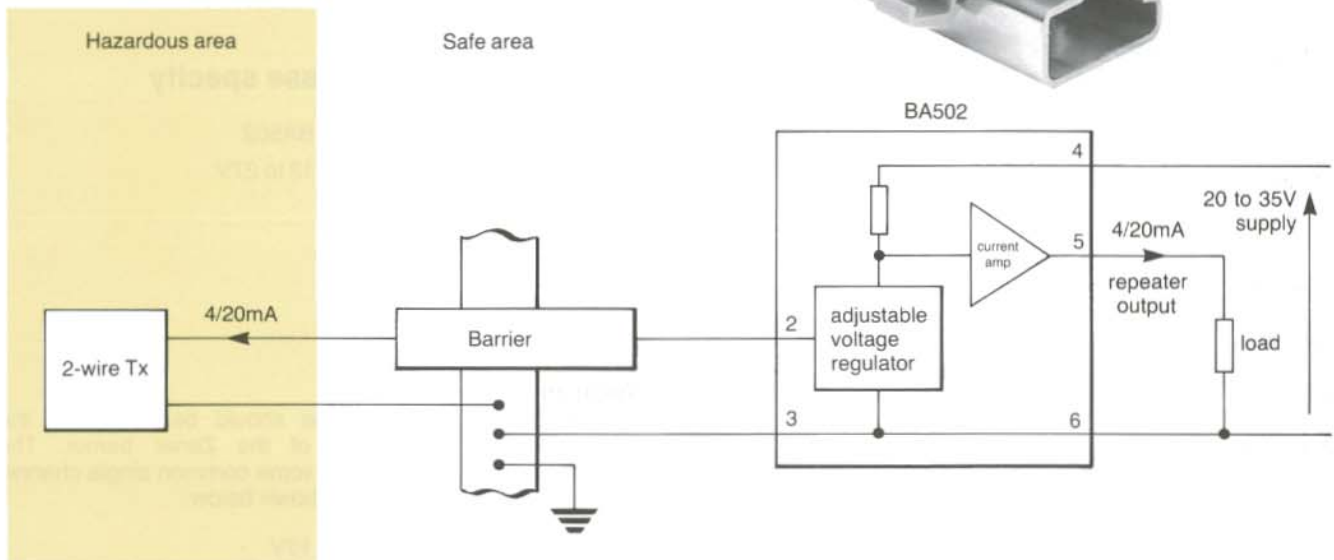


- Output drives 1450 ohm load
- Protects Zener barrier fuse
- Eliminates need for 2-channel Zener barrier
- Adjustable – will work with any 12 to 28V Zener barrier
- Green LED current indicator



The BA502 current repeater provides Zener barrier protected loops with greater transmitter and load voltage, and allows higher supply voltages to be used without blowing expensive barrier fuses. In addition, the BA502 eliminates the need for a return Zener barrier in systems operating from a common power supply, thus only one low cost single channel barrier is required for each loop.

The BA502 has an internal adjustable voltage regulator which allows the loop supply voltage to be increased above the maximum operating voltage of the Zener barrier without blowing the barrier fuse, and a unity gain current amplifier which produces a repeated 4/20mA output.

The main application for the BA502 is in 4/20mA intrinsically safe loops protected by a Zener barrier where there is insufficient voltage to drive the required load, or the supply voltage is unregulated. For example, loops operating from stand-by batteries where the supply voltage may fall below the level at which the loop stops working, or rise above the maximum working voltage of the Zener barrier which would cause the non-replaceable barrier fuse to blow.

The repeater output from the BA502 accurately duplicates the current flowing in the transmitter loop, and can drive a

1450 ohm load from a 35 volt supply. The transmitter loop is unaffected by short or open circuits on the repeater output. The BA502 can therefore be used to separate high integrity loads, such as alarms and controllers, from remote monitoring equipment which may be disconnected.

The repeater output is not referenced to the negative side of the transmitter loop. This allows the BA502 to drive a load which is at a potential above or below the barrier earth potential.

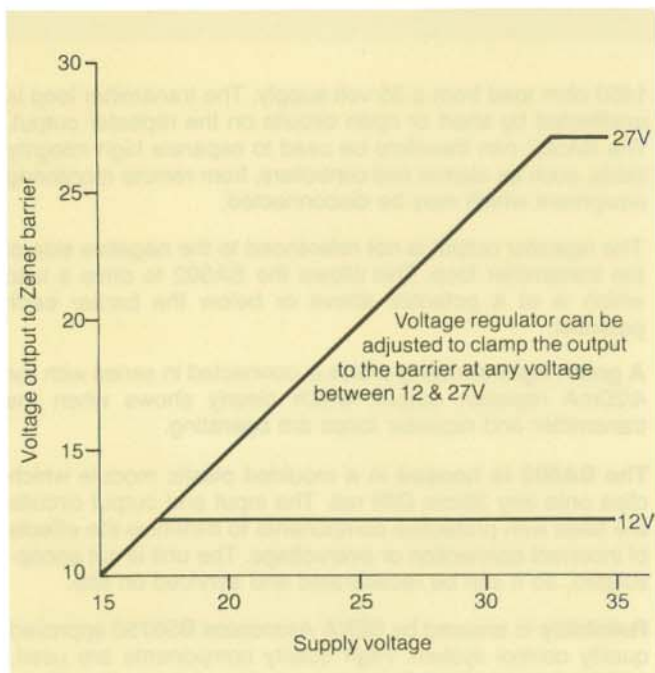
A green light emitting diode is connected in series with the 4/20mA repeater output, which clearly shows when the transmitter and repeater loops are operating.

The BA502 is housed in a moulded plastic module which clips onto any 35mm DIN rail. The input and output circuits are fitted with protective components to minimise the effects of incorrect connection or overvoltage. The unit is not encapsulated, so it can be recalibrated and serviced on site.

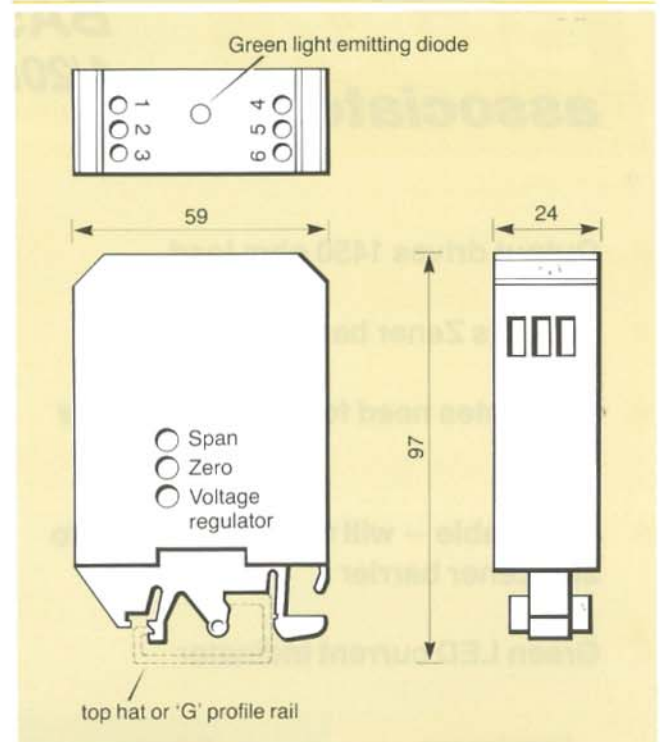
Reliability is ensured by BEKA Associates BS5750 approved quality control system. High quality components are used, and the printed circuit board is coated to minimise the effects of high humidity. All BEKA manufactured products are guaranteed for three years.

SPECIFICATION

Supply	
Voltage	15 to 35V
Current	Transmitter + load + 5mA
Transmitter loop	
Voltage available	(V supply - 5V) or regulator voltage whichever is the smaller
Voltage regulator	Voltage regulator can be adjusted to clamp the output to the barrier at any voltage between 12 & 27V
Short circuit current	Less than 35mA
Repeater loop	
Voltage available	(V supply - 6V)
Output resistance	Greater than 1M ohm
Calibration accuracy	±0.1% of max output @ 20°C
Temp effect on zero	Less than 0.01% of max output/°C
Temp effect on span	Less than 0.005% of max output/°C
Certification	Safe area mounting only, does not effect barrier certification
Environmental	
Temperature range	
Working	-20 to 60°C
Storage	-40°C to 70°C
Mechanical	
Mounting	Top hat 35mm DIN rail EN50 022/BS5584 G profile 32mm DIN rail EN50 035/BS5825
Spacing	5mm minimum between adjacent repeaters
Terminals	Screw clamp for 0.5 to 2.5mm cables
Weight	80g
Accessories	
Tagging	Up to 3 digits above each set of terminals



DIMENSIONS (mm)



HOW TO ORDER: please specify

Model number	BA502
Regulator voltage	12 to 27V

See table for regulator voltage required for common barriers. If not specified, regulator will be set to 25.5V but can easily be changed on site

Regulator Voltage

The BA502 regulator voltage should be set below the maximum working voltage of the Zener barrier. The maximum working voltage for some common single channel positive polarity barriers are shown below.

Z119/Ex	13V
Z125/Ex	19.7V
Z129/Ex	25.5V
8901/31-150/150/60	12V
8901/31-220/147/60	19V
8901/31-280/093/60	25.5V
E83 & E931	13V
E84 & E941	19V
E85 & E951	25V
MTL115+ & MTL715+	12V
MTL122+ & MTL722+	19V
MTL128+	26V
MTL728+	25.5V

Note: The BA502 transmitter output is current limited, if the regulator voltage is set above the maximum barrier working voltage the barrier will not be damaged but measurement errors may occur.

Your local BEKA distributor is: