

## Solutions for oil and gas Downstream line card



Petrochemical

LNG

Refining

## Energizing a world that demands more.

Eaton brings a new dimension of expertise to help master the heavy power capabilities and safety systems integral to uninterrupted operations in the harshest environments and help maximize the efficiency of operations. Our customized, innovative solutions can be retrofitted to extend life cycles, meeting changing regulatory and processing requirements. And with leading safety products, including the Crouse-Hinds™ family of offerings, we offer a unique combination of systems, components and services that ensure you minimize risk and optimize your investment, wherever your business takes you.

# EATON

*Powering Business Worldwide*

## Infrastructure

Connectors and quick disconnect couplings, sealings and fittings, cable ladders, strut systems and safety lowering poles, wireways and mechanical supports, pipe hangers, bolted framing, safety grating and seismic bracing

## Utilities and offsite

LED lighting, transformers, LV and MV switchgear, automation and control, substations, regulators, capacitors and surge protection devices

## Distillation units

LED, fluorescent and emergency lighting, general communications system, hazardous display, safety systems, hosing, bushings, filters and monitoring devices, couplings, metering, automation and control, variable frequency drives and software, enclosures, sealings and fittings, relays and software, visualization and display, automatic transfer switches, switchboards, CAT/ISO, circuit protection, surge protection devices, cable glands and strut systems

## Heat exchanger

Transfer switches, beacons and sounders, emergency signaling, automation and control, pushbuttons, soft starters, power distribution, variable frequency drives, cable glands and disconnects

## Sulfur recovery unit

LED lighting, safety lighting lowering poles, beacons and sounders, emergency signaling, visualization and display, filters, metering, motor control centers, relays and software, network protectors, power distribution and control, variable frequency drives, pushbuttons and surge protection devices

## Hydrocracker

LED lighting, safety lighting lowering poles, emergency and condition signaling, emergency visualization and display, general communications system, hosing, filters and monitoring devices, metering, relays and software, starters and switches, network protectors, power distribution, regulators and surge protection devices



## Power and distribution transformers and busway

- Liquid-filled to 12 MVA (ANSI)
- Non-segregated medium- and low-voltage busway
- FR3 environmentally-friendly fluid
- Dry-type distribution transformers (ANSI)
- Pole-mount, pad-mount and substation transformers
- ABS and Class I, Division 2 certifications
- Variable voltage transformer for heater cable and processing applications



## Medium- and low-voltage drives

- 4160 V to 6000 hp
- 600 V to 2000 hp
- Standard and arc-resistant medium-voltage drives
- Low-voltage 6- and 8-pulse input technology
- IEEE® 519 harmonic compliance



## Backup power (UPS)

- Engineered for industrial environments with unpredictable power conditions
- FERRUPS® voltage regulating
- Marine certified
- NEMA/ANSI and IEC ratings
- ABS approved



## Meters, sensors and relays

- Revenue-grade energy monitors
- Fast transient sampling, event monitoring
- Motor and feeder protective relays
- InsulGard partial discharge
- Power Xpert Dashboard



## Medium- and low-voltage switchgear

- Generator and line mounted switchgear
- Metal-clad medium-voltage switchgear rated to 38 kV
- Metal-enclosed low-voltage switchgear up to 600 V, 10,000 A continuous cross bus
- Arc quenching low-voltage switchgear
- Standard and arc-resistant medium- and low-voltage switchgear
- Medium-voltage, liquid-filled vacuum interrupter switchgear and sectionalizing switches
- ANSI and IEC certified



## Capacitor banks, filters and voltage regulators

- Low-voltage capacitor solutions
- Medium- and high-voltage capacitor solutions
- Passive and active filters
- Medium- and low-voltage regulators



## Low-voltage power distribution

- Panelboards and safety switches
- NEMA/ANSI and IEC ratings
- Hazardous area transformers
- NEMA 1 and 3, and Class I—Div 2 enclosures



## Power panels and motor control

- Power distribution panels
- Combination motor starters
- Explosionproof VFDs
- Control stations
- Switch rack assemblies
- Motor protection and monitoring



## Medium- and low-voltage motor control centers

- Medium-voltage motor control centers rated 2.4 kV to 13.8 kV
- Ampgard™ standard and arc-resistant medium-voltage motor control
- Both NEMA®/ANSI and IEC certified motor control centers
- Freedom, arc-resistant and FlashGard™ MCCs
- Power Xpert™ CXH and UX



## Integrated power assemblies and portable power solutions

- Turnkey engineered integrated power assemblies
- Mobile substations and capacitors
- Factory acceptance testing, field commissioning



## Medium- and low-voltage circuit protection

- Medium-voltage vacuum circuit breakers
- Molded-case circuit breakers
- Bussmann™ series low-voltage Low-Peak™ fuses and medium-voltage fuses
- Low-voltage air circuit breakers



## Harsh and hazardous area lighting

- Light sources: LED, HID, fluorescent and incandescent
- Types: flood, high bay, mid bay, targeted, linear, emergency and exit
- NEMA/ANSI and IEC ratings



### Hazardous area control stations

- Suitable for use in hazardous areas
- Impact-resistant thermoplastic
- Ingress protection to IP67 rated voltage
- Contact blocks; 500 V
- Signal lamps; 240 V IEC
- NEMA/ANSI and IEC ratings



### Enclosures, cable and conduit wiring solutions

- Junction boxes and enclosures
- Stainless steel, aluminum, fiberglass, steel and iron
- Instrument housings
- Hazardous and industrial areas
- NEMA/ANSI and IEC ratings



### Plugs, receptacles and connectors

- Single-pole connectivity
- Multi-pin connectivity
- Molded to cable
- Control and instrumentation connectors
- NEMA/ANSI and IEC ratings

### Hydrotreater

LED and emergency lighting, condition signaling, general and emergency communications, hosing, cable glands, connectors and quick disconnect couplings, network protectors, switches, switchgear, automatic transfer switches, panelboards, voltage regulators, explosion-proof and hazardous area panelboards



### Hazardous area and life safety communications

- PA/GA—public address general alarm systems
- Command and control centers
- Fire detection and alarms
- Mass notification systems
- Visual and audible signaling devices
- Closed circuit TV systems
- VOIP and analog phones
- NEMA/ANSI and IEC ratings



### Cable ladder systems grating and mechanical solutions

- Aluminum, stainless steel, galvanized steel and FA series fiberglass material options for cable tray
- Strut systems, fittings and accessories
- Grip Strut™ safety grating and various slip-resistant grating solutions
- NEMA/ANSI and IEC ratings



### Process instrumentation and protection

- Intrinsically safe
- Surge protection
- Process alarm equipment
- HMI and visualization
- Fieldbus
- Industrial Ethernet
- Signal conditioning
- Gas analysis

### Hydrogen unit

LED lighting, safety lighting lowering poles, beacons and sounders, emergency signaling, visualization and display, metering, relays and software, network protectors, motor control centers, power distribution and control, pushbuttons, variable frequency drives, surge protection devices, vacuum interrupters and filters

### Blending and storage

LED and emergency lighting, floodlights, emergency signaling, hosing, motor control centers, switchgear, CAT/ISO, power correction, automation and control, visualization, network protectors, power distribution, automatic transfer switches, displays, I/O modules, variable frequency drives, circuit protection, surge protection devices, enclosures, cable glands, plugs and sockets, wiring, power supplies, diagnostic tools, cable ladders and customer manufacturing service center



### Wireless and communications

- Wireless I/O systems
- Cellular communications
- Gateway interconnection
- Network management
- Remote monitoring and control



### Hydraulics power/motion control and fluid conveyance

- LifeSense™ hydraulic hose condition monitoring system
- Industrial and specialty hoses and fittings
- Connectors/couplings



### Pumps and motors

- Open and closed circuit piston pumps
- DuraForce™ fixed and variable motors
- Geroler™ and Gerotor™ high-speed low-torque motors



### Industry certified competency training

- Understand the theory behind products, solutions, and industry standards
- Experience real products first-hand through hands-on training with live products
- Identify and assess application environments, install product and test equipment
- Receive industry recognized competency certification



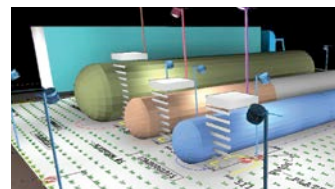
### Filtration

- Filtration expertise to meet quality, cost, safety and environmental needs
- ASME, PED, IEL, CE, CRN, CSA, NEC, ATEX, NACE, NR-13 standards
- Pipeline strainers, bag and cartridge filtration and gas liquid separators
- ReactoGard V systems to protect fixed bed catalytic reactors



### Electrical engineering services

- Arc flash studies
- Power system studies
- Life cycle extension services
- Power monitoring solutions
- Site testing and commissioning
- Turnkey project services



### Design tools and services

- Lighting layout and design services
- Custom SKU-level 2D and 3D models for integration into design software
- Custom SKU-level specification sheets
- CYME Power Engineering Software

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MGE OFFICE PROTECTION SYSTEMS  
 MCGRAW-EDISON MOELLER  
 METALUX MEM CUTLER-HAMMER  
 COOPER HALO ARROW HART  
 B-LINE BUSSMANN MTL  
 HOLEC MCGRAW-EDISON  
 ARROW HART MEM BUSSMANN  
 METALUX POWERWARE  
 MEM HALO BUSSMANN  
 MCGRAW-EDISON CEAG  
 MOELLER MTL AEROQUIP-VICKERS  
 CEAG COOPER BUSSMANN  
 MTL B-LINE  
 HERNIS  
 MCGRAW-EDISON  
 B-LINE  
 ARROW HART  
 MOELLER  
 HALO MEM  
 MTL  
 COOPER  
 HERNIS SYNFLEX  
 BUSSMANN MTL ARROW HART  
 B-LINE COOPER MCGRAW-EDISON  
 MOELLER CEAG HOLEC MOELLER  
 MTL POWERWARE CEAG  
 MEM MGE OFFICE PROTECTION SYSTEMS  
 HERNIS POWERWARE  
 COOPER HALO CROUSE-HINDS

## The Power of One EATON

We serve the world's oil companies, OEMs and EPCs with electrical, hydraulic and filtration solutions supported by a global network of over 2,500 services professionals.

BRAND  
INCEPTION  
DATES:



1833



1874



1893



1897



1899



1906



1908



1911



1914



1934



1961



1962



1963



1967



1977



1983



1984



1989



wright · line

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HI CONTROL

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**10,000+**

Patents Held  
Globally

Approximately

**95,000**

Employees

Customers in

**175+**

Countries

**5**

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