



**ONE IDEA. MANY SOLUTIONS**



ONE IDEA. MANY SOLUTIONS



“MACS AUTOMATED BOLLARDS, A FUSION OF FUNCTION AND DESIGN.”

TRURO TOWN CENTRE

# MACS

AUTOMATED BOLLARD SYSTEMS

Secure, reliable and highly effective. These tend to be the main features of any good security device. But why should it stop there? While all security systems give you some kind of protection, they can also be unsightly and potentially obtrusive in pedestrianised areas. That's why at Macs Automated Bollards we offer a much more attractive option, as we specialise in the design, installation and maintenance of automated bollard systems.

Our bollards are a traffic calming solution that ensures controlled accessibility to key areas of your city or town centre. Not only are they secure, they also offer the ability to blend in with your town or city's existing surroundings or street furniture whilst creating a highly visible means of

controlling traffic. What's more, they look outstanding and are installed to the highest possible standards.

We can provide a vast range of site unique vehicle control systems using bespoke function and operational protocol, which means our systems are designed to work seamlessly for every application including:

- Pedestrian zones
- Bus gates
- Government buildings
- Congestion zones
- Residential areas
- Commercial/industrial sites
- Car parks
- Private security
- Anywhere a gate or barrier system is impractical or environmentally undesired

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## SAFETY FIRST

We demonstrate our commitment to safety by ensuring our installation is Highways Approved to TR2510 however, whenever possible we still install to the more stringent TR2207A standard.

## SERVICES

Macs Automated Bollards offers a full end-to-end service that includes design and specification, CAD design and project management.

Our service also includes:

- Installation
- Ongoing maintenance
- Remote fault monitoring
- 24/7 emergency response
- End user software and system training
- 24/7 technical advice and customer aftercare.

## ACCREDITATIONS



CHAS (Contractors Health and Safety Assessment Scheme)  
[www.chas.gov.uk](http://www.chas.gov.uk)



CDM (Eurosafte UK Competent Scheme)  
[www.eurosafeuk.co.uk](http://www.eurosafeuk.co.uk)



SAFEcontractor (The Health and Safety Assessment Scheme)  
[www.safecontractor.com](http://www.safecontractor.com)



Constructionline (Pre-qualification for public and private sector contracts)  
[www.constructionline.co.uk/static](http://www.constructionline.co.uk/static)

CALL US TODAY ON  
0161 320 6462

OR ONLINE AT  
[macs-bollards.com](http://macs-bollards.com)





# AUTOMATIC BOLLARDS

“OUR BOLLARDS ARE A TRAFFIC CALMING SOLUTION THAT ENSURES CONTROLLED ACCESSIBILITY TO KEY AREAS OF YOUR CITY OR TOWN CENTRE.”



BRADFORD CITY CENTRE

## ONE IDEA. MANY SOLUTIONS



PASS 127 P600/P800



PASS 275/P600. P800, NK



PASS 275/P600, P800

### AUTOMATED HYDRAULIC BOLLARDS

At Macs Automated Bollards our bollards are as safe as they are secure. This is thanks to outstanding engineering, a non-stop duty cycle and added safety pressure switches built-in. For further peace of mind, after every installation is complete we provide a two year warranty, which covers all parts and labour as well as two maintenance visits per year. That means that maintenance costs should always be minimal so your budget will never be compromised. (n.b. warranty for all but collision and damage caused by abuse).

The Macs bollard is available in a number of sizes to suit your requirements (127mm or 275mm x 600mm or 800mm) with a hydraulic pump fitted within the foundation box and, unlike many other models, not in the control cabinet – meaning it’s more reliable and less susceptible to leakage.

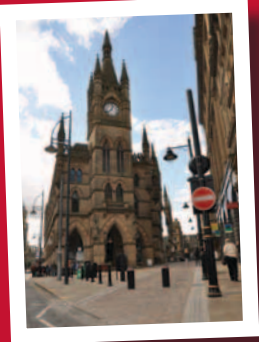
Traffic Management systems supplied and installed by Macs Automated Bollards can be found in: Barnstaple , Bradford City Council, Bridgend County Borough Council, Canterbury City Council, Cornwall County Council (Falmouth, Newquay, Redruth, St Austell and Truro), Devon County Council, East Dunbartonshire Council, Exeter City

Council, Hertfordshire Highways (Hoddeson, Ware and Watford), North East Lincolnshire County Council, Nottinghamshire County Council, Plymouth City Council, Rhondda Cynon Taff County Council, Richmond Upon Thames Borough Council, Royal Borough Council of Kingston Upon Thames, Wiltshire County Council.

### PROJECT

## Bradford City Council

No of Sites:	7
Location:	Bradford
Application:	Pedestrianisation
System:	MACS 275/P800 Automated Bollard
Standard:	Highways Agency TR2207A



Bradford City Council currently has seven sites in operation with other projects soon to start. Bradford used our automated bollard systems as part of their ongoing aim to eliminate traffic within the city centre area.

Macs Automated Bollards have installed a number of automated bollards in strategic locations within the city centre. They operate 24/7 and are linked to the local CCTV control room to allow for better control and usability. Plus, as part of our ongoing philosophy to create discreet as well as effective security, our bollards have been supplied in a customised black paint finish, allowing them to complement and blend in with the city’s distinct design.

Our bespoke package allows them to control vehicle access to specific areas of the city centre without delaying accessibility for key deliveries and emergency crew.

### 24/7 SUPPORT

If you have a Macs System installed then you can benefit from our Fault Monitoring and our **24/7 response**. Just call **0161 320 6462** and speak directly to an engineer.



# STATIC/MANUAL BOLLARDS



**“THE STURDY AND ROBUST  
LOOK COMBINED WITH AN  
OUTSTANDING FINISH MAKES  
OUR BOLLARDS THE IDEAL  
SOLUTION IN BOTH THE PUBLIC  
AND PRIVATE SECTORS.”**

UNIVERSITY OF PLYMOUTH

## ONE IDEA. MANY SOLUTIONS



STATIC BESPOKE STAINLESS STEEL BOLLARDS



MANUAL PULL UP BOLLARD

### STATIC BOLLARDS

Macs Static Bollards are available with Flat, Chamfered, Domed and Triangle tops. Their diameters range from 129mm to 254mm and there are no height limitations, meaning you can design your bollard to meet your specific requirements.

Static Bollards are used to route traffic through or to bar entry into a designated area, usually a pedestrian zone, and the bollards channel traffic through the controlled area to allow road users and pedestrians to safely move around side-by-side.

### MANUAL BOLLARDS

Macs Manual Bollards are 101mm diameter by 656mm in height above ground with a 6mm wall, finished in stainless steel or ral to suit your requirements. The Macs Manual Bollard is manufactured in the UK with zinc coated internal parts which

means that our bollards are built to last in UK Weather! Fitted with a strong lock mechanism, retractable handle and two highly reflective strips. Our manual bollard is available with a lift assist gas strut and with matching locks.

### PROJECT

University  
of Plymouth

- No of Sites: 1
- Location: Glanville Street
- Application: Pedestrianisation
- System: MACS 275/P800 Automated Bollard
- Standard: Highways Agency TR2207A



Plymouth University had two problems. Firstly, they wanted to create a safe pedestrian area within a very busy campus, however, they also needed to allow vehicle access in order to deliver goods and supplies to various parts of the site.

Due to the width of the pedestrian area, a single rising bollard wouldn't provide the required level of control over vehicles passing through. So our engineers recommended using a combination of one automatic bollard placed between a number of static bollards.

The result is a highly effective way of directing traffic towards the rising bollard where access could be controlled by the central control room; this means that students are able to move around campus safely because traffic can only enter through a specific point and this access will only be allowed to permitted users when it is safe for them to pass through.

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TRAFFIC INDICATOR RANGE



“AN ALL IN ONE, ATTRACTIVE, ROBUST AND HIGHLY VISIBLE HOUSING FOR TRAFFIC LIGHTS AND ACCESS CONTROL EQUIPMENT.”

WARE TOWN CENTRE

ONE IDEA. MANY SOLUTIONS



TIAC 1 – TRAFFIC LIGHT INDICATOR POST



TIAC 2 – DUAL ASPECT: ALL TRAFFIC INDICATOR / ACCESS CONTROL SYSTEMS COMBINATION

TRAFFIC INDICATOR RANGE

The TIAC range are designed to comply with the TR2207A highways standard, the TIAC is a bespoke and highly visible unit used as a traffic light and access control system on the public highway.

Our traffic indicator columns are fitted with red and green “stop” and “go” LEDs, to make them more environmentally friendly and, when used with CCTV coverage, it is able to easily establish if the bollards are in the raised or lower position. That means that in the event of a collision, the site owners can prove who is liable for the damage.

The traffic indicator column is multi-functional and can be fitted with a digital keypad and/or intercom, swipe card, proximity fob or Telguard

access systems in a single column as well as house traffic lights and ANPR camera.

PROJECT

Haverfordwest

- No of Sites: 1
- Location: Haverfordwest
- Application: Pedestrian Zone
- System: Macs 127/P800 Automated Bollard
- Standard: Highways Agency TR2207A



Macs Automated Bollards have a TIAC post covered by CCTV on a bollard installation in Haverfordwest in South Wales. We recently attended site to repair a bollard that had been struck by a taxi, the bollard was so severely damaged that it needed to be replaced.

The taxi driver was adamant that it was the fault of the bollard and that it rose when the light was on green, the client investigated the collision with their CCTV control room and found that the TIAC light was in fact on Red and that driver of the taxi was at fault. The taxi company have since paid for the replacement of the bollard.

This demonstrates that the CCTV and a TIAC column are able to record and clearly show who is at fault for any damage caused to the bollard, saving clients a significant amount of time and money.

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# FAULT MONITORING SYSTEM

“MACS UNIQUE FAULT MONITORING SYSTEM GIVES A CLIENT TOTAL CONTROL OVER THEIR BOLLARD INSTALLATION.”



DARLINGTON CITY CENTRE

## MACS INTELLIGENT FAULT MONITORING SYSTEM

Macs Intelligent Fault Monitoring is a bespoke, UK manufactured, PLC based control system with remote fault reporting, which is built in-house by our PLC engineer to meet each of our client's individual requirements. As client's interface with the MACS developed SCADA system that is optimised to meet individual application requirements (number of bollard sites, number of bollards per site, induction loops configuration, access control option, two way or single way traffic control, etc). Clients have access to basic work parameters, bollard components status (limit switches, solenoid valves, hydraulic pump and pressure switch) and other components within the installation. This includes induction loops, access control and bollard status indicator posts. Our fault monitoring system gives Macs and the end-client much greater control over their rising bollard system. Our Fault Monitoring system has a Lock Down function that allows clients to lock bollards down remotely in case of an emergency (fire within city centre, accident, etc). After resolving the problems the bollards can be put back in to operation remotely. The system allows Macs to resolve a vast number of user related issues over the phone, meaning we are able to diagnose faults and

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recommend solutions without the need for a costly emergency call out. What's more, it greatly reduces the likelihood of our bollard being out of operation for any significant time period.

The Fault Monitoring System is linked via broadband, fibre optics or psdn phone line to an ops room PC for the purpose of providing operation reports, status and system fault warnings.

### PROJECT

## Darlington Borough Council



- No of Sites: 3
- Location: Darlington
- Application: Pedestrianisation
- System: MACS 275/P800 Automated Bollard
- Standard: Highways Agency TR2207A

Darlington Borough Council have a number of our rising bollards situated in three locations, each location features Macs Intelligent Fault Monitoring system. This allows every site to be monitored remotely by both the local authority and Macs.

In the event of a fault, if Darlington Borough Council didn't have a fault monitoring system, we would need to visit site. If the site is in a busy location then this could take up to 16 working hours, which could cause significant disruption.

With the fault monitoring system in place we are able to dial into the system to find out what the problem is, often in this case it has simply been because someone has locked down the system and changed shift without telling the person taking over. The fault monitoring system saves the client the cost of an emergency call out.





**“OUR BESPOKE DESIGN  
ALLOWS YOU TO THINK  
OUTSIDE THE BOX AND  
COME UP WITH TRULY  
INNOVATIVE IDEAS IN HOW  
TO CONTROL TRAFFIC IN  
AND AROUND YOUR BUSY  
TOWN AND CITY CENTRES.”**

BULWELL TOWN CENTRE



ANPR CAMERA



ANPR DAY/NIGHT OVERVIEW CAMERA



ANPR BOLLARD CAMERA

**ANPR AUTOMATIC NUMBER PLATE RECOGNITION**

ANPR is an innovative technology that is particularly effective when used in residential areas or where there are likely to be a high number of permitted users needing to pass through a set of rising bollards as it removes the need to buy and potentially replace 100s of fobs, it can also be used in circumstances where it is not possible to give users a fob in order to gain access for example hotel car parks.

Key Features for ANPR Camera:

- **Excellent performance** – Camera and LED shuttering matched to provide 98% capture reliability for legal retro-reflective number plates
- **Reliability** – Years of problem-free operation allows the operator to fit and forget

- **Complete range** – Comprehensive range caters for vast majority of circumstances
- **Aesthetic design** – Modern, sleek design makes them suitable for wide variety of applications
- **Day/night overview camera** – Guaranteed excellent picture quality, whatever the lighting conditions
- **Factory preset** – Units come pre-configured for quick and easy installation

**PROJECT**

**Bulwell Town Centre**

No of Sites:	2
Location:	Bulwell Town Centre
Application:	Pedestrian Zone
System:	Macs 275/P800 Automated Bollard
Standard:	Highways Agency TR2207A



Bulwell Town Centre wanted to restrict access to a busy pedestrian area within the main shopping region of the town, which approximately 400 vehicles needed to gain access to each day. Providing fobs for each driver would have been very costly, with the added risk of fobs being lost or given to friends and family.

The access protocols made ANPR the safest and most practical solution. For everyone who needed access, we simply had their vehicle registration plates programmed into a central database, which would then be verified on entry using ANPR technology – a safe and very cost effective system which can easily be adapted to give CCTV coverage.

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**“THE TAGMASTER SYSTEM  
ENABLES EFFICIENT AND  
SPEEDY CONTROLLED ACCESS  
FOR AUTHORISED PERMIT  
HOLDERS WHILST OFFERING  
ENHANCED SECURITY.”**

PONTYPRIDD TOWN CENTRE



**TAGMASTER LR-6  
RFID READER**



**TAGS: STANDARD**



**TAGS: OUTDOOR  
- HEAVY DUTY**



**EX TAGS**

### TagMaster LR-6 RFID Reader

- Reading range up to 6 metres
- Passage speed up to 400 km/h
- Open Linux platform
- TCP/IP Networked or Stand-Alone
- Backwards compatible
- Globally accepted

**High performance:** TagMaster LR-6 Reader is used for long range Radio Frequency Identification (RFID) systems. It reads and writes information in TagMaster ID-tags by use of radio waves. The high performance of the LR-6 Reader makes it perfectly suited for demanding applications where long reading range, high passage speed, or high reading precision are required. Examples of applications are within Vehicle Access Control (VAC), factory automation and transportation. The unit is weather proof class IP 65.

### Open platform based on Linux:

The open LR-6 Reader platform is based on Linux which enables easy integration and adaptation to specific requirements. For this purpose Macs Automated Bollards also supplies a Software Development Kit (SDK). The SDK is a complete set of tools for developing customer specific applications software, which can be downloaded to the Reader and executed in the Readers Linux environment. The Reader also has interfaces for USB and SD memory card, which makes it possible to put in additional hardware.

**Reliable:** TagMaster LR-6 Reader is not receptive for frequencies outside the 2.45 GHz frequency band. This means that electrical noise within

the KHz and MHz bands generated by electric machines and other electric equipment will not affect the performance of the reader

The LR-6 Reader operates problem-free due to the robust and well proven design. The open software and software architecture will facilitate a future upgrade if needed due to new functional requirements.

The optional Reader application software are backwards compatible with existing host applications, which make it easy to introduce LR-6 also as an expansion of existing TagMaster installations. The Reader is also compatible with all TagMaster ID-tags.

Options:

**WiseMan SW** – The WiseMan Software is flexible and adaptable Reader application software, which can run stand-alone or controlled from a host. WiseMan SW comprises a database and logic to make decisions based on identified ID-tags, e.g. open a barrier when an accepted ID-tag is identified. WiseMan SW implements the ConfiTalk protocol.

**WatchMan SW** – The WatchMan Software operates under a host system that controls the Reader and makes decisions based on ID-tag readings from the Reader. WatchMan SW implements the ConfiTalk protocol, which is used to retrieve ID-tag information and control Reader properties. I/O ports are also handled remotely for barrier control and loop detector etc.

**PassMan SW** – The PassMan Software is ideal for integration with already existing access systems and configurable to support most Wiegand and Mag-stripe protocol structures.

### TAGS: Standard

The credit card sized ID-Tag consists of an antenna for transmission and reception, a memory circuit and a long-life battery. All tags have an 8-digit unique identification code and a 32-bit check sum. TagMaster supply tags that are read-only or a read-write, the latter intended as data carriers. The number of times the tags are read does not affect power consumption, which means a predictable tag life of 6, 8 or 10 years.

### Outdoor – Heavy Duty

For objects such as containers, trucks or rail wagons, a Outdoor Heavy Duty tag is the right choice. It is totally encapsulated to IP67 and resistant to external environmental factors such as high/low temperature, moist and shock.

### EX Tags

For hazardous areas requiring ATEX approved tags our range of EX tags are the right choice. It is approved to EEx ia IIC T4 totally encapsulated to IP67 and resistant to external environmental factors such as high/low temperature, moisture and shock.

### 24/7 SUPPORT

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**“PROXIMITY SYSTEMS  
OFFER AFFORDABLE  
ACCESS CONTROL  
WHERE THERE ARE  
LIKELY TO BE LARGE  
NUMBER OF USERS.”**

BRADFORD CITY CENTRE



TELGUARD JUNIOR INTERCOM  
WITH DIGITAL KEYPAD

## Telguard Junior Intercom with Digital Keypad

The All New Junior is a telephone based intercom system to call from 1 to 1000 separate numbers utilizing the new silicon keypad. The new slim line panel boasts a complete new design from our in house development team.

The system is installer programmed remotely from a standard telephone or mobile, locally via the keypad (where fitted), modem link, or USB connection.

Each button is programmed to call a different telephone number relating to the destination (flat, office, house etc). When a visitor presses the required button the Electronic Voice Assist will confirm that the call is being made and a telephone call is made from the entrance panel to the destination telephone number.

### Overview:

- Installer programmed
- Calls up to 1000 call point destinations
- No dedicated handsets required
- Only 3 connections
- 400 access codes
- Internal time clock
- 2 relays – additional relays optional
- Remote or local volume control
- Exit release input
- Forward call up to 8 additional numbers
- Back lit keypad
- Activity log downloaded locally or remotely
- Day/Night feature
- Prox cut out option
- Camera option



TELGUARD BESPOKE  
INTERCOM

## Telguard Bespoke Intercom

The Telguard Bespoke is a telephone based intercom system to call from 1 to 24 separate numbers via individual buttons. The new slim line panel boasts a complete new design from our in house development team.

The system is installer programmed remotely from a standard telephone or mobile, locally via the keypad (where fitted), modem link, or USB connection.

Each button is programmed to call a different telephone number relating to the destination (flat, office, house etc). When a visitor presses the required button the Electronic Voice Assist will confirm that the call is being made and a telephone call is made from the entrance panel to the destination telephone number.

### Overview:

- Up to 24 call points
- Available In Land line and GSM
- Flush or surface mounted
- Installer programmed
- 16 mm stainless steel or stainless steel back lit buttons
- Up to 8 follow on numbers per call point
- Two relays, more optional
- Day and night mode
- Activity log download
- Internal time clock
- Exit release input
- Prox cut out option
- Camera option
- 2 Year Warranty



PANEL MOUNT  
PROXIMITY READER

## Panel Mount Proximity Reader

The panel mount reader is suitable to use with most access control systems that accept a clock and data input. It is designed to fit into door entry panels. It can also be fitted into posts to control car park barriers. It fits behind a reader cut out of an industry standard 40mm size.

- Clock and data output
- Designed for use in audio/video entry panels
- Fits neatly behind a 40mm square aperture
- Clear polycarbonate cover gives a neat finish
- IPX7 rated suitable for external use

## Proximity P Series Reader

P series readers are for use with Switch2 and Net2 systems. The readers are supplied with a choice of black or white fascias. Other colours are available. Replacement fascias are available to Paxton Access registered installers free of charge. P series readers are available in four sizes.

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“THE MACS POP UP ENERGY TOWER IS A UTILITY ANYWHERE SOLUTION, DESIGNED TO MEET YOUR INDIVIDUAL REQUIREMENTS IT CAN BE RAISED WITH THE TURN OF A SINGLE KEY.”



ONE IDEA. MANY SOLUTIONS



MACS ENERGY TOWER



MACS ENERGY LONDON

ENERGY DISTRIBUTION TOWERS

Macs Energy Distribution Towers are bespoke multi utility, recessed, semi automatic pop-up hook up points.

Designed to suit your individual requirements they are available with any combination of:

- Electricity
- Water
- Gas
- Telephone
- Internet
- Compressed Air

The unit is IP66 rated; power can be a combination of 230V and/or 380V three phase electricity sockets.

Energy Towers are automatically raised by a single action pneumatic spring activated using a special key.

Top cover plate can be recessed to fit paving, gravel etc to perfectly blend with the surrounding ground finish.

PROJECT

Herefordshire County Council

No of Sites:	1
Location:	Hereford Town Centre
Application:	Christmas Tree Power Supply
System:	Macs Energy Tower – 2 x 16 amp 230v interlocked socket
Standard:	IP67 rating



Herefordshire County Council wanted to supply power to the Christmas tree in Hereford Town Centre, they were keen to avoid creating a trip hazard and, as the tree was only to be in place for six to eight weeks, they needed a power supply that could be removed when no longer required.

Macs Automated Bollards worked closely with Amey Consulting to find the best solution to the problem and decided that a Macs Pop-up Energy Tower would be perfect. We connected the Pop-up Energy Tower to the mains supply via underground ducting which removed any potential tripping hazards. Finally, we matched the top plate of the energy tower so it blends with the existing road surface.

The end result is a power supply that could be raised using a single key as and when required, by matching the top cover with the road surface the power supply can be left in the ground all year round without being noticed.

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## CONTACT US

**Need a specialist in the design and installation of bollard systems?**

**A solution to increase control of traffic accessibility?**

**A way to make key areas of your town and city more secure?**

Then you need a high performance bollard system built specifically around your security needs. Macs Automated Bollards can rise to that challenge.

For more details contact:

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