

Service Requirements

General

Contact Idaho Power before beginning work on any new service.

Exception: If the service meets the design limitations described in the *Underground Residential Conduit Installation Requirements* pamphlet and the customer will be installing the trench and conduit, Idaho Power does not need to be notified until the service is ready for the cable and meter to be installed.

All meter installations must meet current electrical code requirements and display the proper electrical permit.

To help prevent damage, always call **Dig-Line** for locations at least **2 business days** before digging, excavating, or driving a ground rod.

Dial **811** (Nationwide)

Be sure to connect to the proper equipment.

Refer to the *Definitions* document or contact Idaho Power for clarification.

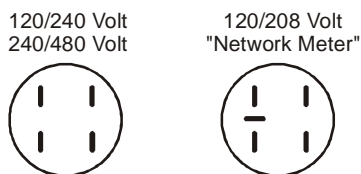
Burial Depth

Cable for electrical service cable must be buried at least 30". Contact Idaho Power if this depth cannot be achieved.

Service Voltages

Single Phase (1-Ø) 120/240 volts
240/480 volts
120/208 volts ("network")

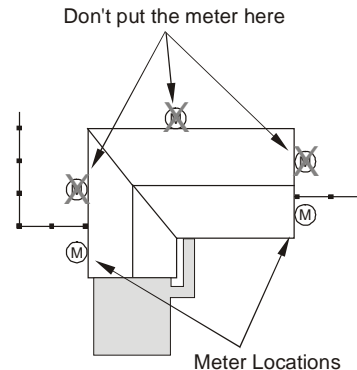
NOTE. Use the correct meter base for 1-Ø, 120/208 volt "Network" applications.



1-Ø Self-contained Meter Lug Arrangements

Meter Location

The meter and any associated equipment must be located so that the installation and any future maintenance can be performed without undue inconvenience to the customer or Idaho Power. Locate residential as shown below.



The meter must be located in a reasonably protected area so that the risk of inadvertent damage is minimized.

Placing the meter in front of the fence keeps Idaho Power out of the back yard.

The meter base, conduit, and any CT enclosure must be adequately supported on the outside of an exterior structure wall so that it will be readily accessible to Idaho Power. **Do not cover or enclose the meter.**

Recessed meter bases must be approved in advance. Contact Idaho Power for requirements.

Meter Height

Permanent meters must be mounted between 4'-0" and 6'-0" (center of meter socket) above the finished grade or other accessible surface such as a deck or stairs, except as noted below:

- ◆ Multiple meter bases must be installed so that the highest meter is no more than 6'-6".
- ◆ Meters installed on pedestals may be as low as 3'-0" above the finished grade.
- ◆ In areas with heavy snowfall, the minimum height for a meter is 5'-0".

Meter Base Requirements

Refer to the *Meter Base Identification* document on the Idaho Power website.

Multiple Meters

The NEC generally requires a building or structure to be supplied by only one service (meter). Multiple meters of the same Rate Class are not allowed on a single structure at a single address. This requirement does not apply to multi-tenant structures such as duplexes, apartments complexes or strip malls.

Each meter base or service disconnect that is part of an installation with more than one meter is required to be plainly marked with numbers and/or letters that correspond to the address, suite, office, or room it serves. Marking shall be a permanent nameplate or placard (hand-written address information is not acceptable).

Meter Rooms for Multiple Meters

Multiple meter installations may be located in a meter room provided that all of the following criteria are met:

1. A plan for the meter room must be submitted to Idaho Power for approval before any wiring is done.
2. The meter room must be accessible to Idaho Power through an exterior metal door with a lock box. The door must be permanently labeled with the words "Electrical Room".
3. The meter room may only be used for electrical equipment and communication equipment that does not interfere with the electrical equipment. No storage of any kind will be allowed.
4. Lighting, drainage and health issues are the responsibility of the customer.

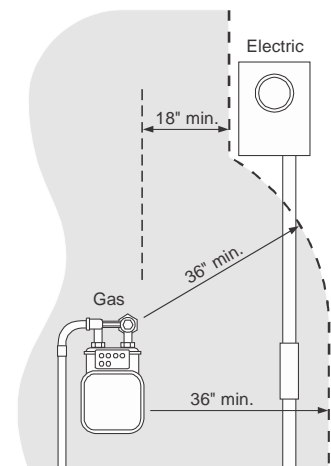
Sealing for Moisture and Gas on Underground Services

Each meter base that is connected to an underground service where the service cables are installed in conduit must have all opening(s) between the meter base and the interior of a building permanently sealed to prevent any liquids or vapors from passing into the building. See NEC 230.8, *Raceway Seal*.

Clearances

Separation between Electric and Gas. A gas meter must have a minimum horizontal separation of 36" from any electric meter, enclosure or equipment. Electrical conduit is not considered electrical equipment.

For **residential applications**, this clearance can be reduced to 36" measured in any direction, except that the horizontal separation must not be less than 18". Keep all electric equipment out of the shaded area as shown.



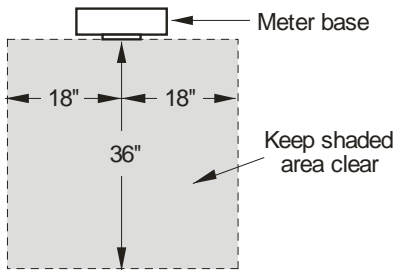
Clearance for Residential

Propane Tanks. Any regulator, pressure relief valve, or fill connection associated with a propane tank or its delivery system must be at least 10' away from any source of ignition, which includes the electric meter, air conditioning unit, etc. Keep the service cable and conduit at least 3' away from the tank.

NOTE. Propane tanks used for dispensing must be at least 20' from any source of ignition.

Requirements for Single-Phase (1-Ø) Underground Electric Service

Working Space. Keep the 36" × 36" area directly in front of the meter base clear of any equipment, landscaping or other obstacles that could interfere with access to the meter.



Caution: Portable Generators

Do not connect a portable generator to a building's electrical wiring unless a transfer switch has been installed per NEC 702. The transfer switch prevents the generator from feeding back into the Idaho Power electrical system, exposing workers to unforeseeable hazards. The generator can also be damaged if the electrical system becomes energized while the generator is operating.

Who Provides the Connectors?

Generally, the owner of the enclosure or equipment will provide the electrical connectors (lugs or terminals) within that piece of equipment necessary to connect the electrical cables, regardless of who owns the cables. The number, size, and type of cables must be known so that the proper lugs or terminals can be provided.

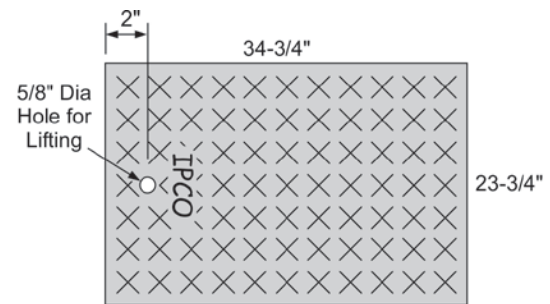
For example, Idaho Power will connect its service cable to the customer's equipment, such as a meter base or CT enclosure, using the customer-provided connectors.

Handholes in Driveways

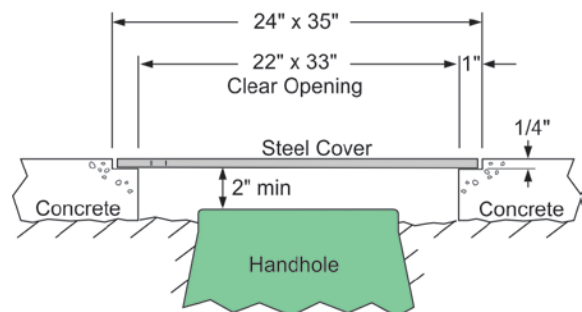
Standard-duty plastic handholes cannot be driven over. Heavy-duty handholes can only be driven over if they are cast into a concrete driveway or a concrete area not less than 18" larger in all directions than the handhole.

A customer has three options when a driveway or other driving surface conflicts with the location of an existing handhole.

1. The customer can move the driveway away from the handhole, thus avoiding the conflict.
2. The customer can pay Idaho Power to install a suitable handhole or vault that is rated for the expected usage.
3. The customer can frame a 24" × 35" opening in a concrete driveway that will accommodate a steel protective cover. The customer or Idaho Power (at customer expense) can provide this cover.
 - ◆ The cover must be made with 1/4" galvanized diamond plate steel, have a 5/8" hole for lifting, and be permanently marked with "IPCO".
 - ◆ The opening in the concrete must have a 1/4" × 1" shelf on all four sides to support the cover, which must be flush with the driveway surface.
 - ◆ There must be at least 2" between the steel cover and the top of the handhole.



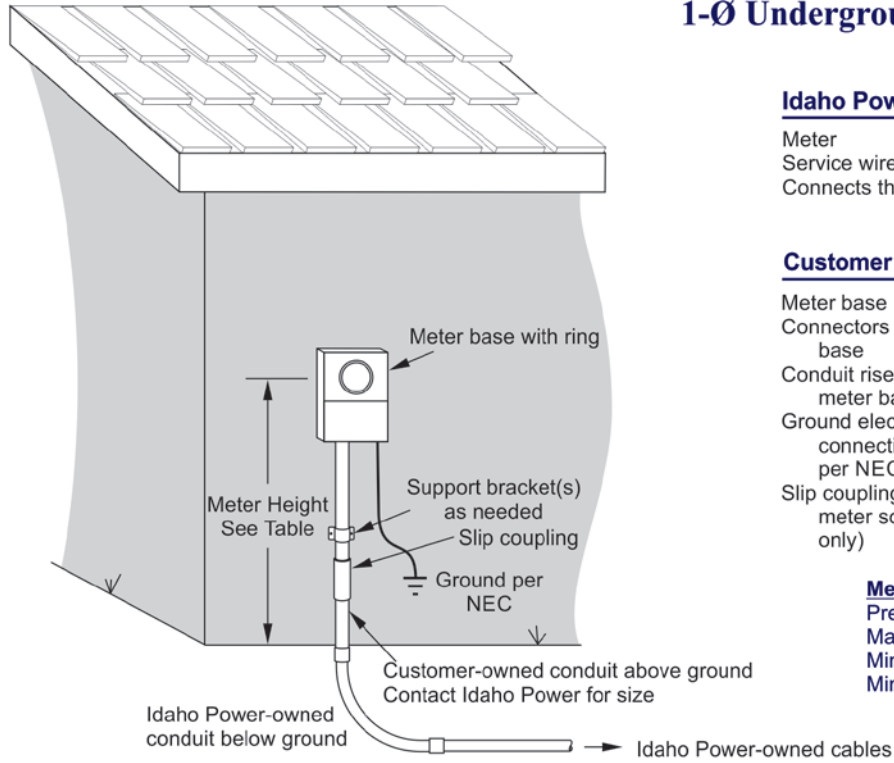
34-3/4" x 23-3/4" x 1/4" Steel Cover
(Idaho Power Cat. ID 46903)



Requirements for 1-Ø Underground Service

Requirements for Single-Phase (1-Ø) Underground Electric Service

1-Ø Underground Service to a Building



Idaho Power Provides

Meter
Service wires and conduit
Connects the service wires at the meter base

Customer Provides

Meter base
Connectors for the service wires at the meter base
Conduit riser from just below ground to the meter base
Ground electrode(s), ground wires, and connections to ground the meter base per NEC
Slip coupling (required for self-contained meter sockets on 1 or 2 family dwellings only)

Meter Height (to center of meter)

Preferred (all areas):	5'-6"
Maximum (all areas):	6'-0"
Minimum (most areas):	4'-0"
Minimum (heavy snow areas):	5'-0"

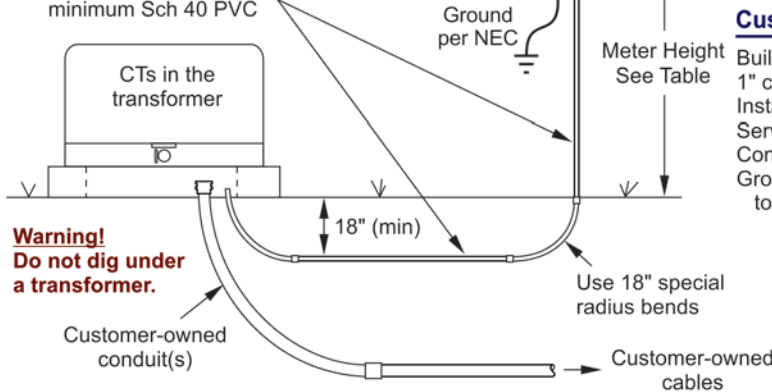
Requirements for Single-Phase (1-Ø) Underground Electric Service

Customer-owned 1-Ø Underground CT Service

Idaho Power-owned meter base may be installed by the customer and must be adequately supported on a building wall; or on a 3" galvanized pipe (RMC); or 1-5/8" x 1-5/8" 12-gauge, unistrut channel(s) set 2' deep in concrete.

Idaho Power-owned 1" conduit (30' max. length) provided and installed by the customer

- ◆ Above ground use EMT
- ◆ Below ground use EMT or minimum Sch 40 PVC



Idaho Power Provides

CT meter base, CTs and meter
CT metering wires and connections
Connectors for service cables at the transformer

Customer Provides

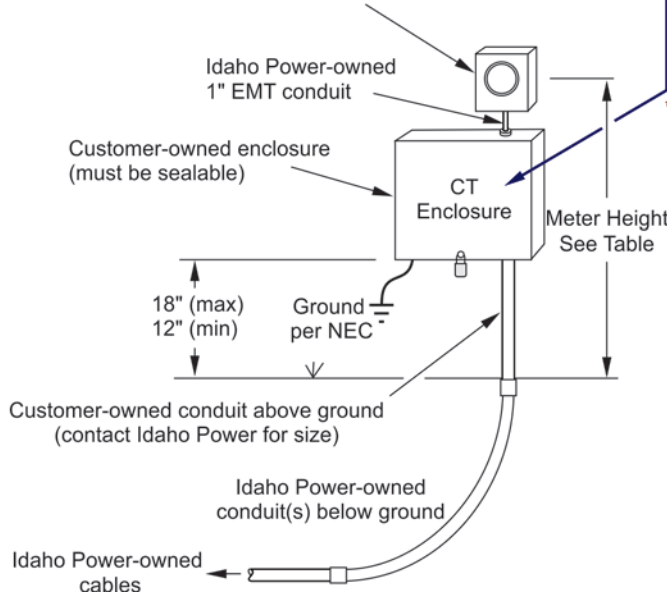
Building or structure to attach the CT meter base
1" conduit for CT wires
Installs the CT meter base and 1" conduit
Service cables and conduit(s)
Connects the service cables at the transformer
Ground electrode(s), ground wire and connections to ground the CT meter base per NEC

Meter Height (to center of meter)

Preferred (all areas):	5'-6"
Maximum (all areas):	6'-0"
Minimum (most areas):	4'-0"
Minimum (heavy snow areas):	5'-0"

Idaho Power-owned 1-Ø Underground CT Service

Idaho Power-owned meter base must be adequately supported on a building wall or suitable structure
Can be located to the side of the CT enclosure



Service Entrance Ampacity	Enclosure Dimensions (W x H x D)*	Maximum Runs of Cable
Up to 400 amps	24" x 24" x 11"	1
Up to 800 amps	36" x 48" x 11"	2
Up to 1200 amps	36" x 48" x 14"	4
Over 1200 amps	Contact Idaho Power	

*Enclosures larger than 36" x 36" require a hinged cover.
(Will be enforced beginning 7/1/2017)

Idaho Power Provides

CT meter base, CTs and meter
CT metering wires and connections
Service cables and conduits
Connects the service cables at the CT enclosure

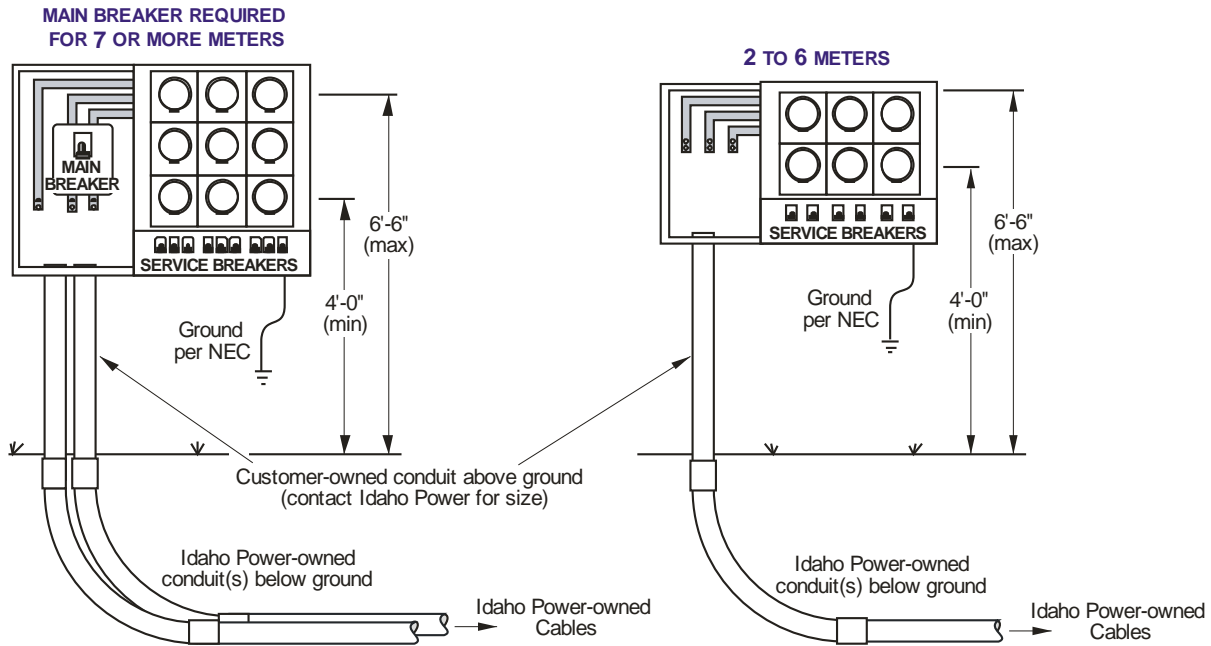
Customer Provides

Building or structure to attach the CT enclosures and CT meter base
CT enclosure (must meet IPCo specifications)
1" EMT conduit between CT enclosure and meter base
Installation of the CT meter base and 1" EMT conduit
Connectors for service cables at the CT enclosure
Conduit riser(s) from CT enclosure to ground line
Ground electrode(s), ground wires and connections to ground the meter base per NEC

NOTE. There is an additional charge for CT metering when the customer's main breaker or panel size is 400 amps or less.

Requirements for Single-Phase (1-Ø) Underground Electric Service

Idaho Power-owned 1-Ø Underground Service to Multiple Meters



Idaho Power Provides

Meters
Service cables and conduit(s) below ground line
Connects the service cables at the bus or main breaker

Customer Provides

Meter base and main breaker (if needed)
IMPORTANT NOTE: The connection point for Idaho Power's service cables must be on terminals that extend away from the main breaker
Connectors for the service wires at the bus or main breaker
Conduit from the meter base to ground line
Ground electrode(s), ground wires and connections to ground the meter base per NEC

Maximum Available Fault Current

Residential: For typical, single-family homes with a 200A, self-contained meter; the maximum available fault current for underground services will be:

- ◆ Below 10,000 amps for services from a handhole or longer than 50' from the serving transformer.
- ◆ Below 22,000 amps for services 50' and shorter from the serving transformer.

Contact Idaho Power to obtain more precise fault current information for 200A services, or for any other type of residential service. *Please have a service length and demand load available.*

Commercial, Industrial and Irrigation:

Contact Idaho Power to obtain the maximum available fault current.