

# ZoneBarrier

Protects sensitive I/O ports against induced surges and transients



- For 24V, 4-20mA current loop applications
- Industrial Ethernet compatible versions, UL Certified Cat.5
- Three stage protection including Gas Discharge Tube and Silicon Avalanche Diode technology
- Tested to IEC 61000-4-5 and CCITT K17
- 10 year product warranty



**The ZoneBarrier Series** is a uniquely modular data and signal line protection system for 24V, 4-20mA current loop and Industrial Ethernet applications. By providing an effective barrier between uncontrolled transient environments and your valuable electronic systems the ZoneBarrier Series protects you from costly system down time and equipment failure.

**The sophisticated hybrid circuitry** employed by the ZoneBarrier Series protects your equipment without impeding normal operation. ZoneBarrier protection components comprise a combination of high energy Gas Discharge Tubes with ultra fast diodes and Silicon Avalanche Diodes. This combination of high quality surge protection components gives the ZoneBarrier Series its characteristic low let-through voltage and high, 10kA, surge current capacity which provides excellent protection. ZoneBarrier devices have RJ45, terminal strip or pluggable terminal strip connectors.

**Designed for multi-loop or single control loop applications** the ZoneBarrier Series offers a flexible surge protection solution that is capable of growing with your requirements. A ZoneBarrier module can be used as a stand-alone device or as a building block in a surge protection solution as simple or as complex as your requirements, now and in the future.

**One simple manual operation** clamps modules securely onto DIN rail, an action that also automatically provides the essential high-integrity ground connection. Standard 'Top-hat' (T-section) DIN rail is generally suitable for mounting ZoneBarrier Series modules. Where a number of ZoneBarrier Series modules are mounted on one rail, any that are incorrectly mounted (and therefore not securely grounded) are very obvious and can easily be remounted correctly. The ZoneBarrier Series also has two mounting feet at

either end of the unit, enabling mounting to a flat surface such as a cabinet wall.

**ZoneBarrier data and signal devices are tested to IEC 61000-4-5** and CCITT K17. Industrial Ethernet compatible versions are also UL Certified Cat.5 and UL 497B Listed. ZoneBarriers come complete with a full 10 year product warranty.

**Additional protection** should be provided for other systems which may be inter-connected e.g. power feeds, telephone wiring etc., other units are available for this purpose.

Data  
Protection

# Specification

All figures typical at 77°F (25°C) unless otherwise stated

## Maximum load current

0.5 Amps

## Maximum surge current

4-20mA versions 10kA  
100Base-T versions 8kA (1kA per line)

## Maximum leakage current

5µA at working voltage (4-20mA versions)

## Maximum in line resistance

< 5 ohms

## Bandwidth

4-20mA versions 0.5 MHz  
100Base-T versions 155 MHz

## Ambient temperature limits

-40°F to +185°F (working)  
-40°C to +85°C (working)

## Humidity

95% RH (non-condensing)

## Casing

Molded plastic

## Weight

2.8oz (0.08Kg)

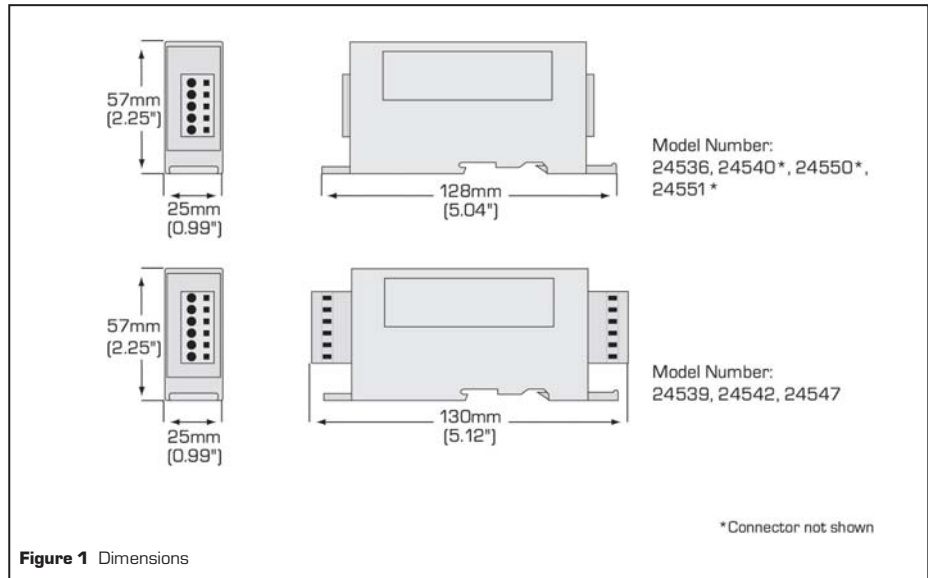
## Dimensions

See figure 1

## EMC compliance

BS EN 60950: 1992  
BS EN 61000-6-2: 1999

Model	Type	Lines	Working voltage (V)	Limiting voltage (V)	Maximum continuous operating voltage (V)	Connectors
ZB24536	4-20mA	4 plus shield	24	30†	30	Terminal strip
ZB24539	4-20mA	2 plus shield	24	30†	30	Pluggable terminal strip
ZB24542	4-20mA	6	24	30†	30	Pluggable terminal strip
ZB24547	4-20mA	4 plus 2 shields	24	30†	30	Pluggable terminal strip
ZB24540	100Base-T*	8	5	10	N/A	RJ45
ZB24550	100Base-T	2 x 4	5	10	N/A	2 x RJ45
ZB24551	100Base-T*	8	5	10	N/A	RJ45 / 110 Block



## Installation

All ZoneBarrier modules are installed in-line and are identified with "Protected" and "Unprotected" for fail-safe installation.

### DIN rail mounting (figure 2)

ZoneBarrier modules can be mounted on any standard T-section DIN rail or on the optional 19° DIN rail assembly. To attach the ZoneBarrier module to the DIN rail, simply locate the DIN rail foot of the module over on edge of the DIN rail and then securely push the ZoneBarrier onto the DIN rail. Note the DIN rail must be properly grounded.

### Stand-alone installation (figure 3)

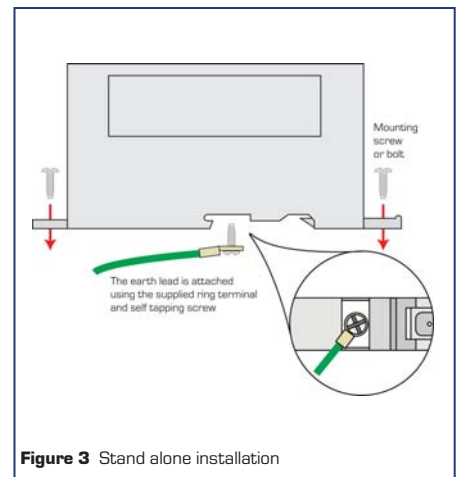
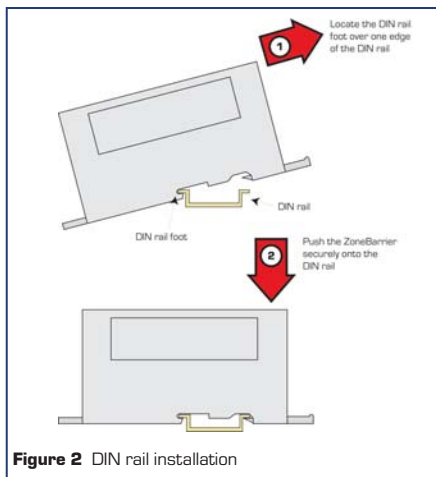
To install a ZoneBarrier module as a stand-alone protector, attach an ground lead to the supplied ring terminal and secure this with the self tapping screw provided to the base of the unit. Using screws (or bolts) mount the module on any flat surface.

## To order specify -

Model number as per specification table above

### Mounting options

- DR21605** 5" DIN rail for up to 4 ZoneBarriers
- DR21649** 17.5" DIN rail for up to 16 ZoneBarriers
- DR24500** 19" DIN rail (with mounting brackets) for up to 32 ZoneBarriers



## Approvals

For more information please contact your local MTL sales office:

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- UK:** +44 (0)1582 723633
- Singapore:** +65 6 487 7887
- The Netherlands:** +31 (0)481 450250
- Italy:** +39 (0)2 6180 2011
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- India:** +91 (0)44 450 1660

Local sales office information is also available on our web site at: [www.mtlurge.com/support/distribution/index.htm](http://www.mtlurge.com/support/distribution/index.htm)

Country	Standard/Authority	Approved for	Product
United States & Canada	UL 497B Listed UL Certified TIA/EIA 568-A Cat.5	Networks	ZB24540

