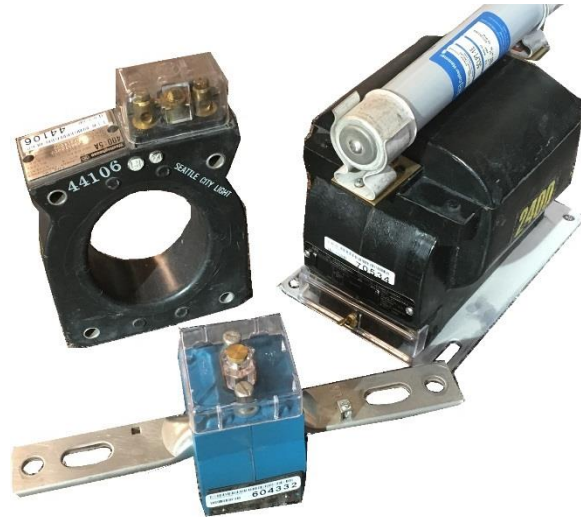


Bar Code, Nameplate, and Shipping Label Requirements, Instrument Rated Current Transformers and Voltage Transformers



1. Scope

This standard covers the requirements for current transformer (CT) and voltage transformer (VT) bar codes, nameplates and shipping labels.

2. Application

Bar codes are used by Seattle City Light (SCL) meter electricians and other personnel to identify, verify, and track CTs and VTs during shipping, receiving, testing, and installation.

3. Industry Standards

Bar codes, nameplates and shipping labels shall meet the requirements of the latest revision of the following industry standards:

ANSI C12.1; Electric Meters Code for Electricity Metering

ANSI C12.10; Physical Aspects of Watthour Meters—Safety Standard

ANSI MH10.8.1; Automatic Identification and Data Capture Techniques Used in Shipping, Receiving, and Transport Applications

NEMA Publication EI-P3; Bar Coding of Watthour Meter Nameplate Data

AEP Meter Barcodes; <http://www.aep.com/about/b2b/meterBarcodes>

4. Requirements

All new CTs and VTs shall have the bar code information placed on the CT or VT nameplate as specified in ANSI C12.10, 3.7.5.3 Barcoding Specifications.

The bar code shall be easily visible and readable with a noncontact scanner from the front of the CT or VT.

4.1 CT or VT Nameplate

Bar code shall be 128, follow the American Electric Power (AEP) standard where specified, conform to the CT or VT specification bar code with leading zeroes in the serial number, and be in an area of 1/2" x 2-1/2" containing:

First line	Seattle City Light (approx. 0.1" high)
Second line	Bar code per CT or VT spec. (approx. 0.2" high)
Third line	Interpretation of bar code (approx. 0.1" high)

4.1.1 Nameplate Information

CT nameplate shall include the following information:

- Manufacturer
- Type
- Ratio
- Rating Factor (RF)
- Burdens
- Accuracy Class
- Voltage Class
- Basic Impulse Level (BIL)

VT nameplate shall include the following information:

- Manufacturer
- Type
- Ratio
- Burdens
- Accuracy Class
- Voltage Class
- Basic Impulse Level (BIL)
- VA Rating

4.1.2 Serial Number

Each CT or VT nameplate shall include a unique manufacturer serial number and a 7-digit SCL-assigned badge number.

The 7-digit SCL badge number shall be printed as a separate number on the nameplate. See Figures 4.1.3a and 4.1.3b.

In both cases, the 7-digit SCL badge number shall be formatted as follows:

Font	Sans serif
Weight	Bold
Height	At least 0.25 inches
Width	At least 60% of the height (except for the number "1")

The manufacturer serial number that precedes the 7-digit SCL badge number shall be smaller to distinguish it from the SCL badge number.

4.1.3 Bar Code

A bar code that follows the 17-character American Electric Power (AEP) standard shall be placed on the nameplate.

The bar code shall be normal (alpha-numeric) or Code 128.

The bar code shall conform to the CT specification bar code with leading zeros in the serial number.

The first three and last five characters in the bar code indicate the specifications of the CT or VT. See Tables 4.1.3a and 4.1.3b.

Table 4.1.3a. CT Specifications

Character No.	Specification Type
1	Ratio
2	Burden
3	Manufacturer
13	Voltage Class
14	Wire configuration
15	Rating Factor (RF)
16	Basic Impulse Level (BIL)
17	5 indicates a CT

Table 4.1.3b. VT Specifications

Character No.	Specification Type
1	Ratio
2	Burden
3	Manufacturer
13	Accuracy
14	Secondary
15	VA rating
16	Basic Impulse Level (BIL)
17	7 indicates a VT

A separate bar code, using Code 128 subset C (compressed), for the seven-digit SCL badge number shall be printed. See Figures 4.1.3a and 4.1.3b.

The words "Seattle City Light," the bar code, and an interpretation of the bar code shall appear in a space sized at least 0.5 in by 2.5 in. Table 4.1.3 describes the text height of each line.

Table 4.1.3c. Text Height Requirements for Bar Codes

Line	Description	Text Height (in)
1	SEATTLE CITY LIGHT	0.1
2	Bar code per the CT or VT specification	0.2
3	Interpretation of the bar code	0.1

Figure 4.1.3a. CT Label with a 7-digit SCL Badge Number

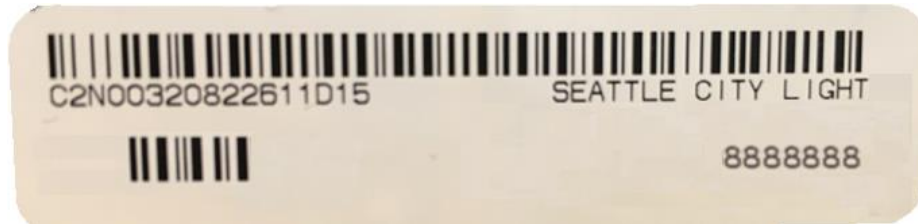


Figure 4.1.3b. VT Label with a 7-digit SCL Badge Number



4.2 Identification of Carton and Pallet Contents

Each carton shall have one or two labels on the same side.

Each label shall include at a minimum:

- Manufacturer
- Type
- Catalog number
- Customer name
- Carton number
- Seattle City Light purchase order (PO) number
- Seattle City Light stock number
- Pallet number
- CT or VT serial numbers

Each CT or VT inside a carton shall be identified to that carton.

The bar codes of the CTs or VTs inside the carton shall be on the same side of the carton as the generic information.

AEP barcodes for CTs or VTs shall be configured as shown in Figure 4.2a, 4.2b, 4.2c, 4.2d, 4.2e, or 4.2f and shall identify:

- Manufacturer serial number
- Bar code interpretation
- SCL-assigned badge number
- Bar code for any separate SCL-assigned badge number

Cartons and pallets shall be labeled:

- Cartons shall use the label in Figure 4.2c or 4.2d
- Pallets shall use the label in Figure 4.2a, 4.2b, 4.2e, or 4.2f
- Bar codes for CTs or VTs shall be separate from other bar codes

These requirements are necessary to avoid confusion while scanning bar codes for the contents inside the carton.

Figure 4.2a. Pallet Label for CTs

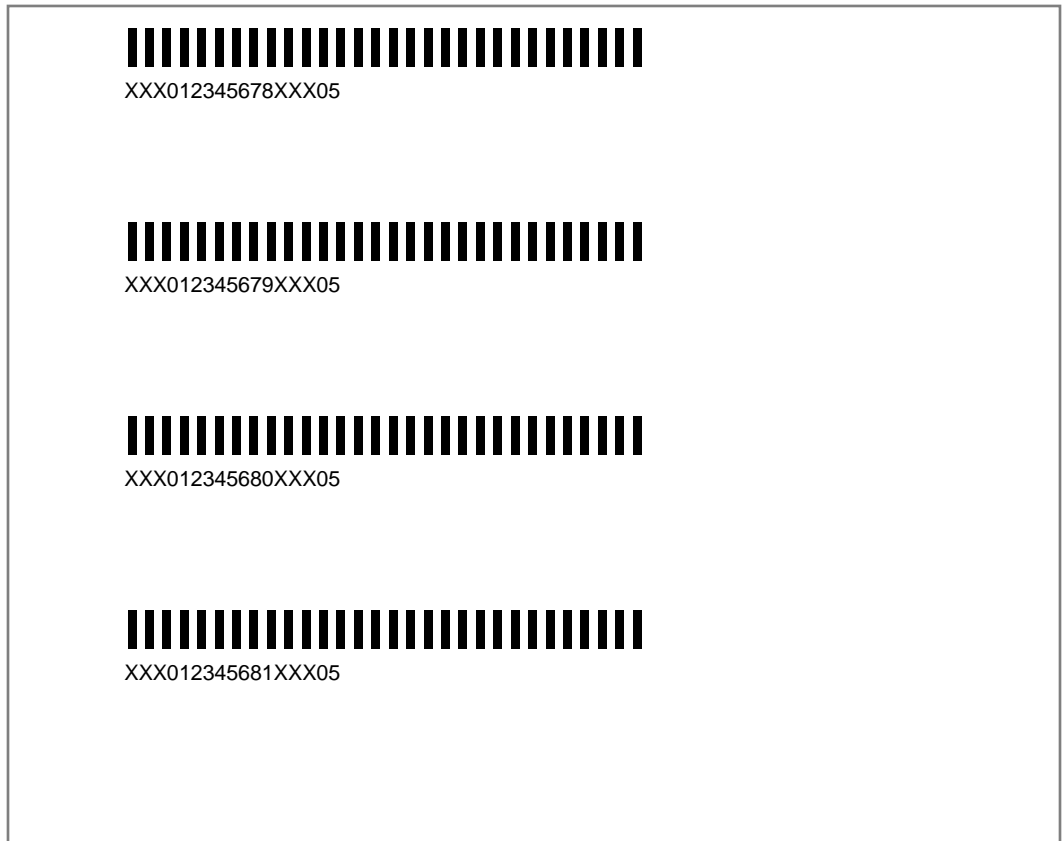


Figure 4.2b. Pallet Label for VTs

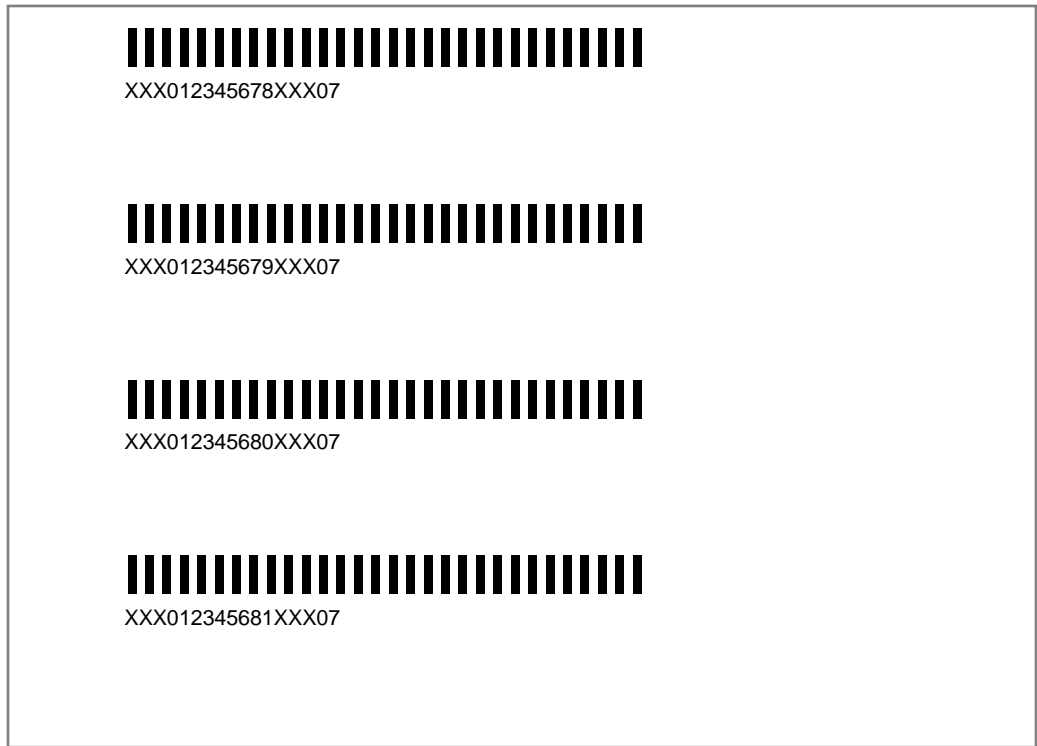


Figure 4.2c. Carton Label with Bar Codes of CTs Contained on the Pallet






CT Type MFR Name	CT Assembled in USA
<p align="center">Catalog Number 726X200349</p>  <p align="center">SEATTLE CITY LIGHT</p>	
<p align="center">S/N Range this order: 52186684 Thru 52188603</p>	
<p>Pallets this Order: 0061-0080</p>	<p align="right">Quantity This Order: 1920</p> <p align="right">Carton Contains Serial Numbers</p>  1ND052188404A8B05  1ND052188405A8B05  1ND052188406A8B05  1ND052188407A8B05
<p>Pallet: 0078</p>	<p align="right">Carton: 0431</p>
<p>Stock Number: 400035 Customer P/O: 0016810017 MFR P/O: 91002556</p>	<p align="right">Cartons This Order: 0001 – 0480 MFR Line No.: 1</p>

Figure 4.2d. Carton Label with Bar Codes of VTs Contained on the Pallet

VT Type MFR Name	VT Assembled in USA
<p>Catalog Number 726X200349  SEATTLE CITY LIGHT</p>	
<p>S/N Range this order: 52186684 Thru 52188603</p>	
<p>Pallets this Order: 0061-0080</p>	<p>Quantity This Order: 1920</p>
<p>Carton Contains Serial Numbers</p>	
	<p>1ND052188404A8B07</p>
	<p>1ND052188405A8B07</p>
	<p>1ND052188406A8B07</p>
	<p>1ND052188407A8B07</p>
<p>Pallet: 0078</p>	<p>Carton: 0431</p>
<p>Stock Number: 400035</p>	<p>Cartons This Order:</p>
<p>Customer P/O: 0016810017</p>	<p>0001 – 0480</p>
<p>MFR P/O: 91002556</p>	<p>MFR Line No.: 1</p>

Figure 4.2e. Pallet Label with Bar Codes of CTs Contained on the Pallet







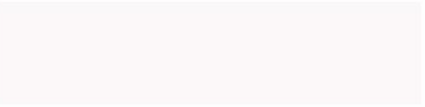

Catalog Number		
DMA10M7F-0A78-4000		
		
<hr/>		
SEATTLE CITY LIGHT		
Pallet: 0008		
<hr/>		
Stock Number:013906		Cartons This Order:
SCL P/O:450029-40		0001 - 0480
so #: 1045494	MFR Line No.: 10	
<hr/>		
Serial Numbers this Pallet		
<hr/>		
From		
		
NXA113626029F7F05		
		
To		
		
NXA113626124F7F05		
		
<hr/>		
Quantity		
	96	
		022

Figure 4.2f. Pallet Label with Bar Codes of VTs Contained on the Pallet

Catalog Number		
DMA10M7F-0A78-4000		
		
<hr/>		
SEATTLE CITY LIGHT		
Pallet: 0008		
<hr/>		
Stock Number:013906		Cartons This Order:
SCL P/O:450029-40		0001 - 0480
SO #: 1045494	MFR Line No.: 10	
<hr/>		
Serial Numbers this Pallet		
<hr/>		
From		
		
	NXA113626029F7F07	
To		
		
	NXA113626124F7F07	
<hr/>		
Quantity		
	96	
		022

5. Nameplate Approval

The manufacturer shall submit drawings or samples of initial nameplate designs to the Seattle City Light Meter Department for approval prior to production.

Initial nameplate designs shall be submitted by email to the meter lab at meter.test@seattle.gov.

6. References

ANSI C12.10-2011, Physical Aspects of Watthour Meters—Safety Standard; section 3.7.5.3, Barcoding Specifications

7. Sources

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