# Specifications

## Conditions of Sale

STANDARD: The seller's standard conditions of sale set forth in Price Sheet 150 apply, except as modified under the "Warranty Qualifications" section on page 2 or when the five-year extended warranty catalog number option ("-W5") is ordered.

SPECIAL TO THIS PRODUCT:

**INCLUSIONS:** The Trans-Rupter II Transformer Protector is designed exclusively for primary-side applications on distribution substation transformers. It offers sophisticated protection capabilities at low cost, making it one of the most economical options available for reliable transformer protection. The Trans-Rupter II Transformer Protector is a resettable device featuring three-phase tripping of electrically linked pole-units.

The Trans-Rupter II Transformer Protector includes three $SF_6$ gas-filled pole-units, each with its own operating mechanism. Pole-units are factory-filled to full pressure, then permanently sealed. No additional gas handling is required for the life of the device, eliminating the risk of contaminating the interrupting medium. A temperature-compensated gas-pressure gauge is furnished on each pole-unit, providing local indication of gas density. Pole-units are fully assembled and tested at the factory.

Pole-units use lightweight, composite-polymer silicone insulation. The leakage distance is 100 inches (2540 mm) across the interrupter and 80 inches (2032 mm) line-to-ground for 69-kV models; 131 inches (3327 mm) across the interrupter and 156 inches (3962 mm) line-to-ground for 115-kV models; and 131 inches (3327 mm) across the interrupter and 177 inches (4496 mm) line-to-ground for 138-kV models. The Trans-Rupter II Transformer Protector features single-gap $SF_6$ gas puffer-type interrupters that interrupt the circuit in 3 cycles and maintain dielectric ratings when open.

Each operating mechanism is a spring-charged stored-energy device. It is sealed in $SF_6$ gas, providing excellent protection from the environment; no heaters are needed. Each mechanism includes indication of pole-unit state, i.e., **Closed and Charged or Open and Discharged** state. The pole-units are individually closed and charged using the easy-to-use manual charging tool provided. The tool is captured during the charging process, preventing the pole-units from being left partially open. (Optional motor operators are available.)

A source-side, three-pole group-operated disconnect switch is required in series with the Trans-Rupter II Transformer Protector to provide visible air-gap isolation when the interrupters have been tripped. The disconnect is also used to pick up transformer magnetizing inrush current after all three pole-units have been closed and charged.

An optional tool key interlock provides a helpful means for coordinating operation of the charging tool with the source-side series disconnect. The interlock renders the charging tool nonfunctional unless the disconnect is open. It does not, however, ensure three-phase charging of the pole-units. The requisite operating procedure must be incorporated into the user's standard operating practice.

Pole-units can be vertically mounted on a wide variety of user-furnished structures. Each Trans-Rupter II Transformer Protector includes bolts to attach pole-units to the mounting structure. Phase spacing and mounting height can be matched to virtually any transmission line and transformer arrangement. Alternately, Trans-Rupter II Transformer Protectors can be mounted on an S&C-furnished mounting pedestal(s), available in a variety of heights and phase spacings. Mounting pedestals include all necessary pole-unit wiring and conduits. Mounting pedestals can be selected from Table 4 on page 5.

## Model EX—With Tripping from User-Furnished Relays

Model EX is tripped by an external signal from a user-furnished differential, sudden-pressure, or overcurrent relay, and it requires a user-furnished 48-Vdc or 125-Vdc control-power source. The device is shipped wired for 125-Vdc operation but can be readily rewired in the field for 48-Vdc operation. Pole-units are field-wired to a low-voltage connection enclosure to which user-furnished relays and control power are connected. Terminal blocks are also provided for connection to the user's remote supervisory system for monitoring pole-unit state and optional low-gas-density alarms.

**EXCLUSIONS:** The Trans-Rupter II Transformer Protector does not include optional features, such as mounting pedestal(s), current transformers, motor operators, anchor bolts, or connectors. The customer-supplied series disconnect must be purchased separately.


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### Conditions of Sale—Continued

**NOTE ON CURRENT TRANSFORMERS:** S&C can furnish primary-side current transformers and provide assistance in the selection and installation of current transformers. Contact the nearest S&C Sales Office for more information.

**SPECIFICATION DEVIATIONS:** When a Trans-Rupter II Transformer Protector is to be provided with connectors other than those shown in Table 6 on page 6 (including all expansion, compression, and multi-conductor types), refer to the nearest S&C Sales Office.

**USUAL OPERATING CONDITIONS:** The Trans-Rupter II Transformer Protector will perform as intended at temperatures within the range of –58°F (–50°C) to + 104°F (+40°C), at altitudes of up to 3300 feet (1000 meters)●, and at wind loadings of up to 100 miles per hour (160 kilometers per hour). When installed on an S&C mounting pedestal(s) using the appropriate S&C anchor bolts (see Table 5 on page 6) or on a user-furnished mounting structure in accordance with the appropriate data bulletin and with flexible-conductor connections at all six terminal pads. The Trans-Rupter II Transformer Protector is capable of withstanding seismic loading of 0.25-g ground acceleration in any direction, as well as performing as intended during such loading and afterward. For applications at temperatures not within the specified range, at higher altitudes, at higher wind loading, or where higher seismic withstand capabilities are required, refer to the nearest S&C Sales Office.

**WARRANTY QUALIFICATIONS:** Warranty of Trans-Rupter II Transformer Protectors is contingent upon installation of the transformer protector in accordance with S&C's applicable instruction sheets and information bulletins.

## How to Order a Complete Trans-Rupter II Transformer Protector

Below are the steps to take when putting together a typical Trans-Rupter II Transformer Protector catalog number. Included with the steps are fill-in boxes to help keep track of the various components of the final catalog number.

**STEP 1.** Obtain the catalog number of the desired Trans-Rupter II Transformer Protector from Table 1 on page 3.

*Catalog Number:* ☐☐☐☐☐☐

**STEP 2.** If optional features are desired, obtain the suffix letter(s) of the desired feature(s) from Table 2 on page 4. Add the suffix letter(s) to the Trans-Rupter II Transformer Protector catalog number.

*Suffix(es) letter:* –☐☐☐

**STEP 3.** If extra sections for the manual charging tool are desired, obtain the catalog number(s) of the sections from Table 3 on page 5.

*Catalog Number:* S X A –☐☐☐☐

**STEP 4.** If a mounting pedestal is desired, obtain the suffix of the mounting pedestal(s) from Table 4 on page 5. Add the appropriate suffix to the Trans-Rupter II Transformer Protector catalog number. From Table 5 on page 6, obtain the catalog number of the desired anchor bolts, taking care to note the number of anchor bolts required for the selected mounting pedestal(s).

*Suffix:* ☐☐☐☐

*and Catalog Number:* S ☐☐☐☐☐☐–☐

**STEP 5.** If connectors are desired, obtain the catalog number of the desired connector from Table 6 on page 6. Order six connectors per transformer protector.

*Catalog Number:* ☐☐☐☐☐☐

**Example**: The catalog number for a 69-kV Model EX (this model is tripped by an external signal from user-furnished relays) Trans-Rupter II Transformer Protector, with a 48-Vdc motor voltage, installed on a single-column 96-inch (2438-mm) height mounting pedestal with 48-inch (1219-mm) phase spacing is:

3 2 9 1 1 6 – A – E 8 4

If anchor bolts are needed, order catalog number S-81365-1 (quantity=4) with this mounting pedestal. If connectors are needed, order connector catalog number 4568R1-C (quantity=6) for standard bronze pad terminal, four-bolt, tin-plated connectors with 2 inch bolt length.

4 5 6 8 R 1 – C

## How to Order Spare or Replacement Parts

If spare or replacement parts are desired, obtain the catalog number of the desired part from Table 8 on page 7.

*Catalog Number:* S X A –☐☐☐☐–☐–☐–☐–☐

● The Trans-Rupter II Transformer Protector can be installed at altitudes greater than 3300 feet (1000 meters), but deratings to the BIL voltage will apply. Refer to the nearest S&C Sales Office for details.

**Table 1. Trans-Rupter II Transformer Protector—With Tripping from User-Furnished Relays**

| 50/60-Hz Ratings | | | | | | | | | Catalog Number | Page Reference for Dimensional Information |
|---|---|---|---|---|---|---|---|---|---|---|
| kV | | | Amperes, RMS | | | | | | | |
| Nom. | Max | BIL | Cont. | 4-Hour | Peak Withstand | 1-Sec. | Primary Side Fault Interrupting, Sym.① | Secondary Faults② | | |
| 69 | 72.5 | 350 | 420 | 630 | 81 900 | 31 500 | 31 500● | 4 200■ | 329116 | 8 |
| 115 | 123 | 550 | 420 | 630 | 81 900 | 31 500 | 31 500● | 2 600▲ | 329118 | 8 |
| 138 | 145 | 650 | 420 | 630 | 81 900 | 31 500 | 31 500● | 2 600▲ | 329119 | 8 |

① Rating is based on transient-recovery-voltage parameters defined in the following tables of IEC Standard 60056, Edition 4:0: 1987:

- For Trans-Rupter II Transformer Protector models rated 69 kV: Tables IIa, XVa, and XVIa.
- For Trans-Rupter II Transformer Protector models rated 115 kV and 138 kV: Tables IIc, XVc, XVIc, and XVII.

② The Trans-Rupter II Transformer Protector is suitable for transformer-primary applications where the inherent secondary-fault current—the secondary-side fault current as reflected on the primary side of the transformer, assuming an infinite (zero-impedance) source—does not exceed this value for a fault external to the transformer. The inherent secondary-fault current may be calculated as follows:

$$I = \frac{57.8P}{(\%Z)E}$$

where I = Inherent secondary-fault current, amperes

P = Transformer self-cooled three-phase rating, kVA

E = Primary-side system phase-to-phase voltage, kV

%Z = Percent transformer primary-to-secondary impedance, referred to transformer self-cooled three-phase kVA rating (example: enter 7% as 7.0)

$$57.8 = \frac{1}{1.73} \times 100 \text{ where } \sqrt{3} = 1.73$$

● At temperatures between –31°F (–35°C) and –58°F (–50°C) the primary-side fault-interrupting rating is 10,000 A. A 2-cycle time-delay relay is required to attain the 10,000 ampere primary-side fault-interrupting rating at temperatures between –31°F (–35°C) and –58°F (–50°C).

■ At temperatures between –31°F (–35°C) and –58°F (–50°C) the secondary-side fault-interrupting rating is 2000 A.

▲ At temperatures between –31°F (–35°C) and –58°F (–50°C) the secondary-side fault-interrupting rating is 950 A.

**Table 2. Optional Features**

| Item | | Suffix to be Added to Trans-Rupter II Catalog Number |
|---|---|---|
| Motor operators. Adds remote reset capability. Includes OPEN/CLOSE local pushbuttons① | 48 Vdc | -A |
| | 125 Vdc | -B |
| Pole-unit quick-connect control cable. Plug-style connector replaces butt-splice electrical connection at pole-unit electrical junction box and low-voltage enclosure② | | -C2 |
| Complete quick-connect control cable. Plug-style connectors replace terminal block connection between charging motors and low-voltage enclosure②③ | | -C3 |
| Bypass accessory. Single-pole, stick-operated, set of three 630 amperes continuous, 31,500 amperes momentary rating. Permits operational checkout of transformer protector and relaying equipment without opening high-voltage circuit④ | 69 kV | -F |
| | 115 kV | |
| Deletion of OPEN/CLOSE local pushbuttons③⑤ | | -J |
| Tool key interlock. For coordinating the Trans-Rupter II Transformer Protector charging tool with the user-furnished series disconnect. Prevents operation of the Trans-Rupter II Transformer Protector charging tool unless the series disconnect is open⑥⑦ | | -L |
| International crating. Wood products used in the packaging are either hardwood or certified by the wood supplier as being "heat treated" (kiln dried) to a core temperature of 133°F (56°C) for a minimum of 30 minutes | | -L71 |
| International pole-unit indicators. International symbols for "open" and "close" replace English language indicators⑧ | | -M |
| Canadian pole-unit indicators. Reverse red "open" and green "closed" indicator labels⑨ | | -N |
| LOCAL TRIP pushbutton. Addition of a pushbutton for **Local Trip** operation⑦⑩ | | -P |
| Remote gas-density indicator. Set of contacts to provide two-level alarm indication of low gas density | | -R |
| Extended warranty. Extends standard 2-year Trans-Rupter II Transformer Protector warranty to 5 years | | -W5 |
| LOCAL/REMOTE selector switch. Prevents remote operation of the Trans-Rupter II Transformer Protector when selector switch is placed in **Local** mode, as for example, during inspection③ | | -Y |

① Manual charging tool is furnished with option "-A" or "-B" in case control power is lost.

② Only available for a Trans-Rupter II Transformer Protector installed on S&C Mounting Pedestals.

③ Only available if option "-A" or "-B" is specified.

④ Not available for switches rated 138 kV.

⑤ Not available if option "-Y" is specified.

⑥ Matching key interlocks for disconnect must be provided by user.

⑦ Not available if option "-A" or "-B" is specified.

⑧ Not available if option "-N" is specified.

⑨ Not available if option "-M" is specified.

⑩ Not available if option "-J" is specified.

**Table 3. Extra Sections for Manual Charging Tool**

| Item | | Catalog Number |
|---|---|---|
| Removable extra sections to adjust the length of the charging tool for different mounting structure heights. Maximum length of extra sections: 96 inches (2438 mm)① | 24-inch (610 mm) section | SXA-3172 |
| | 48-inch (1219 mm) section | SXA-3171 |

① Extra sections are recommended for mounting structures higher than 96 inches. The standard tool is designed for 96-inch (2438-mm) high structures.

**Table 4. Mounting Pedestals①**

| Applicable to Trans-Rupter II Transformer Protectors Rated, kV | Phase Spacing, Inches (mm) | Height, Inches (mm) | Suffix to be Added to Trans-Rupter II Transformer Protector Catalog Number | Page Reference for Dimensional Information |
|---|---|---|---|---|
| 69 | 48 (1219) | 96 (2438) | -E84 | 10 and 14 |
| | | 120 (3048) | -E104● | |
| | | 144 (3658) | -E124■ | |
| 69 thru 138 | 84 (2134) | 96 (2438) | -E88 | 12 and 16 |
| | | 120 (3048) | -E108● | |
| | | 144 (3658) | -E128■ | |
| 115 and 138 | 102 (2591) | 96 (2438) | -E81 | 12 and 16 |
| | | 120 (3048) | -E101● | |
| | | 144 (3658) | -E121■ | |

① Single column for pedestals with 48-inch (1219-mm) phase spacing; set of two columns for pedestals with 84-inch (2134-mm) and 102-inch (2591-mm) phase spacing. All pedestals are of 8-inch (203-mm) square steel-tube construction, galvanized finish.

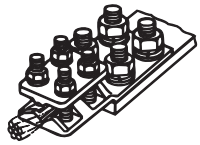
● Includes an extra 2-foot (610-mm) section for the manual charging tool.

■ Includes an extra 4-foot (1219-mm) section for the manual charging tool.

### Table 5. Anchor Bolts for Mounting Pedestals

| Applicable to Trans-Rupter II Transformer Protector Rated, kV | Phase Spacing, Inches (mm) | Anchor Bolt | | |
|---|---|---|---|---|
| | | Nominal Size, Inches (mm) | Quantity Required | Catalog Number |
| 69 | 48 (1219) | 1 × 33 (25 × 838) | 4 | S-81365-1 |
| | 84 (2134) | 1 × 33 (25 × 838) | 8 | S-81365-1 |
| 115 and 138 | 84 and 102 (2134 and 2591) | 1 × 33 (25 × 838) | 8 | S-81365-1 |

### Table 6. Connectors

| Illustration | Description | Accommodating Conductor | Catalog Number① |
|---|---|---|---|
|  | Standard bronze pad terminal. Four-bolt, tin-plated. Includes ½-inch galvanized steel hardware for attachment to terminal pads of Trans-Rupter II Transformer Protector | 2/0 stranded (89.0 mm²) through 800 kc mil (538.6 mm²) copper | 4568R1 |
| | | 4/0 stranded (141.3 mm²) through 1000 kc mil (672.5 mm²) copper | 4569R1 |
| | Standard aluminum-alloy pad terminal. Four-bolt. Includes ½-inch galvanized steel hardware for attachment to terminal pads of Trans-Rupter II Transformer Protector | 250 kc mil (167.5 mm²) through 400 kc mil (268.5 mm²) copper or aluminum | 5329 |
| | | 350 kc mil (235.0 mm²) through 600 kc mil (404.1 mm²) copper or aluminum | 5331 |
| | | 600 kc mil (404.1 mm²) through 900 kc mil (606.4 mm²) copper or aluminum | 5333 |
| | | 900 kc mil (606.4 mm²) through 1250 kc mil (841.9 mm²) copper or aluminum | 5334 |

① Add suffix letter to the catalog number to specify appropriate mounting bolt length:

"-A" for ½–13 × 1 inch

"-B" for ½–13 × 1½ inches

"-C" for ½–13 × 2 inches

### Table 7. Motor Operators

| Item | | | Catalog Number |
|---|---|---|---|
| Motor operators. Adds remote reset capability. Includes three motors, push buttons, mounting brackets, conduit, and mounting hardware① | | 48 Vdc | SXA-4030-1 |
| | | 125 Vdc | SXA-4030-2 |
| Replacement motor② | Without socket for quick-connect option | 48 Vdc | SXA-4020-1 |
| | | 125 Vdc | SXA-4020-2 |
| | With socket for quick-connect option③ | 48 Vdc | SXA-4020-1-C |
| | | 125 Vdc | SXA-4020-2-C |

① Refer to the nearest S&C Sales Office before adding motor operators to an installed Trans-Rupter II Transformer Protector with the "-C3" pole-unit quick-connector control cable option.

② Includes single-pole replacement motor.

③ Spare or replacement motors with quick-connect socket are only intended for use on Trans-Rupter II Transformer Protectors already equipped with pole-unit quick-connect catalog option "-C3."

**Table 8. Spare or Replacement Parts**

| Item | | | Catalog Number |
|---|---|---|---|
| Pole-unit | Without sensors for remote gas-density indicator | 69 kV | SXA-4737-A |
| | | 115 kV | SXA-4738-A |
| | | 138 kV | SXA-4739-A |
| | Without sensors for remote gas-density indicator. With socket for quick-connect option① | 69 kV | SXA-4737-A-C |
| | | 115 kV | SXA-4738-A-C |
| | | 138 kV | SXA-4739-A-C |
| | With sensors for remote gas-density indicator② | 69 kV | SXA-4737-1-A |
| | | 115 kV | SXA-4738-1-A |
| | | 138 kV | SXA-4739-1-A |
| | With sensors for remote gas-density indicator. With socket for quick-connect option①② | 69 kV | SXA-4737-1-A-C |
| | | 115 kV | SXA-4738-1-A-C |
| | | 138 kV | SXA-4739-1-A-C |
| Pole-unit with international indicators (option suffix "-M") | Without sensors for remote gas-density indicator | 69 kV | SXA-4737-A-M |
| | | 115 kV | SXA-4738-A-M |
| | | 138 kV | SXA-4739-A-M |
| | Without sensors for remote gas-density indicator. With socket for quick-connect option① | 69 kV | SXA-4737-A-C-M |
| | | 115 kV | SXA-4738-A-C-M |
| | | 138 kV | SXA-4739-A-C-M |
| | With sensors for remote gas-density indicator② | 69 kV | SXA-4737-1-A-M |
| | | 115 kV | SXA-4738-1-A-M |
| | | 138 kV | SXA-4739-1-A-M |
| | With sensors for remote gas-density indicator. With socket for quick-connect option①② | 69 kV | SXA-4737-1-A-C-M |
| | | 115 kV | SXA-4738-1-A-C-M |
| | | 138 kV | SXA-4739-1-A-C-M |
| Pole-unit with Canadian indicators (option suffix "-N") | Without sensors for remote gas-density indicator | 69 kV | SXA-4737-A-N |
| | | 115 kV | SXA-4738-A-N |
| | | 138 kV | SXA-4739-A-N |
| | Without sensors for remote gas-density indicator. With socket for quick-connect option① | 69 kV | SXA-4737-A-C-N |
| | | 115 kV | SXA-4738-A-C-N |
| | | 138 kV | SXA-4739-A-C-N |
| | With sensors for remote gas-density indicator② | 69 kV | SXA-4737-1-A-N |
| | | 115 kV | SXA-4738-1-A-N |
| | | 138 kV | SXA-4739-1-A-N |
| | With sensors for remote gas-density indicator. With socket for quick-connect option①② | 69 kV | SXA-4737-1-A-C-N |
| | | 115 kV | SXA-4738-1-A-C-N |
| | | 138 kV | SXA-4739-1-A-C-N |
| Charging tool | Without tool key interlock | | SXA-3161 |
| | With tool key interlock③ | | SXA-3158 |

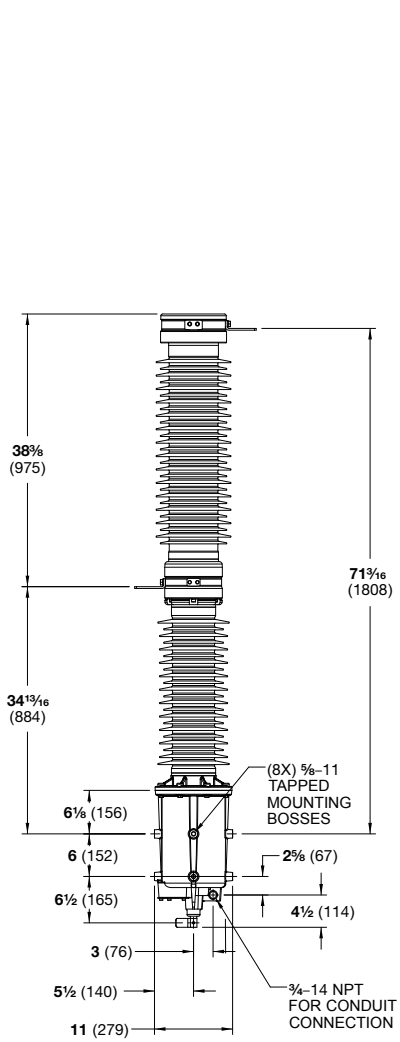
① Spare or replacement interrupters with quick-connect socket are only intended for use on Trans-Rupter II Transformer Protectors already equipped with quick-connect catalog option "-C2" or "-C3."

② Spare or replacement interrupters with sensors for the remote gas-density indicator are only intended for use on Trans-Rupter II Transformer Protectors already equipped with remote gas-density indicator catalog option "-R." They do not include a complete indicator. For a complete remote gas-density indicator, refer to the nearest S&C Sales Office.

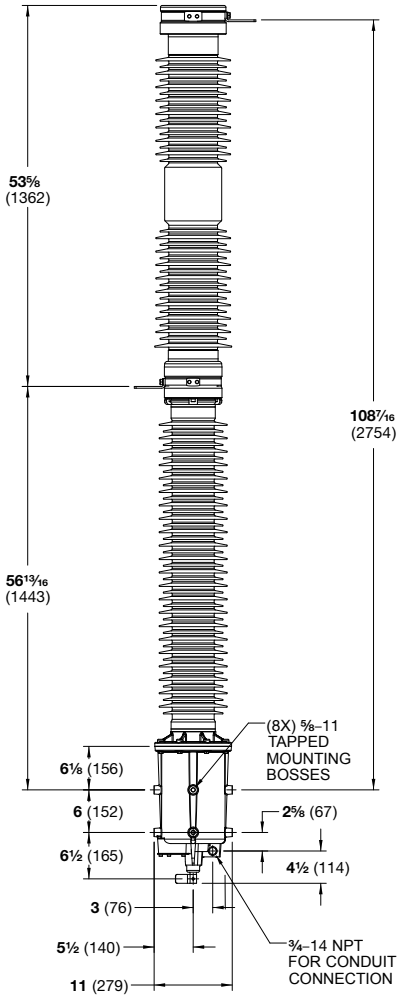
③ Only includes a key interlock for the charging tool. It does not include a key interlock for the series disconnect. For a complete set of key interlocks, refer to the nearest S&C Sales Office.

## Model EX for Cold Temperatures

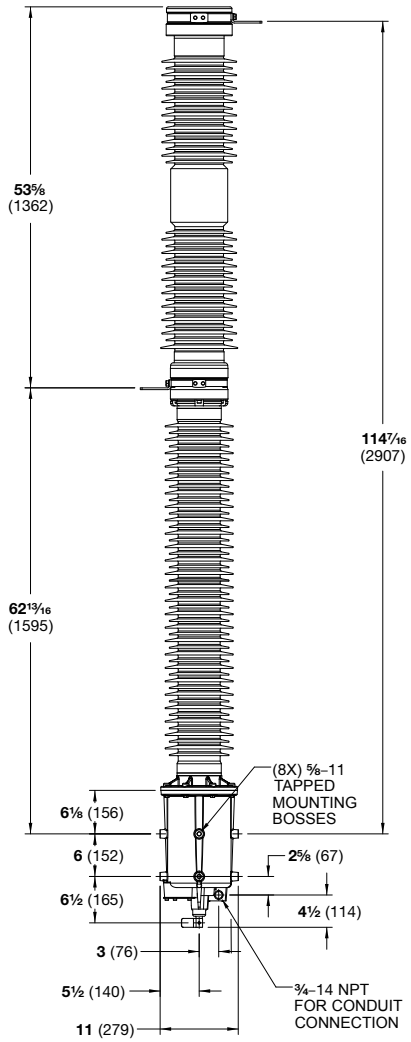
Dimensions in inches (mm)




**69-kV POLE-UNIT**

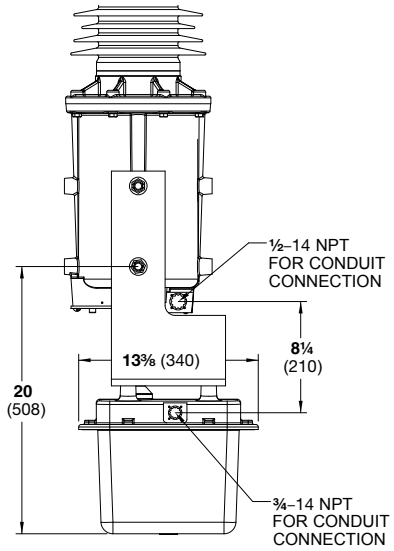



**115-kV POLE-UNIT**

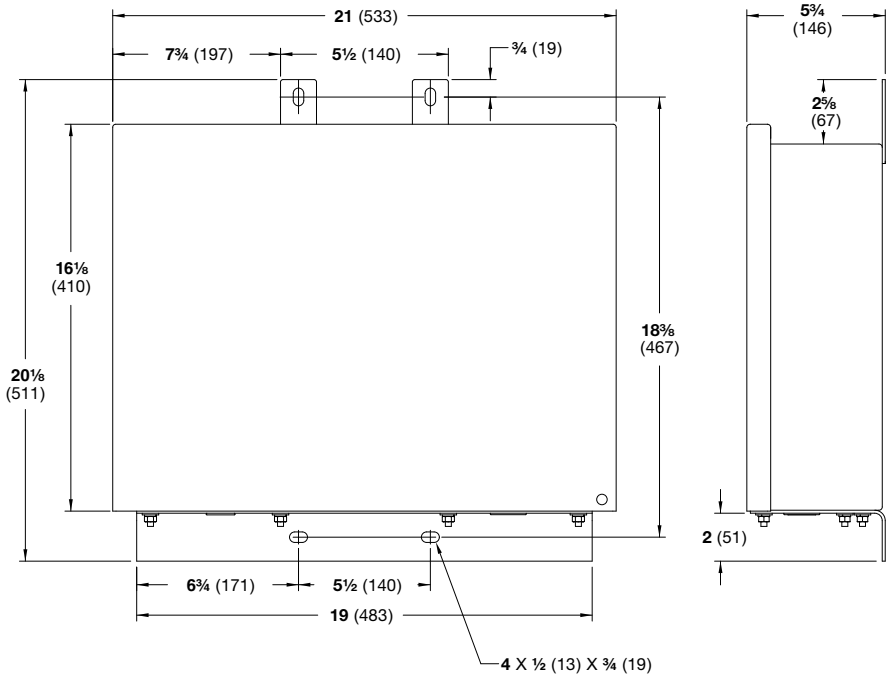



**138-kV POLE-UNIT**

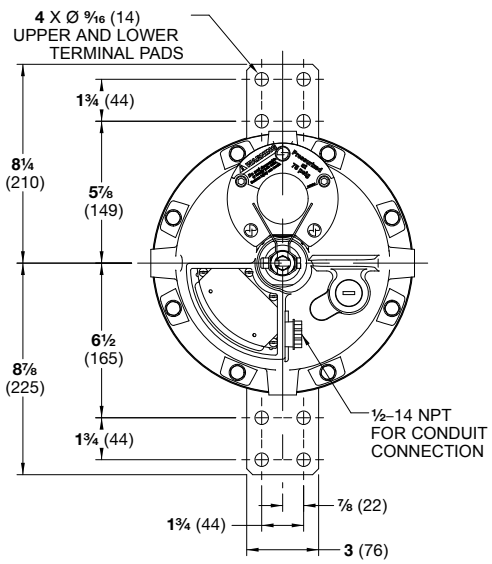
**MOTOR OPERATOR (OPTION "-A", "-B")**

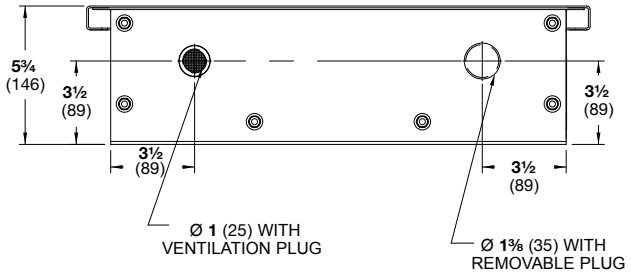



**LOW-VOLTAGE CONNECTION ENCLOSURE**

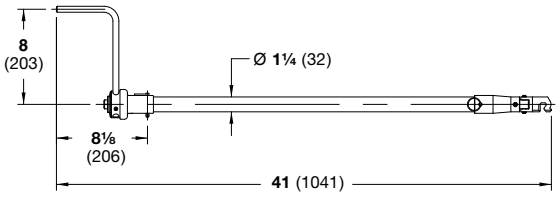



**UNDERSIDE OF POLE-UNIT BASE**




**MANUAL CHARGING TOOL**



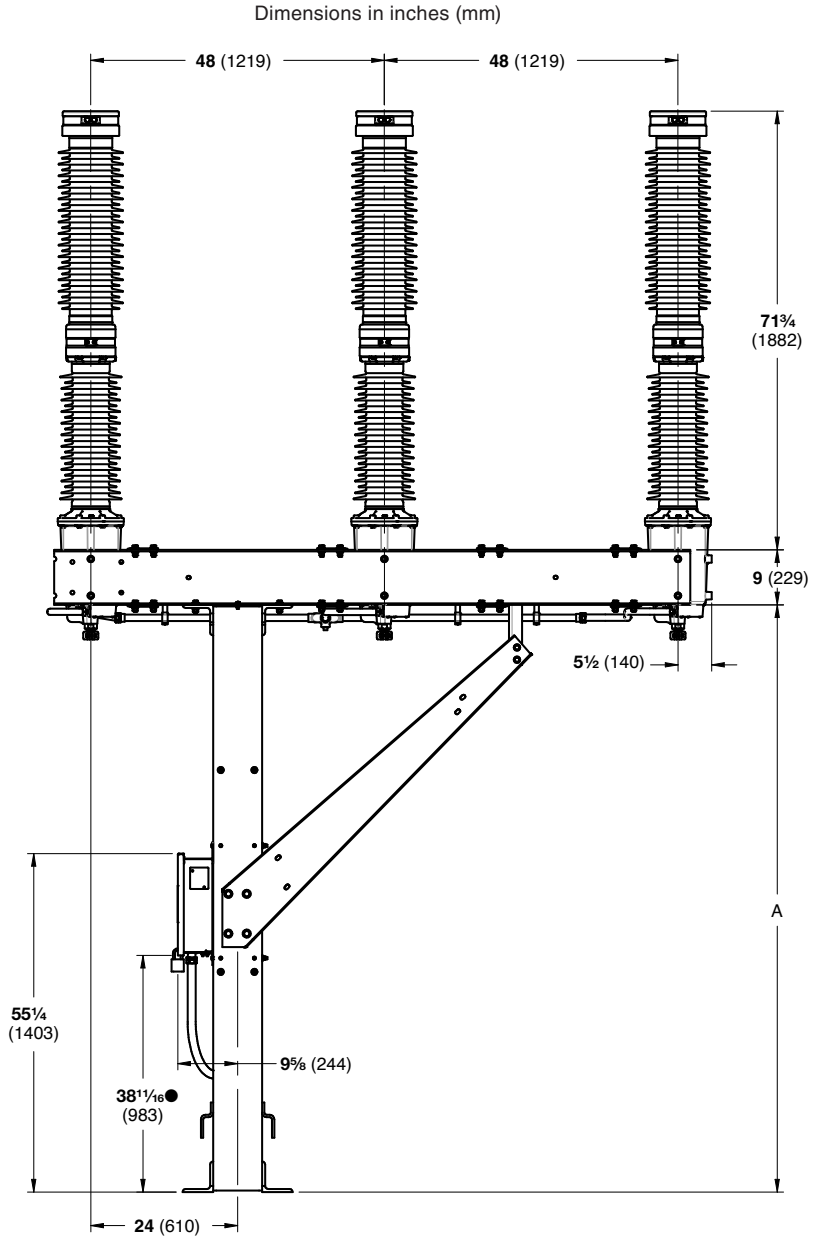

## Net Weight—Complete Trans-Rupter II Transformer Protector①

| Trans-Rupter II Catalog Number | Net Weight, Lbs. (kg) |
|---|---|
| 329116 | 598 (271) |
| 329118 | 738 (335) |
| 329119 | 742 (337) |

① The motor operator option adds approximately 105 lbs. (48 kg) to the net weight.

## Mounting Pedestal

69 kV, 48-inch (1219-mm) phase spacing

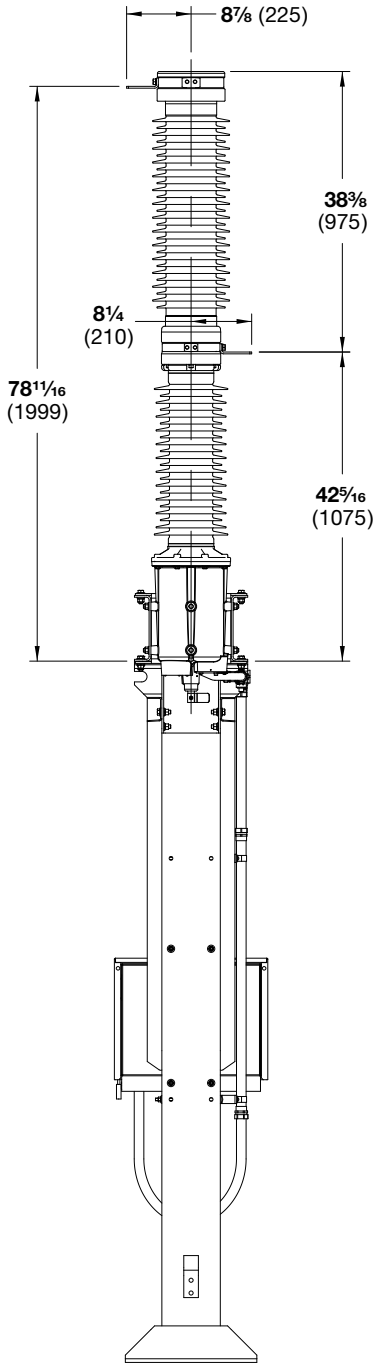



● Dimension from bottom of pedestal base to conduit entrance.

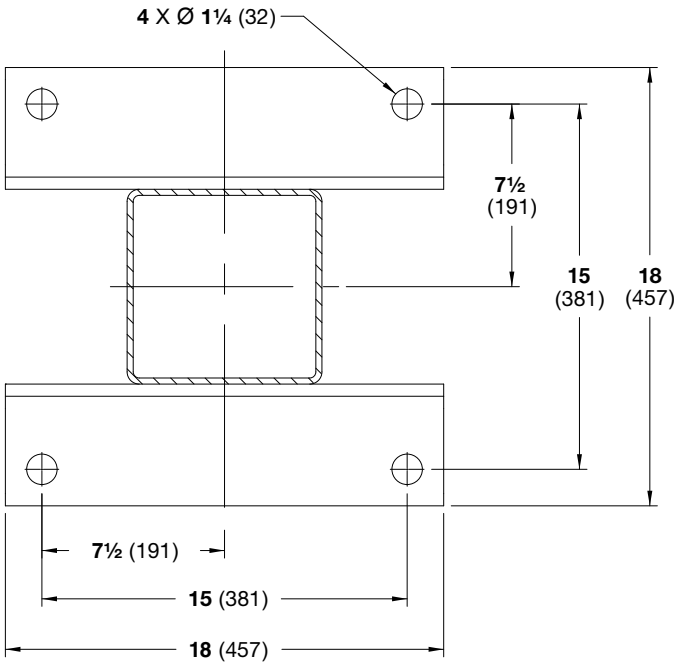
| Applicable to Trans-Rupter II Transformer Protector | | Suffix to be Added to Catalog Number | Dimensions in inches (mm) | Net Weight, Lbs. (kg)① |
|---|---|---|---|---|
| Rating, kV | Catalog Number | | A | |
| 69 | 329116 | -E84 | 96 (2438) | 1324 (601) |
| | | -E104 | 120 (3048) | 1338 (607) |
| | | -E124 | 144 (3658) | 1424 (646) |

① The net weight includes both the mounting pedestal and the complete Trans-Rupter II Transformer Protector.

Dimensions in inches (mm)



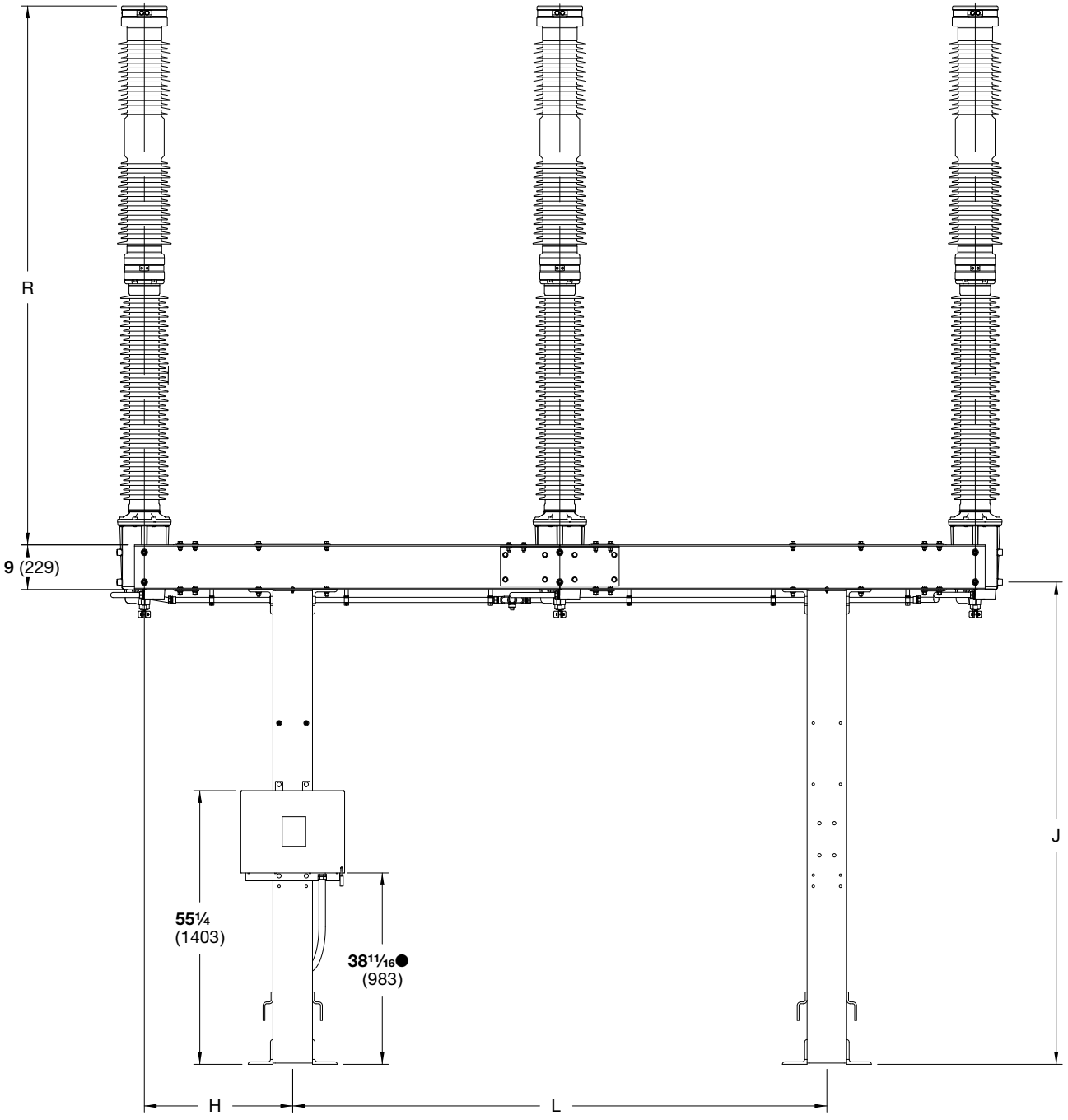

**Mounting Pedestal Base Detail**



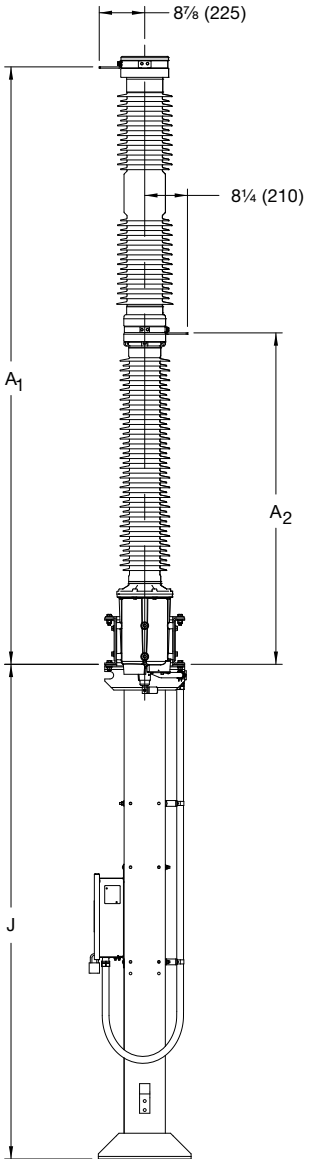
## Mounting Pedestals

69 kV, 84-inch (2134-mm) phase spacing; 115 kV and 138 kV

Dimensions in inches (mm)

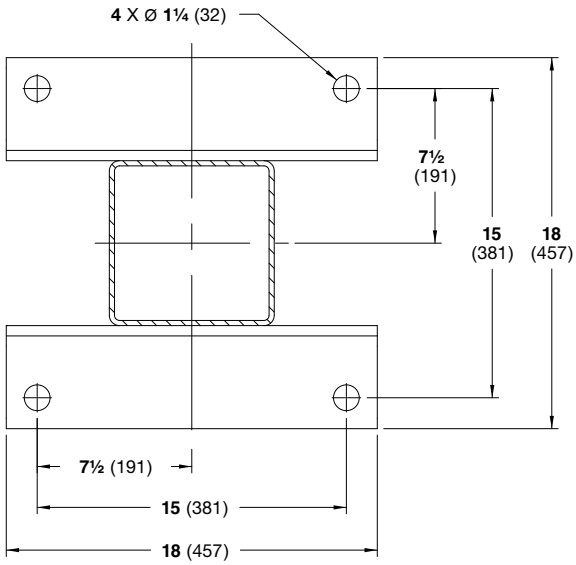



● Dimension from bottom of pedestal base to conduit entrance.




Dimensions in inches (mm)

**Mounting Pedestal Base Detail**

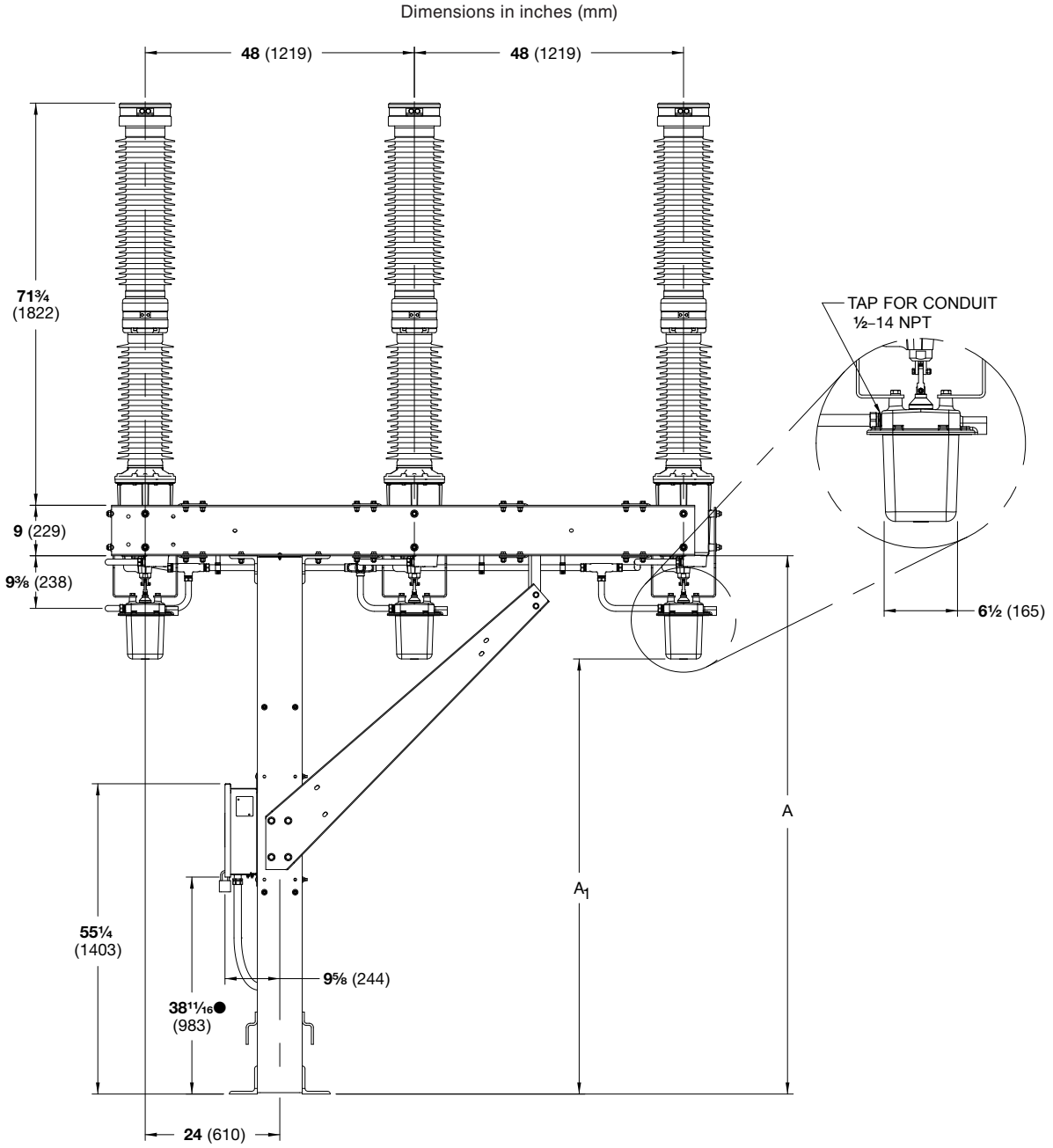



| Applicable to Trans-Rupter II Transformer Protector | | Suffix to be Added to Catalog Number | Dimensions in inches (mm) | | | | | | | Net Weight, Lbs. (kg)① |
|---|---|---|---|---|---|---|---|---|---|---|
| Rating, kV | Catalog Number | | A1 | A2 | D | H | J | L | R | |
| 69 | 329116 | -E88 | 78 11/16 (1999) | 42 5/16 (1075) | 84 (2134) | 30 (762) | 96 (2438) | 108 (2743) | 71¾ (1822) | 1704 (773) |
| | | -E108 | 78 11/16 (1999) | 42 5/16 (1075) | 84 (2134) | 30 (762) | 120 (3048) | 108 (2743) | 71¾ (1822) | 1804 (818) |
| | | -E128 | 78 11/16 (1999) | 42 5/16 (1075) | 84 (2134) | 30 (762) | 144 (3658) | 108 (2743) | 71¾ (1822) | 1904 (864) |
| 115 | 329118 | -E88 | 115 15/16 (2945) | 64 5/16 (1634) | 84 (2134) | 30 (762) | 96 (2438) | 108 (2743) | 109 (2769) | 1850 (839) |
| | | -E108 | 115 15/16 (2945) | 64 5/16 (1634) | 84 (2134) | 30 (762) | 120 (3048) | 108 (2743) | 109 (2769) | 1950 (885) |
| | | -E128 | 115 15/16 (2945) | 64 5/16 (1634) | 84 (2134) | 30 (762) | 144 (3658) | 108 (2743) | 109 (2769) | 2050 (930) |
| | | -E81 | 115 15/16 (2945) | 64 5/16 (1634) | 102 (2591) | 36 (914) | 96 (2438) | 132 (3353) | 109 (2769) | 1900 (862) |
| | | -E101 | 115 15/16 (2945) | 64 5/16 (1634) | 102 (2591) | 36 (914) | 120 (3048) | 132 (3353) | 109 (2769) | 2000 (907) |
| | | -E121 | 115 15/16 (2945) | 64 5/16 (1634) | 102 (2591) | 36 (914) | 144 (3658) | 132 (3353) | 109 (2769) | 2100 (953) |
| 138 | 329119 | -E88 | 121 15/16 (3097) | 70 5/16 (1786) | 84 (2134) | 30 (762) | 96 (2438) | 108 (2743) | 115 (2921) | 1869 (848) |
| | | -E108 | 121 15/16 (3097) | 70 5/16 (1786) | 84 (2134) | 30 (762) | 120 (3048) | 108 (2743) | 115 (2921) | 1969 (893) |
| | | -E128 | 121 15/16 (3097) | 70 5/16 (1786) | 84 (2134) | 30 (762) | 144 (3658) | 108 (2743) | 115 (2921) | 2069 (938) |
| | | -E81 | 121 15/16 (3097) | 70 5/16 (1786) | 102 (2591) | 36 (914) | 96 (2438) | 132 (3353) | 115 (2921) | 1919 (870) |
| | | -E101 | 121 15/16 (3097) | 70 5/16 (1786) | 102 (2591) | 36 (914) | 120 (3048) | 132 (3353) | 115 (2921) | 2019 (916) |
| | | -E121 | 121 15/16 (3097) | 70 5/16 (1786) | 102 (2591) | 36 (914) | 144 (3658) | 132 (3353) | 115 (2921) | 2119 (961) |

① The net weight includes both the mounting pedestals and the complete Trans-Rupter II Transformer Protector.

## Mounting Pedestal

69 kV, 48-inch (1219-mm) phase spacing
Shown with optional motor operators

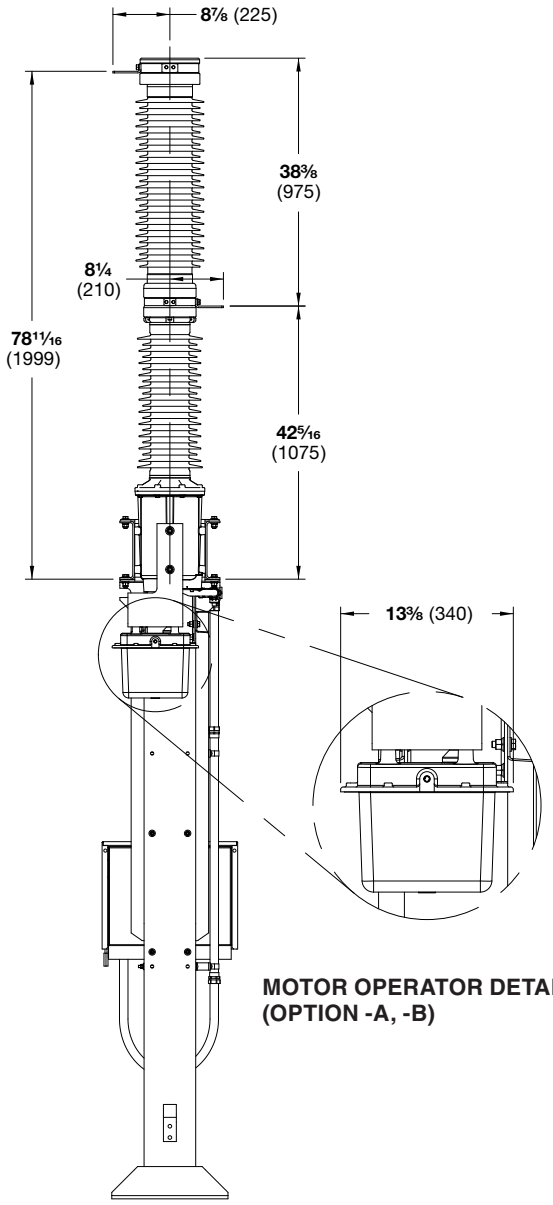



● Dimension from bottom of pedestal base to conduit entrance.

| Applicable to Trans-Rupter II Transformer Protector | | Suffix to be Added to Catalog Number | Dimensions in inches (mm) | | Net Weight, Lbs. (kg)① |
|---|---|---|---|---|---|
| Rating, kV | Catalog Number | | A | $A_1$ | |
| 69 | 329116 | -E84 | 96 (2438) | 77 (1956) | 1440 (653) |
| | | -E104 | 120 (3048) | 101 (2565) | 1490 (676) |
| | | -E124 | 144 (3658) | 125 (3175) | 1540 (699) |

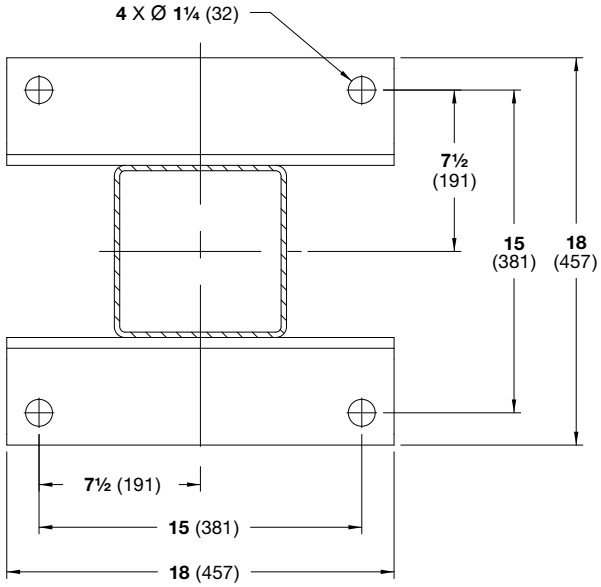
① The net weight includes both the mounting pedestals, and the complete Trans-Rupter II Transformer Protector and the optional motor operators.

Dimensions in inches (mm)




**MOTOR OPERATOR DETAIL (OPTION -A, -B)**

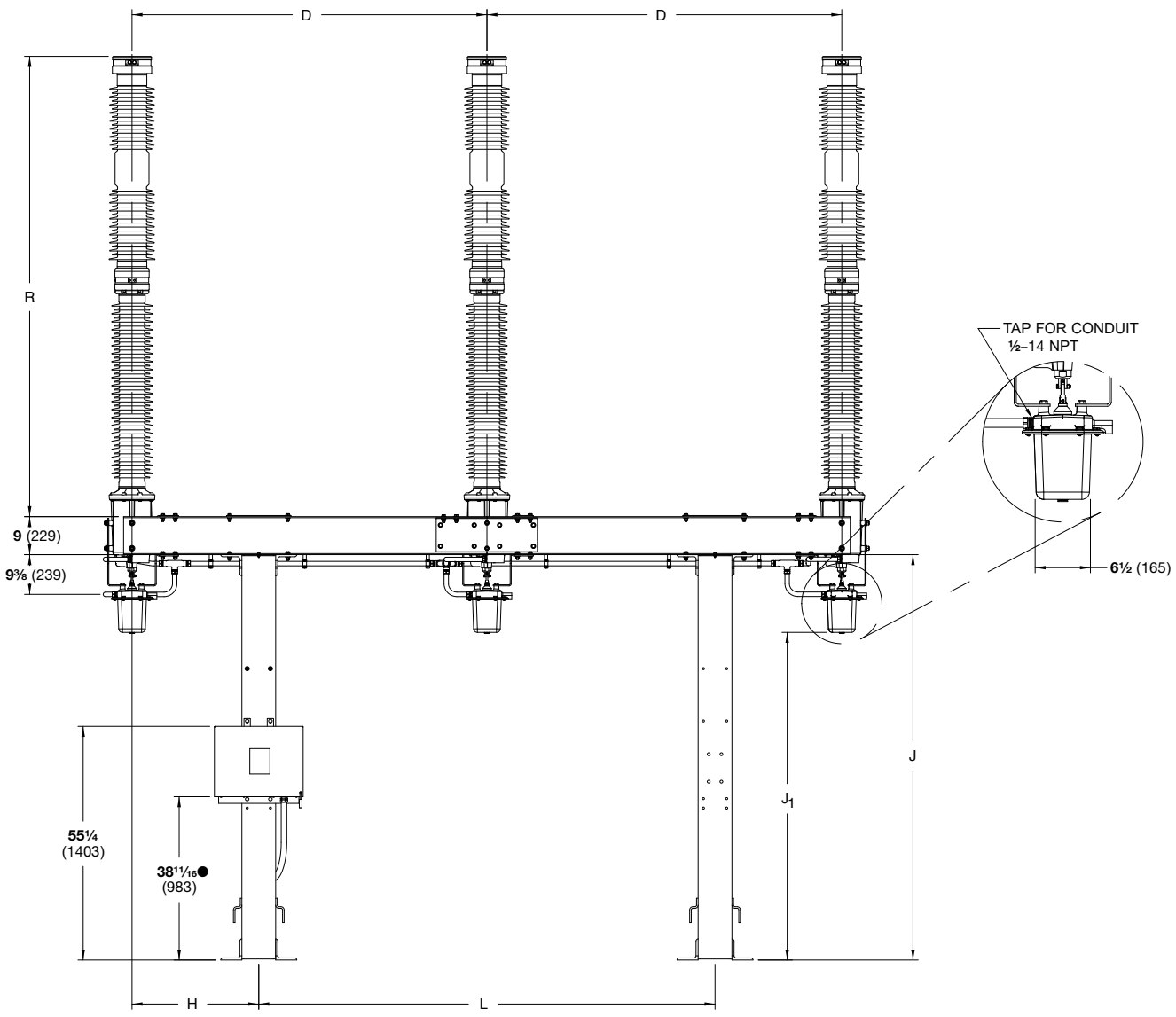
**MOUNTING PEDESTAL BASE DETAIL**



## Mounting Pedestals

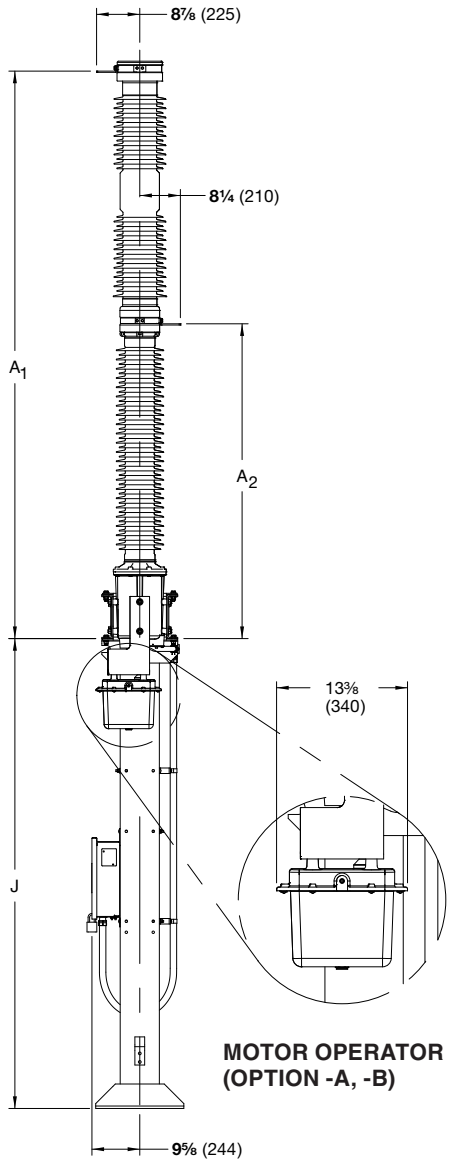
69 kV, 84-inch (2134-mm) phase spacing; 115 kV and 138 kV
Shown with optional motor operators

Dimensions in inches (mm)



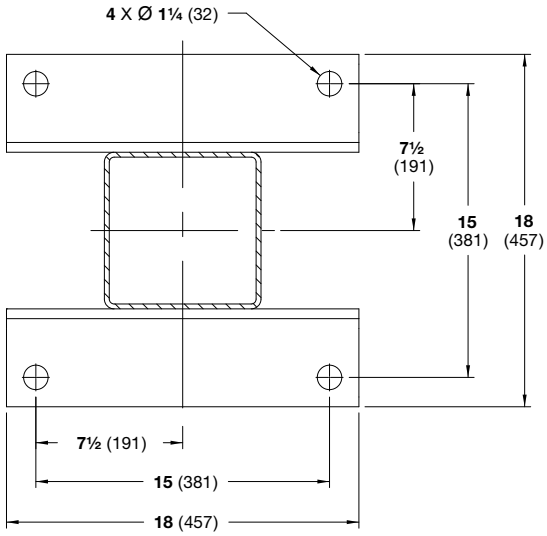

● Dimension from bottom of pedestal base to conduit entrance.

Dimensions in inches (mm)




**MOTOR OPERATOR DETAIL (OPTION -A, -B)**

**MOUNTING PEDESTAL BASE DETAIL**




| Applicable to Trans-Rupter II Transformer Protectors | | Suffix to be Added to Catalog Number | Dimensions in inches (mm) | | | | | | | | Net Weight, Lbs. (kg)① |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rating, kV | Catalog Number | | $A_1$ | $A_2$ | D | H | J | $J_1$ | L | R | |
| 69 | 329116 | -E88 | 78 1/16 (1999) | 42 5/16 (1075) | 84 (2134) | 30 (762) | 96 (2438) | 77 (1956) | 108 (2743) | 71¾ (1822) | 1710 (776) |
| | | -E108 | 78 1/16 (1999) | 42 5/16 (1075) | 84 (2134) | 30 (762) | 120 (3048) | 101 (2565) | 108 (2743) | 71¾ (1822) | 1810 (821) |
| | | -E128 | 78 1/16 (1999) | 42 5/16 (1075) | 84 (2134) | 30 (762) | 144 (3658) | 125 (3175) | 108 (2743) | 71¾ (1822) | 1910 (866) |
| 115 | 329118 | -E88 | 115 15/16 (2945) | 64 5/16 (1634) | 84 (2134) | 30 (762)` | 96 (2438) | 77 (1956) | 108 (2743) | 109 (2769) | 1856 (842) |
| | | -E108 | 115 15/16 (2945) | 64 5/16 (1634) | 84 (2134) | 30 (762) | 120 (3048) | 101 (2565) | 108 (2743) | 109 (2769) | 1956 (887) |
| | | -E128 | 115 15/16 (2945) | 64 5/16 (1634) | 84 (2134) | 30 (762) | 144 (3658) | 125 (3175) | 108 (2743) | 109 (2769) | 2057 (933) |
| | | -E81 | 115 15/16 (2945) | 64 5/16 (1634) | 102 (2591) | 36 (914) | 96 (2438) | 77 (1956) | 132 (3353) | 109 (2769) | 1906 (865) |
| | | -E101 | 115 15/16 (2945) | 64 5/16 (1634) | 102 (2591) | 36 (914) | 120 (3048) | 101 (2565) | 132 (3353) | 109 (2769) | 2006 (910) |
| | | -E121 | 115 15/16 (2945) | 64 5/16 (1634) | 102 (2591) | 36 (914) | 144 (3658) | 125 (3175) | 132 (3353) | 109 (2769) | 2106 (955) |
| 138 | 329119 | -E88 | 121 15/16 (3097) | 70 5/16 (1786) | 84 (2134) | 30 (762) | 96 (2438) | 77 (1956) | 108 (2743) | 115 (2921) | 1875 (850) |
| | | -E108 | 121 15/16 (3097) | 70 5/16 (1786) | 84 (2134) | 30 (762) | 120 (3048) | 101 (2565) | 108 (2743) | 115 (2921) | 1975 (896) |
| | | -E128 | 121 15/16 (3097) | 70 5/16 (1786) | 84 (2134) | 30 (762) | 144 (3658) | 125 (3175) | 108 (2743) | 115 (2921) | 2075 (941) |
| | | -E81 | 121 15/16 (3097) | 70 5/16 (1786) | 102 (2591) | 36 (914) | 120 (3048) | 77 (1956) | 132 (3353) | 115 (2921) | 1925 (873) |
| | | -E101 | 121 15/16 (3097) | 70 5/16 (1786) | 102 (2591) | 36 (914) | 120 (3048) | 101 (2565) | 132 (3353) | 115 (2921) | 2025 (919) |
| | | -E121 | 121 15/16 (3097) | 70 5/16 (1786) | 102 (2591) | 36 (914) | 144 (3658) | 125 (3175) | 132 (3353) | 115 (2921) | 2125 (964) |

① The net weight includes both the mounting pedestals, and the complete Trans-Rupter II Transformer Protector and the optional motor operators.