

AKD-20 AR & Entellisys* AR

Arc Resistant Low-Voltage Switchgear

Fact Sheet

AKD-20 AR & Entellisys* AR: Protection You Can Count On

GE's AKD-20 and Entellisys Arc Resistant (AR) Switchgear solutions are for applications where an extra margin of safety is essential. They meet the IEEE C37.20.7 Type 2B AR standard which states that the equipment will provide arc resistance protection on the front, rear, and sides while opening designated low-voltage compartments.

Think Ahead: Redirect Arc Flash Explosions

AKD-20 AR and Entellisys AR are designed to contain and redirect the arc flash energy and exhaust gases up through the plenum at the top of the enclosure and away from the operator. In the case of an arc flash event, pressure activated flaps slam shut to seal ventilation areas in the rear cable compartment.

The rugged dead front panels protect personnel from the explosive force of arc flash occurrences. The circuit breaker cubicle doors are provided with a reinforced escutcheon gasket, protecting operators from exhaust gases and other materials.

Designed for the Safety of Personnel and Equipment

The AKD-20 AR and Entellisys AR are designed with the safety of your personnel and equipment in mind. The smaller footprint allows for flexibility in your plans. GE's unique Entellisys and ArcWatch* technologies offer even more advanced safety solutions against arc flash occurrences. Using interlocking systems these two technologies increase protection while maintaining system uptime.



AR Features:

- Internal exhaust chimney
- Heavy-duty enclosure
- Same footprint as standard AKD-20 and Entellisys
- Insulated/isolated bus
- Bus compartment barriers
- Section barriers and shutters
- Push-to-latch circuit breaker cubicle doors
- Pressure activated rear vent flaps
- Reinforced circuit breaker escutcheon gasket
- Plenum flange
- Full height hinged and bolted rear doors
- Floor plates in cable compartment
- ArcWatch compatible



Standards and Approvals

- IEEE C37.20.7 – Type 2B
- ANSI C37.20.1
- UL 1558, UL1066

Ratings

- System Voltage Nominal (Max): 480 (508)-600 (635) Volts
- Main Bus: 800-4000 Amp
- Enclosure Type: Indoor NEMA 1, 54 inch deep frame
- Internal Arc Current: 65kA (85kA - consult factory) (RMS) at 0.5 sec

Other Options

- Rear extensions to 60, 67, 74 inch deep frame
- Infrared scanning window in rear doors
- Lockable T-handles on circuit breaker cubicle door
- Lockable T-handles on rear doors

Guideform Specifications

AKD-20 or Entellisys Arc Resistant switchgear is provided in NEMA 1 indoor construction for electrical systems rated up to 2000 amps, 600 volts, 65kA. AKD-20 or Entellisys Arc Resistant switchgear meets the requirements of the following IEEE and UL standards:

- IEEE C37.20.1 (2002) Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear

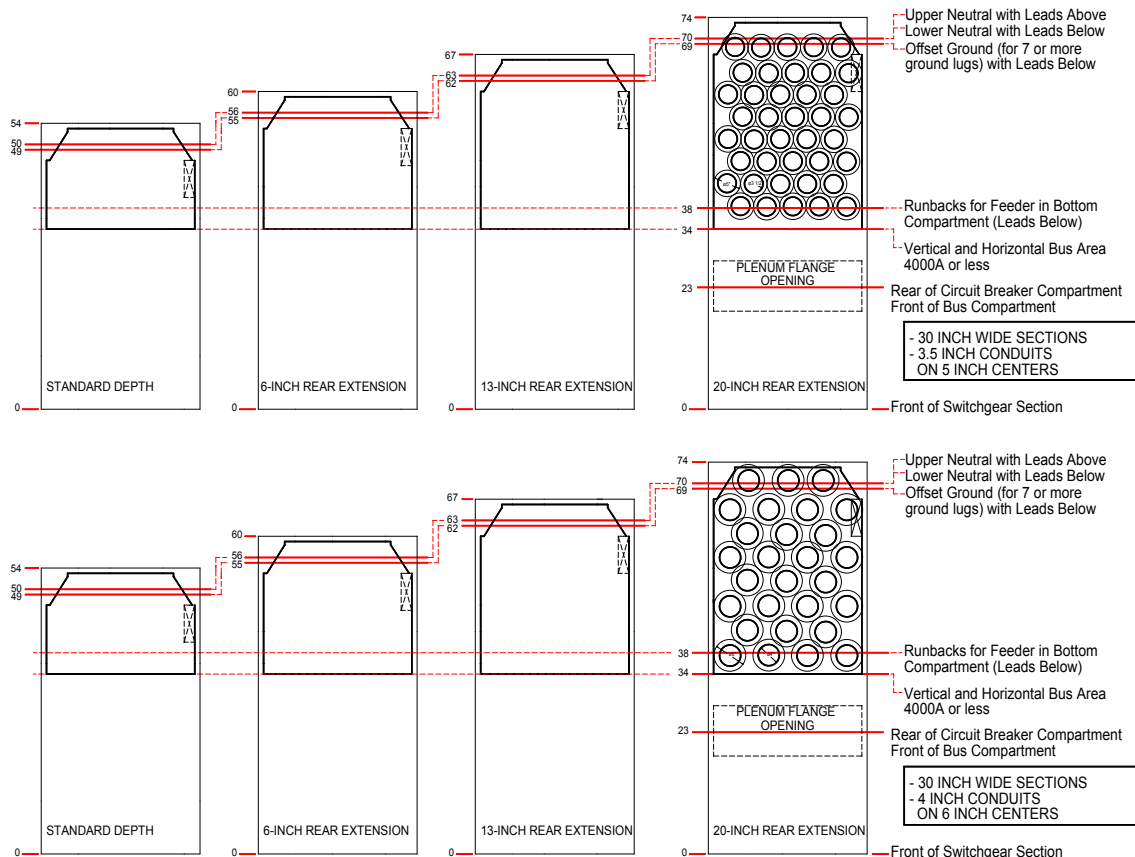
- IEEE C37.20.7 (2007) Guide for Testing Metal-Enclosed Switchgear for Internal Arcing Faults (tested to Type 2B requirements)
- UL1558 Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear

AKD-20 or Entellisys Arc Resistant switchgear is provided with a plenum flange on the top of each vertical section (refer to conduit/floorplan detail below). The plenum flange mates with the owner-supplied plenum. GE will provide the following relative to the plenum:

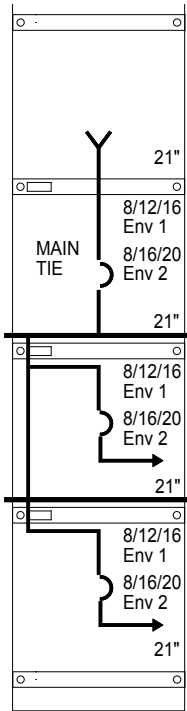
1. Details on the minimum material thickness for the plenum.
2. Details on the minimum cross section of the plenum (minimum ceiling height – 10FT).
3. Details on the mating plenum flange on the top of each vertical section.
4. Exhaust port with rodent screen and hinged flap for use on the exiting end of the plenum provided by GE.

Cubicles with provisions for future circuit breakers are provided with a cover plate in the circuit breaker door cutout and a cassette barrier behind the door. All circuit breaker cubicle doors are provided with a “push-to-latch” mechanism, which eliminates the need for any additional motions to secure the circuit breaker door – a critical factor in maintaining the Type 2B Arc Resistant rating of the equipment.

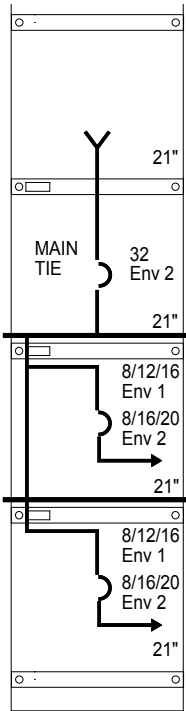
Conduit Space – Envelope 1 and 2 circuit breakers – Main/Tie/Feeder Available in 22 in and 30 in widths (30in wide section with 3.5in conduits shown)



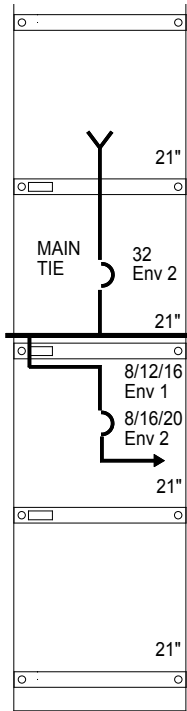
Example Elevation Drawings – Please consult factory for additional configurations



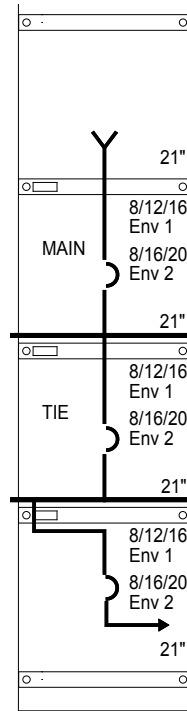
22 / 30"
MT22-2
CABLE CONN
MAIN OR TIE



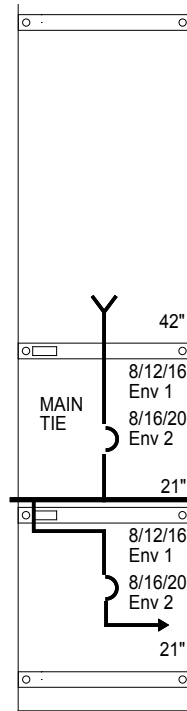
30"
MT22-2A
CABLE CONN
MAIN OR TIE



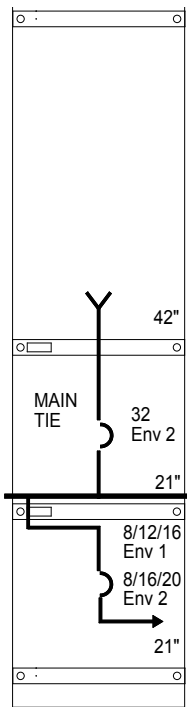
30"
MT22-2B
CABLE CONN
MAIN OR TIE



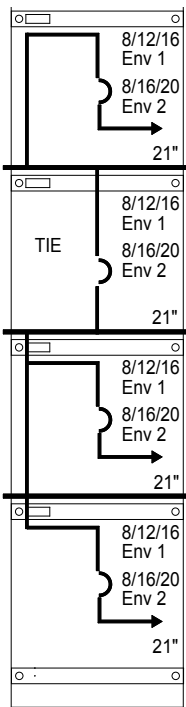
22 / 30"
MT22-3
CABLE CONN
MAIN



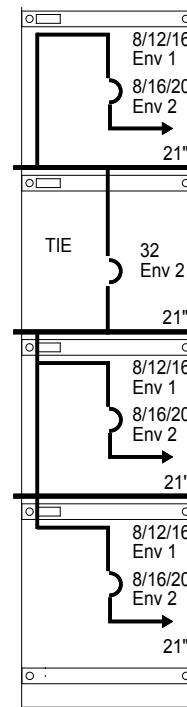
22 / 30"
MT22-4
CABLE CONN
MAIN OR TIE



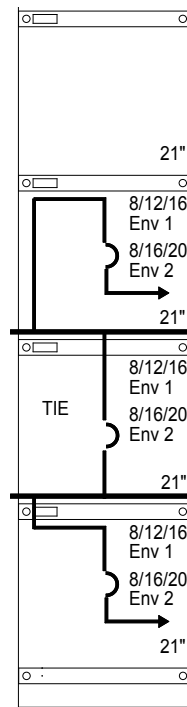
30"
MT22-4A
CABLE CONN
MAIN OR TIE



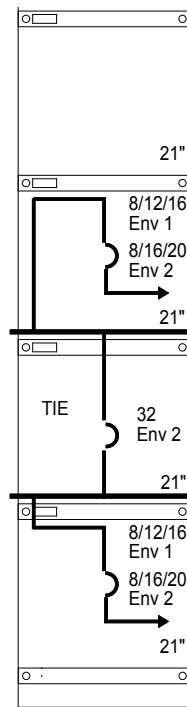
22 / 30"
MT22-8
BUS CONN
TIE



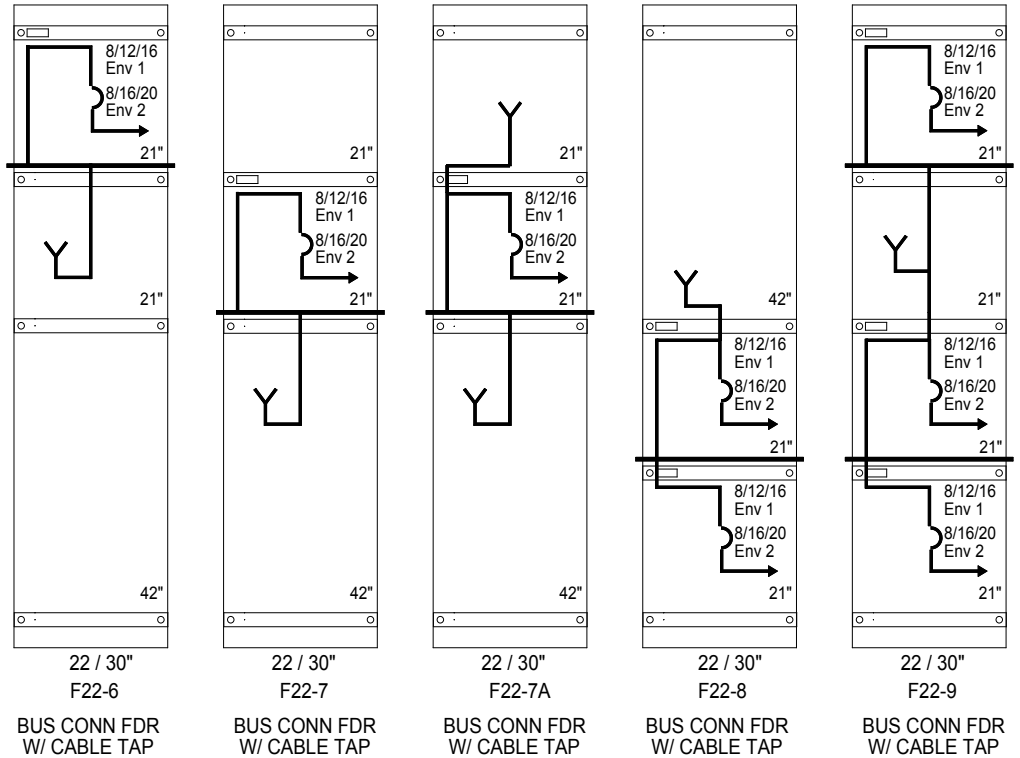
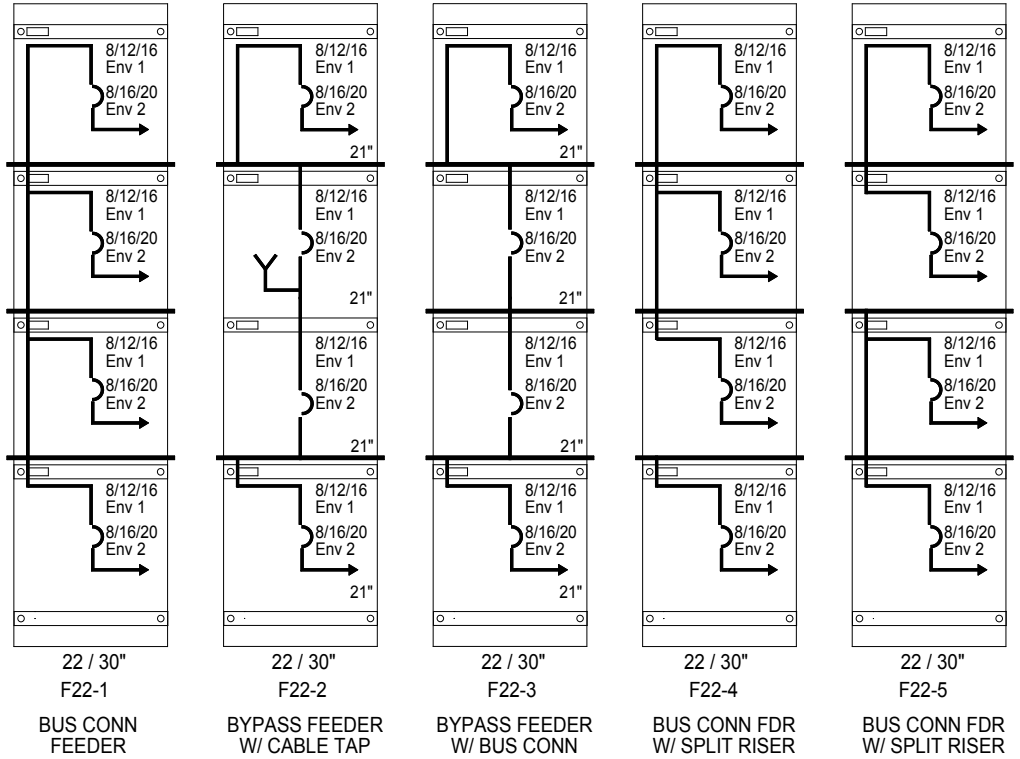
22 / 30"
MT22-8A
BUS CONN
TIE



22 / 30"
MT22-9
BUS CONN
TIE



22 / 30"
MT22-9A
BUS CONN
TIE



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