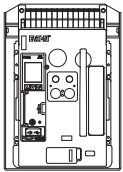
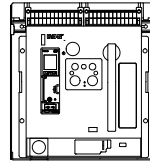


# PT module

## Instructions apply to:



UL489 : PD-NF, Series NRX NF  
IEC : PD-NF, IZMX16  
UL1066/ANSI : Series NRX NF



UL489 : PD-RF  
IEC : PD-RF, IZMX40

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### WARNING

- (1) ONLY QUALIFIED ELECTRICAL PERSONNEL SHOULD BE PERMITTED TO WORK ON THE EQUIPMENT.
  - (2) ALWAYS DE-ENERGIZE PRIMARY AND SECONDARY CIRCUITS IF A CIRCUIT BREAKER CANNOT BE REMOVED TO A SAFE WORK LOCATION.
  - (3) DRAWOUT CIRCUIT BREAKERS SHOULD BE LEVERED (RACKED) OUT TO THE DISCONNECT POSITION.
  - (4) ALL CIRCUIT BREAKERS SHOULD BE SWITCHED TO THE OFF POSITION AND MECHANISM SPRINGS DISCHARGED.
- FAILURE TO FOLLOW THESE STEPS FOR ALL PROCEDURES DESCRIBED IN THIS INSTRUCTION LEAFLET COULD RESULT IN DEATH, BODILY INJURY, OR PROPERTY DAMAGE.
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### WARNING

THE INSTRUCTIONS CONTAINED IN THIS IL AND ON PRODUCT LABELS HAVE TO BE FOLLOWED. OBSERVE THE FIVE SAFETY RULES:

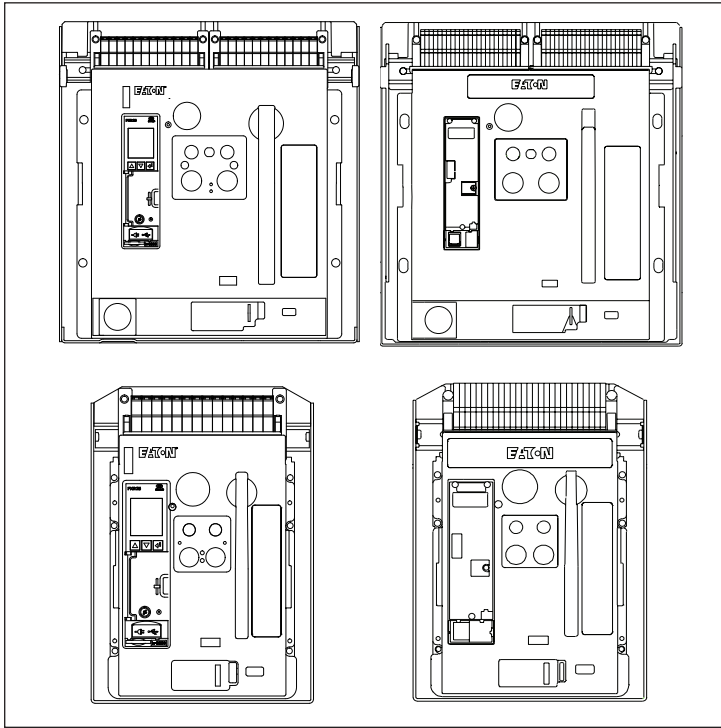
- DISCONNECTING
- ENSURE THAT DEVICES CANNOT BE ACCIDENTALLY RESTARTED
- VERIFY ISOLATION FROM THE SUPPLY
- EARTHING AND SHORT-CIRCUITING
- COVERING OR PROVIDING BARRIERS TO ADJACENT LIVE PARTS

DISCONNECT THE EQUIPMENT FROM THE SUPPLY. USE ONLY AUTHORIZED SPARE PARTS IN THE REPAIR OF THE EQUIPMENT. THE SPECIFIED MAINTENANCE INTERVALS AS WELL AS THE INSTRUCTIONS FOR REPAIR AND EXCHANGE MUST BE STRICTLY ADHERED TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO THE SWITCHBOARD.

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Effective January 2019

**Note:** The content of this IL applies to both PXR and Digitrip equipped breakers. Appearance of product may vary.



**Section 1. Description**

The Potential Transformer (PT) module is a device used to supply a three phase voltage signal to NF-frame or RF-frame circuit breakers equipped with Digitrip 1150 or PXR programmable trip units.

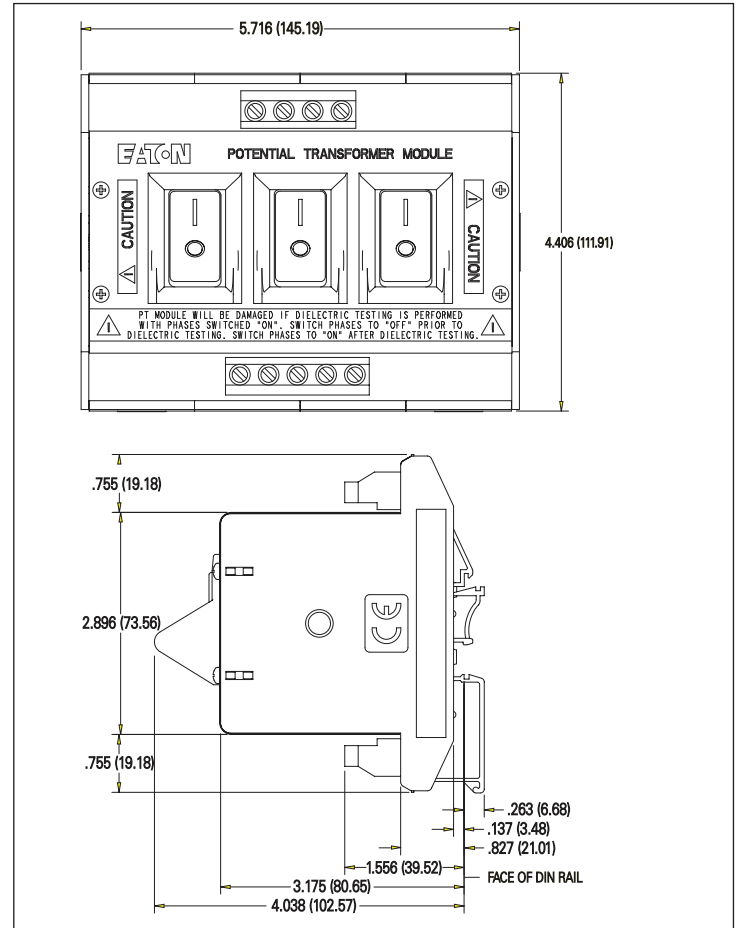
**Specifications:**

The output of the module is directly proportional to the input voltage according to the ratio given below (Table 1).

**Table 1. Voltage ratios.**

INPUT	OUTPUT (NORMAL)
208V L-L	1.95V L-N
240V L-L	2.25V L-N
415V L-L	3.89V L-N
440V L-L	4.13V L-N
480V L-L	4.50V L-N
600V L-L	5.63V L-N
690V L-L	6.47V L-N

- Maximum rated input voltage: 690 volts line to line
- Burden: 1 VA per phase
- Output voltage accuracy: +/-2% of normal



**Figure 1. Dimensions of PT module.**

**⚠ WARNING**

**DO NOT ATTEMPT TO INSTALL OR PERFORM MAINTENANCE ON EQUIPMENT WHILE IT IS ENERGIZED. DEATH OR SEVERE PERSONAL INJURY CAN RESULT FROM CONTACT WITH ENERGIZED EQUIPMENT. ALWAYS VERIFY THAT NO VOLTAGE IS PRESENT BEFORE PROCEEDING. ALWAYS FOLLOW SAFETY PROCEDURES. EATON IS NOT LIABLE FOR THE MISAPPLICATION OR MISINSTALLATION OF ITS PRODUCTS.**

**⚠ WARNING**

**OBSERVE ALL RECOMMENDATIONS, NOTES, CAUTIONS, AND WARNINGS RELATING TO THE SAFETY OF PERSONNEL AND EQUIPMENT. OBSERVE AND COMPLY WITH ALL GENERAL AND LOCAL HEALTH AND SAFETY LAWS, CODES, AND PROCEDURES.**

**Note:** The recommendations and information contained herein are based on experience and judgment, but should not be considered to be all-inclusive or to cover every application or circumstance that may arise.

## Section 2. Installation

The PT module is to be mounted on a standard 35mm EN DIN rail and connects to the breaker as shown. Figures 2 and 3 show a 3-pole, 3-wire configuration. Figures 4 through 7 show connections for a 3-pole breaker and a 4-pole breaker with an external neutral sensor.

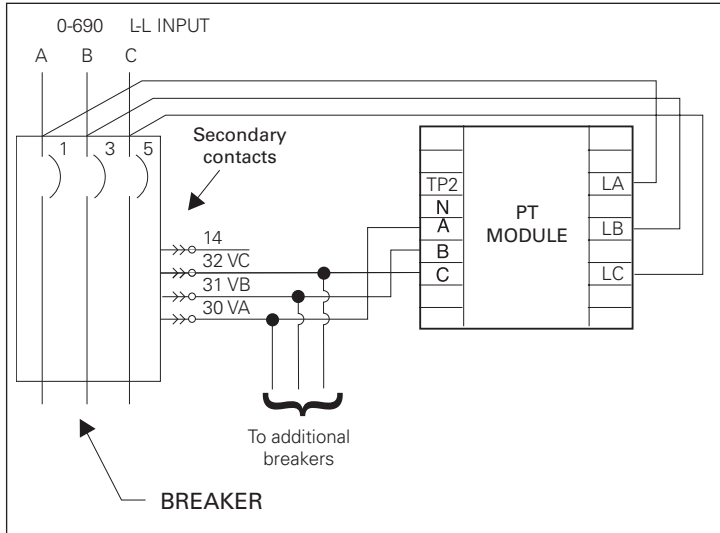


Figure 2. Breakers with Digitrip 1150 trip units - 3-pole, 3-wire.

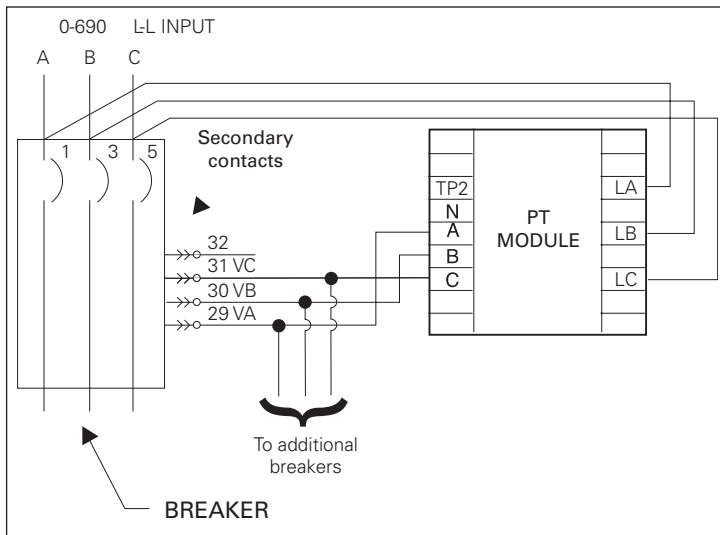


Figure 3. Breakers with PXR trip units - 3-pole, 3-wire.

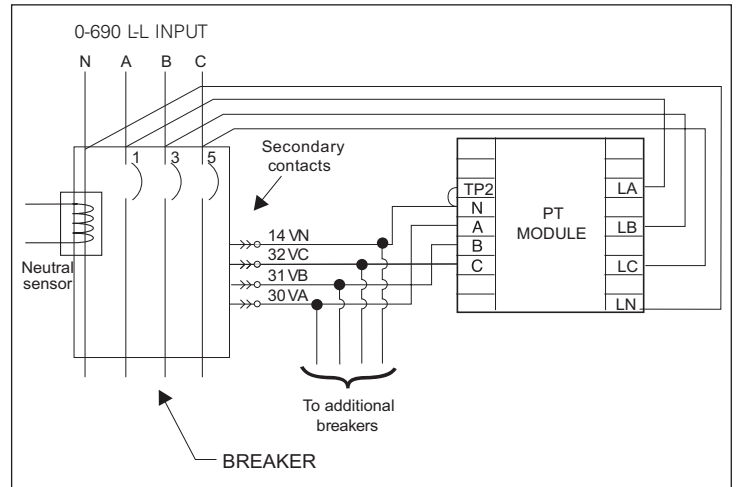


Figure 4. Breakers with Digitrip 1150 trip unit - 3-pole, 4-wire.

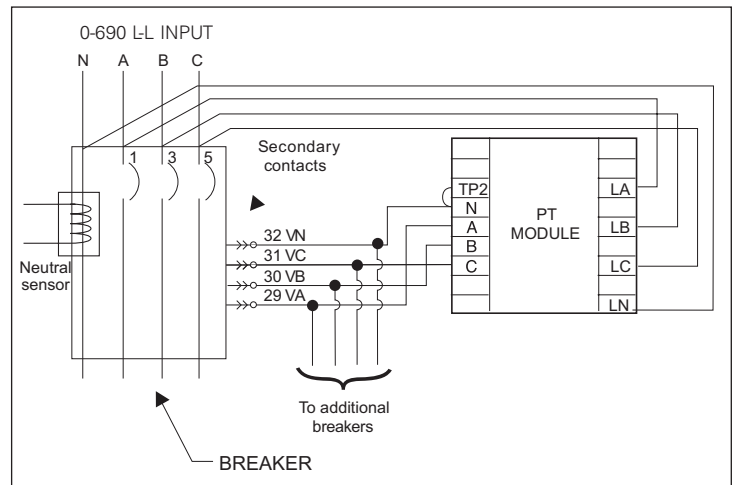


Figure 5. Breakers with PXR trip units - 3-pole, 4-wire.

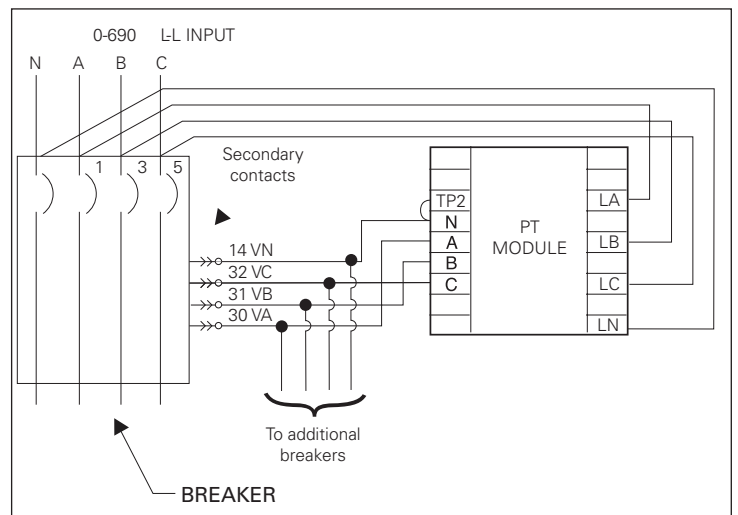


Figure 6. Breakers with Digitrip 1150 trip units - 4-pole, 4-wire.

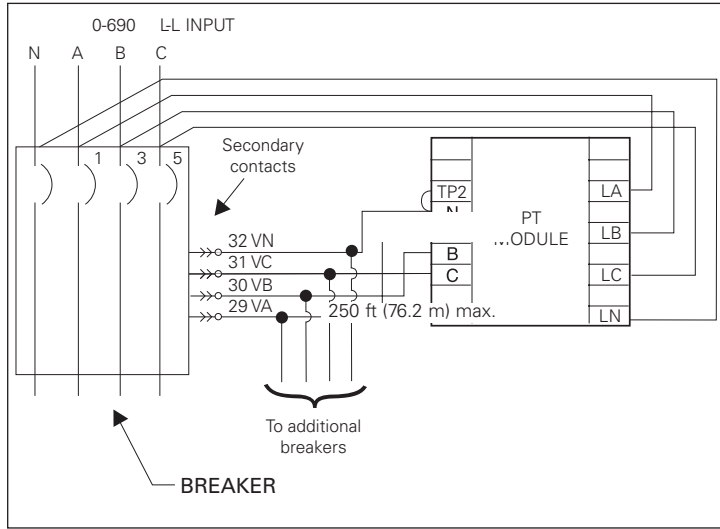


Figure 7. Breakers with PXR trip units - 4-pole, 4-wire.

The PT module secondary may connect up to 16 breakers using 18 AWG wire for each phase in a daisy-chain configuration and may extend to the furthest breaker in the chain, to a maximum of 250 feet (Figure 8).

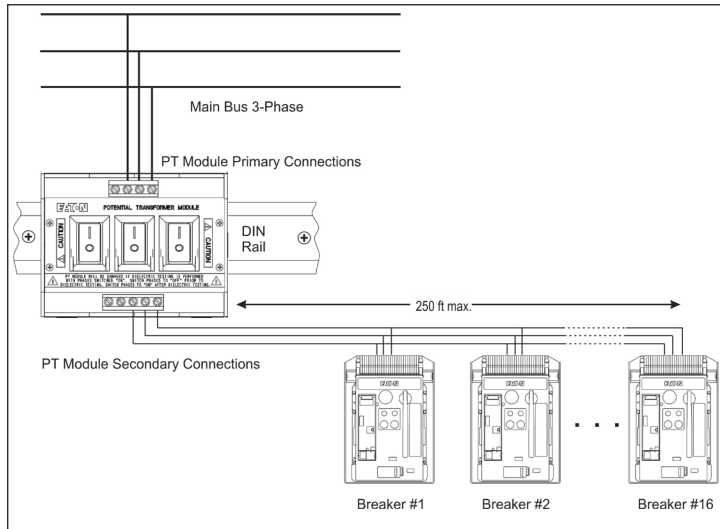


Figure 8. Daisy chain breaker connection of up to 16 breakers.

### Section 3. Operation

Switches are provided to disconnect each phase from the mains (Figure 9). All three switches must be in the off ("O") position before performing dielectric testing of a system where the PT module is connected. When the test is complete, all switches must be in the on ("I") position for the module to function as intended.

#### CAUTION

**DIELECTRIC TESTING OF A SYSTEM CONTAINING A PT MODULE WITH THE PHASE CONNECTED WILL DAMAGE THE PT MODULE. DISCONNECT ALL OF THE PHASES FROM THE MAINS (BY SELECTING "O") BEFORE TESTING. AFTER TESTING, RETURN ALL PHASE SWITCHES TO THE "I" POSITION.**

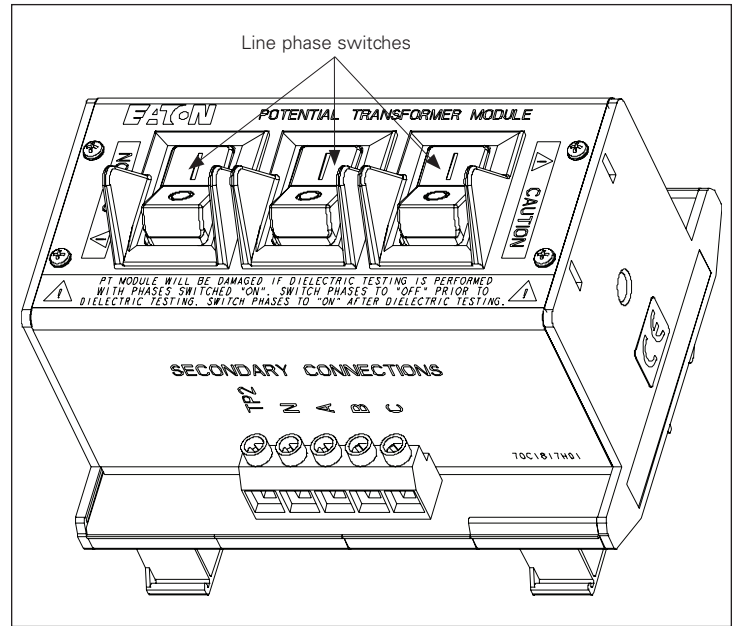


Figure 9. Line phase switches.

**Notes:**

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