



KMMC[®]

CONTROLS

CORPORATE CAPABILITIES BROCHURE



GROW beyond smart buildings with KMC Controls® – your solution for genius buildings! Founded in 1969, KMC Controls’ open, secure, scalable, and easy to use Internet of Things (IoT) and building automation technology solutions are the best on the market because they have people who provide unmatched responsiveness and support.

KMC earned the prestigious ISO 9001 certification in 1997, which they not only maintained, but has since been upgraded to ISO 9001:2015. To ensure compliance, KMC extensively tests and validates all products and solutions during development and production. KMC enjoys an overall return rate of less than 0.1% as measured across the KMC product portfolio. KMC Controls is proudly ARRA Section 1605 certified “Made in America” – manufacturing

exclusively within the United States of America; including circuit board assembly, injection molding of components and cases, electronic assembly, mechanical assembly, and final product assembly.

In the last 10 years, KMC Controls was recognized twice by BACnet International, winning their prestigious worldwide “Best In Show” competition for the “best, open BACnet system project” in the world. Additionally, KMC won the “Living Building Challenge” award for the Seattle based Bullitt Center project, the first “NetZero Energy” commercial building to be constructed in the US.

KMC Controls was founded in 1969 by Ken Kreuter as Kreuter Manufacturing Company. For more than 50 years, KMC Controls has been designing and manufacturing building automation solutions, HVAC control products, and energy management solutions. KMC Controls is an independent American manufacturer of open, secure, and scalable building automation and technology solutions. KMC is the only privately held controls manufacturer with a full line of digital, electronic, and

pneumatic products in the United States.

We started humbly, engineering and manufacturing damper actuators, pneumatic-electric switches, and logic relays through private-label contracts with OEM partners. Gradually, the KMC product line grew to include variable air volume controllers and actuators. By 1989, we had expanded into our 100,000-square-foot manufacturing facility in New Paris, Indiana.

In 1996, we became a global distributor. Sales growth in international markets brought about an exciting new era of expansion and product development. And, in 2004, we released our esteemed line of BACnet® open-protocol controllers – the KMC Conquest™ line.

Today, KMC continues to market innovative and intuitive solutions developed by responsive and supportive people. With a focus on quality and a dedication to open platform systems and support, we are well positioned to capitalize upon technological advancement to drive growth in new markets.

OUR HISTORY

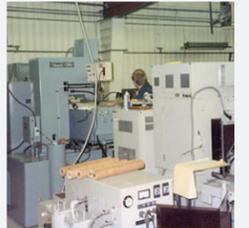


1969

Founded by Ken Kreuter as Kreuter Manufacturing Company, KMC was quickly established as an industry-disruptive provider of damper actuators, pneumatic-electric switches, and logic relays for original equipment manufacturers.

1970s

KMC product line expands to include variable air volume (VAV) pneumatic controllers and actuators.



1980s

KMC experiences rapid growth requiring three additions to our production facility, including the addition of CAD machines and computerized manufacturing. KMC’s first electronic and digital control offerings are released.



1990s

Expansion continues as KMC obtains ISO 9001 certification and becomes a global company. KMC engineers and releases the first of its proprietary digital controls and software: KMDigital.



2000s

KMC releases our award-winning line of BACnet®-protocol direct digital controllers and develops the TotalControl™ front-end software.



2010s

KMC releases the KMC Conquest™ line of BACnet direct digital controllers, KMC Connect™ configuration utility, KMC Converge™ module for Niagara WorkBench, and KMC Connect Lite™ near field communication (NFC) mobile application. The company forms strategic partnerships with Intel® and Dell and develops KMC Commander™, a revolutionary Internet of Things (IoT) platform.





Experience matters.

Centuries of knowledge

When you pick up the phone to call KMC Controls, you're tapping into more than 830 years of combined industry experience; with nearly 700 years of combined controls specific experience. Suffice it to say, if you have a question or if an issue arises, our technical support professionals have seen it before and know the solution.

Building Automation and Control Solutions

We team up with leading technology providers to create innovative products that help customers increase operating efficiency, optimize energy usage, maximize comfort, and improve safety.

From our home in northern Indiana, we deliver solutions to a global network of system integrators and distributors. In fact, our products are controlling buildings of all sizes and types around the world, including the most sustainable office building in North America.

We stay ahead of technological innovations through active engagement with industry-wide technology initiatives and partnerships.

Experience at every level

At KMC Controls our salesmen, sales engineers, technical and support staff have worked at every level of the building control and automation industry. From installers to global portfolio managers, our employees rely on a wealth of knowledge and experience that was paid for with sweat and hands-on hard work. Like a spiderweb, much of our employees' experience overlaps and much does not, but together it weaves a powerful web of talent and expertise, which is the core of what makes KMC such a powerhouse in the building automation industry.

World-wide footprint

The customers supported by KMC and our International partners include a "Who's who?" of top 100 global companies, property management firms, and many other commercial and government agencies. KMC's international dealer, and system integrator network spans most major international markets where controls and building management systems are used. KMC has a significant presence in more than two dozen countries including the United Kingdom, Turkey,

Lebanon, Israel, Saudi Arabia, Egypt, United Arab Emirates, India, Thailand, Australia, China, Hong Kong, the Republic of South Korea, and many more. In these markets, KMC's local partners have executed a broad range of building automation and control systems projects in many vertical markets including shopping malls, data centers, pharmaceutical transshipment rooms, financial institutions, hospitality, luxury residential, healthcare, government buildings, universities, airports, and just about anywhere else you can imagine.

Industry expertise

When it comes to controls, the Building Geniuses® at KMC Controls have seen it all – from Honeywell to Schneider Electric and everything in between. The building control industry is close-knit, so it should be no surprise that many of our employees have experience working with more than two dozen different building control systems (including Siemens, JCI, Andover, Johnson Controls, Tridium, Distech, Trane, and many others). Rest easy knowing that we have the knowledge, experience, and expertise to support you.

Relationships, not numbers

KMC maintains a face-to-face presence with their integration partners through relationships maintained by their area vice presidents. Each AVP has a geographic region and is charged with assisting their partners in design, industry education events, and technical support. The AVP's are backed by a team of sales engineers who are industry experts in the field of building operational technology. KMC also has two large distribution partnerships in North America with factory trained staff capable of assisting smaller integrators in product procurement and installation.

Single source

KMC Controls develops, tests, and manufactures each of our product in New Paris, Indiana. KMC has two full machining and tool rooms to manufacture injection mold dies for product components, two printed circuit assembly lines, a pneumatic validation lab, and a full test lab to support our partners and their customers. KMC also has on-site technical support staff, product engineers, and customer service representatives to work with you to

ensure success in the field.

Industry participation

KMC Controls is a member of many leading building operational technology associations and participates in innovation, educational, and standards events to ensure we are at the forefront of industry change. Additionally, KMC leverages manufacturing best practices to give end-users and integrators peace of mind that we are committed to producing high quality, reliable, and industry-standard products.

We've lived where you live

As a modern company, many of our employees work remotely, which means we not only have a highly mobile workforce, we also have a workforce that understands the unique challenges that are present across the country and the world. Our employees have not only visited or lived in every state in the U.S. as well as dozens of countries around the world, many have also built, managed, and/or operated businesses in Canada, Asia-Pacific, Southwestern Asia (i.e. the Middle East), and Europe.

Different customers, different needs

When it comes to building automation there is no single configuration that works equally well for all customers across disparate verticals.

Many end-users in the same vertical can often have vastly different needs. For example, although schools, prisons, and libraries are all government buildings, they all have vastly different needs. At KMC we not only understand this, we have the knowledge and experience to help your job run smoother, which can save you money.

Partners, not customers

KMC primarily goes to market with our system integrator partners within the global building operational technology space. KMC has more than 200 integrator partners in 19 countries who are factory trained, more than 100 original equipment manufacturer partners, and more than four dozen wholesale partners around the country and the globe. Each of our integrators has a strong team versed in the KMC product line and the backing of the entire KMC support team to ensure end-user satisfaction.



Contributors, not adopters.

Open systems are part of our company's DNA. Our team members actively participate in guiding the course of open building control systems by contributing to several open-source communities and progressive industry organizations.

BACNET®

We have been involved with the development of the BACnet® open communication protocol since 2003, and our BACnet open-protocol controllers strictly adhere to the BACnet Standard. KMC installations can easily be serviced or recommissioned by a system integrator of your choice. You will never need to worry about being locked into an unsatisfactory service agreement, and you can rest assured your KMC devices will seamlessly integrate with other systems in your facility.

NIAGARA® FRAMEWORK

KMC's system architecture has always paired well with the Niagara® framework. Now, you can unlock the power of KMC and Niagara together with the KMC Converge™ Niagara application. KMC offers a variety of Tridium® JACE models and supporting applications to ensure that adding to your Niagara installation with KMC will be a fast, seamless experience.

PROJECT HAYSTACK® & EDGEX FOUNDRY™

In the Internet of Things, openness and interoperability is more important than ever.

To meet our commitment to provide the most open controls system available, KMC is a proud supporter of Project Haystack and a founding member of the EdgeX Foundry.

Project Haystack is an open-source initiative to streamline working with IoT data. Haystack provides a standardized data tagging and naming framework for automation, control, energy, HVAC, lighting, and other environmental systems that normalizes building system data prior to analysis and visualization.

EdgeX Foundry™ is a vendor-neutral open source project building a common open framework for IoT edge computing.



Best-in-Class Training and Support.

Mission

We will provide Innovative and Intuitive Solutions from Responsive and Supportive People.

KMC Controls recognizes the vital role of training. Training programs allow us to offer Continuing Education Units (CEUs) in addition to our own certification.

Courses are now offered in two variations (instructor-led and online). We continue to add to our scores of short on-line courses that are currently available on our website. The courses cover our hardware and software and other industry topics. The courses are available to be taken for free by anyone, anywhere, and at any time.

Our system integrators (SIs) and qualified end users have access to numerous technical and sales-related

training courses. Training helps ensure that our SIs properly design, install, and service building automation and energy management systems. To help facilitate this, we have constructed a fully equipped, state-of-the-art training center at our corporate headquarters.

For many, however, our corporate headquarters is a bit off the beaten path. Therefore, we can take our courses on the road in an effort to make training more convenient.

When student numbers justify on-site training, we can bring our courses directly to your facility, including training simulators that mimic real-world control scenarios.

Beyond training, we also supply a wealth of always-available technical and marketing materials, both printed and on-line. Our commitment to providing professional-quality documentation is evident in the multiple awards for publication excellence won by our website, catalogs, brochures, and various other documents.

More than a thousand support files are available for download from our website. These include data sheets, installation guides, operation guides, application guides, brochures, firmware, cross-references, and other assorted documents.

Vision

KMC Controls will provide innovative, easy-to-use building automation and technology solutions. We will be known for our customer focus, creativity, and dedicated, passionate employees.



Sales Channels and Buying KMC Products

KMC products are available across North America from a variety of system integrators and wholesalers.

Because KMC Controls is a global company, in addition to various European, South American, and Pacific Rim distributors, KMC has a large presence in the fast-growing China and Southeast Asian markets. Depending on the situation, you can purchase and arrange for installation and service through a variety of channel partners:

System Integrators (SIs) — These independent controls contractors (dealers) have access to the complete line of KMC products. They can design, install, and service new construction or upgrade projects as well as provide operational training.

Wholesalers — They have access to the analog electronic and pneumatic portions of our product line, including controls, actuators, and valves. They offer the convenience of numerous locations and available inventory.

Original Equipment Manufacturers (OEMs) — Even if a product has another name on it, it could still be one of ours.

See below for additional information about these channels.

SIs

KMC's System Integrators' knowledge of their community and their service orientation ensures that our products' customers get the same personalized attention they'd expect from a customer-focused, family-owned company.

SIs are independent business owners with the skills, experience, and integrity to bring our solutions to the facilities that they serve. Just as important, they are familiar with the advancing technology required by today's facilities. They can show you the elegance of energy management, the convenience of web-based facility monitoring and control, and the forward-thinking nature of open system design. We continue to look for the best

partners world-wide in the contracting channel.

Wholesalers

Available in local stores or through the web, replacements for popular KMC products as well as other services are easily accessible to such customers as mechanical contractors, building owners, and facility managers.

OEMs

Our success as a component manufacturer in our own right, disguises the equal success we have experienced in providing our components or technology to other manufacturers. Since our beginnings, we have played this valuable role in making other companies successful.

We have partnered, and continue to partner, with the biggest names in equipment manufacturing. They come to us because of our decades of reliable service, our responsiveness, our user-friendly processes, and, of course, our award-winning products.

Open Platforms and Holistic Building Management

The most economically viable and extensible platforms are based on open standard architectures since these enable best-in-class analytics to be seamlessly integrated without having to update platform hardware or software.

In our experience, the most economically viable and extensible platforms are based on open standard architectures since these enable best-in-class analytics to be seamlessly integrated and utilized without having to update platform hardware or software. Additionally, these types of platforms help "future proof" the infrastructure by enabling new use cases, sensors and data sources to be added as mission needs evolve without having

to remove and replace legacy systems. Designed specifically for owners and facilities managers, KMC Controls'

efficiency strategy incrementally, first by utilizing an open platform and services architecture. The KMC

THE BUILDING OWNERS ENJOYED A REDUCTION OF 43 PERCENT IN ENERGY COSTS

Commander seamlessly integrates building optimization solutions and building operations requirements by optimizing energy usage and reducing wasted time and physical resources by providing real-time, actionable data. The KMC Commander leverages the latest powerful building automation platform, KMC Commander™, allows customers to execute their energy

KMC Commander: Your IoT platform gateway

Built on Dell, the KMC Commander is the connection between your IoT network and the cloud. It's constructed to withstand harsh environments and connects directly to a number of port types, adapting to your architecture.

Features and options:

- Intel® Atom processor
- Ethernet and USB ports
- Wi-Fi (WAP or Client)
- Cellular capability
- DIN rail or panel mountable



technologies to integrate legacy and newer IoT protocols that sensors, equipment and controls use. It connects various sensors, building systems, and devices to the cloud, making it simple to transfer data and controls across disparate sub-systems, regardless of whether the edge devices use open or proprietary protocols. Built on the Dell Edge Gateway, the solution uses the Haystack tagging methodology coupled with BACnet, Modbus or SNMP protocols to discover the devices and populate the dashboards.

Subject Matter Expertise

Once data has been collected from multiple sources that impact HVAC and building performance,

subject matter expertise is required in order to ask the “right” questions of the data. This expertise is focused in two

areas:

HVAC optimization

The devices stream critical data on energy usage and ambient

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conditions in real-time through the KMC Commander, which publishes information on dashboards and

cards. Backed by advanced analytics, KMC Commander demonstrates true implementation of predictive and preventive solutions/equipment, ensuring more efficiency. KMC Commander can effortlessly scale to meet growing demands.

Holistic building management

Currently, KMC Controls is focused on partnering with various software companies to open the data available through KMC Commander via KMC's open API. These partnerships promise to add value and increase the efficiency of buildings, reduce energy usage and make buildings more comfortable for occupants. These data and controls include lighting,

access, utility, weather information, and just about anything else, in order to optimize building performance

Key Features:

- Track, trend, and trigger your IoT data
- Multiple device protocols supported
- Easily set up alarms and notifications
- KMC Commander BX™ is built on the Dell® Edge Gateway series with Intel® Inside
- Cellular capability available
- Cloud service powered by AWS
- Open API available
- Over a dozen cybersecurity features built-in
- Simple, clean, responsive HTML5 interface
- Setup users with different permissions

across the various technologies it incorporates, not just HVAC.

The easy-to-install KMC Commander manages the data through a database whereby a user can determine who has access to what data and allows technicians to monitor and control KPIs with a holistic view of the information.

KMC Commander ensures that the end-users own their data and can partner with anyone of their choice. KMC Controls ensures that data is safe by partnering with leading tech companies such as Intel and Dell to develop the highly secure KMC Commander.

Service and value creation

KMC Commander's highly scalable software meets the changing demands of the building owners, assisting them in making not just a smarter building, but a 'genius' building. KMC Commander allows end-users to look at their overall plan; or just pick one issue and solve it, with the option of tackling more problems later, as their budget permits.

According to the Continental Automated Buildings Association (CABA), buildings with automation (trends, schedules, and alarms) have lower absenteeism by up to 50 percent per year, lower employee turnover by 1.3 percent, higher self-assessed job performance by up to 10 per-cent,

higher job satisfaction by up to 9 percent, and increased health and well-being by up to 10 percent.

A common rule of thumb is that the annual operational costs of a building are, on average \$300/sq.ft. for staff payroll, \$30/sq.ft. for space rent, and \$3/sq.ft. for utilities. Although \$3/sq.ft. does not sound impactful, given the sheer size of many buildings a small improvement can lead to substantial gains.

At a recent installation of the KMC Commander, the building owners enjoyed a reduction of 43 percent in energy costs, which translated to \$110,000 saved each year.

A 2005 study by the Converged Building Technologies Group showed that incorporating smart building technologies, such as scheduling, can lead to a 36 percent reduction in average cost per square foot operating and maintenance costs.

A separate 2005 joint study with CABA and Reed Construction Data independently confirmed those findings by showing that introducing a building automation system can lead to a 10-year cost savings of \$11.47/sq.ft.

Thus, by incorporating smart building technologies, not only will HVAC operating costs likely decrease, but overall operational costs normally associated with buildings will likely decrease as well.

Performance Metrics

The beauty of the KMC Commander is that it provides real-time relevant, actionable data in an easy to digest mobile friendly dashboard. An end to end solution, KMC Commander addresses challenges in building management using sensors and the IoT.

REMEMBER

Delivering the reliable, sustainable and efficient BMS has six key components:

1. Open platform architecture
2. Sufficient sensors, metering and controls for desired operation
3. Analytics designed with subject matter expertise for building and HVAC systems
4. Service and value creation
5. Performance metrics
6. Delivery of actionable data

KMCC[®]

CONTROLS



Building **Geniuses[®]**



Seamless integration with existing infrastructure.



Industry-leading security from Intel[®], Dell, and more.



Affordable for single buildings or enterprise applications.



We bring you the information and control you need, when and where you need it.

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