FIRE DETECTION SYSTEMS

Firex

Product catalogue
JUNO-SYS
One loop analogue addressable control panel

Single loop panel - Non expandable
Smaller Size: Junior 314x320x80
Supports connection to Mini-repeater via RS485 and/or fibre-Optic interfaces
125 device addresses
96 VULCAN (addressable) ultra low current base sounders (32 address limit)
32 individually programmable sounder addresses
Full SAM (Self Addressable Module) support
2 Fire output relays (change-over) and 1 Fault relay (change-over)
2 conventional alarm outputs (Individually programmable)
All detector loops monitored for integrity
384 fully programmable zones
512 fully programmable sounder groups
Event log (rolling, 2000 entries)
Compatible with Apollo S90 /XP95T and DiscoveryT Protocols
Compatible with all our own low cost ancillary modules
Backlit LCD display with 4 rows of 40 characters
Programming by integrated keypad
Multiple language support (menu selectable)
Optional fire and fault LED zone indication
Integrated 8 zone LED fire zone indication
Interactive DiscoveryT functions

Pr.Id.:30103
RAIK-1
1-3 loops analogue addressable control panel

RAIK-1 is an analogue addressable control panel with modular 1-3 loop configuration with 32 zones. Main unit is composed from RAIK A and B modules. Analogue loops are created with modules RAIK-M. See accessories bellow.

**CHARACTERISTICS**
- Under UNI EN54-2 and UNI EN54-4, power supply 2A/24Vdc
- Max 378 analog detectors on 3 (6) loops

**DETECTOR INPUTS**
- Max 248 conventional local or remote lines (loop RS485)
- 32 zone

**ALARM OUTPUTS**
- Alarm output with indication of short circuit
- Max 6 outputs el. programed
- Max 64 outputs programmed on 8 channel adapters, local or remote
- Alarm and trouble output N.O./ N.C.

**PROGRAM OUTPUTS**
- Connection with a PC through RS-232/485
- Serial clock/date output
- Local bus SPI for connection with I/O adapters

**SERVICE PORTS**
- Internal buffer for 800 events, possible to download to a PC or print to RS232

**ACCESSORIES**
-Remote LCD indication keyboard
- Analogue addressable loop card for expansion of loop with 126 address or 2 loops of 63 address
- Input module with 8 inputs
- Output module with 8 relay outputs
FUNCTIONAL CHARACTERISTICS

Fully expandable system - from 1 to 96 loops
  125 device addresses per loop
  96 VULCAN (addressable) ultra low current base sounders per loop
  32 individually programmable sounder addresses per loop
  2 Fire output relays (change-over)
Open collector outputs for Fire, Fault and Pre-alarm remote indicators
  2 conventional alarm outputs on each Main Panel and Sub-panel
Repeaters with optional Integrated Sub-panels
  All detector loops monitored for integrity
  384 fully programmable zones
  512 fully programmable sounder groups
  Event log (rolling, 2000 entries)
Compatible with Apollo S90/XP95 and Discovery Protocols
Compatible with all our own low cost ancillary modules
Backlit LCD display with 4 rows of 40 characters
Programming by infra-red remote keypad, PC keyboard and Windows™ based ‘Loader’ software
Windows™ based PC graphics software for alarm management and reporting
  Multiple language support (menu selectable)
  BMS output (RS232)
Evacuate/Class Change input
Multi-panel network by RS485 or fibre optic links
Optional internal 40 column thermal printer
Optional fire and fault LED zone indication

ELECTRICAL & MECHANICAL CHARACTERISTICS

Primary supply voltage 85-265V AC 50/60Hz
Secondary supply voltage 24V DC nominal
Power supply rating 60W or 150W output
Sounder output rating 1 Amp
Auxiliary output rating 1 Amp fused
Battery fuse rating 3 Amp
Auxiliary contact rating 1A 50V AC/DC
Quiescent current w/out devices 130 mA
Box * 1.5mm aluminum or mild steel coated white
  Back through cut out/top by 6 removable plugs
Cable entries
Dimensions (1-3 loops box) H: 370 W: 340 D: 127 (mm)
Dimensions (1-12 loops box) H: 420 W: 550 D: 127 (mm)
Dimensions (sub-panel box) H: 370 W: 340 D: 127 (mm)
Dimensions (mini-repeater box) TBA
Battery Capacity Up to 2 x 12V 12A/H
Weight 6.5 Kg
The JUNO-NET repeater has an identical appearance to the JUNO-NET main panel and has similar electrical characteristics. It allows full control and programming of the entire fire protection system as if you were at the main panel. A repeater with integrated sub-panel allows a distributed system topology ideal for multiple building networks where display and control is necessary in each building. Each integrated sub-panel has its own unique (programmable) address and can have either one or three detection loops. From the user perspective the only difference between a repeater and the main panel is that a repeater cannot support a printer.

Whenever a fire alarm system grows beyond 3 loops in terms of either detection points or topology, it is possible to add sub-panels in increments of 3 loops and supplied in fully closed cabinets, provided with independent primary and secondary power supplies. In each cabinet it is possible to install 1, 2 or 3 sub-panel boards with each board containing 3 loops, hence the 1-9 loops capability. The power supply is 5.4A PSU/Charger. Only one RS-422/485 or Fibre-optic interface is needed in each cabinet to provide the communication path to the rest of the system. These cabinets can be installed closer to the fire monitoring devices, enabling significant savings in expensive fire-proof cabling.

This sleek, unobtrusive repeater panel can be used to control any distributed, or self-contained JUNO-NET based fire alarm system. Because of its reduced dimensions it is especially recommended for front desk monitoring of large systems where it would be impractical to place a full size control panel in a cluttered reception booth. Up to 10 repeaters can be connected to a main JUNO-NET fire alarm panel, all of which offer full control over the system. Connection to the JUNO-NET is via its data-loop communication bus and can be through an RS-422/485 or Fibre-optic interface. Compatible with Juno-SYS.
**LOOP CONNECTOR**

**CHARACTERISTICS**

- **DIMENSIONS: FACE PLATE** 76 x 76 x 2 (mm)
- **DIMENSIONS: INDICATOR** 68 x 33 x 25 (mm)

This interface board provides a separate area for connecting the addressable loops wiring. It also has the entry level filtering to reduce overall noise susceptibility of the JUNO-NET panel (needed if REP + loop card are used).

**LOOPCARD - SINGLE AND THREE LOOPS**

**CHARACTERISTICS**

- **DIMENSIONS: FACE PLATE** 76 x 76 x 2 (mm)
- **DIMENSIONS: INDICATOR** 68 x 33 x 25 (mm)

These are the work-horses of our range of panels. Since their creation in 1992 they have been improved in many respects, reaching today an unparalleled performance in their function of interfacing the real world of the loop wiring and devices, with the sensitive electronics of an advanced fire alarm control panel.

**SUB-PANEL**

**CHARACTERISTICS**

- **DIMENSIONS: FACE PLATE** 76 x 76 x 2 (mm)
- **DIMENSIONS: INDICATOR** 68 x 33 x 25 (mm)

The sub-panel board is in essence a building block of a JUNO-NET control panel, either in a distributed or self-contained topology. Capable of managing up to 3 loops of analogue addressable devices, it will operate on its own even in the event of lack of communication with the JUNO-NET main panel, detecting fire and fault situations and activating its own loop sounders, I/O units etc. This unit is also the processor board for the JUNO-NET Mini-Repeater as well as our low-costing single loop panel named JUNiOr. JUNiOr will be out towards end of 2003.

**INTERNAL PRINTER**

**CHARACTERISTICS**

- **WEIGHT:** 208 grams (including paper roll)
- **DIMENSIONS:** H: 65 W: 145 D: 45 (mm)

This 40 column internally mounted thermal printer provides a log of all the relevant events occurring in the JUNO-NET system. All events are date and time stamped and are backed up by the 2000 events deep rolling log kept in the panel processing unit.

**NOTE:** In order for the printer to work properly it is necessary that the J-NET-QUART chip (pictured) be installed on the JUNO-NET main board.
If the system is distributed, the communication between the main panel and the external sub-panels or repeaters is supported by either an RS422/485 fully redundant loop or alternatively fibre-optic cable. In both cases the data loop is protected from interruptions or via short-circuits by creating a bi-directional communication flow. If the main panel is unable to communicate with a sub-panel or repeater, it will try reaching it through the opposite direction and signal a communication fault. If RS422/485 is to be used, the cable needed will be a 4 core shielded and fire proof data cable, running a loop from the main panel through all the repeaters and sub-panels in the system and returning to the main panel.

It is desirable to use fibre-optic cable for the data loop when longer distances between nodes demand it (above 1200 m) or in premises with high levels of electrical disturbances. The cable used for this type of connection should be dual core sheathed fire proof with 62.5/125 fibre terminated in ST connectors. This type of data loop is also fully redundant and permits distances between nodes of up to 4.5 Km.

**J-NET-INT-485**

| CHARACTERISTICS | WEIGHT: 34 grams | DIMENSIONS: H: 25 W: 115 D: 10 (mm) |

This board is a complement to the J-NET-INT-485, and provides the screw connection terminals that do not fit in the former PCB is reduced dimensions. It also provides spark-gap discharge protectors for each in or outbound connection, improving the degree of protection against atmospheric discharge interference.

**J-NET-INT-FO**

| CHARACTERISTICS | WEIGHT: 22 grams | DIMENSIONS: H: 39 W: 77 D: 9 (mm) |

This interface unit converts the TTL level networking signals to dual channel optical fibre compatible levels, to allow long distance interconnection between a JUNO-NET main panel and either one or more sub-panels and/or repeaters with or without integrated sub-panels.

The optical inputs and outputs are inherently optically isolated from the panel or sub-panel to which it is connected. This optical isolation avoids disturbance created by ground loops and ensures complete protection from possible shock hazards and wiring mistakes.

The TTL connections are via a 5 pin Molex connector which carries the supply and TTL levels.

**Quart COMS**

| CHARACTERISTICS | WEIGHT: 28 grams | DIMENSIONS: H: 41 W: 65 D: 20 (mm) |

When the need arises to interface the JUNO-NET with the outside world, you will be required to use one of the following units. If your requirements are Uploading/Downloading data from your PC to the main panel, connecting your system to a graphics software like the Odyssey or the installation of an external printer, then you will need the J-NET-INT-COMS board correctly configured for each of the above mentioned purposes. Identification of the boards is by way of labels since the corresponding configuration of each board is done in factory.
For many fire alarm systems, all that is required is a simple stand-alone fire alarm panel, monitored by a receptionist or security guard.

A printer can be connected to the computer to record all alarm, fault and programming activity on the system.
The X series is a precise, and high reliable EN-54 approved Analog Addressable smoke alarms. It comes with a series of 3 different types: smoke only (X-O), heat only (X-T), and smoke + heat combination (X-O/T) detection.

ADDRESSABLE X SERIES

- Dual LEDs for 360°visibility
- Advanced detection and discrimination algorithms
- Easy installation and maintenance
- Sleek low-profile housing design
- Durable sensor head, no need for replacement
- SMD circuit board design-satisfactory quality and reliability guaranteed
- Five-year limited warranty
- Sensor base option: standard and Shottky Diode

<table>
<thead>
<tr>
<th>Model</th>
<th>Pr.Id.:32522</th>
<th>Pr.Id.:32523</th>
<th>Pr.Id.:32524</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/4 Wire</td>
<td>X-O</td>
<td>X-T</td>
<td>X-O/T</td>
</tr>
<tr>
<td>Thermal / Optical</td>
<td>Optical</td>
<td>Thermal</td>
<td>Thermal/Optical</td>
</tr>
<tr>
<td>Voltage DC</td>
<td>15-30V</td>
<td>15-30V</td>
<td>15-30V</td>
</tr>
<tr>
<td>Standby Current (Max)</td>
<td>370μA</td>
<td>370μA</td>
<td>370μA</td>
</tr>
<tr>
<td>Alarm Current (Max)</td>
<td>370μA</td>
<td>370μA</td>
<td>370μA</td>
</tr>
<tr>
<td>Surge Current (Max)</td>
<td>370μA</td>
<td>370μA</td>
<td>370μA</td>
</tr>
<tr>
<td>Start-Up Time (Max)</td>
<td>30sec</td>
<td>30sec</td>
<td>30sec</td>
</tr>
<tr>
<td>Permissible Current (Max)</td>
<td>80mA</td>
<td>80mA</td>
<td>80mA</td>
</tr>
<tr>
<td>Frequency</td>
<td>3-5sec</td>
<td>3-5sec</td>
<td>3-5sec</td>
</tr>
<tr>
<td>Base Model</td>
<td>X-B</td>
<td>X-B</td>
<td>X-B</td>
</tr>
</tbody>
</table>
Both the MCP A-KAC and the MCP A-FLAP are addressable manual call-points, compatible with a version of the meter bus protocol used by several panel manufacturers, used for signaling an emergency or fire situation to an addressable fire detection control panel. The main features of these units are their low quiescent power consumption and low cost. An 8 way DIL switch is used for setting the address of the unit within the communication loop. Addresses 0 to 125 can be programmed in binary code, where a switch in the “OFF” position represents a “0”. This unit returns an analog value of 16 when the glass is intact and a value of 64 when the glass panel has been pressed. The unit is provided with a bi-color LED which signals with a green light flash when the unit is being interrogated by the control panel. When in ALARM, the LED is illuminated in red by command of the control panel.

The X-MCPA-KAC manual call point uses a new communication mechanism that gives a typical alarm response time of approximately one second and yet does not use Apollo’s patented interrupt bit solution. This new communication system is fully compatible with all our addressable modules, SAM’s, S90, XP95 and Discovery detectors. Like Apollo’s interrupt based system, the more call points on a loop, the longer the time from activation to alarm.

The S-MCPA-2470 is a conventional manual call-point compatible with all conventional fire alarm control panels. The main feature of this unit is the use of a bi-color LED to signal the operational status of the call-point. The included LED blinks regularly with the green color while connected to a detection zone and lights with a permanent red light when activated, (alarm condition). This, allied with its very competitive price and aesthetic appearance, make the S-MCPA-2470 a very attractive product.
This addressable sounder is a surface mountable unit available in red and white colors with very low power consumption as its main characteristic. It has a sound output of up to 92dBA with less than 5mA power consumption @ 24V. It is possible to place up to 96 sounders or 64 sounder/beacons in a single loop, 32 of which can be given a response address, the remaining being shadow sounders.

This addressable sounder is a surface mountable unit available in red and white colors with very low power consumption as its main characteristic. It has a sound output of up to 92dBA with less than 5mA power consumption @ 24V. It is possible to place up to 96 sounders or 64 sounder/beacons in a single loop, 32 of which can be given a response address, the remaining being shadow sounders.

This addressable sounder/beacon, is a surface mountable unit available in red color with very low power consumption as its main characteristic. It has a sound output of up to 92dBA with less than 5mA power consumption @ 24V. This includes a high power LED based beacon which uses 8 super-high efficiency RED LED’s. It is possible to place up to 96 sounders or 64 sounder/beacons in a single loop, 32 of which can be given a response address, the remaining being shadow sounders. The beacon operation can be chosen between two modes:

Mode A: The beacon operates simultaneously with the sounder and stops with the silencing.

Mode B: The beacon operates simultaneously with the sounder but does not stop flashing until the loop is
This sounder is an ultra low power base sounder, intended to be used both as a stand-alone low profile sounder, or as a combined detector plus sounder assembly. When configured as a SHADOW sounder, by cutting the appropriate link, these sounders become invisible to the fire alarm control panel. This characteristic means that although the panel can control the activation of the sounders - in up to 32 groups per loop - each of these groups can have more than one and up to 64 sounders because the devices are not reporting back to the panel. This also means that device addresses 94 to 125, hereto reserved for addressable sounders, can be concurrently used by other device types, i.e. detectors and call points, meaning that at this stage the total numbers of sounders per loop is raised to 64 together with up to 125 other devices, detectors etc... This implies that the sounders are NOT monitored individually, but solely as part of the detection loop.
Following strategy of providing competitive products for our esteemed customers, we are pleased to announce the launch of SAM. This tiny, very low cost, module provides any conventional detector with an address without the inconvenience of using a manual addressing unit or DIP switch. The SAM is simply attached to the conventional detector and the detector address is automatically assigned to each SAM by the JUNO-NET or JUNiOr control panel during commissioning and testing. A SAM based system tolerates loop branches and can monitor loop interruptions and head removal. SAM is ideal for low budget retrofits where fire point identification is needed but the cost of fitting a fully analogue system is too high. SAM is also an option in low budget installations that would normally be implemented with 4 to 8 zone conventional systems. It gives you the cable savings possible (see below) with an addressable system, together with the loop sounder capability but without the extra costs of analogue addressable heads. Compatible with any make of conventional detector, the SAM is fully encapsulated in a plastic case, unobtrusive and easy to connect to the detector base.

A SAM system can prove economical as an alternative to conventional systems as small as 4 detection zones. Up to 125 detection devices can be fitted to a single loop of fireproof cable. This, together with the use of addressable loop powered sounders, keeps wiring costs to a minimum and gives the customer all the flexibility and programmability of an addressable system at an extremely competitive price.
The I/O-ISO is an addressable module, compatible with a version of the meter bus protocol used by several panel manufacturers, which allows the connection of a normally open contact to an addressable fire detection system. This is normally used to signal an alarm or fault situation in machinery or other alarm situations like flooding, etc., by means of Fire detection system.

The module is supplied from the detection loop and monitors the connection to the monitored switch. This is done by placing a 22 K ohm E.O.L. at the connections end and connecting a 4K7 resistor in series with the alarm switch. The input status is visualized locally by a red LED, where the red light signals an alarm condition.

The INPUT unit is available as an electronic module with four fixing holes, or as a boxed unit for individual module installations. The module detects and reacts to four bands of resistance between its input terminals, which are as follows:

**OPEN TO 50K - FAULT REPORTED**

**50K TO 8K2 - NORMAL REPORTED**

**8K2 TO 2K2 - FIRE REPORTED**

**2K2 TO 0R0 - FAULT REPORTED**

The OUTPUT UNIT is an addressable module, compatible with a version of the meter bus protocol used by several panel manufacturers, which allows the connection of a normally open contact to an addressable fire detection system.

This is normally used to signal an alarm or fault situation in machinery or other alarm situations like flooding, etc., by means of Fire detection system.

The module is supplied from the detection loop and monitors the input status. This is done by placing a 22 K ohm E.O.L. at the connections end and connecting a 4K7 resistor in series with the alarm switch. The input status is visualized locally by a red LED, where the red light signals an alarm condition.

The OUTPUT unit is available as an electronic module with four fixing holes, or as a boxed unit for individual module installations. The module detects and reacts to four bands of resistance between its input terminals, which are as follows:

**OPEN TO 50K - FAULT REPORTED**

**50K TO 8K2 - NORMAL REPORTED**

**8K2 TO 2K2 - FIRE REPORTED**

**2K2 TO 0R0 - FAULT REPORTED**
The 3 I/O-ISO is an addressable module, compatible with a version of the Meter bus protocol used by several panel manufacturers, which allows the connection of three normally open contacts to an addressable fire detection system, providing at the same time three output relay contacts to control ancillary equipment. This is normally used to signal alarm or fault situations in machinery or other alarm situations like flooding etc., and controlling ancillary equipment, by means of the Fire detection system. The module is supplied from the detection loop and monitors the connection to the monitored switches. This is done by placing a 22K ohms E.O.L. resistors at the connections ends and wiring a 4K7 resistor in series with the alarm switches. The input status is visualized locally by three red LED’s which signal a fire condition at the inputs, and a yellow common fault LED. The relay operation is signaled by three red LEDs which light when the respective relays are actuated. The power for actuating the relays is derived from an external P.S.U. The external supply is optically isolated from the detection loop. The 3 I/O-ISO is available as an electronic module with four fixing holes. The module detects and reacts to four bands of resistance between its input terminals, which are as follows:

<table>
<thead>
<tr>
<th>ADDRESSABLE LOOP SUPPLY</th>
<th>mA</th>
<th>WEIGHT</th>
<th>80 grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOOP CURRENT (NORMAL)</td>
<td>0.7</td>
<td>DIMENSIONS</td>
<td>H: 20 W: 72 D: 88 (mm)</td>
</tr>
<tr>
<td>LOOP CURRENT (O.C. FAULT)</td>
<td>3.1</td>
<td>WIRE CAPACITY</td>
<td>up to 2.5mm²</td>
</tr>
<tr>
<td>LOOP CURRENT (S.C. FAULT)</td>
<td>3.1</td>
<td>FXINGS</td>
<td>surface mount: 4 holes</td>
</tr>
<tr>
<td>LOOP CURRENT (FIRE)</td>
<td>3.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RELAY CONTACT RATING</td>
<td>50V 1A Resistive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The 8 I/O module is an addressable module, compatible with a version of the meter bus protocol used by several panel manufacturers, which allows the connection of eight normally open contacts to an addressable fire detection system, providing at the same time two output relay contacts to control a conventional fire alarm panel. This module will normally be used to interface existing conventional fire alarm systems to an analogue addressable fire control panel. The module is supplied from the detection loop but requires a nominal 24V DC supply for relay energizing. This auxiliary supply can be derived from the conventional fire alarm panel. The alarm silencing and reset functions of the conventional fire alarm panel can be executed by silencing and resetting the analogue addressable fire control panel. The 8 inputs are digital normally open inputs that can be connected to the zone repeater outputs of the conventional fire alarm panel. The silence and reset relay operation is signaled by two green LEDs. The external supply is optically isolated from the detection loop.
**X-LSCM**

**TECHNICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Voltage</td>
<td>17-40 Volts DC</td>
</tr>
<tr>
<td>Quiescent Current Consumption</td>
<td>750μA Max.</td>
</tr>
<tr>
<td>Alarm Current Consumption</td>
<td>1.5mA Max.</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 - 85°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>30 - 95% Non-Condensing</td>
</tr>
<tr>
<td>DIMENSIONS</td>
<td>H: 19 W: 48 D: 58 (mm)</td>
</tr>
</tbody>
</table>

The LSCM1 is a loop powered sounder control module, designed mechanically to be mounted inside any conventional sounder or beacon with up to 40mA consumption. The main features of this module are its low power consumption in quiescent mode and its electronic and mechanical simplicity which make it a reliable and economical piece of equipment. A six way DIL switch allows assigning of the address pertaining to each sounder, in the range from 94 to 125. The first five sections are used allows programming of addresses 94 to 125. The output of the module is by a two way terminal block where the line of conventional sounders is connected. The output can either be pulsed or continuous. The protocol used by the LSCM1 is only compatible with GFE’s range of panels. The current derived to the sounder output is limited to 40mA which protects the loop from overloading if the output is accidentally shorted. When a sounder is connected to the module's output an analogue value of 16 is returned upon interrogation of the device. If no connection is made to the output, a fault value of 4 is returned. When in alarm, the analogue value reported by the device is always 17. This signals to the control panel that the sounder controller has responded to its activation command.

**X-LSCISO**

**TECHNICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Voltage</td>
<td>12 - 30 Volts DC</td>
</tr>
<tr>
<td>Quiescent Current Consumption</td>
<td>1.9mA max.</td>
</tr>
<tr>
<td>Alarm Current Consumption</td>
<td>1A max.</td>
</tr>
<tr>
<td>Isolation</td>
<td>500 Volts DC/max.</td>
</tr>
<tr>
<td>Dimensions</td>
<td>H: 16 W: 37 D: 31 (mm)</td>
</tr>
</tbody>
</table>

The LSC-ISO is an externally powered sounder control module, designed mechanically to be mounted inside a standard module box. The main feature of this module is its capability to drive and monitor a bell output with a maximum output of 1A. The wiring to the sounders is monitored for short and open circuit in quiescent mode requiring a single 10K ohm resistor to be placed at the end of the monitored line. A six way DIL switch of which only the first five sections are used allows programming of addresses 94 to 125. The output of the module is by a two way terminal block where the line of conventional sounders is connected. The output can either be pulsed or continuous. The protocol used by the LSC-ISO is only compatible with GFE’s range of panels. A maximum number of 32 modules can be connected to each addressable loop. The current derived to the sounder output is limited to 1A which protects the output from overloading if the output is accidentally shorted. When in alarm, the analogue value reported by the device is always 17. This signals to the control panel that the sounder controller has responded to its activation command.
The ZMU is an addressable module, compatible with a version of the meter bus protocol used by several panel manufacturers, and which allows the connection of a number of conventional smoke or heat detectors and manual call-points, to an addressable fire detection system. This means that from a detection and alarm processing point of view, that group of detection devices is given an address and considered as an unique alarm source. Using this module is a natural option in the protection of large areas, like underground parking lots, where the expense of using addressable detectors is not justifiable, even though the configuration of the rest of the building requires those. This module can draw its power from the communication loop which dispenses with the need for an additional power supply connection, or be supplied from an external power supply unit. This is defined by removing the two jumpers installed as a default. The unit controls a zone of conventional detectors with a 4K7 ohm passive E.O.L. Because the current drawn from the loop can be significant, especially in Fire and S.C. Fault conditions, the number of modules that can be supplied is limited. The current status is visualized locally by a dual color LED, where the green light means a normal current condition, a red light signals a fire condition and no light indicates a fault. The unit monitors the external power supply, reporting a fault if the auxiliary power is not present. The ZMU is available as an electronic module with four fixing holes, or as a boxed unit for individual module installations. The module detects and reacts to four bands of zone current which are interpreted and signaled to the control panel and which are as follows:

<table>
<thead>
<tr>
<th>Band</th>
<th>Signaled to Control Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 TO NORMAL - FAULT REPORTED</td>
<td>NORMAL TO ALARM - NORMAL REPORTED</td>
</tr>
<tr>
<td>NORMAL TO ALARM - NORMAL REPORTED</td>
<td>ALARM TO SHORT CCT - FIRE REPORTED</td>
</tr>
<tr>
<td>ALARM TO SHORT CCT - FIRE REPORTED</td>
<td>SHORT CCT - FAULT REPORTED</td>
</tr>
</tbody>
</table>

**Addressable Loop Side**

- **LOOP CURRENT (NORMAL):** 2.9 mA
- **LOOP CURRENT (O.C. FAULT):** 1.5 mA
- **LOOP CURRENT (S.C.FAULT):** 1.5 mA
- **LOOP CURRENT (FIRE):** 3.1 mA

**External Supply Side**

- **SUPPLY CURRENT (NORMAL):** 7 mA
- **SUPPLY CURRENT (O.C. FAULT):** 1.5 mA
- **SUPPLY CURRENT (S.C.FAULT):** 60 mA
- **SUPPLY CURRENT (FIRE):** 30 mA

**Mechanical Characteristics**

- **Weight:** 30 grams
- **Dimensions:** H: 20 W: 60 D: 60 (mm)
- **Wire Capacity:** Up to 2.5 mm²

The QUAD-ZMU is an addressable module, compatible with a version of the meter bus protocol used by several panel manufacturers, and which allows the connection of four zones with a number of conventional smoke or heat detectors and manual call-points, to an addressable fire detection system, using four consecutive addresses. This means that from a detection and alarm processing point of view, each group of detection devices is given an address and considered as an unique alarm source. Using this module is a natural option in the protection of large areas, like underground parking lots, where the expense of using addressable detectors is not justifiable, even though the configuration of the rest of the building requires those. This module requires the connection of 24V DC supply which is permanently monitored and allows the connection of four standard zones of detectors with 4K7 ohm passive E.O.L. The detection zones and their supply voltage are optically isolated from the addressable detection loop, which allows the use of a local independent power supply. If that supply fails, a FAULT condition is reported to the control panel. The current status of each zone is visualized locally by two LED’s, where the yellow light means a fault condition and a red light signals a fire condition and no light indicates a normal situation. A green LED indicates that there is power on the zone connections. The individual zones of this module detect and react to four bands of zone current which are interpreted and signaled to the control panel and which are as follows:

<table>
<thead>
<tr>
<th>Band</th>
<th>Signaled to Control Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 TO NORMAL - FAULT REPORTED</td>
<td>NORMAL TO ALARM - NORMAL REPORTED</td>
</tr>
<tr>
<td>NORMAL TO ALARM - NORMAL REPORTED</td>
<td>ALARM TO SHORT CCT - FIRE REPORTED</td>
</tr>
<tr>
<td>ALARM TO SHORT CCT - FIRE REPORTED</td>
<td>SHORT CCT - FAULT REPORTED</td>
</tr>
</tbody>
</table>

**Addressable 4 Zone Monitor Unit Externally Powered**

- **ADDRESSABLE LOOP SIDE:** 1.5 mA
- **EXTERNAL SUPPLY SIDE:** 7 / CCT
- **LOOP CURRENT (O.C. FAULT):** 1.5 mA
- **SUPPLY CURRENT (O.C. FAULT):** 1.5 / CCT
- **LOOP CURRENT (S.C.FAULT):** 1.5 mA
- **SUPPLY CURRENT (S.C.FAULT):** 60 / CCT
- **LOOP CURRENT (FIRE):** 1.5 mA
- **SUPPLY CURRENT (FIRE):** 30 / CCT
This remote indicator can be used with any fire alarm detector, be it of the conventional or addressable/analogue types, to indicate remotely the activation of the relevant detection device. Its main characteristics are the high visibility due to the alternate blinking of two high efficiency LED’s (“A” Version), and the wide operating voltage range 3 to 15 DC Volts, with a minimum of 300 µA current consumption. The two connections of this device are non-polarized, avoiding wasted time at the installation phase. The unit comes complete with a face plate compatible with standard flush mounting boxes.

**FLASHING REMOTE INDICATOR**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>3 - 15 V DC</th>
<th>DIMENSIONS: FACE PLATE</th>
<th>76 x 76 x 2 (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORKING VOLTAGE RANGE</td>
<td>300 µA - 15 mA</td>
<td>DIMENSIONS: INDICATOR:</td>
<td>68 x 33 x 25 (mm)</td>
</tr>
</tbody>
</table>

Our ABS molded multi purpose junction box is provided in RED or WHITE color with matching snap-on cover and has four mounting holes compatible with our single channel addressable modules. It is intended for surface use but can also be embedded. Weight with cover: 74 grams.

**ABS MULTI PURPOSE JUNCTION BOX**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>20-30V.</th>
<th>WEIGHT:</th>
<th>44 grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPPLY VOLTAGE:</td>
<td></td>
<td>DIMENSIONS:</td>
<td>H: 51 W: 101 D: 16 (mm)</td>
</tr>
<tr>
<td>OPERATING CURRENT:</td>
<td>25mA max.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAX BAUD RATE:</td>
<td>9600 baud</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This optically isolated converter can be used to connect RS232 signaling equipment over distances up to 1200 m. It is mainly used in conjunction with the JUNO panels and repeaters.

**RS232/RS485 CONVERTER**

**ACCESSORIES**
CONVENTIONAL DETECTORS

**S-T Series**
- 4 wire models
- Dual LEDs for 360° visibility
- Advanced detection and discrimination algorithms
- Sleek low-profile housing design
- Durable sensor head, no need for replacement
- SMD circuit board design—satisfactory quality and reliability guaranteed
- Integrated heat detector for S-T models
- Five-year limited warranty
- N/C (normal/close)-N/O (normal/open) selectable relay output
- AR (Auto Reset) function for security systems (optional for 4 wire models)
- Sensor base option: standard and Shottky Diode

**S-O Series**
- 4 wire models
- Dual LEDs for 360° visibility
- Advanced detection and discrimination algorithms
- Sleek low-profile housing design
- Durable sensor head, no need for replacement
- SMD circuit board design—satisfactory quality and reliability guaranteed
- Remote LED
- Five-year limited warranty
- N/C (normal/close)-N/O (normal/open) selectable relay output
- AR (Auto Reset) function for security systems (optional for 4 wire models)
- Sensor base option: standard and Shottky Diode

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<table>
<thead>
<tr>
<th>Model</th>
<th>2/4 Wire</th>
<th>Thermal / Optical</th>
<th>Voltage DC</th>
<th>Standby Current (Max)</th>
<th>Alarm Current (Max)</th>
<th>Surge Current (Max)</th>
<th>Start-Up Time (Max)</th>
<th>Permissible Current (Max)</th>
<th>Frequency</th>
<th>Base Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-T Series</td>
<td>4</td>
<td>Optical</td>
<td>10-15V</td>
<td>55μA</td>
<td>50mA</td>
<td>150μA</td>
<td>60sec</td>
<td>80mA</td>
<td>4-6sec</td>
<td>S-B</td>
</tr>
<tr>
<td>S-O Series</td>
<td>4</td>
<td>Optical</td>
<td>10,2-13,8V</td>
<td>370μA</td>
<td>35mA</td>
<td>80mA</td>
<td>120sec</td>
<td>80mA</td>
<td>3-5sec</td>
<td>S-B</td>
</tr>
</tbody>
</table>
**Air Sampling Unit**  Pr.Id.:32502
B-IC Air sampling unit is designed for use with Firex series smoke detectors. The unit enables smoke detectors to be sited within ventilation extract ducts in order to assist in the prevention of the spread of smoke by the ventilation system.

**BL-151 Relay Adapter**  Pr.Id.:32501
Relay adapter that allows connection of conventional fire detectors to the regular alarm system. General features are:
Free switching for alarm signalling.
Free switching for fault signalling
Detector line reset button
Connect from 7-10 detectors to one BL-151

**Electro - magnetic door holder**
Electromagnetic door holder type 1340 and 1360.

Features:
1340 Type: 100kg  Pr.Id.:32506
1360 Type: 100kg with housing and release key  Pr.Id.:32507

**G55 Series Gas Detectors**  Pr.Id.:32604
The G55 series gas detectors include detectors for following gases: methane, butane, gasoline fumes, CO (carbon monoxinde), hydrogen, propane.
Please check with your distributor which type of detector you need.

**B55 Series Sample Gases**
In order to set the G55 detectors optimally you will need to purchase and use the B55 Sample Gas. Each detector type requires affiliate gas.

**Conventional fire sirens and flashing lights**
We are offering you a wide variety of audible, visual and visual-audible annunciators.
Some features:
Type SP-30; audible addressible annunciator
Type Solo/24; visual - audible outdoor annunciator with 4 ohms at 117dB@1m
1484; flashing light 12/24Vdc
FUKULTETA ZA ELEKTROTEHNIKO
UNIVERZA V LIJUBLJANI
LABORATORIJI ZA PROČNO MIRJENO TEHNIKO
LABORATORIJI ZA MAGNETNA MIRENZNA
LIJUBLJANA, ZEJZBO S.23

Na osnovi poročila o proizvodi in montiru iz br. 02550-4-C-799
ki se nameri na preiskovalnem:
SISTEM ZA JAVLJANJE POŽARA IN TEHNIČNE ALARMNE JEDINICE

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CERTIFIKAT
iz. 05882-C-799

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in s tem dovoljuje za uporabo odobrenega zaklada.


Ljubljana, 26. januarja 2005

Laboratorij za procesno merilno in elektronsko tehnologijo

Prof. dr. Damjan Miklavec

Fukulteta za elektrotehniko

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LABORATORIJI ZA MAGNETNA MIRENZNA
LIJUBLJANA, ZEJZBO S.23

Na osnovi poročila o proizvodi in montiru iz br. 02550-4-C-993
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iz. 62021-C-72092

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Ljubljana, 26. januarja 2005

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