

Protecting Operational
Performance Worldwide



Crouse-Hinds
by **EAT•N**

The safety you rely on

Delivering world-class reliability and safety in high consequence harsh and hazardous environments

Crouse-Hinds
by **EAT•N**



MTL is a part of Eaton's Crouse-Hinds business and remains a brand that stands for safety in the harshest of environments. Whilst we began with the MTL100 series zener barrier, MTL alongside Crouse-Hinds, has grown into the premier name for a comprehensive portfolio of solutions for high-consequence harsh and hazardous environments.

As we continue to evolve, so does our brand. Our products are now united with Eaton's leading range of reliable, efficient and safe electrical power management solutions. MTL has a new look alongside Crouse-Hinds by Eaton, but the products and technology you trust remain unchanged.

**More protection. More technology.
Expect more.**

Only Eaton's Crouse-Hinds Business can deliver...

- Protection and safety of people and assets around the world with unsurpassed reliability and quality in every product we offer
- Industry leading innovation and product efficiency
- Product solutions designed and certified for global specifications
- Best-in-class, global sales, and customer service teams that provide local support
- Over forty years of industry knowledge and expertise



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MTL DESIGNS AND MANUFACTURES A VAST RANGE OF PROTECTION SOLUTIONS FOR ALL YOUR SYSTEM SURGE PROTECTION REQUIREMENTS



Protecting Operational Performance Worldwide



MTL has a close association with the Process Industry and a strong presence in the Networks and Wireless Infrastructure markets which means that we are well placed to support a wide range of industries around the world.

MTL supplies a comprehensive range of surge protection devices offering solutions for all mains power, process control, network and communications, telecom, wireless and RF systems.

Our commitment to not only meet, but surpass our customers' high expectations can only be achieved by maintaining very high standards in all aspects of our business. Independent verification of our quality and safety procedures is of paramount importance and our accreditation to internationally recognised standards such as ISO 9001 is proof of this commitment.



Our '**NO FUSS**' product warranty, (details of which can be found at the back of this document), is even further evidence of our confidence in our products and their application capabilities.

This brochure is intended as an overview of our numerous surge protection devices that are currently available. More detailed product information, including full specifications, can be found at www.mtl-inst.com.





Reliability, availability, maintenance, return on assets and surge protection?

SURGE... TELL ME MORE

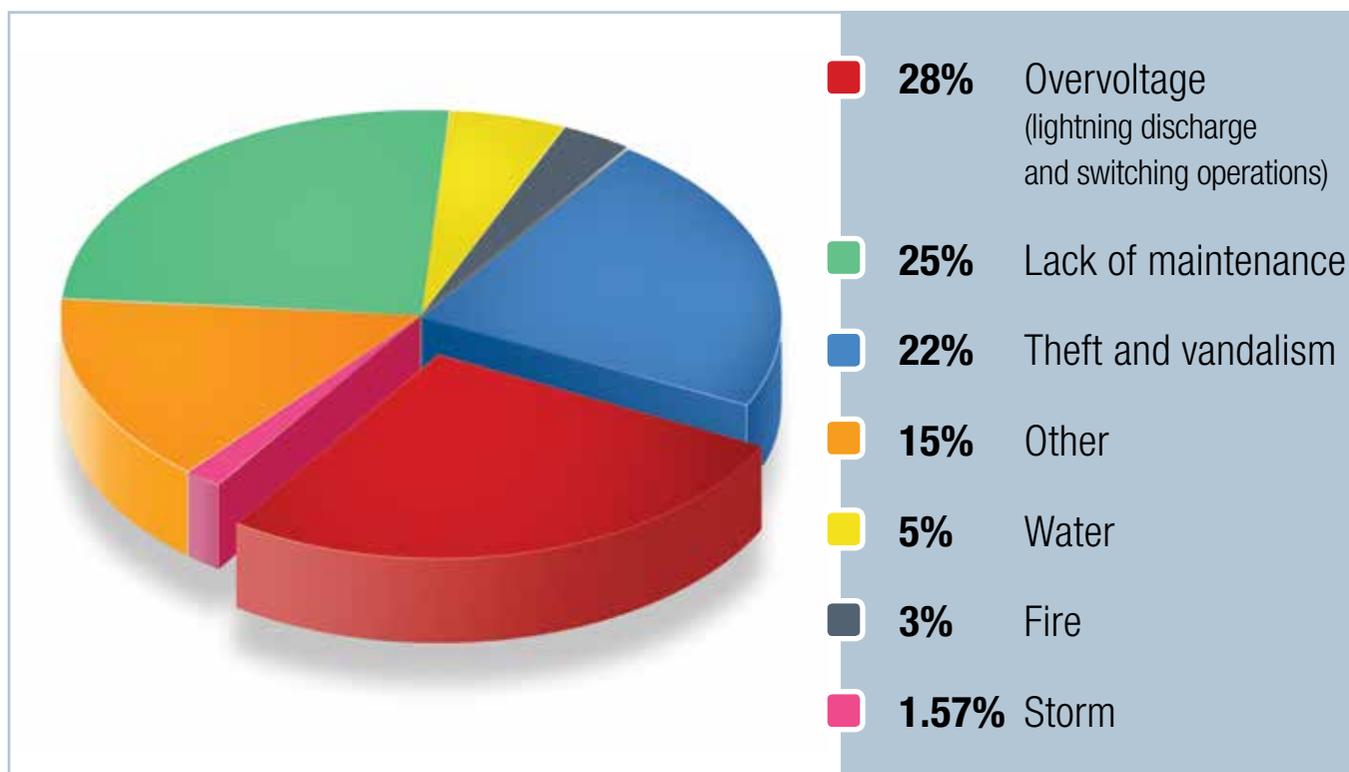
MTL designs and manufactures a vast range of protection solutions for all your system surge protection requirements, supplying a comprehensive range of surge protection devices offering solutions for all mains power, process control, network and communications, telecom, wireless and RF systems.

For many years process plant managers have installed surge protection devices as a precaution against catastrophic damage due to lightning. The most keen are those whose memory of serious trouble is fresh. However, studies have shown that the obvious surge related damage (blackened hardware) is only the tip of a very large iceberg. A study by a major European insurance company indicated that lightning and surge are the single most significant cause for control equipment failure. A close second is lack of maintenance. Together surge and maintenance account for over 50% of premature electronic equipment failures.

UNDERESTIMATING THE PROBLEM

Surge overvoltages are simply short duration, high magnitude impulses that exist on all electrical (power and signal) lines for a brief time. Common causes can range from lightning strikes to switching of electrical loads. The common belief among plant managers and finance gurus is that their plant does not experience surge-related problems. This belief guarantees that preventative action (such as surge protection) will not be taken. However a closer inspection reveals that a wide range of electronic devices are failing well short of their design life. These failures are just not associated with surge overvoltage by the plant maintenance team.

A study by a major European insurance company (below) illustrates the problem. Over 7700 items of industrial electronics were evaluated. The most significant cause of premature failure was Surge overvoltage. In fact surge damage contributed to 28% of failures. Just as interesting is the next most significant category; lack of maintenance which contributed 25% of failures.



MTL offers a wealth of over 50 years experience in the surge protection industry

There is an appropriate level of surge protection, that when applied to a plant, reduces equipment failure directly, increases plant availability and indirectly frees the maintenance team up to perform a more proactive role. Improvements can be measured in terms of Return on Assets (ROA) – a key measure of operational performance.

Surge protection can lead to improvements in ROA in the three following areas:

1. **Direct savings in hardware**
 - reduction in premature failures
 - elimination of catastrophic failure
2. **Increased plant availability**
3. **Indirect savings as a result of a better deployed maintenance crew**

MAXIMISE YOUR RETURN ON ASSETS

There are not many areas of the world today that do not experience surge-related incidents. Lightning is only one of the many causes of transient surge related problems. Today's modern electronic equipment is much smaller, much faster, and much more susceptible to transient related problems than was the last generation of equipment. The sheer number of control and communication devices interlinked together in today's networks make their susceptibility many times greater. These are new problems that were not nearly as frequent with previous generations of control equipment.

Experience dictates that plant engineers tend to underestimate the impact of surge voltages, both in terms of the cost of premature failure of electronics and the impact on plant availability and hence ROA. Between 25 and 30% of premature hardware failures can be attributed to surge voltage.

Current industry trends suggest that surge related failures are likely to increase as electronics become more sophisticated. Further the impact of a single surge related problem is likely to have a greater impact on operations in today's and future plants. The old wives tales will provide less and less comfort. "We don't need to worry, we have a full lightning protection system and the best earthing system available!" Oh really? For most companies, a single surge related incident in a ten-year period, which causes the loss of system availability, far outweighs the cost of protection. View the control and instrumentation system as an asset whose function provides the operational return (profit). Which of these assets if disabled or subject to premature failure, will have the most significant impact on plant operations?

Finally review the risk exposure of these assets to surge related damage. Protect the hardware that has the highest impact on ROA and is at risk to damage from surge.

If you look at the four main factors: Price, Packaging, Performance, and Safety, the MTL product offering is the best in the industry. MTL offers complete solution plans, from the AC power service entrance down to the individual equipment and all the control/communication lines in between. In today's ever more complex process environment, a properly designed surge protection plan is a key step in improving plant reliability, increasing availability and hence maximizing Return on Assets.

"MUCH EFFORT AND "FOCUS" IS DEVOTED TO MAINTENANCE, HOWEVER, SURGE PROTECTION COULD ELIMINATE A SUBSTANTIAL NUMBER OF FAILURES, MAXIMIZE THE DESIGN LIFE OF HARDWARE AND POTENTIALLY IMPROVE THE EFFICIENCY AND AVAILABILITY OF THE MAINTENANCE TEAM"





High quality AC and
DC surge protection
for commercial and
industrial facilities

Power Protection

Surges and spikes from nearby lightning strikes, arc-welders and high voltage cables can destroy or disrupt unprotected electronic equipment. These destructive forces enter mains power circuits within buildings by a variety of methods.

The primary route is where power, often 'dirty' and spike-laden, actually enters the building. It is at this point that surges should be stopped in order to prevent them from propagating further. However, surges and RFI can also corrupt power supplies from within the building.

By providing protection at the main power distribution board and then at each piece of equipment, mains borne surges and spikes are eliminated before they can cause damage. Power Protection is fundamental - MTL supplies that protection.



ZoneDefender Series

ZONEDEFENDER

The extensive range of ZoneDefender PRO non-modular products have been specifically engineered to be compact, powerful, and feature-rich. They offer cost-effective, high capacity protection along with application versatility. The state-of-the-art circuitry of the ZoneDefender PRO protects equipment from high frequency noise as well as from damaging electrical transients and high-energy disturbances. Meets UL96A requirements for UL Master label installations.

- 80kA to 240kA protection for a wide variety of industrial, institutional and commercial applications
- High-performance EMI/RFI filtering
- Built-in audible alarm
- Thermal and short circuit fusing for safety
- UL 1449 3rd Edition Listed
- Type 2 listed



The most compact, powerful, feature-rich surge protector on the market today



ZoneMaster & ZoneMaster All-Mode

ZONEMASTER

The ZoneMaster All-Mode is available in units with 200kA, 240kA, 340kA and 400kA ratings while the ZoneMaster has 170kA or 200kA ratings. All ZoneMaster units are engineered to protect the most critical electronic systems, suppressing surges at the main service panel. The ZoneMaster range of devices has the advantage of remote monitoring capabilities and full module diagnostic indication as well as optional filter modules. The ZoneMaster Pro combines all the features of the "All Mode" into a metal enclosure. In addition the ZoneMaster Pro is Type 1 & 2 UL listed.

- Full protection redundancy plus thermal and short circuit fusing
- Remote monitoring and module diagnostics
- Optional high performance mains power filter
- 15 Year Warranty
- UL 1449 3RD Edition Listed

ZoneSentinel Series

ZONESENTINAL

The ZoneSentinel range is engineered for application at distribution boards and small service locations and provides cost effective, high capacity surge protection to 100kA per phase. When used at a local panel in combination with a ZoneMaster at the service entrance, the ZoneSentinel provides the ultimate in surge protection. The ZoneSentinel offers ten mode protection and, like the ZoneMaster Series, has remote indication capabilities.

- 100kA protection for distribution board and small service entrance locations
- Remote monitoring - audio and visual indication of status
- Optional high performance mains power filter
- 15 Year Warranty
- UL 1449 3RD Edition Listed
- Type 1 (not available with filter) or Type 2 UL96A Listed (type 2 std with filter)



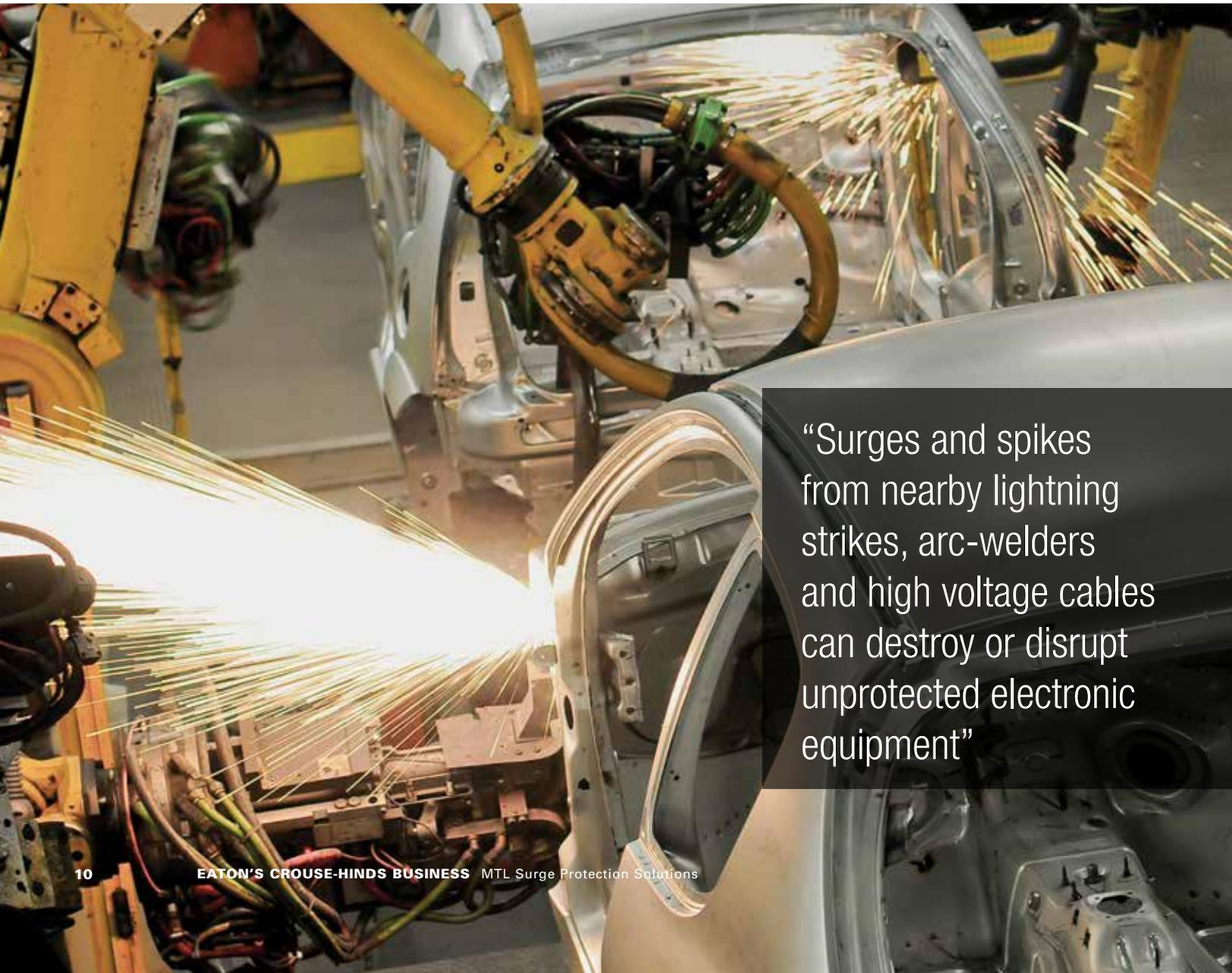
More detailed product information in separate, comprehensive catalogues or datasheets are available from your local MTL Instruments office, or via our website.



MA05, MA10, MA15 & MA30 Series

MA05/10/15/30 MA05, MA10, MA15 and MA30 EMC/surge protection devices can be incorporated into, or mounted close to, individual items of electrical equipment, providing immediate local protection against surges and electrical noise. They can also be used in conjunction with the MA3100 Series to provide IEC Class III protection levels. Available with either a 5, 10, 15 or 30 amp operating current, come standard with real time status indication, 110 or 240V working voltage and with 3 package types, this is a truly versatile range. These unique units combine RFI filtering and ring suppression therefore aiding compliance with EMC directives. DIN rail mounting MA15 units, suitable for AC or DC application, are UL Recognised Components and UL Hazardous Location Class I Div. 2. Versions of the 18kA rated MA15's. MA05 and MA10 units are 6.5kA rated.

- Combines high quality filtering with 'ring' suppression
- Three package types - DIN rail, wall/floor mounting and filter case
- Added thermal fuse protection
- EMC compliance, exceeding IEC 61000-4-5, level 4



“Surges and spikes from nearby lightning strikes, arc-welders and high voltage cables can destroy or disrupt unprotected electronic equipment”



MA3160 / MA3145 Series

MA3160/MA3145

The MA3160 is one of the most compact Class I surge protectors available. The unit withstands the impact of a 50,000A (10/350µs). These levels are significantly higher than called for in IEC 61643 for a Class I device.

- MA3160 - 50kA (10/350µs) Class I rating in a very compact package
- MA3160 -100kA (10/350µs) rating for multi-phase applications

The MA3145 is designed to work as both a standalone device and in cascade coordination with MTL's Class I device (MA3160). A single module will withstand 40kA (8/20µs). The MA3145 is available in a single module variation for maximum user flexibility, double module width for all mode protection on a single-phase supply and a quad width module for all mode protection on three phase supplies.

- MA3145 - 40kA (8/20µs) Class II rated per pole
- MA3145 - Three prepackaged solutions; one pole, two pole and four pole
- MA3145 - Standard remote indication via voltage free contacts
- MA3145 - UL1449 Recognised component approved



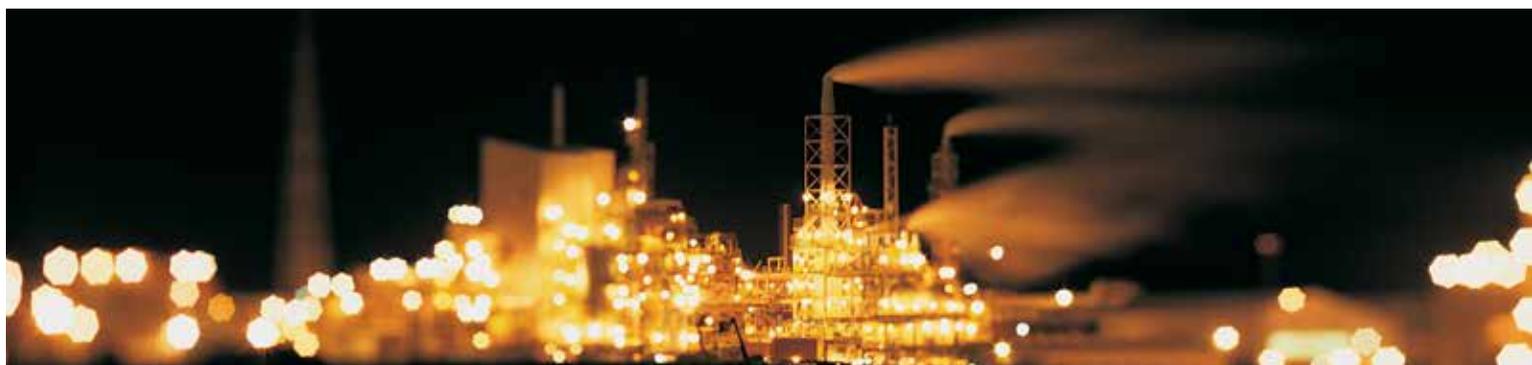
MA3350 Series

MA3350



The MA3350 is a remarkable 64% thinner than typical models and is ideal for AC applications where high surge current surge protection is needed in a small space. Each mode is rated to a full 50kA (8/20µs). The three phase unit has 4 modes giving a total for the unit of 200kA. Each unit have positive indication showing both the presence of AC power and the statue of the unit. Red and green LEDs leave the user in no doubt of the MA3350's operational readiness. Remote monitoring is also possible using the standard voltage free contacts. The single pole version carries the highest surge current ratings of 200kA (8/20µs) and 50kA (10/350µs) allowing the device to perform as both a Class 1 and Class II device in accordance with IEC 61643-1.

- Smallest 3 phase 40kA (8/20µs) SPD available
- Full range covering TNS, TNC-S and TT systems
- Highest fault current clearing, 100kA without backup fuses
- Perfect for OEM or cabinet applications
- DC voltages available for Solar applications





Specially designed for
all process data and
signal requirements
from the controller out
to the field mounted
instruments

Data & Signal Protection

Induced surges and transient voltages can destroy or, perhaps more worryingly, render inaccurate sensitive control and measurement instruments. Control systems, sensors and telecommunications equipment may be subjected to a barrage of interference and surges of energy, therefore to disregard the need for simple, effective and reliable surge protection is to compromise the safety of the plant.

MTL surge protection devices provide protection both at the controller and at the field-mounted instrument, with specifically designed devices suitable for all data & signal requirements.



SD SERIES



The SD Series is a range of surge protection devices combining unparalleled packing densities, application versatility, proven reliable hybrid circuitry, simple installation and optional 'loop disconnect' facilities - features which make the series the ultimate surge protection solution. The exceptionally high packing densities are the consequence of an ultra slim 'footprint' for individual modules which can thus 'double-up' as feedback terminals. Each module provides full hybrid surge protection for 2 and 3 wire loop protection.

SD Modular Series

The **NEW SD Modular Series** takes the established SD range of high performance surge protectors for I/O and introduces a replaceable element. Maintaining the unrivalled packing density and field proven hybrid circuit design the modular series makes maintenance easy, enabling the replacement of surge protection modules without disconnecting the loop.

- ATEX certified, intrinsically-safe surge protectors with IECEx approval
- Multi stage hybrid circuit - 20kA maximum surge current
- Voltage ratings to suit process I/O applications
- SIL suitable
- Slim, modular, space saving hot swappable design feedthrough base
- Backwards compatible with existing installed SD's

NEW
SD Modular Series

SD SERIES

SDX

SDX units, available in 7V, 16V, 32V and 55V versions (SD07X, SD16X, SD32X and SD55X respectively) are suitable for a wide range of applications including THCs, 4-20mA loops, shut-down systems and fire and gas detectors.

SD

In addition to the many beneficial features offered by SDX devices, the SD variants fuse/disconnect package provides both fused protection against fault currents and a convenient method of isolating field circuitry from protected circuitry without needing additional disconnect terminals. Also provided is a third connection on the field and safe side of the protector in order to terminate screens safely to earth.

SDR

The SDR Series has been specially designed to meet the requirements for high speed data links with an extremely high bandwidth. SDR units are available in a range of voltage variants enabling a wide range of communication systems to be protected e.g. RS232, RS422, RS485, Bus powered systems etc. These devices are classed as simple apparatus and can therefore be used in hazardous areas without affecting the certification of the circuit.

SD32T3, SDRTD, SDR3

This series of SD surge protectors offer excellent levels of protection over all three wires in conjunction with minimal footprint requirements. This is the most compact 3-wire surge protector on the market.



SLP Series

SLP The SLP Series provides application versatility, proven reliable hybrid circuitry and simple installation - features which make the series an ideal surge protection solution for process equipment, systems I/O and communications networks. The SLP units are suitable for general process I/O applications and are available in a range of voltage ratings. Where small size and higher currents are required or loop resistance is critical, the SLP units are ideal.

- Easy installation - simple DIN rail mounting
- Range of voltage ratings to suit all process I/O applications
- Fully auto-resetting, maintenance free
- Plug-connection for quick and easy wiring
- Protection for two loops per SLP
- FM approved and ATEX certified
- SIL Suitable



IOP Series

IOP Offering digital I/O surge protection, the IOP Series provides high packing density plus a high protection level. Designed to exhibit exceptionally low line resistance, the IOP has removable terminals for ease of installation, maintenance and for providing a loop disconnect by simply unplugging the terminals from the side of the module. In addition, wire entry is angled to assist wiring within limited space enclosures.

- Surge protection for digital I/O
- Hybrid protection circuit - 20kA rated surge current
- Two versions - single loop and dual loop
- FM approved and ATEX certified
- Space saving - 6mm width per loop IOP32D
- 12mm width per loop IOP32
- SIL Suitable



SSP Series

SSP The SSP Series offers state of the art surge protection including protection against AC Power Crossover. This design makes the SSP Series resilient to sustained overvoltages caused by earth faults and power faults. Suitable for all general Process I/O applications and also higher voltage signal applications for SCADA run over private wire networks.

- Easy installation
- 20kA rating
- Full range of voltages
- Maintenance free
- Protection against power faults





TP48 Series

TP48

The TP48 surge protection device safeguards field-mounted process transmitters where it matters, right at the unit. After a simple installation (the TP48 screws into an unused conduit entry, with no additional modification), it provides high-level protection against surges and transients whilst normal operation remains unaffected. The TP48 resets itself automatically after each operation. The TP48 is available in 2, 3 & 4 wire versions with screw threads to suit different transmitters, and is both explosion proof and intrinsically safe for hazardous areas. Working voltage is 35V dc maximum with impulse ratings of 20kA peak current and 10kV peak voltage.

- Easy and direct mounting - simply screws into spare conduit entry
- Intrinsically safe and flameproof to CENELEC standards
- Parallel connection avoids introduction of any resistance into loop
- Designed for 2, 3 & 4 wire transmitters
- FM, CSA and ATEX approved, SIL Suitable



TP24/7 Series

TP24/7

The TP24/7 is uniquely configured to protect Multivariable Transmitters and Level Transmitters that typically use a 24V supply and provide an output via an RS485 communications link. The TP24/7 will also protect any applications using 24V on one pair of wires and a signal (up to 7V) on the second pair.

- Specifically designed for Multivariable Transmitters and Level Transmitters
- Four wires protected, one pair at 24V and one pair at 7V. Ideal for any transmitter with 24V power and 7V signal (e.g. RS485)
- FM, CSA and ATEX approved, SIL Suitable



TP-Pipe Series

TP-PIPE

The TP-Pipe adds a level of surge protection to field mounted devices far above that provided as standard in the transmitter. No additional fixtures, enclosures or procedures are required.

- Designed for transmitters with only ONE conduit entry
- Simply screws directly into the conduit entry
- Intrinsically safe and flameproof (Ex d) to CENELEC standards
- FM approved and ATEX certified, SIL Suitable

HW48

HW48

The HW48 device safeguards Honeywell STT350 intelligent transmitters against surges and transients from field cabling. This Honeywell tested and approved unit fits onto the side of the STT350 transmitter inside the standard "flameproof" (Ex d) enclosure housing) giving a 10kA level of protection. Installation and earthing is simple so even existing installation can easily be upgraded by retrofitting the HW48.

- Honeywell tested and approved for use with STT350 transmitters
- Customised mounting for simple installation and wiring
- Analogue and smart meter compatible



An offshore oil rig is shown at night, illuminated by its own lights. The rig's complex steel structure is silhouetted against a dark blue sky. Several bright, jagged lightning bolts are visible, striking the rig and the surrounding area, creating a dramatic and high-stakes atmosphere. The rig has multiple levels with various pieces of equipment and cranes.

Safeguarding the integrity of the entire fieldbus system including AC power, transmitter and/or trunk protection

Fieldbus Protection

The fieldbus system, by the very nature of the environment in which it will be placed, is at risk from surges across the fieldbus system. Because the fieldbus system is controlling and handling the data transactions across a common trunk, the importance of safeguarding the integrity of the fieldbus system is paramount in order that the shutdown of multiple processes does not occur.

MTL can supply that protection, whether for AC power, transmitter or trunk protection we have your fieldbus system covered. Our fieldbus solutions can be applied without impacting the length of the fieldbus run or the number of devices.

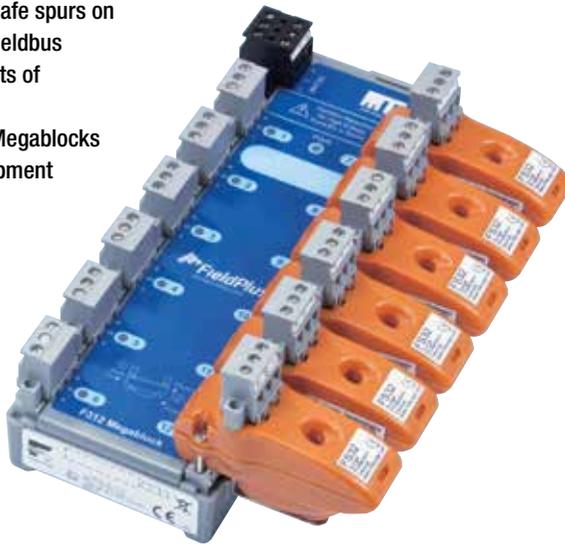


FS32

FS32

The FS32 surge protection device prevents surges and transient over-voltages conducted along the Trunk or Spurs of fieldbus systems from damaging the associated electronics such as terminators, spur blocks and the bus control equipment. In operation the FS32 does not adversely affect the performance or operation of the fieldbus or connected equipment, and allows signals to pass with little attenuation.

- Plug connectors for quick and easy connection
- 20kA maximum surge current per line
- Protects intrinsically safe spurs on MTL 937x-FB Series fieldbus
- Meets the requirements of IEC61158-2:2004
- Can be used on MTL Megablocks or other fieldbus equipment



NEW
FS32
Fieldbus Surge
Protection Device

FP32 Series

FP32 devices provide surge protection along the trunk or spurs of fieldbus systems from damaging the associated electronics such as terminators, spur blocks, and the bus control equipment. Fully automatic, the FP32 reacts immediately to ensure that equipment is never exposed to damaging surges by directing surges safely to earth and then resets automatically. Its small footprint also allows the FP32 to be located near terminators and spur blocks.

- Meets the requirements of IEC61158-2:2000 for FOUNDATION™ fieldbus
- Plug connectors for quick and easy connection or rewiring
- 20kA maximum surge current
- FM, CSA, FISCO and ATEX approved
- Lloyds approval



FIELDBUS PROTECTION



TP32 Series

TP32 FOR FIELDBUS

The TP32 is specifically designed to protect process transmitters and devices on fieldbus systems. The TP32 is a hybrid design consisting of high-power, solid state electronics and a gas discharge tube which is capable of diverting surges up to 20kA. For hazardous-area use, approvals for both intrinsically safe and flameproof (explosion proof) operation are available.

- Fieldbus specific - meets the requirements of IEC61158-2:2000 and ANSI/ISA-50.02-2 1992
- Easy and direct mounting - simply screws into a spare conduit entry on the transmitter
- Intrinsically safe and flameproof to CENELEC standards
- Parallel connection for zero voltage drop across device
- FM, CSA, FISCO and ATEX approved
- SIL Suitable

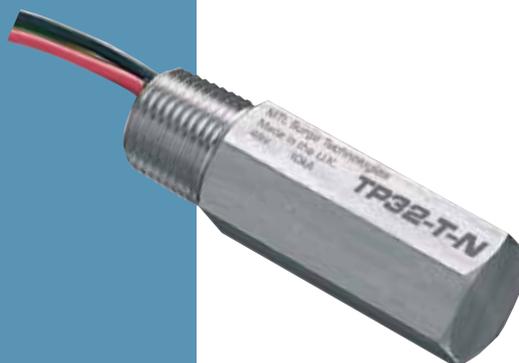
TP32-T (Terminator) Series

TP32-T FOR FIELDBUS

The terminated TP32-T has the same protection circuit as the standard product, but also includes a FOUNDATION™ fieldbus termination circuit. This unique combination eliminates the need to purchase and install additional termination circuitry for the FF segment.

The TP32-T provides excellent transient protection control and terminates the bus segment in one simple-to-install package.

- Same excellent protection as provided by the TP32
- TP32-T includes a Fieldbus TERMINATOR in addition to surge protection
- FM, CSA, FISCO and ATEX approved
- SIL Suitable

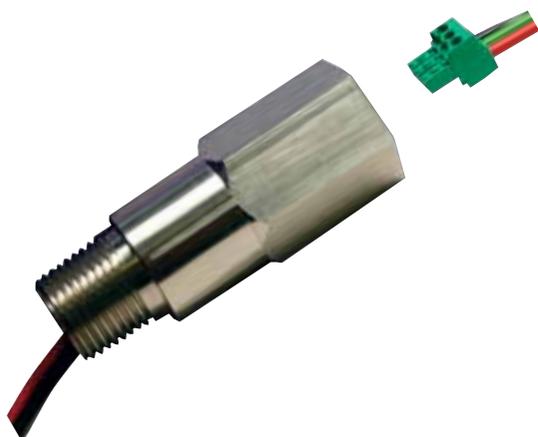


TP-Pipe Series

TP-PIPE FOR FIELDBUS

The TP-P-32 adds a level of surge protection to fieldbus devices far above that provided as standard in the transmitter. No additional fixtures, enclosures or procedures are required.

- For transmitters with only ONE conduit entry
- Simply screws directly into the conduit entry
- Intrinsically safe and flameproof (Ex d) to CENELEC standards
- FM approved and ATEX certified
- SIL Suitable





MA15 Series

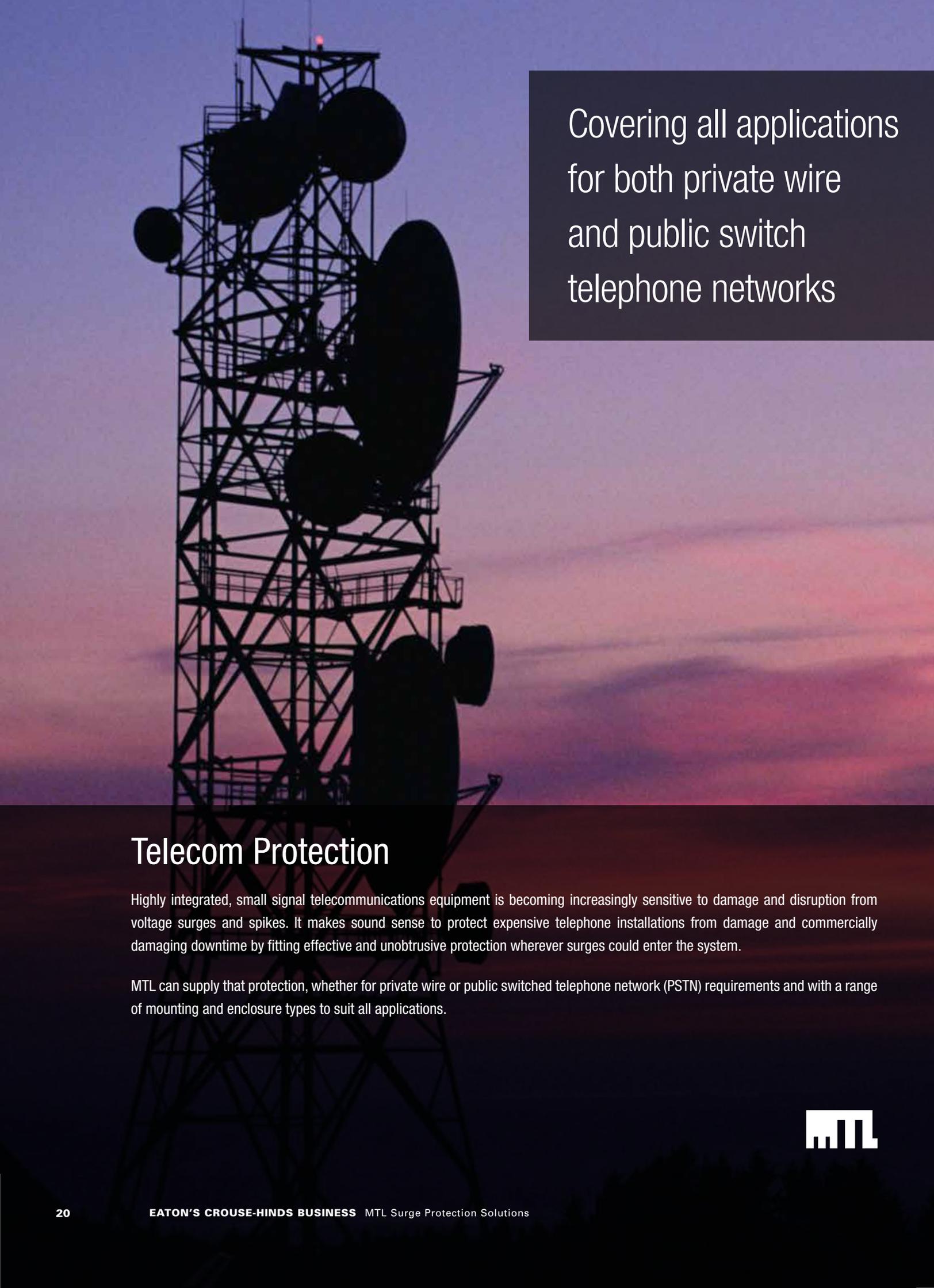
MA15

The MA15 was designed to protect electronic equipment and computer networks against the effects of 'noise pollution' induced in power supplies. These units clean up the effects of industrial noise and surges caused by lightning, switching devices, thyristor controls, transmission system overloads and power-factor correction circuits. UL 1449 Recognised Components (certified by UL for both US and Canadian requirements), the MA15 exceeds the requirements of IEC 61000-4-5.

- Protects panel loads up to 15 Amps in series, unlimited Amps in parallel
- Suitable for AC or DC applications
- Thermal and short circuit protection
- LED status indication
- UL 1449 Recognised Component
- Ten year warranty
- Class 1 Division 2 approved for hazardous areas



“THE COST OF RELIABLE SURGE PROTECTION IS A SMALL PRICE TO PAY TO SAFEGUARD THE SIGNIFICANT INVESTMENT IN TODAY’S FIELDBUS SYSTEMS”



Covering all applications
for both private wire
and public switch
telephone networks

Telecom Protection

Highly integrated, small signal telecommunications equipment is becoming increasingly sensitive to damage and disruption from voltage surges and spikes. It makes sound sense to protect expensive telephone installations from damage and commercially damaging downtime by fitting effective and unobtrusive protection wherever surges could enter the system.

MTL can supply that protection, whether for private wire or public switched telephone network (PSTN) requirements and with a range of mounting and enclosure types to suit all applications.

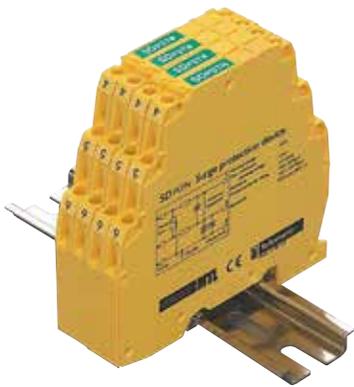


TELECOM PROTECTION

DP200 BT & RJ Series

DP200 BT / RJ The DP200 BT & RJ Series provides robust, 10kA, plug in protection for fax, modem, telemetry and other telecom applications. Units are available with either a BT or RJ11 style plug and socket, DP200/BT and DP200/RJ respectively. Where RFI filtering is required in addition to surge protection the DP200/BT/RFI and DP200/RJ/RFI can be supplied. These devices suppress interference due to medium wave radio transmissions, and other sources.

- Protects fax, modems, telemetry and other telecom equipment
- BT and RJ11 style plug and socket
- Full 4-wire protection
- RFI version available for noisy environments
- BABT certified



SDPSTN

SDPSTN The ultra-slim, SDPSTN, has been specifically developed for the protection of signals transmitted on public switched telephone networks (PSTNs). The SDPSTN provides protection for telecom/modem type applications including telemetry outstations. Installation is easy, one simple manual operation clamps the SDPSTN securely on to DIN rail, an action that also provides the essential high-integrity earth connection.

- Suitable for PSTN telecom/modem applications including telemetry outstations
- Ultra slim space saving design
- Automatic earthing with simple DIN rail mounting
- SIL Suitable

mSA Series

mSA mSA Series telecom protection devices provide protection for private wire installation (mSA units) or public switched telephone networks (mSAPN devices). mSA units are available in a variety of working voltages and in either single or dual pair versions, allowing application versatility. These self-contained units are housed in an IP65 enclosure fitted with cable glands and an external earth stud, so installation is simple.

- Specially designed for PSTN or private wire applications
- Ready boxed in weatherproof housing with cable glands
- Single and dual pair versions
- Fully auto resetting - maintenance free

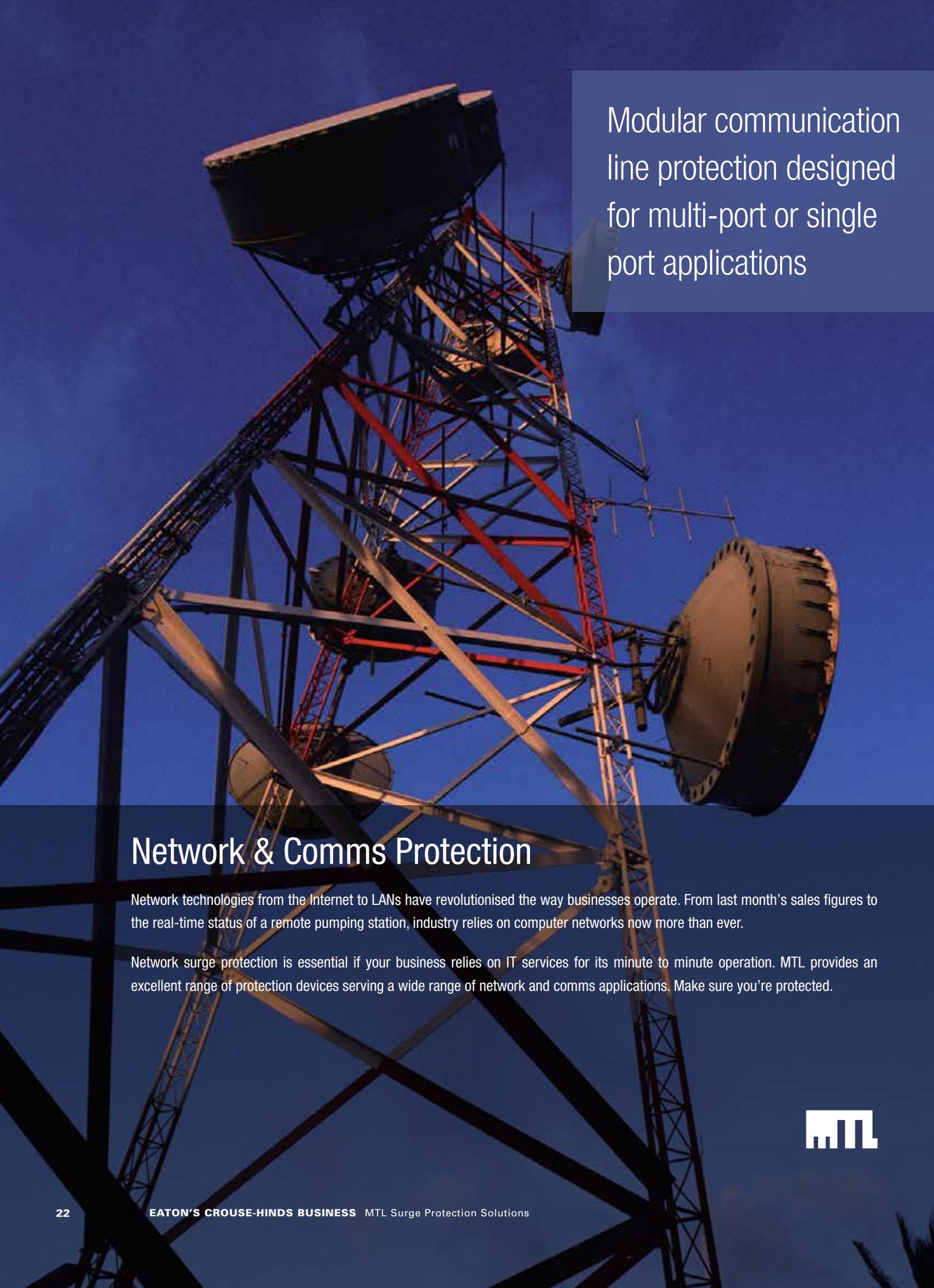


ZoneBarrier Series

ZONEBARRIER ZoneBarrier modular telecom protection devices provide a uniquely customer configurable port-by-port protection approach, utilised as either stand-alone devices or as building blocks to create an unlimited multi-port protection system. Modules are available in modular jack or terminal strip formats for applications including dial-up, lease line, ISDN, T1 and E1. ZoneBarrier devices can be wall mounted, DIN rail mounted or mounted on any flat surface. 19" rack mount kits are available.

- High surge current capacity
- Modular jack or terminal strip connectors
- Modules available for a range of telecom applications
- UL 497A Listed





Modular communication
line protection designed
for multi-port or single
port applications

Network & Comms Protection

Network technologies from the Internet to LANs have revolutionised the way businesses operate. From last month's sales figures to the real-time status of a remote pumping station, industry relies on computer networks now more than ever.

Network surge protection is essential if your business relies on IT services for its minute to minute operation. MTL provides an excellent range of protection devices serving a wide range of network and comms applications. Make sure you're protected.





ZONEBARRIER



Modular communication line protection system

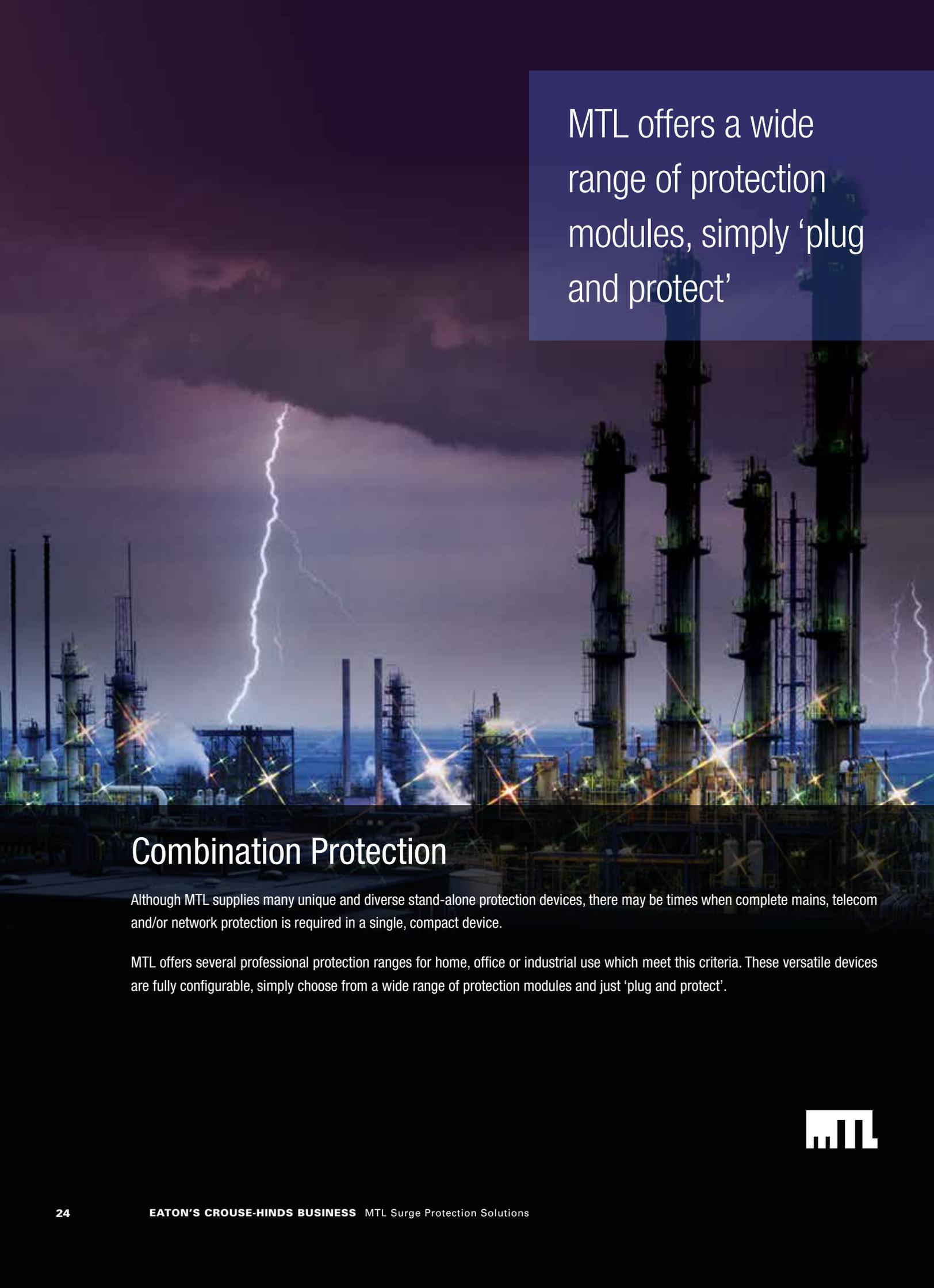
ZoneBarrier Series is a completely modular communication line protection system. Designed for multi-port or single port applications, ZoneBarrier offers a flexible and uniquely customer configurable port-by-port protection approach. ZoneBarrier can be utilised as either a wall mountable stand-alone device or as DIN rail mounting building blocks to create an unlimited multi-port network protection system. Rail assembly units will also accommodate a mix of up to 32 ZoneBarrier modules and can be mounted on any flat surface or mounted in a 19" rack. Modules are available for a range of network and comms applications including RS232, RS485, 1000Base-T, 100Base-T, 10Base-T and PoE.

ZoneBarrier devices are UL 497B Listed and UL certified Cat.5 and are tested to IEC 61000-4-5 and CCITT K17.

ZoneBarrier surge protection devices are available with RJ45, BNC or terminal strip connectors.

- Modular, expandable protection for one to an unlimited number of ports
- Wall, DIN or 19" Rack mountable
- Modules suitable for a wide range of network and comms applications
- High Speed Ethernet, Industrial Ethernet compatible, UL certified Cat.5





MTL offers a wide range of protection modules, simply 'plug and protect'

Combination Protection

Although MTL supplies many unique and diverse stand-alone protection devices, there may be times when complete mains, telecom and/or network protection is required in a single, compact device.

MTL offers several professional protection ranges for home, office or industrial use which meet this criteria. These versatile devices are fully configurable, simply choose from a wide range of protection modules and just 'plug and protect'.



COMBINATION PROTECTION

ProShield Series

PROSHIELD The ProShield Series provides the ultimate configurable protection platform through the unique patented design of seven high performance AC mains/power outlets (US style) plus three easy slide-in data protection bays. ProShield models provide ultimate protection for PC, servers, networks, peripherals, intranet applications and communications equipment and has a massive >50kA surge handling capability.

- Complete surge protection for PCs, LANs, supervisory computers, etc
- Easy slide-in communication modules allow for mixing and matching of protections for Fax/modem, Internet, LAN and cable TV applications
- UL 1449 Listed and CSA approved



RackShield Series

RACKSHIELD The RackShield provides vital protection for up to 12 ports in a 19" rack format. Modules slide into the RackShield providing customer configurable communication protection for telephone lines, networks, cable and VoIP applications. Slide-in modules can be removed, reorganized or replaced by the end user. Each RackShield can house up to 12 modules in any combination allowing for a unique configurable, flexible, upgradable system that can be easily adapted as required.

- Modular design - up to 12 customer installable pick-and-mix modules
- Guaranteed grounding of inserted modules
- Advanced solid state technology with auto recovery Silicon Avalanche Diode
- Fits standard 19" cabinet or can be wall mounted



Slide-in-Modules

SLIDE-IN-MODULES Designed with the future in mind, these versatile modules allow for the unique needs of each individual network as well as being simple to replace with new modules as the technology changes and new modules are developed. No need to throw out your surge suppressor, simply upgrade to the new technology. These modules provide for any combination of protection for telephone lines, networks, cable, and VoIP applications. Any combination of three modules can be installed in the ProShield at any time or up to 12 modules of any combination can be slid into the RackShield 19" unit.

- Easy slide-in communication modules allow for mixing and matching of network protection
- Customer installable and easily upgradeable

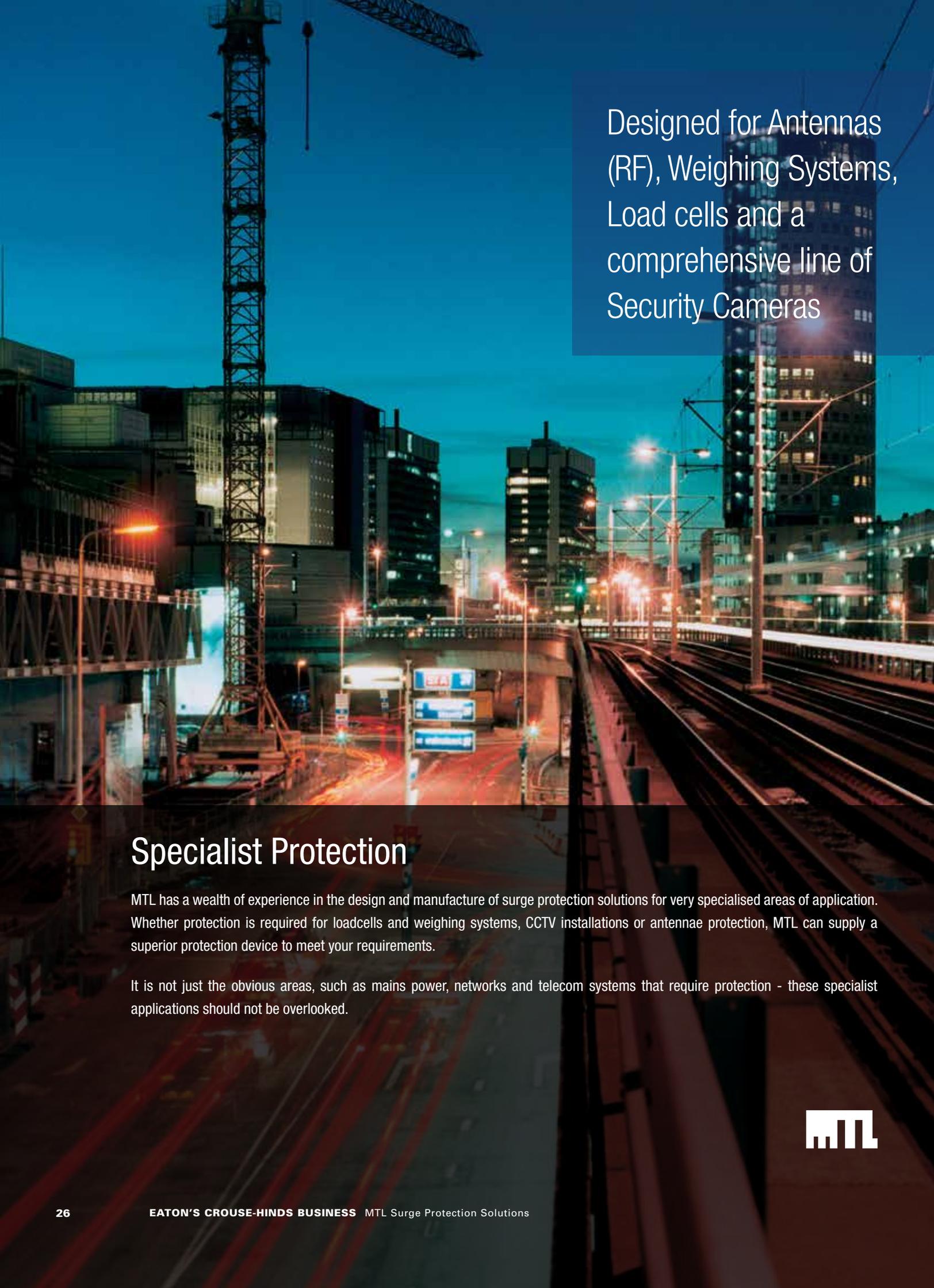


RackPro Series

RACKPRO The RackPro Series is designed to provide state-of-the-art surge protection and power distribution for today's rack mounted electronics. Designed with status indicator lights to ensure that the suppressor is protecting your equipment. The amber LED indicator assures that the power is being distributed to the outlets, the green LED indicates a ground is present and the red LED indicates surge protection is present.

- All RackPro models have 12 outlets with 15A and 20A NEMA options
- UL1449 Recognized Component
- Comprehensive indication includes LEDs
- Resettable circuit breaker prevents overloads



A nighttime photograph of a city construction site. A tall crane stands on the left, its arm extending towards the top of the frame. In the foreground, a road with traffic lights and a train track with overhead power lines run parallel. The background is filled with illuminated city buildings under a dark blue sky.

Designed for Antennas
(RF), Weighing Systems,
Load cells and a
comprehensive line of
Security Cameras

Specialist Protection

MTL has a wealth of experience in the design and manufacture of surge protection solutions for very specialised areas of application. Whether protection is required for loadcells and weighing systems, CCTV installations or antennae protection, MTL can supply a superior protection device to meet your requirements.

It is not just the obvious areas, such as mains power, networks and telecom systems that require protection - these specialist applications should not be overlooked.



SPECIALIST PROTECTION

CA Series

ANTENNAE PROTECTION

CA Series devices are wideband, high current devices for the protection of radio transmitters and receivers connected to coaxial feeders. They protect vulnerable equipment without affecting normal operation, passing high frequency signals with little attenuation while diverting surge currents safely to earth and clamping output voltages to safe levels.

- For the protection of radio transmitters and receivers connected to coaxial feeders
- Wide range of connector styles to suit all applications
- Large bandwidth dc to >2GHz
- Range of mounting kits and enclosures available

Specialist Antennae Protection

MTL offers specialist coax protection, please consult your MTL sales representative for details.

- Narrowband or Wideband Quarterwave Stub versions
- Large bandwidth dc to 6GHz
- 7/16 and N-Type connectors



LC30

WEIGHING SYSTEM PROTECTION

The LC30 surge protection device protects load cell and weighing system installations from possible malfunctions, or damage to individual strain-gauge bridges of associated electronic instrumentation etc., caused by severe overvoltages or impulse currents on signal cabling. Fully solid state, the LC30 clamps incoming surges immediately without causing undue leakage losses under normal conditions.

Once the surge has passed, the device automatically resets to the passive state, allowing normal operations to continue. The advanced protection concept used in the LC30 also eliminates the expensive additional earthing systems specified by other suppliers so field installation is very simple indeed. The LC30 device is non-voltage producing, non-energy storing 'simple apparatus' and as such, can be used in hazardous areas with appropriate self generated system documentation.

- Protects load cells, weighbridges, process weighing and silos
- Rugged weatherproof enclosure
- Certified for use in legal metrology application
- Suitable for Intrinsically Safe circuits

Comprehensive CCTV Surge Protection

CCTV SURGE PROTECTION

These modules can be purchased individually for DIN rail or surface mounting. For specific applications, the modules can easily be configured in sets, for example a three-module set may be required for an outdoor camera (Video, PTZ and 24V AC power). Each module provides high, 10kA minimum, levels of protection as well as very low insertion loss to maintain excellent video quality. Surge damage to CCTV surveillance systems and video equipment is not always obvious and may reduce the reliability of the installation and lead to costly system downtime. Monitoring stations are particularly at risk as they may be linked to a large number of cameras, any of which may introduce surge current from nearby lightning strikes. Fitting reliable surge protection is therefore vital, can you afford to take the risk?

Protection modules available for:

- Analogue video signal
- RS232, RS422, RS485 for Pan Tilt Zoom (PTZ)
- 24V or 48V AC/DC power, 120V or 240V AC power
- Video over IP/Ethernet
- Video power over Ethernet (PoE)



Getting it right from the start is the key to the success of any project and MTL is here to help you get your surge protection right

PRODUCTS

MTL benefits from a broad based product profile; pretty much wherever electronic equipment requires protection, we can supply a solution. Whether protection is required for mains power, telecom/telemetry, networks, industrial process, aerial or wireless applications, we can help. Particular areas of expertise include:

- Process Control
- Telemetry Systems
- Control and Instrumentation
- Network Applications

SERVICES

In addition to our comprehensive range of surge protection devices, MTL provides expert consulting services to aid customers in the design and deployment of surge protection systems. As members of the MTL Group, a division of Cooper Crouse-Hinds, we are able to offer local technical and sales support throughout the world. Our services include:

TECHNICAL ADVICE - NOW AVAILABLE ON-LINE

Our highly trained application engineers will be glad to provide unbeatable technical advice and to discuss your particular system requirements. We have recently launched a web support form for customers & distributors to submit their technical questions to our technical support experts around the world. Questions initiated via this system are routed to the appropriate subject matter experts in your region for a speedy response and resolution.

MTL Customers can visit our website at:
www.mtl-inst.com/onlineforms/product_support

to submit their technical questions or email their technical questions via email to:
mtlsupport@cooperindustries.com



SEMINARS

Training seminars are run covering various aspects relating to the protection of electronic based systems. The seminar includes topics such as lightning theory, earthing/grounding requirements, types of surge protection devices and the application of these devices.

SITE SURVEYS

Our engineers can survey your entire building or plant and make informed technical recommendations. Once your design is complete, we can then supply the necessary surge protection devices for the job.

OEM CAPABILITY

Although we currently offer a comprehensive product portfolio, there may be instances where a custom designed product may be more suitable for your application. We have vast experience in this area and will be happy to discuss your particular requirements.

APPLICATION NOTES

Our easy to understand Technical Application Notes provide a wealth of useful background information, with helpful advice on using surge protection devices to their best effect. They are available free on request.



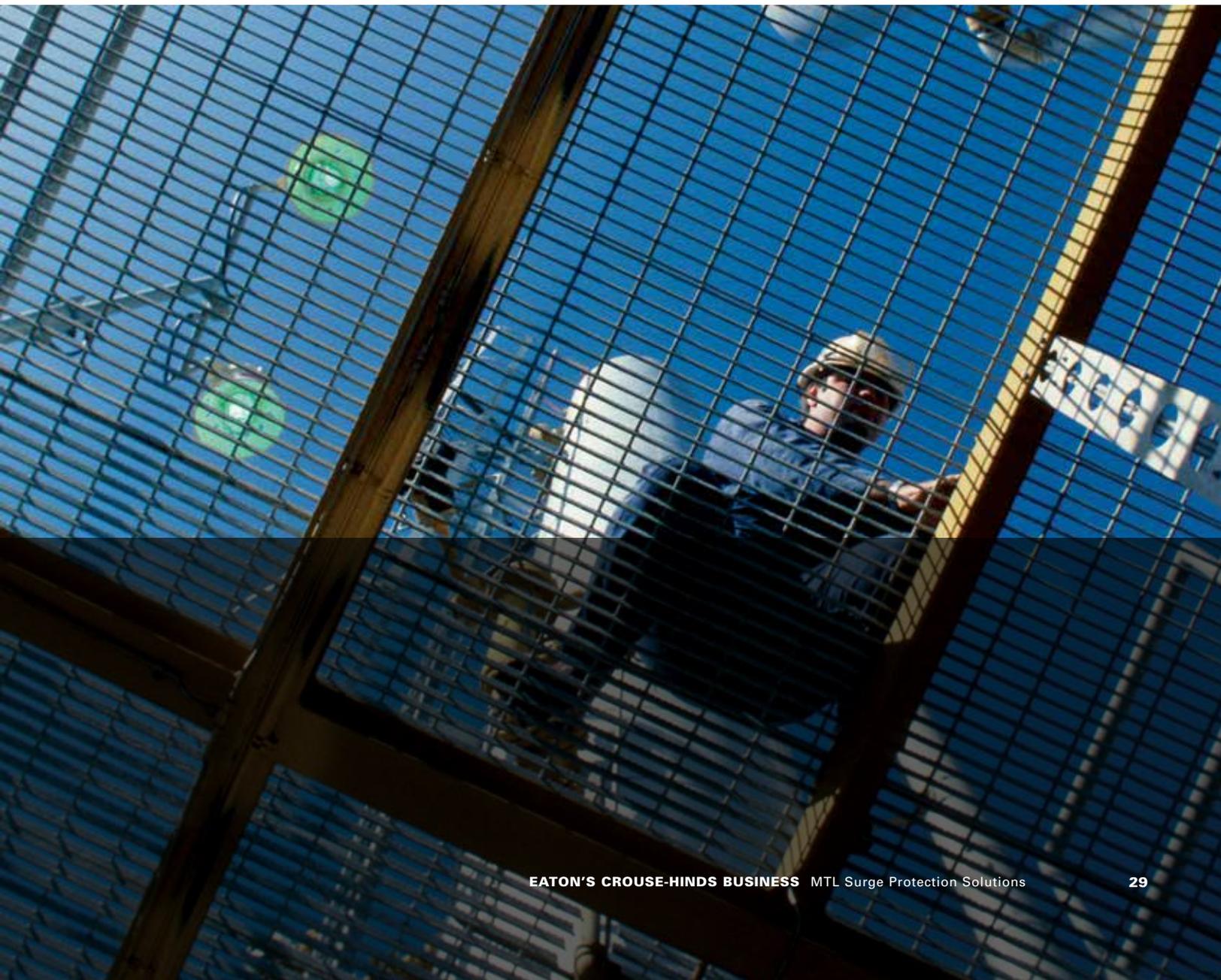
We continue to listen to our customer needs and develop solutions which exceed requirements in all respects

'NO FUSS' WARRANTY... AS STANDARD

At MTL we understand that your business relies on our products so we aim to design and manufacture the very best devices available. We know that when you install an MTL solution you want to know that it will give years of reliable maintenance free protection, protection you can depend on, and we're confident that it will.

We offer either a **10 or 15 Year 'No Fuss' warranty** on all our surge solutions regardless of application.

Our commitment is not only to meet but surpass our customer's high expectations which can only be achieved by maintaining very high standards in all aspects of our business. Therefore, with that philosophy in mind, in the unlikely event of product failure, you can simply exchange the faulty device for a new one.





Notes

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MTL is a leading provider of
surge protection solutions
for the process industry





Eaton's Crouse-Hinds

The safety you rely on.

See the complete offering of Surge Protection Products www.mtl-inst.com

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