

M CLASS Public Address & General Alarm System

Modular - Robust - Intuitive

Market Expectations

Today's market for Public Address and General Alarm systems demands robust modular and intuitive solutions. The PAGA design must allow for ease of integration and adaptability into existing infrastructures and system environments whilst ensuring the required levels of safety.

Whilst meeting the most stringent regulatory safety standards the system must support common interfaces and network technologies proving intuitive operation. With the M Class Public Address & General Alarm System PAGA, BARTEC Vodec has taken the renowned P3 PAGA system to the next level by using state-of-the-art technology to meet current and future requirements.

The new high-performance M Class PAGA system protects a corporation's most critical assets, its people, machines and the environment by providing a safety solution that is effective, optimised and simple. Tried and tested technology together with modern state of the art networking protocols ensure reliable industrial communication, from a small but critical to a large and complex system network.

BARTEC Vodec PAGA system is a leader in the industry and with the addition of the MClass, the PAGA system now has an enviable set of state of the art functions flexible application and configuration options. The modular concept of the M Class PAGA allows for a system design meeting or exceeding the current applicable international requirements including but not limited to EN 54-16, EN 60849, SOLAS, and NORSOK.

Notified bodies and accredited laboratories have certified the compliance to applicable standards and regulations. Existing P3-PAGA systems can be upgraded to the new M Class PAGA platform.

BARTEC VODEC systems ensure investment protection through long product life cycles and expandability.

Networks

The incorporation of the networking capabilities into the PAGA environment has culminated in the requirement for all forms of site wide communication systems to be compatible and interchangeable, with ever increasing levels of flexibility.

The MClass PAGA is designed to accommodate these levels of flexibility with ease whilst maintain the highest levels of safety.

The M Class PAGA can be effectively integrated into many common network environments allowing for data and speech communication to be transmitted via standard Ethernet and IP technology as well as standard audio technologies.

Due to the changing nature of the industrial facilities, not just the physical sizes of the process areas but increased complexity and interaction between processes has created the requirement for the PAGA to be equally scalable and flexible.

At the heart of the MClass PAGA design is safety and ease of use with unparalleled configuration options enabling the system to be designed to meet the complex of requirements. The system has an infinitely scalable network architecture which allows for the interconnection of distributed M Class PAGA systems designed to meet the Plant Wide requirements.

In other words, whether your organization utilizes fibre, Ethernet, wireless or copper connections or any combination thereof, the M Class PAGA system can provide for a robust, reliable and customizable sites-wide PAGA solution designed for current and future expansion.

Modular

The open and modular design of the M Class PAGA architecture allows for customized solutions meeting all the requirements of a modern industrial PAGA system.

- Simultaneous non-blocking conversations
- 65,000 programmable addresses
- 1,000 selectable group calls
- 1,000 speaker groups
- 200 priority levels
- Multi zone capable
- Multiple alarm tones
- Pre-recorded messaging
- Visual alarm indications
- Activation of relays (magnetic door locks etc.)
- Alignment with HSE scenarios

This level of customization allows you to implement versatile, complex communication, information and warning structures in line with your occupational health, safety and environment protocols.

Easy to Use

The M Class Graphical User Interface or GUI, provides the end user state of the art, intuitive and easy to use configuration software tools, enabling complex communication and network scenarios to be designed, tested and implemented with ease and accuracy.

A full database of M Class PAGA components and functions are available via an intuitive graphical user interface. With comprehensive "as you type" system checks and integrated configuration checks, the M Class GUI allows the user to create a validated configuration solution. Whether you have one single system or multiple system network, you only need one configuration file.

For oversight and management of your M Class PAGA system or network, BARTEC VODEC has developed a new system integrated web server. This web based management tool allows you to centrally monitor and configure the overall functionality of the system in a safe and convenient manner:

- Status indicators for CPU, interface cards, call stations, etc.
- Display active events, for example error messages
- Download status and error reports
- Download log files for customers and service personnel
- Download and upload configuration files developed in the M Class GUI
- Upload software and firmware upgrades.
- Maintenance tool kits
- Enhanced Operational help displays
- Controlled Remote Access



Reliable

Integrated

The industrial sector is especially demanding when it comes to the availability and reliability of a PAGA system. The modular design concept of the M Class PAGA system facilitates the implementation of client and industry based redundancy requirements for the following components:

- Power supplies
- Audio processors
- Exchange control boards
- Intercom stations
- Amplifiers
- Speakers
- Network connections

In addition, the M Class PAGA supports full system redundancy (A/B systems) as specified by either customer or regulatory requirements.

To meet the many national and international regulations, BARTEC VODEC has made comprehensive monitoring of digital components a standard function of the M Class PAGA.

Examples of key digital components are:

- Line cards
- Intercom stations incl. microphones
- Interfaces to external systems
- Power supplies
- Amplifiers
- Speaker circuits

Parameters for monitoring can be configured directly for each M Class PAGA or centrally for a network of systems. The measurements are stored for future diagnosis and evaluation and are visible either in report fashion or directly from the devices. Deviations discovered as a result of the monitoring can be delivered in various methods. Most frequently, these deviations are emailed to service and operating personnel and an instantaneous alert is triggered if programmed on a call station. For the integration into existing network management systems (NMS), a SNMP interface can be provided. For M Class PAGA data transmission on an IP network, existing network redundancy infrastructure can be utilized.

The M Class PAGA also offers direct connection capability via optical fiber or copper for back-up or stand-alone connectivity. Whether you use your existing network architecture or a system-to-system direct connection, should any of these connections fail, all local M Class PAGA functions are still available.

State-of-the-art PAGA systems must be capable of being integrated into existing and future industrial system environments.

The M Class PAGA has available interfaces for:

- Fire alarm systems
- Emergency shutdown systems (ESD)
- Fire & gas alarm systems
- Manual call points
- Universal analog / digital inputs and outputs

Integrated software interfaces, configured using the M Class GUI, are available for:

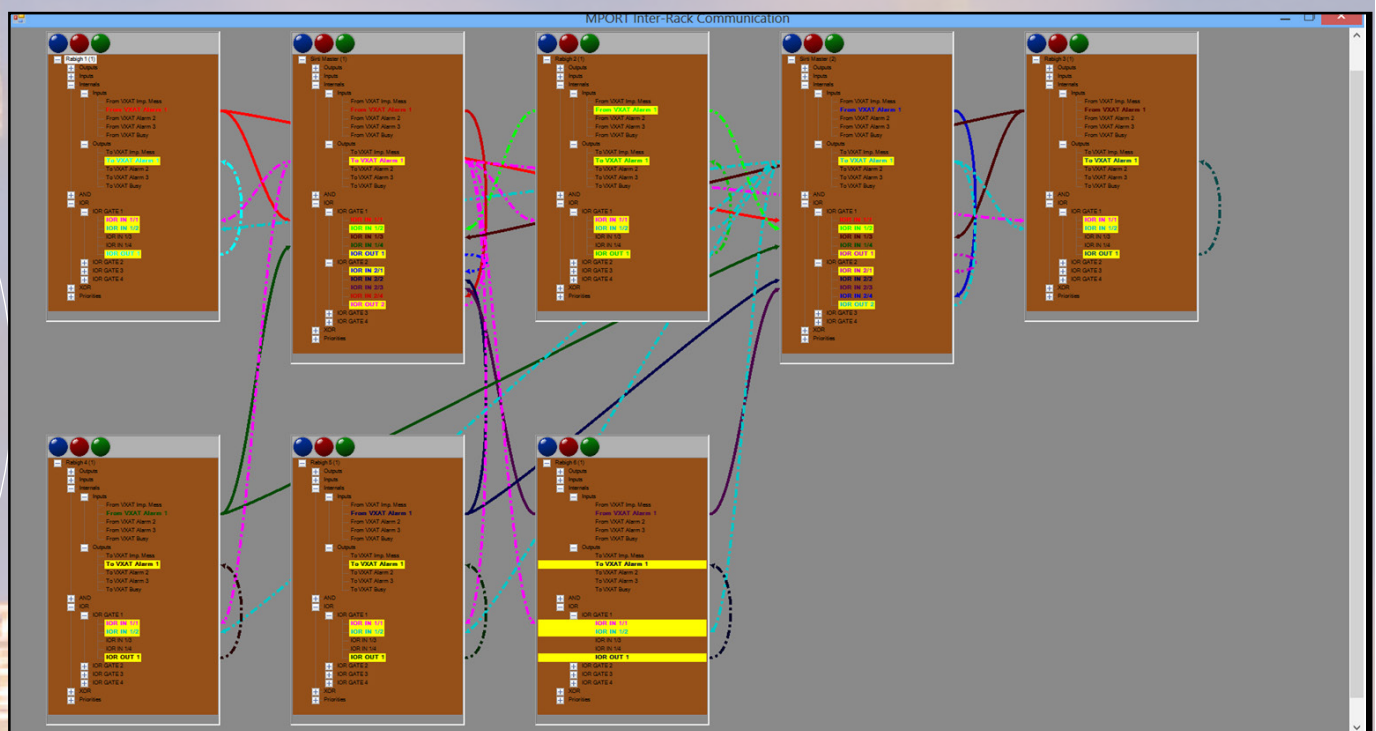
- Modbus TCP, enabling the transfer of status information to external Modbus based systems
- VoIP (SIP interface), allowing for the interconnection of IP telephone systems for direct voice communication and function activation between a PABX and the M Class PAGA
- OPC

The M Class PAGA system monitoring can be programmed to include all interfaces. The information transmitted by these interfaces can be utilized to drive customized warning and alarm scenarios within the M Class PAGA framework.

Central and Distributed Intelligence

A series of networked M Class PAGA systems operates on a centralized architecture providing real-time alarm & warning control and activation throughout the network for ease of system operability however it is also possible to distribute this intelligence to ensure maximum security and availability.

System wide status information is locally processed and centrally available for analysis and reaction. The constant monitoring and evaluation of connected components and interfaces combined with the centralized intelligence gives an organization the utmost in fast and reliable warning and alarm control, whether utilizing pre-programmed automated scenarios or relying on manual activation or overrides.



Versatility

The M Class PAGA allows you to have the functions and capabilities of three separate systems - intercom, public address and general alarm - in one:

- Intercom system for fast and secure process communication
- Public address (PA) system for the announcement of information across the industrial plant
- Public address and general alarm system (PA/GA) to annunciate alarms and warnings for the protection of people, machines, and the environment

The modular design of hardware and the wide range of functions joined with the integration of all system features result in a versatile communication system that can be tailored to your individual requirements.

Intercom

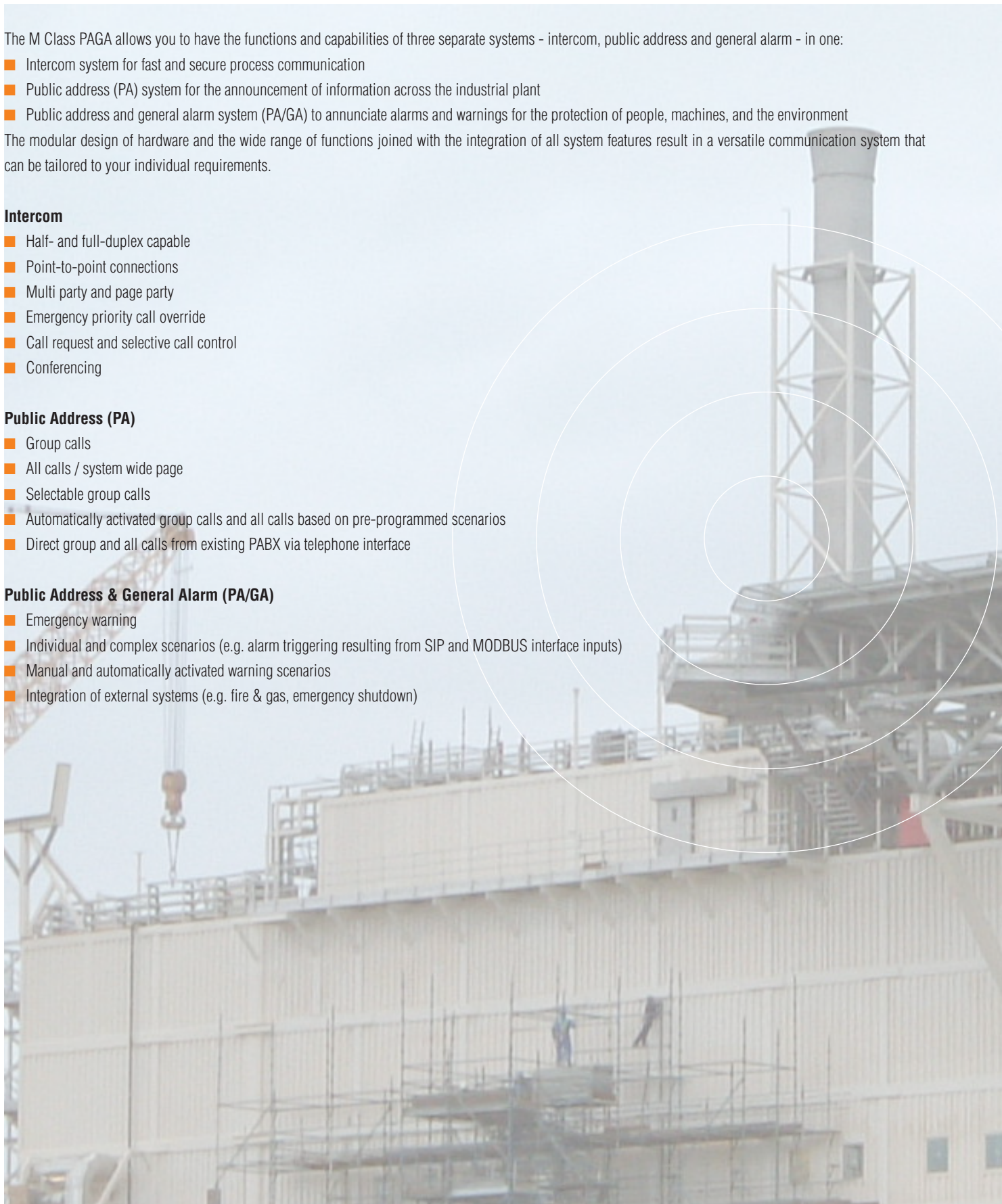
- Half- and full-duplex capable
- Point-to-point connections
- Multi party and page party
- Emergency priority call override
- Call request and selective call control
- Conferencing

Public Address (PA)

- Group calls
- All calls / system wide page
- Selectable group calls
- Automatically activated group calls and all calls based on pre-programmed scenarios
- Direct group and all calls from existing PABX via telephone interface

Public Address & General Alarm (PA/GA)

- Emergency warning
- Individual and complex scenarios (e.g. alarm triggering resulting from SIP and MODBUS interface inputs)
- Manual and automatically activated warning scenarios
- Integration of external systems (e.g. fire & gas, emergency shutdown)



Benefits

Centralized

Whether you have a stand-alone system or a multitude of networked systems, the centrally available data and system control provides for all your needs from one access point. From here you can employ up to 200 priority levels, 1,000 individually selectable and configurable call groups and 65,000 programmable addresses. All communication and control functions can be linked to each other. You already have a predictable communication and control behaviour when configuring your M Class PAGA.

Modular

The modular design concept allows the system to use off-the-shelf principles to customize both hardware and software suiting the needs of operations as well as the requirements of regulatory agencies. This also facilitates various redundancy principles and provides for future expansion needs thus protecting an organization's capital investment without having to replace already vested components.

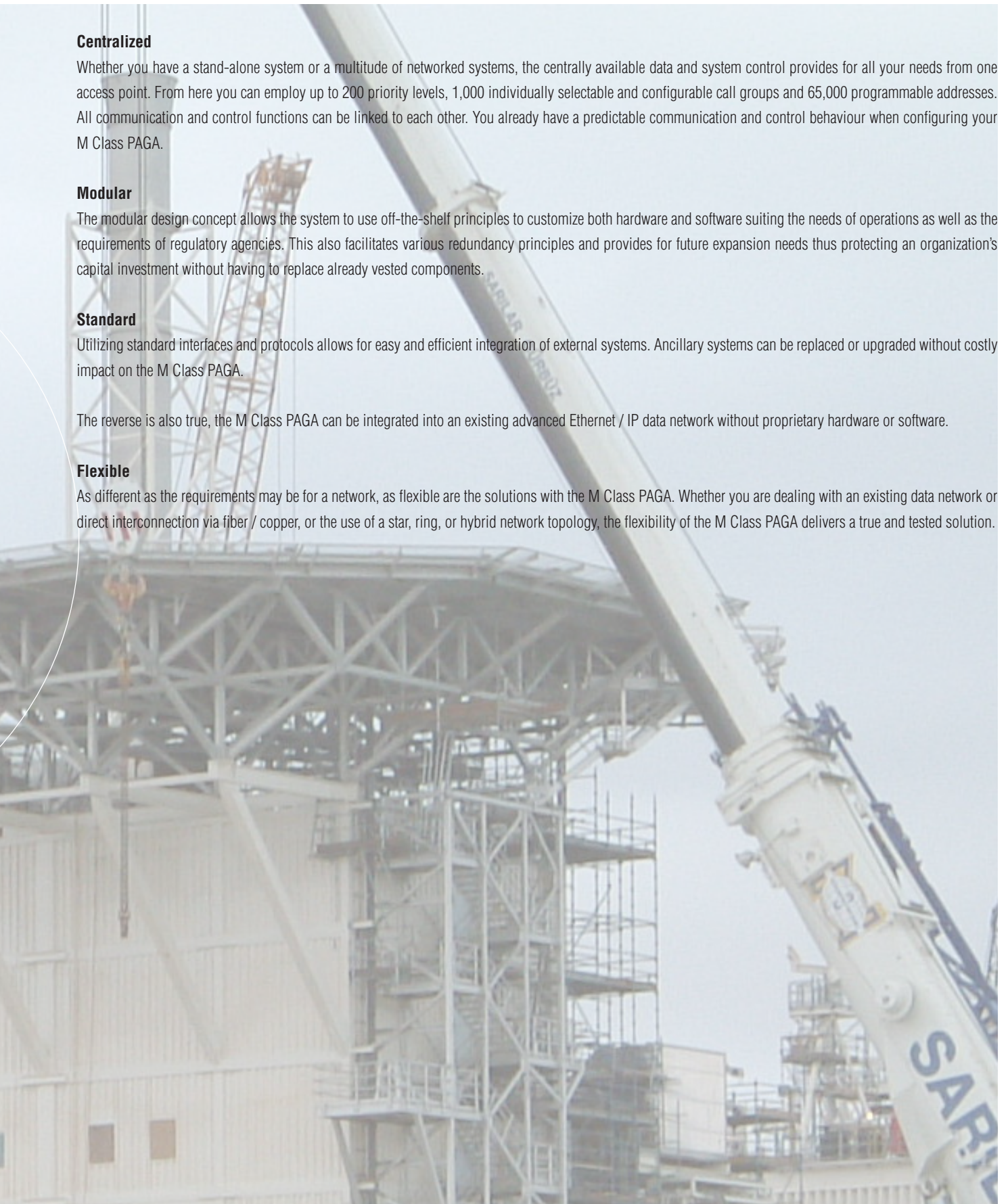
Standard

Utilizing standard interfaces and protocols allows for easy and efficient integration of external systems. Ancillary systems can be replaced or upgraded without costly impact on the M Class PAGA.

The reverse is also true, the M Class PAGA can be integrated into an existing advanced Ethernet / IP data network without proprietary hardware or software.

Flexible

As different as the requirements may be for a network, as flexible are the solutions with the M Class PAGA. Whether you are dealing with an existing data network or direct interconnection via fiber / copper, or the use of a star, ring, or hybrid network topology, the flexibility of the M Class PAGA delivers a true and tested solution.



BARTEC protects
people and
the environment
by the safety

of components,
systems
and plants.

