Combining Power and Data into a Single Solution

Appleton™ PlexPower™ IEC Fiber Panel
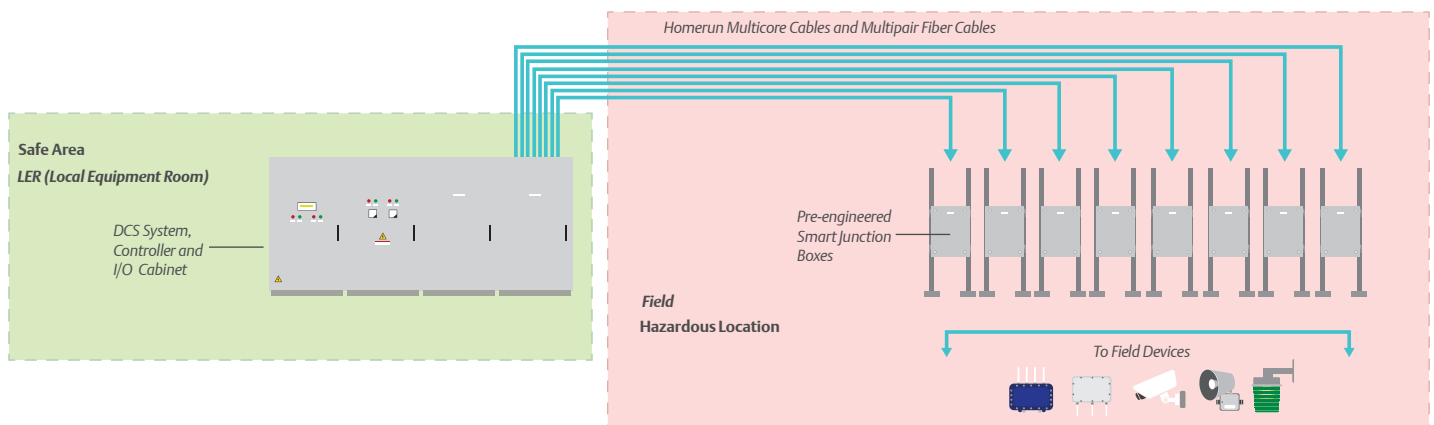Technology and Application Guide.

EMERSON™

Innovative Design Meets Intelligent Technology

Typically, in hazardous location facilities, data and power are routed from two separate enclosures in a control room located in the safe or non-hazardous area. This results in separate cables for power and data from each and every field device being fed back to the control room. With this configuration, installations are more complex, maintenance times are longer and cabling costs are significantly higher.
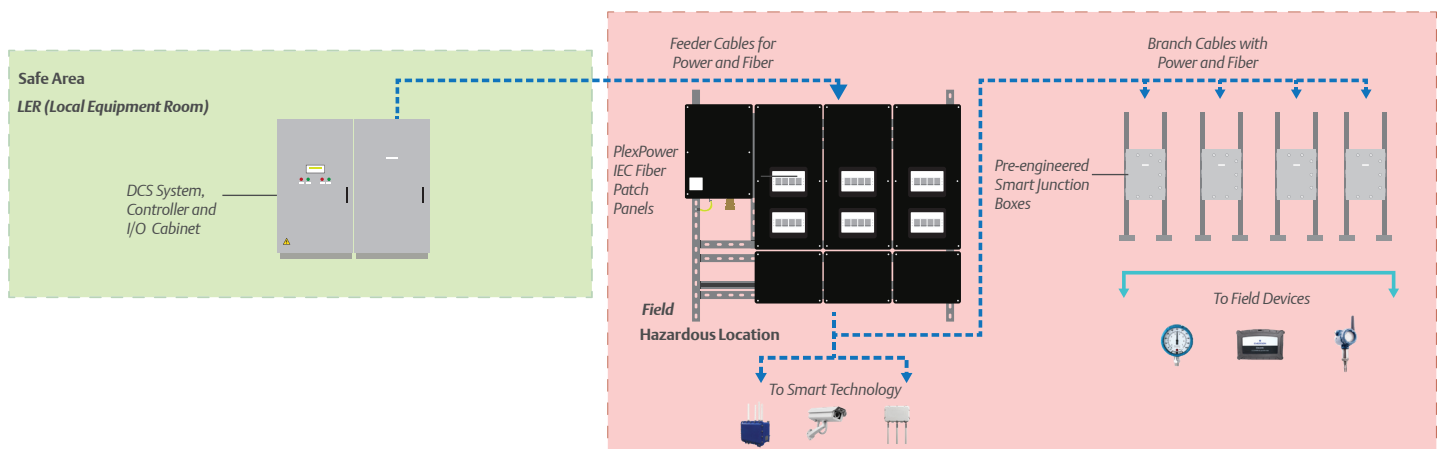
Through unprecedented engineering and design, the Appleton™ PlexPower™ IEC Fiber Panel by Emerson answers the need for simplified process monitoring and data communications. Utilizing the technology of our PlexPower panelboards, the PlexPower IEC Fiber Panel combines power distribution technology and instrumentation/process monitoring together into a single solution for hazardous, wet and corrosive environments.

Our PlexPower IEC Fiber Panels bring cables from up to 24 field junction boxes back to one enclosure located in the hazardous area, drastically reducing the number of long dedicated cable runs while also limiting potential failure points. Field junction boxes can also be connected to multiple PlexPower Fiber Panels, creating redundant pathways to increase reliability.

Before PlexPower IEC Fiber Panels

Homerun Multicore Cables and Multipair Fiber Cables

Safe Area
LER (Local Equipment Room)

DCS System, Controller and I/O Cabinet

Pre-engineered Smart Junction Boxes

Field
Hazardous Location

To Field Devices

After PlexPower IEC Fiber Panels

Safe Area
LER (Local Equipment Room)

DCS System, Controller and I/O Cabinet

Feeder Cables for Power and Fiber

Branch Cables with Power and Fiber

PlexPower IEC Fiber Patch Panels

Pre-engineered Smart Junction Boxes

Field
Hazardous Location

To Field Devices

To Smart Technology

Break With Tradition

Boasting Zone 1-2 and 21-22 IIB+H_2 certifications, the Appleton PlexPower IEC Fiber Panelboard provides end users flexibility and convenience in a smaller, light weight footprint.

WEAHTERPROOF WINDOW
External actuation of branch breakers through a weatherproof window simplified operation

BUS DUCT
Provides an insulated conduit for wiring.

PATCH PANEL
Hardware assembly with data ports for circuit management. High speed OS2 fiber cable supported as standard.

ENCLOSURE
IP66 Enclosure Fiberglass Reinforced Polyester (FRP) or Stainless Steel

BUS BAR
50 kAIC hard drawn copper bus bar provides robust, reliable and efficient electrical connections in a compact space

CLASSIC FRAME
Hot dip galvanized steel frame and adjustable mounting lugs for easy mounting

TERMINAL LOAD BLOCK
Provides electrical connection to the mains.

BREAKER ASSEMBLY

Appleton PlexPower circuit breaker housing offers component level protection. It maintains a hazardous location rating while allowing for easy disassembly for servicing. This leads to less downtime and provides greater inventory flexibility. You have the standard off-the-shelf replacement parts you need, when you need them. Designed to provide anti-loosening termination and efficient heat dissipation ensures reliable breaker performance without de-rating.

1. **Rugged Termination:** Breaker housing connects to the panelboard by means of line terminations.

2. **Flameproof enclosure housing:** Labyrinth joint construction and flame arrestors.

3. **Venting plate:** Unique design of breaker housing allows safe heat dissipation, while eliminating nuisance tripping.

4. **Field Replaceable Breaker:** Standard, off-the-shelf circuit breakers are easy to obtain and reduce inventory costs and downtime.

Smarter Technology in a Hazardous Location Facility

With the presence of flammable gases and vapors, hazardous locations around the world demand electrical products engineered to provide proper protection from dangers like heat or spark-induced ignition. Our engineers have developed innovative advancements in supplying power and data throughout a facility.
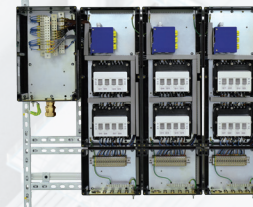
2. Feeder Cables for Power and Fiber

2-6 AWG single phase.
24-96 pair fiber optic.
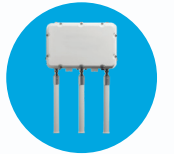*Supports composite and separate cables.*

3. PlexPower IEC Fiber Panel

Hazardous certified panel(s) with IP66 and Type 4X Environmental Ratings in Hazardous (Classified) Area.

4. Branch Cables with Power and Fiber

12-14 AWG single phase.
2-4 pair fiber optic.
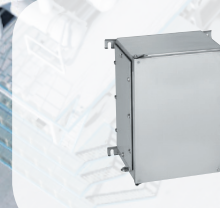*Supports composite and separate cables*

5c. Smart Technology
- Industrial Router
- Wireless Access Point (WAP) System
- Other Process Field Devices

5a. Emerson Smart Junction Box

Smart junction boxes located throughout the facility's hazardous area. Field devices are hardwired or connected wirelessly.

1. Network / Power Cabinet

Feeder cable(s) originate in the safe area control room.

6. Field Devices
- Measurement Devices
- Pressure Transmitter
- Wireless Pressure Gauge

5b. Field Junction Box

Instrumentation junction boxes located throughout the facility's hazardous area. Field devices are hardwired or connected wirelessly.

Safe Area

Improved network topology utilizing Emerson's electrical and automation expertise.

Appleton is the cornerstone brand of Emerson's Electrical Apparatus and Lighting business; trusted worldwide to make electrical installations safer, more productive and more reliable.

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