Bar Code, Nameplate, and Shipping Label Requirements, Electric Meters

1. Scope

This standard covers the requirements for electric meter bar codes, nameplates, and shipping labels.

2. Application

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

3. Industry Standards

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

ANSI C12.1-2008; Electric Meters Code for Electricity Metering

ANSI C12.10-2011; Physical Aspects of Watthour Meters—Safety Standard

ANSI MH10.8.1-2005; Automatic Identification and Data Capture Techniques Used in Shipping, Receiving, and Transport Applications

NEMA Publication EI-P3-1984; Bar Coding of Watthour Meter Nameplate Data

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

4. Requirements

All new meters shall have the bar code information placed on the meter 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 meter with the meter cover on.

4.1 Meter Nameplate

4.1.1 Nameplate Information

The meter nameplate shall include the following information:

- Manufacturer
- UL certification
- Type
- Form
- Class
- Volts
- Test amps
- Watthour constant
- Test constant (Kt)
- Number of wires
- Number of stators
- Frequency of 60 Hz
- Hardware and firmware versions for solid-state meters
- “Seattle City Light”
- Bar code including manufacturer serial number
- Manufacturer serial number
- 7-digit SCL-assigned badge number printed separately if it is not embedded in the serial number
- Bar code for the 7-digit SCL-assigned badge number

4.1.2 Meter Nameplate Color

All form 2S class 320 meter nameplates shall be green, but white under the bar code area.

All form 3S, 4S, 9S, 45S, and class 20 nameplates shall be red, but white under the bar code area.

All single-phase L+G meter type AL or AX shall be blue, but white under the bar code area. Blue-shaded meters will be used for Opt Out customers. See Figure 4.1.4c.

All other self-contained meter forms will be completely white.

4.1.3 Serial Number

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

The 7-digit SCL badge number shall be embedded in the serial number as the last 7 digits of the serial number, or it shall be printed as a separate number on the nameplate. See Figures 4.1.4a and 4.1.4b.

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 should be smaller to distinguish it from the SCL badge number.

4.1.4 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 meter 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 meter.

The last two characters of the bar code (characters 16 and 17) identify whether the SCL badge number is six or seven digits long and whether the SCL badge number is embedded in the serial number or is a separate number:

- Character 16 = 0 indicates the SCL badge number is six digits long.
- Character 16 = 1 indicates the SCL badge number is seven digits long.
- Character 17 = 2 indicates the badge number part of the serial number (embedded).
- Character 17 = 3 indicates the badge number is **not** part of the serial number; the SCL badge number is separate.

A separate bar code, using Code 128 subset C (compressed), for the seven-digit SCL badge number shall be printed if it is not embedded in the serial number. See Figure 4.1.4b.

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.

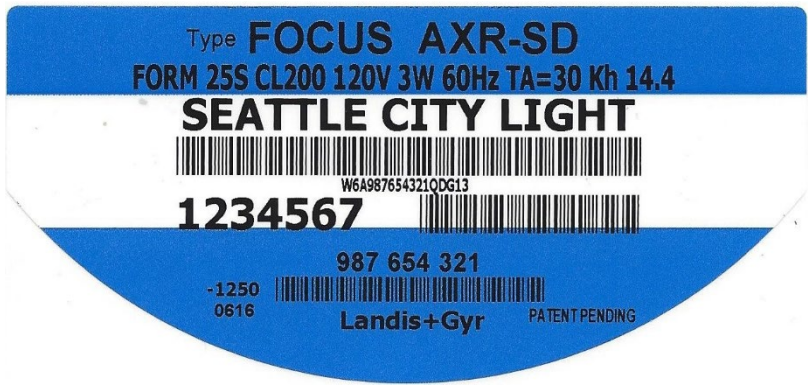
Table 4.1.4. Text Height Requirements for Bar Codes

Line	Description	Text Height (in)
1	Seattle City Light	0.1
2	Bar code per the meter specification	0.2
3	Interpretation of the bar code	0.1

Figure 4.1.4a. Label with a 7-digit SCL Badge Number Embedded in the Serial Number (Not to Scale)

Figure 4.1.4b. Label with a 7-digit SCL Badge Number Separate from the Serial Number (Not to Scale)

Figure 4.1.4c. Opt-Out Label with a 7-digit SCL Badge Number Separate from the Serial Number (Not to Scale)



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 least the following:

- Manufacturer
- Type
- Form
- Class
- Volts
- Seattle City Light purchase order (PO) number
- Seattle City Light stock number (if given on the specification).

Figure 4.2a shows a label that contains the minimum required information.

Figure 4.2a. Label without Barcodes or Serial Numbers

XYZ Company, type **X**, Form **2S**, Class **200**, **240** Volts, **SCL PO#**, and **SCL Stock #**

Each meter inside a carton shall be identified to that carton.

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

AEP barcodes for meters shall be configured as shown in Figure 4.2b, 4.2c, or 4.2d and shall identify the following:

- Manufacturer serial number
- Bar code interpretation
- SCL-assigned badge number if it is not embedded in the serial number
- Bar code for any separate SCL-assigned badge number.

Cartons and pallets shall be labeled as follows:

- Cartons shall use the label in Figure 4.2e
- Pallets shall use the label in Figure 4.2f
- Bar codes for meters 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 4.2b. Carton Label with an Embedded 7-digit SCL Badge Number

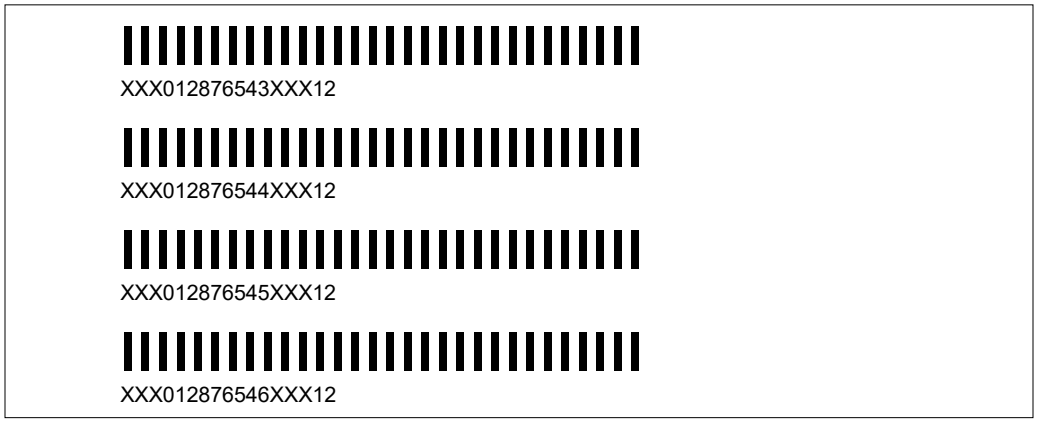


Figure 4.2c. Carton Label with a Separate 7-digit SCL Badge Number

Figure 4.2d. Carton Label with a Separate 7-digit SCL Badge Number and Additional Information

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

Meter Type **WATTHOUR METER**
MFR Name **Assembled in USA**

Catalog Number **Class 200** **Wire 3**

726X200349 **Volts 240** **Hz 60**

Form 2S **TA 30**

SEATTLE CITY LIGHT

S/N Range this order: 52186684 Thru 52188603

Pallets this Order: **Quantity This Order: 1920**

0061-0080

Carton Contains Serial Numbers
SCL Badge Numbers

1ND052188404A8B03
1833261
1ND052188405A8B03
1833262
1ND052188406A8B03
1833263
1ND052188407A8B03
1833264

Pallet: 0078 **Carton: 0431**

Stock Number: 400035 **Cartons This Order:**
Customer P/O: 0016810017 **0001 – 0480**
MFR P/O: 91002556 **MFR Line No.: 1**

SCL Badge Numbers This Pallet

1833581 **Thru** **1833676**

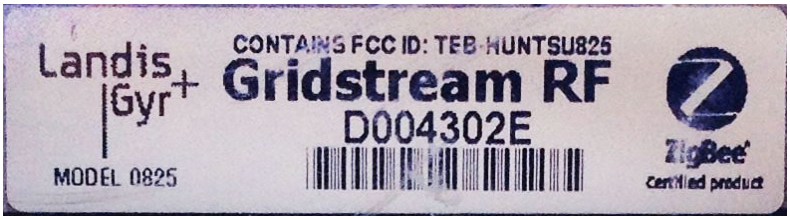
Figure 4.2f. Pallet Label with Bar Codes of Meters Contained on the Pallet

4.3 Communication Module Label

Label shall include:

- AMI network vendor name
- RF module model number/type
- RF module network ID number
- RF module network ID bar code

Figure 4.3. Communication Module Label Example



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

SCL Material Standard 4911.05, “Kilowatthour Meters, Single-Phase, Solid-State, Electronic”

SCL Material Standard 4913.05, “Kilowatthour Meters, Polyphase, Solid-State, Electronic”

SCL 4980.05 Material Standard, “Certified Test Data Requirements, Electric Meters”

7. Sources

Hanson, Brett; SCL Standards Engineer and subject matter expert for 4980.10

Matsen, Chuck; SCL Meter Electrician and subject matter expert for 4980.10

Shaw, Ben; SCL Meter Electrician and subject matter expert for 4980.10