Instruction leaflet **IL157001EN** Effective May 2015

Installation manual for Eaton AutoVAR current transformers TX2, TX4, TX5, and TX SUM-2

⚠ WARNING

FOLLOW ALL SAFETY PRECAUTIONS AND REGULATIONS FOR WORKING ON ELECTRICAL SYSTEMS RATED UP TO 600 V. ALWAYS WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE). FOLLOW ALL LOCK-OUT/TAG-OUT PROCEDURES.

⚠ WARNING

ALWAYS ENSURE THAT THERE IS A LOW IMPEDANCE PATH FOR THE CT SECONDARY CIRCUIT WHEN CURRENT IS FLOWING THROUGH THE CT WINDOW. NEVER LEAVE THE CT SECONDARY TERMINALS UNCONNECTED WHEN THERE IS CURRENT FLOWING THROUGH THE CT WINDOW.

⚠ WARNING

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN MALFUNCTION OF THE EQUIPMENT.

General information

- Eaton part numbers TX2, TX4, and TX5 are split-core multi-ratio multi-tap current transformers (CTs), indoor rated with 600 V insulated core
- Eaton part number TXSUM-2 is a summation current transformer, indoor rated, with two 5 A nominal inputs and one 5 A nominal output. This part number also includes two four-pole CT shorting blocks
- The CT is to be installed on "A-phase" of the main service entrance and wired to the terminal block TB1, terminals 1 and 2 of the capacitor bank (floor mount LV AutoVAR units only). Please read and understand the installation manual for the equipment connected to the current transformer before installing the current transformer
- Terminals are brass with 8–32 threads. Current transformers are metering class. Accuracy is 1% at 25 VA burden for TX2, TX4, and TXSUM-2. Accuracy is 1% at 30 VA for TX5
- The CT should always be installed upstream of the loads and capacitor bank
- CT shall not be installed on the feeder feeding the capacitor bank
- CT polarity must be observed accurately for proper functioning of the capacitor bank. H1 should always face the source (utility) side
- CT current rating determined by the mains service entrance current rating. If exact rating is not available, select the next higher appropriate rating
- If only transformer ratings are known, use the following formula to calculate the maximum current:

$$\text{Current for CT rating} = \frac{\text{Transformer kVA} \times 1000}{1.732 \times \text{line voltage}}$$

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Table 1. Terminal connections for appropriate CT current rating

TX2		TX4		TX5	
CT secondary terminals	**CT ampere rating**	**CT secondary terminals**	**CT ampere rating**	**CT secondary terminals**	**CT ampere rating**
X1-X5	3000	X1-X5	4000	X1-X5	5000
X1-X4	2500	X2-X5	3500	X1-X4	4000
X1-X3	2200	X1-X4	3000	X2-X5	3500
X2-X5	2000	X2-X4	2500	X3-X5	3000
X2-X4	1500	X1-X3	2000	X2-X4	2500
X2-X3	1200	X2-X3	1500	X3-X4	2000
X1-X2	1000	X3-X4	1000	X1-X2	1500
X3-X5	800	X1-X2	500	X4-X5	1000
X4-X5	500	—	—	X2-X3	500
X3-X4	300	—	—	—	—

Note: The CT secondary rating for all the taps is 5 A. To calculate the CT ratio, use the CT primary ampere rating and divide by 5 to get the CT ratio. TX2 example: For X1-X5, the CT ratio is 600 (=3000/5). TX4 example: For X1-X5, the CT ratio is 800 (=4000/5). TX5 example: For X1–X5 on the TX2, the CT ratio is 600 (=3000/5).

Dimensions in inches (mm)

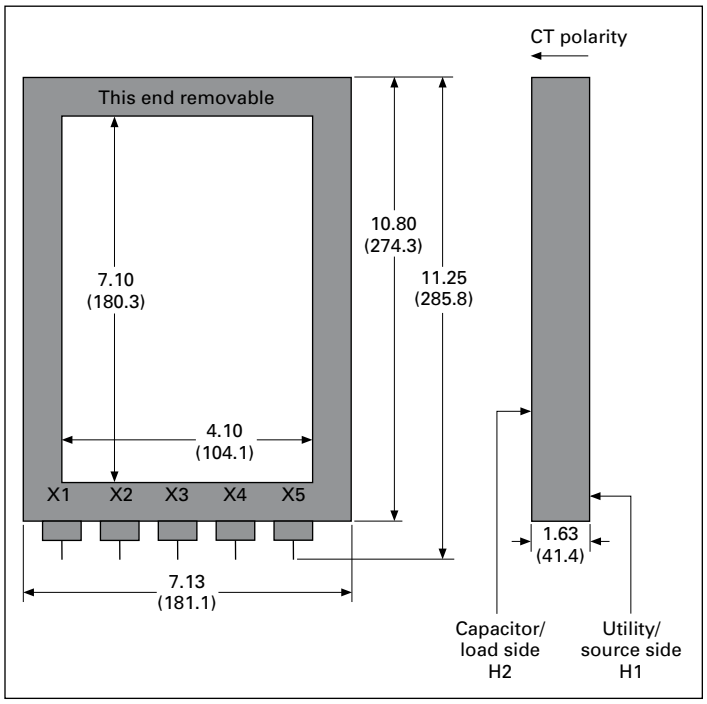

Figure 1. TX2—Current transformer, 3000 A, split core, multi tap

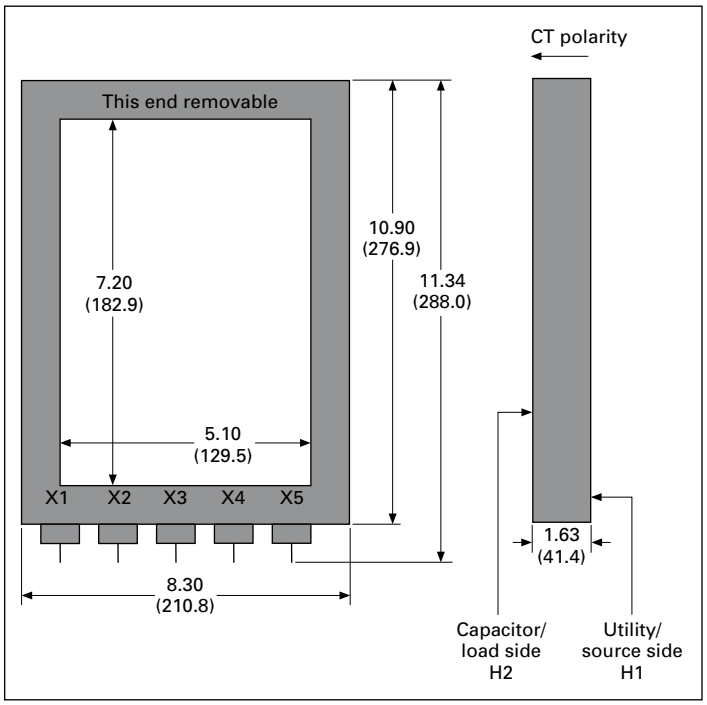

Figure 2. TX4—Current transformer, 4000 A, split core, multi tap

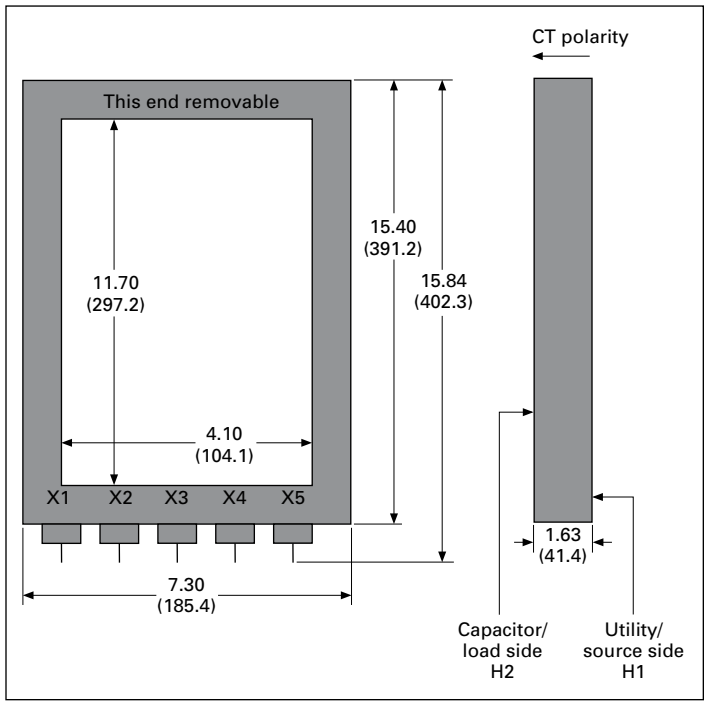

Figure 3. TX5—current transformer, 5000 A, split core, multi tap

The TXSUM-2 is typically used in applications where the nominal CT secondary current can exceed 5 A.

The provided CT shorting blocks should be connected as shown in **Figure 4**. The provided CT shorting block screws are used to electrically connect the shorting bar to the CT secondary circuit. The shorting block screws should be stored in the provided locations on the corners of the shorting block when not in use.

If a 5 A nominal input CT signal is provided to one input and a 0 A CT signal is provided to the other input, the resulting output CT signal will be nominal 2.5 A. If only one CT input on the TXSUM-2 is used, then the second CT input should be shorted.

The summation CT and CT shorting blocks should be securely mounted. Mounting hardware is not supplied.

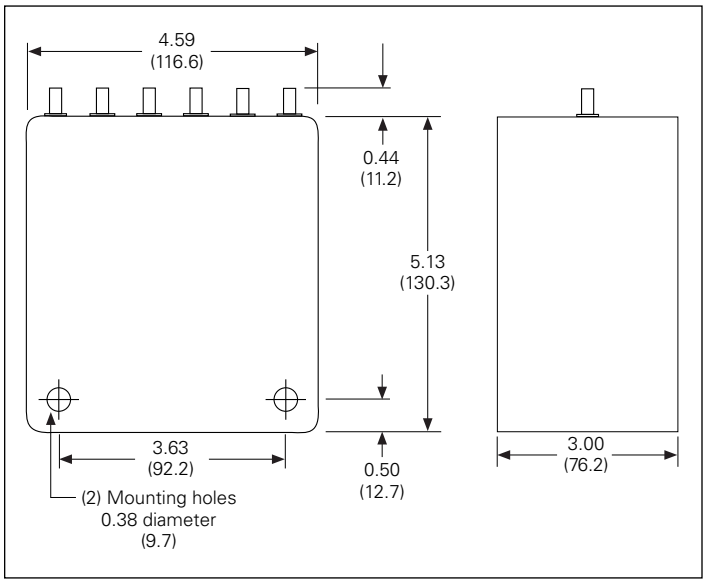

Figure 4. TXSUM-2, summing current transformer, 5 A

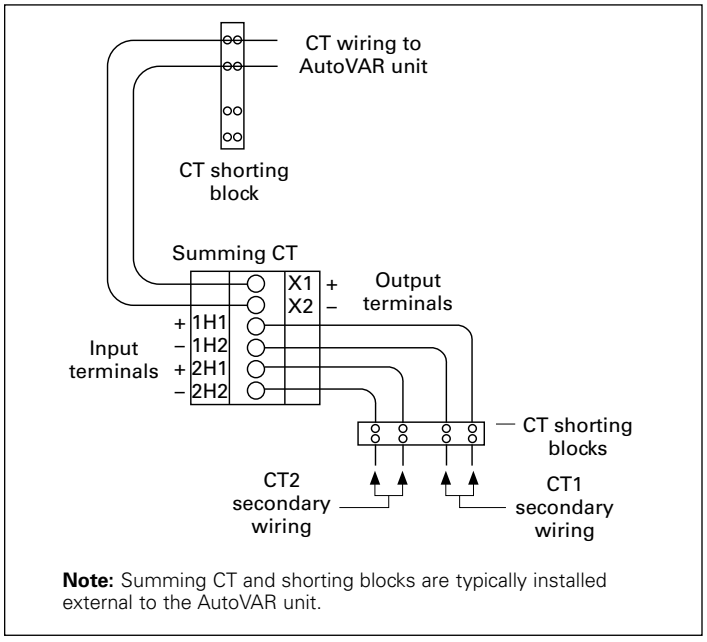

Figure 5. TX SUM-2 summing CT

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For product support, please contact Eaton's Technical Resource Center (TRC) power factor application engineers at **1-800-809-2772**, choose option #4, then option #2.
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