

Time delay undervoltage module

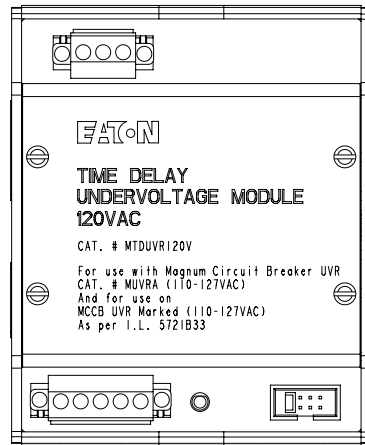


Figure 1. Time delay undervoltage module for Magnum (with Digitrip or PXR trip units), Power Defense ICCB, Series NRX, IZM26, IZM9, IZMX and select molded case circuit breakers

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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.

⚠ WARNING

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

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

Section 1: Description of Time Delay Undervoltage Module

The Time Delay Undervoltage (TDUV) module takes an AC input voltage, rectifies it via a diode bridge to provide a DC output. The function of this remotely mounted device is to pass through its available voltage to the circuit breaker mounted Undervoltage Release (UVR) accessory. Also, on the loss of voltage or during a low voltage condition, it will assert the energy of a storage capacitor to provide a temporary voltage for the duration of up to two seconds. The time delay settings are user selected via a jumper that bridges selected pins together. When the line voltage is available to the module, the green LED labeled "Power On" is illuminated. The module is setup for DIN Rail mounting.

Note: The left terminal of connector J2 has a positive polarity, however, this is not a concern for customer wiring since the circuit breaker's UVR has a full wave, bridge rectifier input circuit.

Standards

The TDUV Module is an Underwriter's Laboratories (UL) and Canadian Standards Association (CSA) Recognized Component per file E52096SP.

The device is also compliant to IEC 61000-4-5 surge immunity test requirements and carries the CE mark.

Section 2: Ratings and settings

The TDUV module can be used with Eaton air circuit breakers (ACB), insulated case circuit breakers (ICCB), and molded case circuit breakers (MCCB).

There are two TDUV modules available: one for a 120VAC application and one for a 240VAC application (50/60 Hz). Eaton ACBs (Magnum circuit breakers with Digitrip or PXR trip units) and ICCBs (PD-NF, PD-RF, and series NRX circuit breakers) have dual rated UVRs. Eaton MCCBs do not. See **Table 1** for the UVR type used with the Time Delay UV modules.

Table 1. TDUV modules available

Control voltage	Time Delay UV Module catalog number	Breaker UVR voltage required			Time delay settings
		Air circuit breakers	Insulated case circuit breakers	Molded case circuit breakers	
120 Vac	110-127V AC	110-127 Vac	110-125 Vac/Vdc	125 Vdc	0.1s; 0.5s; 1.0s; 2.0s
240 Vac	208-240V AC	208-240 Vac	208-250 Vac/Vdc	250 Vdc	

The connections from the TDUV module to the monitored voltage use a five pin Phoenix plug-in connector. Not all pins are used in the harnesses. Connectors are supplied with the module. Should the connectors be reordered, use the following part numbers:

- Connector from module to voltage: part# 1835122
- Connector from UVR to module: part# 1835106

Settings

The desired time delay setting is user selected, made by applying a jumper across a marked pin matrix (**Figure 2**). This jumper is supplied. The default time is 0.1 seconds when shipped from the factory. If no jumper is installed the time setting will be 0.1 seconds.

Section 3: Mounting

Refer to **Figure 2** for an outline drawing of the TDUV module. Metric dimensions are shown in parentheses. DIN Rail mounting is accomplished by hooking the module onto the top lip of rail and then by pushing the bottom to snap over the bottom lip of the rail. Moderate force is required for the initial installation. The removal of the module is accomplished by forcing a screw driver against side of the module and the two extended feet on the bottom. These have a slot for the tool to deflect the bite of the plastic enclosure away from the DIN Rail. (**Figure 2** right view)

Section 4: Wiring

The wiring diagram is shown in **Figure 3**. The scheme is essentially “in” to the module and “out” to the UVR. Refer to wiring diagrams for your specific breaker’s UVR for UVR connection details. The copper only wire must be of #14 gauge (1.63mm²) or #16 gauge (1.22mm²) and 75° C rated. An alternate wiring scheme shown

in **Figure 3** demonstrates how a normally closed pushbutton is installed in series with one of the leads going to the circuit breaker’s UVR. When depressed, this button will provide a UV trip without any delay time. This pushbutton requires a 3A at 250VDC contact rating.

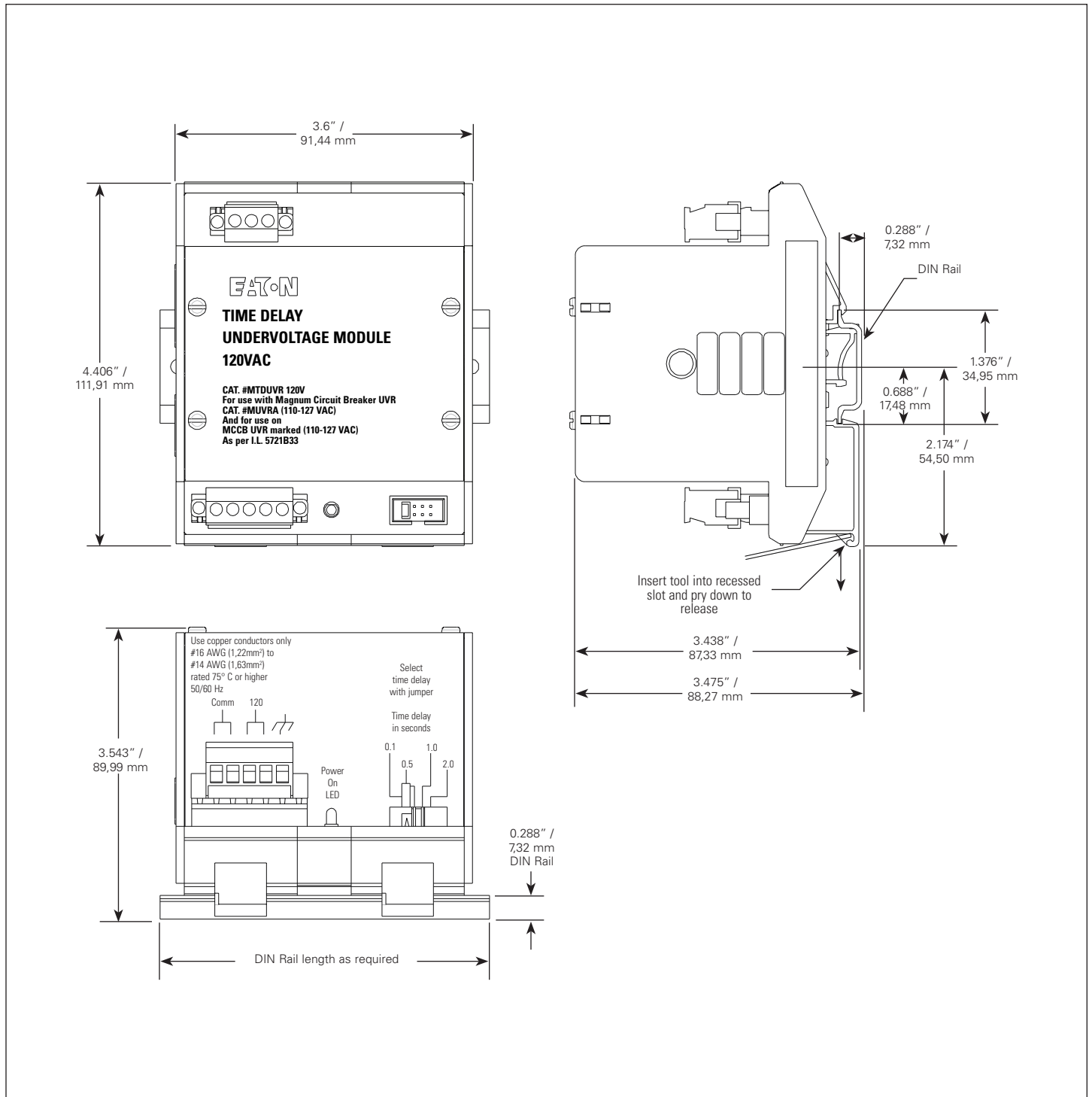


Figure 2. TDUV module dimensions

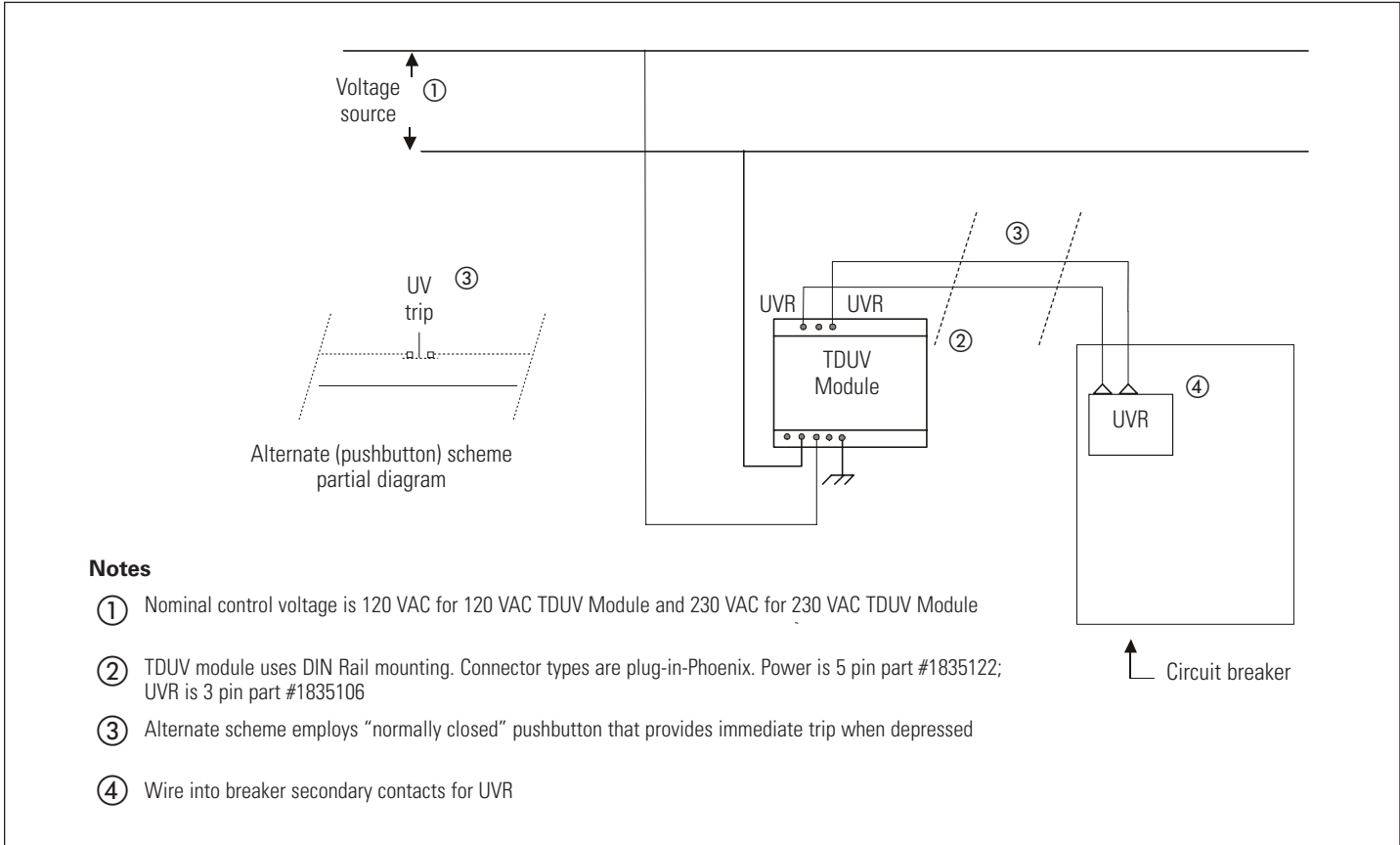


Figure 3. Wiring diagram for TDUV module to breaker UVR

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