Safety First

Electric Service and Meter Manual

Written by:

T. L. Pottschmidt, *Chairman*
C. K. Eldridge, *Secretary*
C. D. Compton
E. K. Ford
R. M. Hale
K. D. Jenkins
M. Love
G. Penley
M. L. Schaefer
K. L. Walker

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aes Indiana

310 Special requirements

A. An individual main switch shall be installed ahead of each meter. No tap shall be allowed on the line side of the main switch. This applies to all services and metered feeders. Individual services larger than 1600 ampere shall be free standing switchgear with the cold sequence metering compartment an integral part of the switchgear.

B. All service entrance conductors shall be copper and no smaller than #4 AWG. For 200 ampere and larger services, the only acceptable wire sizes are 3/0, 350 kcmil and 500 kcmil. Switchgear bus shall be copper.

C. Specific requirements for the short circuit capacity at each location shall be obtained from the Engineering Department.

D. Shop drawings for all free-standing switchgear shall be approved in writing by the Major Underground Distribution Projects Engineering Division in advance of any firm commitments on each individual installation. This will ensure proper spacing and bracing of the bus, that the bus is copper, adequate auxiliary enclosure for cable limiters when required, and proper switch metering sequence. (See Section 550 for Meter Department Approval.)

E. Space for a transformer vault on public or private property adjoining the main service entrance equipment generally will be required when the demand is 500 kVA and larger.

F. At the cable entrance to a customer's premises the contractor shall install a metal junction box (sized and located by the Major Underground Distribution Projects Engineering Division) to enclose the service cables and splices. The Major Underground Distribution Projects Engineering Division will designate the location at which the service conductors shall be installed. (See GB6-070)

G. Customer-owned underground secondary service cables, 3/0, 350 kcmil, and 500 kcmil entering Company manholes or transformer vaults, shall be protected with cable limiters. These cable limiters shall be provided and installed by the Company at the point of connection to Company lines.

H. In the event more than two cables per phase are required, cable limiters shall be installed at both ends of the service cables. The customer shall provide and install cable limiters on all ungrounded conductors at the line side of the service switch.

I. Normally, the Company will own the cable to the property line and the customer will own the cable from the property line to the service.

B. 250 - 1600 ampere

Installations for metering a customer's load greater than 225 ampere capacity are referred to as transformer rated installations which require the use of metering transformers in addition to the actual meter or meters.

Normally the device for mounting the necessary metering transformers, as well as the meter, is furnished by the Company. The exception would be an installation where a customer purchases a free-standing switchgear in which case the metering transformers would be installed in a separate, sealable compartment in the switchgear. (See Section 550)

525 Outdoor installations - overhead only

For outdoor mounting of metering transformers, the Company will supply transformers open mounted on an assembly. This assembly is to be installed on the structure by the customer's electrical contractor at the designated location. The overhead service drop will extend through the current transformers and then will be connected by the Company to the customer's service entrance conductors. The meter enclosure shall be securely mounted at the height of 6 feet above final grade measured to the top of the enclosure. The installation is to be done by the customer's electrical contractor. The contractor will furnish and install a UL listed 1¼ inch rigid conduit with weatherhead between the meter enclosure and the metering transformer assembly. The use of conduit bodies (condulets) with removable covers is prohibited. The Company will provide the necessary control cable to the contractor for installation in this conduit to interconnect the meter and metering transformers. All connections between the meter and metering transformers will be made by the Meter Department. (See GB3-030).

526 Transformer mounted CT metering - three phase underground installations only, 450 ampere minimum size service

For customers served by a pad mounted transformer where that customer is the sole customer served and has only one service served from this transformer, the company will offer metering installations at the transformer. Exceptions may be permitted in certain cases where approved by the Company's Line, Metering, and Engineering departments.

The customer shall install the following in accordance with Drawing GB5-110: (1) a company meter fitting, (2) conduit under the transformer pad to the meter fitting with a #4 Cu. PE grounding wire and metering cable installed, (3) PT's, if 480 volt, in the meter fitting. The company will furnish the metering cable and grounding wire plus furnish and install the CT's and make up all metering connections.

If this option is selected, all service cable and conduit shall be supplied, installed, and maintained by the customer.

Under no circumstances shall the metering be permitted to be attached to the transformer, the pad, or any company facilities.

535 Metering totalization

The Company will permit totalization of any two or more services, which when any two are combined will exceed the limit of the largest allowable individual service size. The above services must be in the same structure, but not necessarily in the same location.

Exception: Two meters will be totalized when the combined services do not exceed the limit of the largest allowable individual service size, provided the two services supply normal and emergency power to a critical load and a Standard Contract Rider Number 4 is collected monthly on the duplicate facilities which supply the emergency service. The duplicate meter facilities shall also be included in the Standard Contract Rider Number 4.

A Standard Contract Rider Number 4 is defined in the tariffs that are on file with the Indiana Utility Regulatory Commission.

540 Underground service - non-networked area

When underground service is to be provided, the Company will provide a steel outdoor enclosure for a single underground service (100 to 1600 ampere inclusive except for 100 to 320 ampere, 1Ø).

550 Switchgear installations

Shop drawings for all free-standing switchgear shall be approved in writing for network service area and in writing at customer request for non-network service area by the Meter and Engineering Departments in advance of any firm commitments on each individual installation. This will ensure proper location and arrangement of metering transformers in the switchgear. In such installations, the Company will deliver the metering transformers directly to the job site for installation by the customer's electrical contractor. Also, the meter cabinet and coded cable will be furnished by the Company for the installation by the customer's electrical contractor. The use of conduit bodies (condulets) with removable covers is prohibited. The meter cabinet shall be connected to the metering compartment in the switchgear with a 1¼ inch rigid conduit provided and installed by the customer's electrical contractor. The meter fitting shall be installed at a location agreeable to both the customer and the Company. (See Section 310D for Secondary Network Service Area and Section 205 for Secondary Non-Network Service Area).

100/200 ampere, 600 V

(100A for up to 125 ampere service and 200A for up to 225 ampere service)

- Meter fittings shall be designed for use with standard socket type watt-hour meters.
- Meter fittings shall be in a NEMA 3R enclosure even if installed inside.
- Meter fittings shall be of the ringless type.
- Meter fittings shall have a swing style latch, which will accept padlock or wire style seals.
- Meter fittings shall be UL listed. (Listings with other Nationally Recognized Testing Laboratories are acceptable)
- Meter fittings shall be provided with a horn by-pass.
- Meter fittings shall be provided with concentric knockouts in the back, sides and bottom.
- Meter fittings shall be clearly marked with the manufacturer's name, catalog number and electrical ratings.
- Meter fittings shall have provisions for a 5th terminal.
  - Where a 5th terminal is required, it shall be listed and made by the same manufacturer as the meter fitting and for that meter fitting.
- 100 ampere meter fittings shall have tin-plated jaws and line side connectors suitable for the minimum range of 6 through 2/0 AWG CU/AL conductors. 100 ampere meter fittings shall be used for overhead services only.
- 200 ampere meter fittings shall have tin-plated jaws and line side connectors suitable for the minimum range of 6 AWG through 350 kcmil CU/AL conductors.
- Meter fittings with a lever by-pass shall not be permitted for these size meter fittings.
- AES Indiana cable shall be able to be terminated without bending the conductors in combination meter & service equipment

320 ampere, 600 V

(320A meter fitting is for up to 400 amperes of service)

- Meter fittings shall be designed for use with standard socket type watt-hour meters.
- Meter fittings shall be in a NEMA 3R enclosure even if installed inside.
- Meter fittings shall be of the ringless type
- Meter fittings shall have a swing style latch, which will accept padlock or wire style seals.
- Meter fittings shall be UL listed. (Listings with other Nationally Recognized Testing Laboratories are acceptable)
- Meter fittings shall be provided with a jaw release lever by-pass.
- Meter fittings shall be provided with concentric knockouts in the back, sides and bottom.
- Meter fittings shall be clearly marked with the manufacturer's name, catalog number and electrical ratings.
- Meter fittings shall be rated at a minimum of 320 amperes.
- Meter fittings shall have line side 3/8" diameter studs or tin-plated jaws and connectors suitable for the minimum range of 2/0 AWG - 600 kcmil CU/AL for terminating cable. AES Indiana connections shall be on the left side.
- AES Indiana cable shall be able to be terminated without bending the conductors.

2/2/2026

A grace period has been agreed upon by **AES Indiana** regarding the **Gold Book specifications (GB1-005)** for **Horn By-Pass requirements** on **100/200 Ampere, 600-Volt Meter Bases.**

Effective **February 2, 2026**, any **100/200 Ampere, 600-Volt Meter Base** that **does not include a Horn By-Pass** will be turned down until it fully complies with the **Gold Book (GB1-005)** requirements — **no exceptions**.

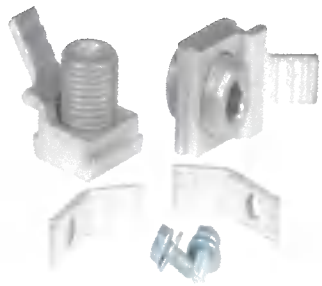
This includes, but is not limited to, the specification outlined in **GB1-005**, stating:

“Meter fittings shall be of the Ringless Type.”

Please ensure that all new meter base installations are in full compliance with this standard prior to the effective date to avoid delays in service connections.

AES Indiana
Service Connections
Jim Disman
Jim Disman
Team Leader
317-261-6578
jim.disman@aes.com

Picture of by pass horns



Eaton

Cutler-Hammer MBHBPKIT East Coast Horn Bypass Kit, For Use With Meter Breaker and Meter Socket

SKU: C HMBHBPKIT

Manufacturer Part Number: MBHBPKIT

UPC: 782116347797

$14.99/ea

Login for your price

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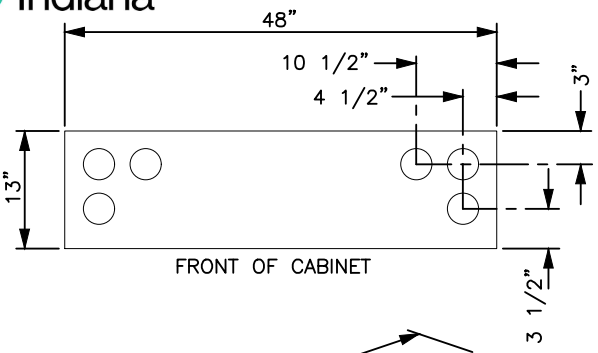
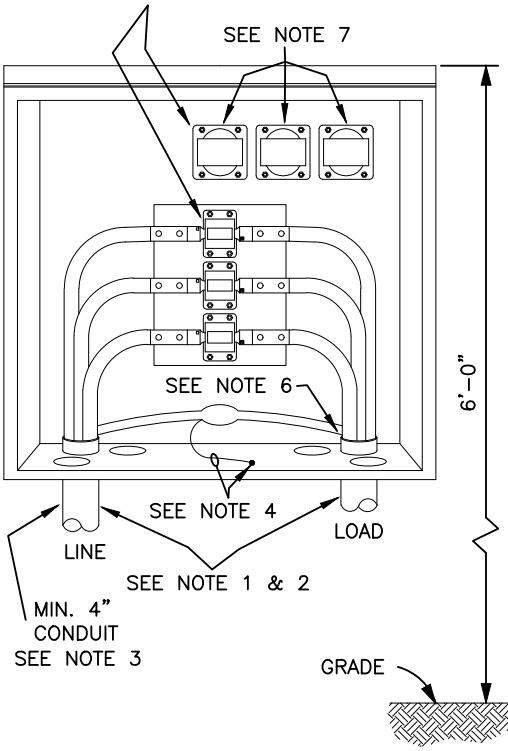
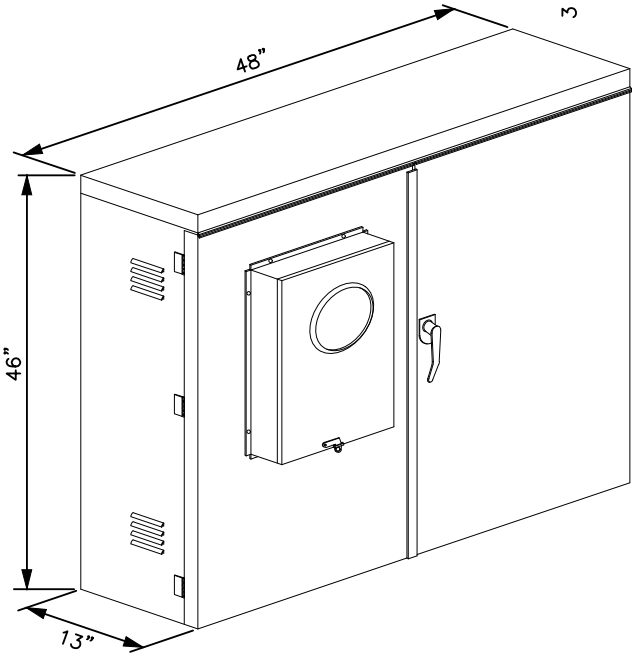


CURRENT TRANSFORMERS AND POTENTIAL TRANSFORMERS FURNISHED BY THE COMPANY, INSTALLED BY THE CONTRACTOR





METER CABINET WITH FITTING STOCK CODE # 4008-131 FURNISHED BY THE COMPANY AND INSTALLED BY THE CONTRACTOR.

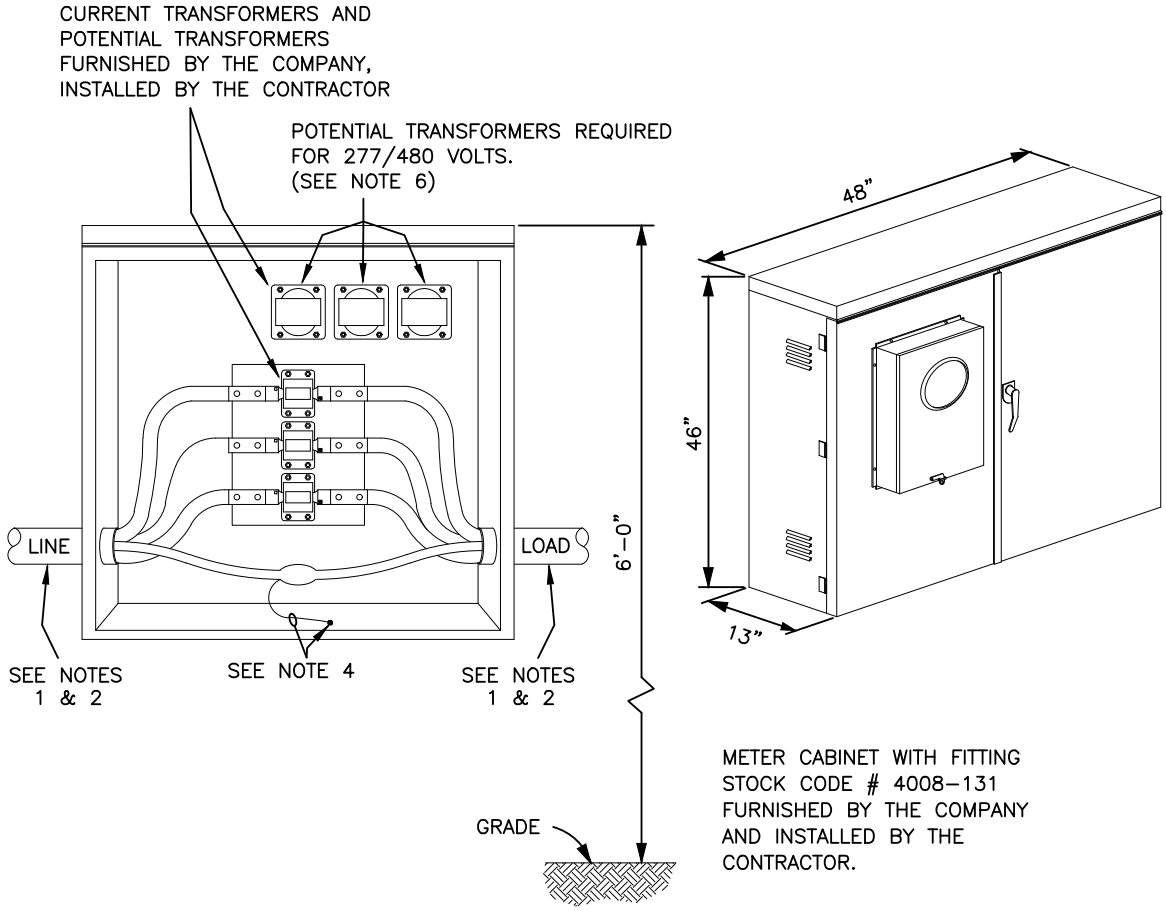
NOTES:

1. LINE AND LOAD CONDUITS MAY BE REVERSED TO SUIT CONDITIONS.
2. CONDUITS SHALL NOT ENTER BACK OF METER CABINET. USE KNOCKOUT IN BOTTOM OF METER CABINET ADJACENT TO SIDES.
3. 1-4" LINE CONDUIT REQUIRED FOR SERVICES FROM 250 A TO 400 A.
   2-4" LINE CONDUITS REQUIRED FOR SERVICES FROM 450 A TO 800 A.
   3-4" LINE CONDUITS REQUIRED FOR SERVICES FROM 900 A TO 1200 A.
   ▶ 4-4" LINE CONDUITS REQUIRED FOR SERVICES FROM 1250 A TO 1600 A.
4. BONDING LUG AND 18 INCHES OF INSULATED 2/0 AWG MINIMUM COPPER CONDUCTOR SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
5. METER CABINET SHALL BE TRUCK ACCESSIBLE. IF EXPOSED TO VEHICULAR TRAFFIC, CUSTOMER SHALL PROVIDE AND INSTALL PROTECTIVE POSTS, AS APPROVED BY THE COMPANY.
6. LINE CONDUITS SHALL HAVE A BUSHING FOR COMPANY CABLE, IF METALLIC CONDUIT, THE INSULATED GROUNDING BUSHING SHALL BE U.L. LISTED AND BOND WIRE INSULATED.
7. INSTALL POTENTIAL TRANSFORMERS WITH PRIMARY ON BOTTOM (H1,H2) AND SECONDARY ON TOP (X1, X2).

OUTDOOR METERING, UNDERGROUND INSTALLATION 277/480 VOLT 3 PHASE, 4 WIRE 250 A TO 1600 A SERVICE

▶ = REVISION MARK
REV 12-9-25

GB3-085



NOTES:

1. LINE AND LOAD CONDUITS MAY BE REVERSED TO SUIT CONDITIONS.
2. CONDUITS SHALL NOT ENTER BACK OF METER CABINET. CONDUITS MAY BE INSTALLED ON THE SIDES BETWEEN THE VENTS. KNOCKOUTS IN BOTTOM OF METER CABINET ADJACENT TO SIDE MAY ALSO BE USED.
3. CONTRACTOR SHALL PERMANETLY IDENTIFY HIGH PHASE FOR FOUR WIRE DELTA SERVICE IN ACCORDANCE WITH SECTION 560I, HIGH PHASE SHALL BE CONNECTED TO BOTTOM CURRENT TRANSFORMER.
4. BONDING LUG AND 18 INCHES OF INSULATED 2/0 AWG MINIMUM COPPER CONDUCTOR SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
5. CUSTOMER SHALL FURNISH AND INSTALL PROTECTIVE POSTS, AS APPROVED BY THE COMPANY, WHERE SUBJECT TO DAMAGE.
6. INSTALL POTENTIAL TRANSFORMERS WITH PRIMARY ON BOTTOM (H1,H2) AND SECONDARY ON TOP (X1, X2).

INDOOR METERING
120/208 OR 120/240 VOLT, 3 PHASE, 4 WIRE
277/480 VOLT, 3 PHASE, 4 WIRE
250 A TO 1600 A SERVICE

▶ = REVISION MARK
REV 12-9-25

GB3-100

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Minimum clearances for triplex & duplex service conductors[1]

Surface crossed by service drop	Required clearance for 150V phase to ground and below	Required clearance for over 150V to 300v phase to ground
Subject to pedestrians or restricted traffic only. Includes lawn areas, decks, platforms, sidewalks, and similar areas.	12 Feet[2]	12 Feet[3]
Residential driveways and residential parking areas not subject to vehicles that are 8 feet or more in height.	12 feet	12.5 Feet
Roads, streets, alleys, and other areas subject to truck traffic[8], commercial driveways, parking lots. Other areas traversed by vehicles, such as cultivated, grazing, forest, and orchard lands, industrial sites, commercial sites, etc.	16 feet	16 Feet
Swimming pools, decks around pools, railroad tracks, and services larger than 400 amperes or greater than 300V phase to ground.	See Note 6	See Note 6

Notes:

1. All clearances are based on the requirements for standard triplex and quadraplex cables and meet or exceed the National Electrical Safety Code. Termination heights may need to be increased to account for the sag of the service drop.
2. This clearance may be reduced to 10 feet for service drops to residential buildings only. Termination heights may need to be increased to account for the sag of the service drop.
3. This clearance may be reduced to 10.5 feet for service drops to residential buildings only.
4. Where communications conductors (Telephone, Cable TV, etc.) are located, mid-span clearance of 18" shall be maintained to the service drop conductors.
5. Only power service-drop conductors shall be permitted to be attached to a service mast. See the Indiana Electrical Code, Section 230.28.
6. Crossing this area requires the assistance of a project designer. See the Customer Projects Engineering District Map, GB0-100 for the name and contact information.
7. See Sections 115, 120, 125, and 565 for additional information.
8. Truck traffic is based on any vehicle over 8 feet in height.

Overhead service drop clearance up to 400 amperes

REV 12/16/25

GB4-005

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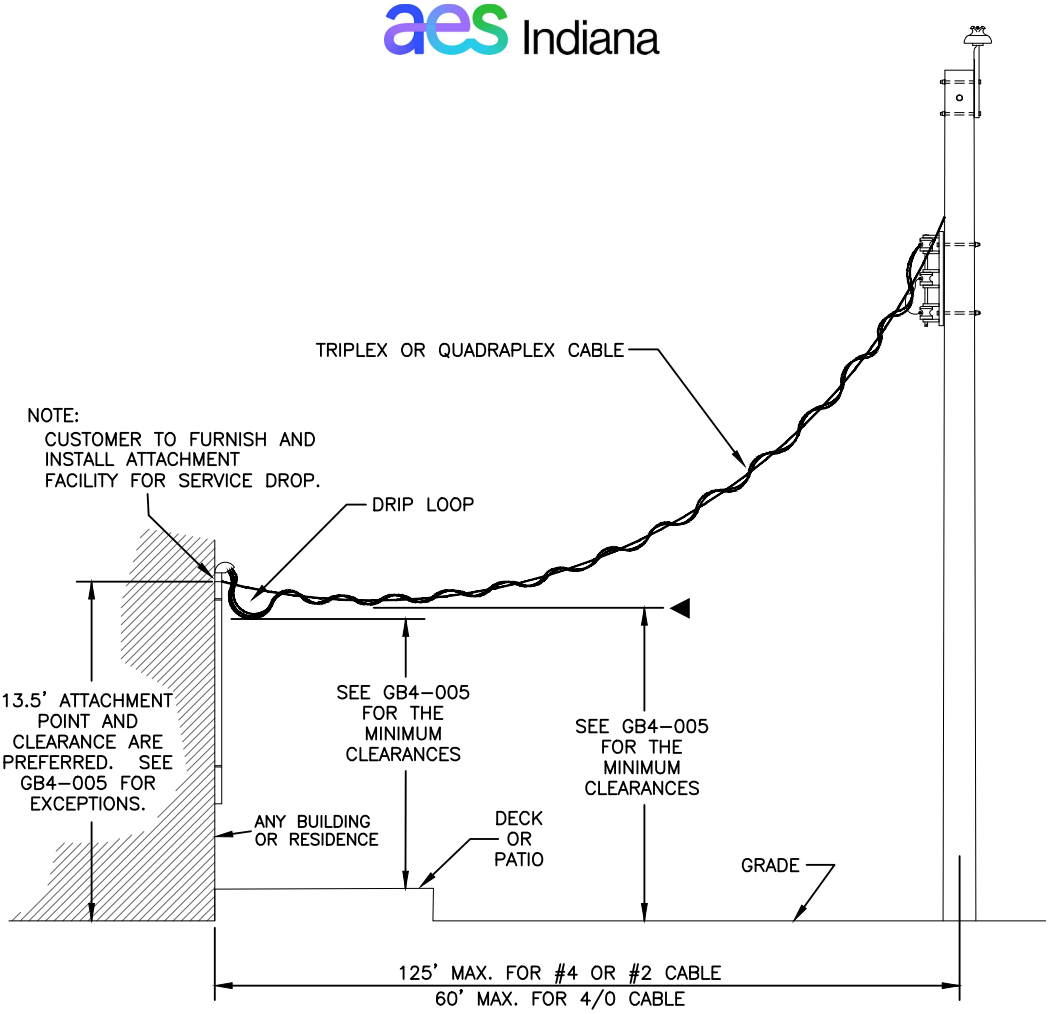
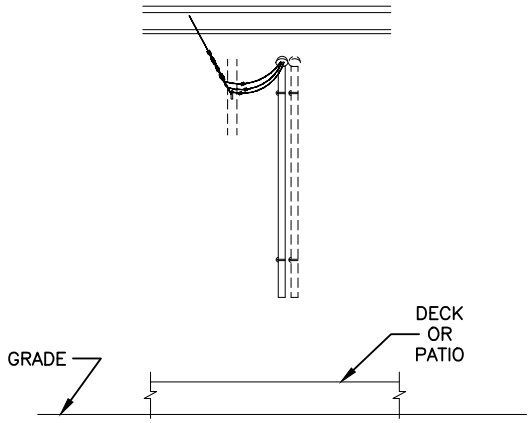


SIDE VIEW



FRONT VIEW

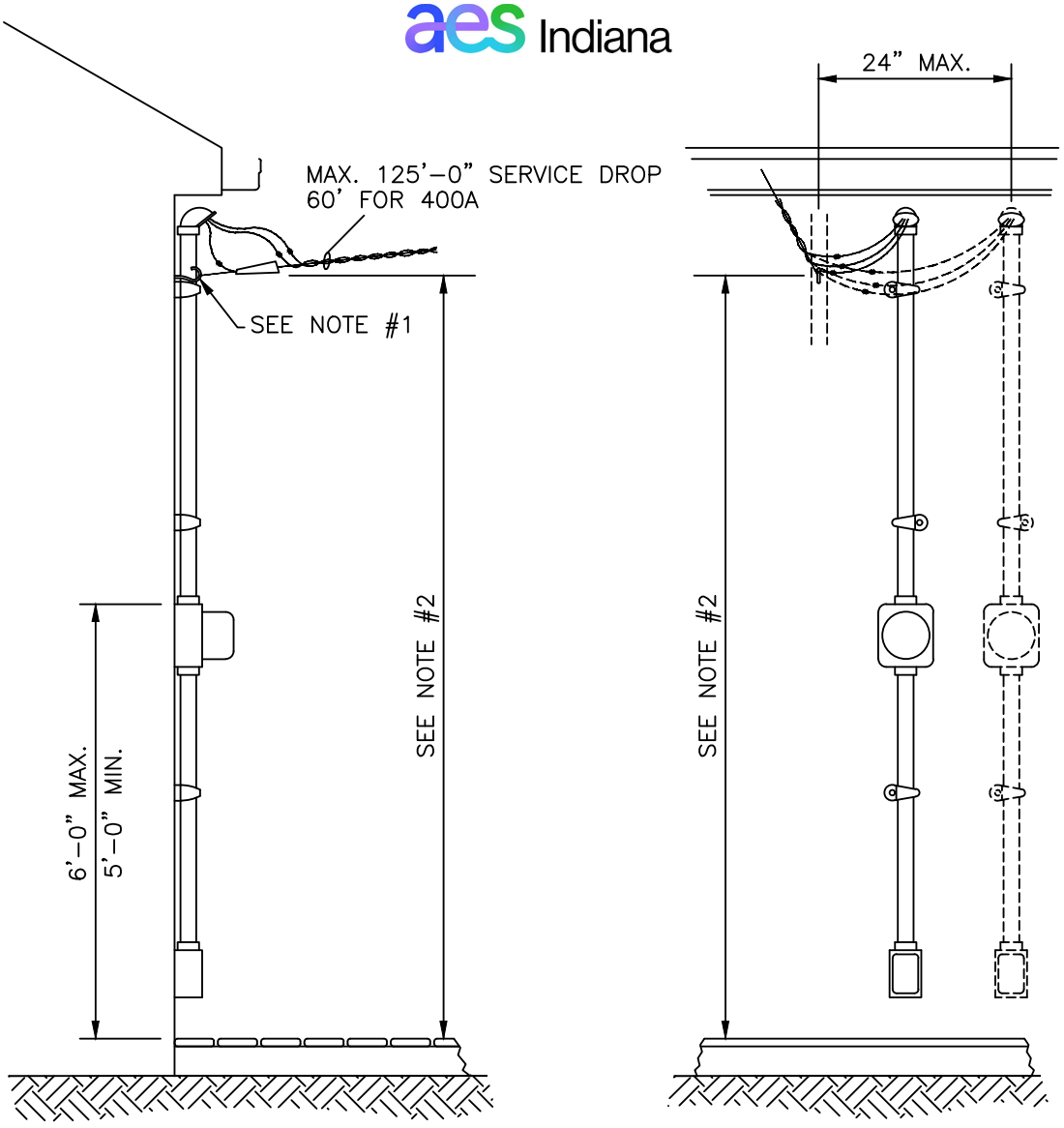
NOTES:

1. WHERE MORE THAN ONE SERVICE RISER IS INSTALLED, THE SERVICE HEADS SHALL BE NO FURTHER FROM THE SERVICE DROP THAN 24 INCHES WITH SUFFICIENT SERVICE ENTRANCE CONDUCTORS TO REACH THE SERVICE DROP.

QUADRAPLEX OR TRIPLEX SERVICE

▶ = REVISION MARK
REV 12-9-25

GB4-007



SIDE VIEW **FRONT VIEW**

NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL A MINIMUM SIZE 3/8" GALVANIZED LAG SCREW EYE OR EYE BOLT FOR ATTACHMENT OF SERVICE DROP FOR LESS THAN 400 AMPERE SERVICES. FOR 400 AMPERE SERVICES, INSTALL A MINIMUM SIZE 5/8" GALVANIZED LAG SCREW EYE OR EYE BOLT FOR ATTACHMENT OF SERVICE DROP.

▶ 2. 10'–0" MINIMUM ABOVE DECK, PATIO, GRADE, OR OTHER AREAS OF PEDESTRIAN TRAFFIC TO THE ATTACHMENT POINT. TERMINATION HEIGHTS MAY NEED TO BE INCREASED TO ACCOUNT FOR THE SAG OF THE SERVICE DROP. (SEE ALSO GB4–007)

3. THE SERVICE DROP SHALL NOT MAKE A SMALLER ANGLE THAN 30° WITH THE SIDE OF THE BUILDING.

4. FOR VERTICAL CLEARANCES, SEE DRAWING GB4–005.

5. WHERE MORE THAN ONE SERVICE RISER IS INSTALLED, THE SERVICE HEADS SHALL BE NO FURTHER FROM THE SERVICE DROP THAN 24 INCHES WITH SUFFICIENT SERVICE ENTRANCE CONDUCTORS TO REACH THE SERVICE DROP.

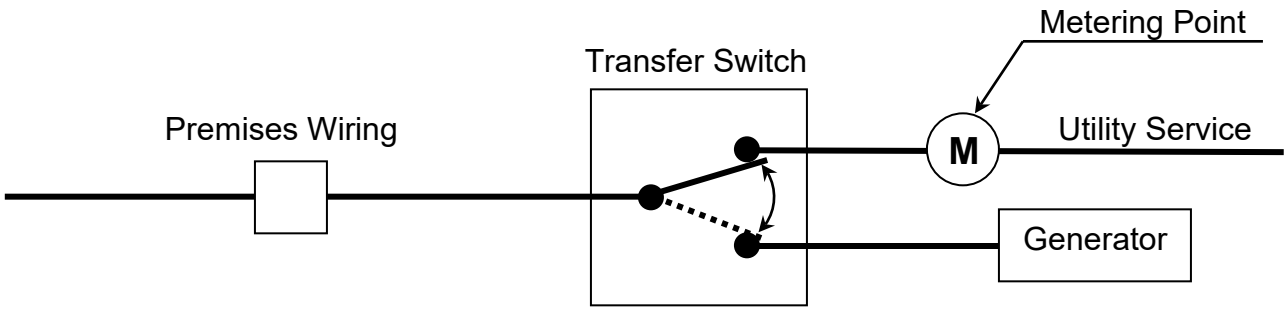
SERVICE
CONNECTION BELOW ROOF
400 A MAXIMUM SERVICE

▶ = REVISION MARK
REV 12–9–25

GB4-010

All systems that have a generator connection shall have a transfer switch to positively eliminate feedback into the source system. The switch shall not allow both sources to be connected together. However, Section 175B may be used for Auxiliary Power Installations for Interconnected Operation if the proper approval and agreements are obtained. This requirement is in accordance with the Indiana Electrical Code, Sections 700.6, 701.7, and 702.6.

See the Electric Service and Meter Manual Section 175



Single Line Diagram
(This is for a typical installation)

▶ Notes:

1. Metered and unmetered conductors shall not be installed in the same meter fitting, raceway, junction box, or switch. Exception are the load conductors that originate in the meter fitting.

2. A sign shall be placed at the service-entrance equipment indicating the type and location of on-site standby power sources. Indiana Electrical Code, Sections 700.8, 701.9, and 702.8.

TRANSFER SWITCH REQUIRED FOR BACKUP GENERATION

REV 12-9-25

GB7-115