or PC based information sys-tems.

BSL-110A
Transmitter unit.
Each BSL-110A module provides facilities via an 12C bus to remotely control sounder outputs or programmable control outputs.

BSL-111A Receiver unit.
The BSL-111A module is mounted remote from BS-100 and acts as a receiver for the 12C-bus output from any BSL-110A.

Technical Specifications: BS-100*DYFI* ®

Mechanical data:

Dimensions:	Cabinet sizes vary in accordance with system specification, details on request.
Material:	Steel cabinet with "Lexan" front door. Colour: Grey RAL 9003.
Protection class:	IP 43
Ambient Temperature:	-5 to +40 °C

CE

Electrical data:

Power supply:	230 V AC +10/-15 %. Frequency: 44 - 440 Hz.
Batteries:	2 x 12 V = 24 V, not included.

Current cons.:	Normal condition:	170 mA without detectors and no outputs connected. (370 mA in alarm condition.)
	More information:	See "Calculation sheet for power consumption".

Inputs:
* *2 detector loops* as standard. (16 loops max by using 7 <u>additional</u> modules BSD-100).

* *Day/Night alarm organization (D/N)*: 1 circuit, activated when connected to 0 V.

* *Monit. of ext. equipment (E)*: 1 circuit, activated when disconnected from 0 V.

* *General alarm (GA)*: 1 circuit, activated when connected to 0 V.

* *Group disablement (GRU 1 to 3)*: 3 circuits, freely programmable, activated when connected to 0V.

Outputs:
* *Alarm outputs, bells/sounders (AK)*: Standard 4 circuits, each max. load 1 A / 24 V DC. (20 circuits by using 4 <u>additional</u> modules BSB-100 .)

* *Remote alarm signal (BMA)*: 1 circuit, max. load 1 A / 24 V DC. (Volt. free relay contact).

* *Prewarning signal (BMFO)*: 1 circuit, max. load 100 mA / 24 V DC. (NPN transistor with open collector.)

* *Remote fault signal (BMF)*: 1 circuit, max. load 100 mA / 24 V DC. (NPN transistor with open collector.)

* *Special national function (SP)*: 1 circuit, max. load 100 mA / 24 V DC. (NPN transistor with open collector.)

* *Electromagnetic door holders (DHM)*: 1 circuit, max. load 1 A / 24 V DC. (Normally closed relay contact.)

* *Control output (AUX)*: 1 circuit, max. load 1 A / 24 V DC. (Volt. free relay contact)

* <u>Optional</u> *Control output module(s) (BSJ-100 / BSJ-101)*: Max. 15 modules, each with 16 outputs.

* <u>Optional</u> *Communication module(s) (data output module(s)) (BSL-100)*: 20 mA current loop or RS232C output.

Approvals:

• American Bureau of Shipping 90-GB23984-X No.17, • Bureau Veritas 3781/3590/AO/O, • Det Norske Veritas A-4024, • Germanischer Lloyd 94552 HH, • Lloyd's Register of Shipping 91/0287, • Polski Rejestr Statkow TE/362/930052/89, • Registro Italiano Navale 5/075/91, • Sjøfartsdirektoratet A-60726/90, •Sjøfartsverket 9074579, • Statens Skibstilsyn Y.20-2-6-19, • USSR Register of Shipping 90.289.262, • Forsikringsselskapenes Godkjenningsnemnd S-022/89, • Dansk Forening for Skadeforsikring 232.740.01, • Vation Teknillinen Tutkimuskeskus SM 794/91. • BS-5839 Pt.4 1988. *See Autronica publication "Type Approvals, Survey of Approvals", P 634.*