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Please find attached the related material

For your convenience, the below describes the related updates:

Project#4790203448

For revised/new documentation, please reference 2022-09-19 in the page headings.

2 New Figures : 25,26 for Volume 1 Section 1.

2 New Illustrations : 3,4 for Volume 1 Section 1.

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-CA-2140950-2  
**Report Reference** E498920-20180911  
**Date** 27-Sep-2022

**Issued to:** JIANGYIN SPARK ELECTRONIC TECHNOLOGY CO LTD  
263  
DONGWAIHUAN RD JIANGYIN, JIANGSU 214432  
China

**This is to certify that representative samples of** XOBA7 - Energy Monitoring Equipment Certified for Canada  
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** ANSI/CAN/UL 2808, 1st Ed., Issue Date: 2020-07-22

**Additional Information:** See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

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**Report Reference** E498920-20180911  
**Date** 27-Sep-2022

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
XH-SCT-0750+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-1250+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-2000+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-3000+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-S24+	Energy Monitoring Current Transformers
XH-SCT-T06+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T10B+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T12+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T18+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T20+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Energy Monitoring Current Transformers
XH-SCT-T25+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and	Transformers



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"yyy" is the secondary voltage rating or secondary current rating.	
XH-SCT-T36+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T50+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers



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**Certificate Number** UL-US-2148827-2  
**Report Reference** E498920-20180911  
**Date** 27-Sep-2022

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263  
DONGWAIHUAN RD JIANGYIN, JIANGSU 214432  
China

**This is to certify that** XOBA - Energy Monitoring Equipment  
**representative samples of** See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** ANSI/CAN/UL 2808, 1st Ed., Issue Date: 2020-07-22

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**Date** 27-Sep-2022

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
XH-SCT-0750+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-1250+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-2000+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-3000+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-S24+	Energy Monitoring Current Transformers
XH-SCT-T06+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T10B+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T12+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T18+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T20+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Energy Monitoring Current Transformers
XH-SCT-T25+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and	Transformers



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# CERTIFICATE OF COMPLIANCE

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**Date** 27-Sep-2022

"yyy" is the secondary voltage rating or secondary current rating.	
XH-SCT-T36+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers
XH-SCT-T50+, where + represents and followed by - xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.	Transformers



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File E498920  
Project 4788284294

September 11, 2018

REPORT

on

Energy-Monitoring Current Transformers

JIANGYIN SPARK ELECTRONIC TECHNOLOGY CO LTD  
JIANGSU 214432 CHINA

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## DESCRIPTION

## PRODUCT COVERED:

USL, CNL Energy Monitoring Current Transformers, Models XH-SCT-T06+, XH-SCT-T10B+, XH-SCT-T12+, XH-SCT-T18+, XH-SCT-T20+, **XH-SCT-S24+**, XH-SCT-T25+, XH-SCT-T36+, XH-SCT-T50+, XH-SCT-0750+, XH-SCT-1250+, XH-SCT-2000+, XH-SCT-3000+, where + represents followed by -xxx/yyy, where "xxx" is the primary current rating and "yyy" is the secondary voltage rating or secondary current rating.

## ELECTRICAL RATINGS:

Models	Maximum Primary Voltage (##), V	Frequency, Hz	Max. Primary Current, A	Max. Rated Secondary (V/mA)	Ambient °C
XH-SCT-T06+	CAT III 250	50/60	80	3 V/160 mA	-40°C to 55°C
XH-SCT-T10B+	CAT III 250	50/60	80	3 V/160 mA	-40°C to 55°C
XH-SCT-T12+	CAT III 250	50/60	120	5 V/240 mA	-40°C to 55°C
XH-SCT-T18+	CAT IV 250 or CAT III 600	50/60	300	5 V/5000 mA	-40°C to 55°C
XH-SCT-T20+	CAT IV 250 or CAT III 600	50/60	200	5 V/5000 mA	-40°C to 55°C
<b>XH-SCT-S24+</b>	<b>CAT IV 250 or CAT III 600</b>	<b>50/60</b>	<b>300</b>	<b>5 V/5000 mA</b>	<b>-40°C to 55°C</b>
XH-SCT-T25+	CAT IV 250 or CAT III 600	50/60	200	5 V/400 mA	-40°C to 55°C
XH-SCT-T36+	CAT IV 250 or CAT III 600	50/60	600	5 V/5000 mA	-40°C to 55°C
XH-SCT-T50+	CAT IV 250 or CAT III 600	50/60	1000	5 V/5000 mA	-40°C to 55°C
XH-SCT-0750+	CAT IV 250 or CAT III 600	50/60	200	5 V/200 mA	-40°C to 55°C
XH-SCT-1250+	CAT IV 250 or CAT III 600	50/60	600	10 V/600 mA	-40°C to 55°C
XH-SCT-2000+	CAT IV 250 or CAT III 600	50/60	1200	10 V/1200 mA	-40°C to 55°C
XH-SCT-3000+	CAT IV 250 or CAT III 600	50/60	3000	10 V/3000 mA	-40°C to 55°C

## Note:

1. ## CAT IV also means Service Entrance and CAT III also means Non-service entrance.
2. Model XH-SCT-T12+ is similar to XH-SCT-T18+ except for size and model designation.
3. Model XH-SCT-T20+ is similar to XH-SCT-T18+ except for size and model designation.

## ENVIRONMENTAL RATINGS:

Indoor use only, -40°C to 55°C, max. altitude 2000 m, humidity tolerance of 0-95%, Pollution Degree 2/Controlled Environment.

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

**USL - Products designated USL have been investigated using US requirements as noted in the Test Record.**

**CNL - Products designated CNL have been investigated using the Canadian requirements as noted in the Test Record.**

These are open-type accessory current transformers intended for installation within distribution and control equipment such as panelboards, switchboards, industrial control equipment, and energy monitoring/management equipment, to measure current on a branch circuit.

The equipment was submitted for a maximum manufacturer's recommended ambient ( $T_{mra}$ ) of -40°C to 55°C.

The equipment is permanently connected (field wiring), for building-in. Equipment is intended for max. 250 Vac, Overvoltage Category IV or max. 600 Vac, Overvoltage Category III, Pollution Degree 2 environment or Controlled Environment.

## CONSTRUCTION DETAILS:

See Section General for additional details.

Marking - The following information shall be marked on the equipment:

- a. Primary voltage, and corresponding Overvoltage category, and frequency
- b. Primary current rating
- c. Secondary current or voltage
- d. Date of Manufacture by month(or week) and year (code as part of the serial no. may be acceptable)
- e. Listee's name or trademark
- f. Model designation
- g. "Pollution Degree 2" or "Controlled Environment"
- h. "Service Entrance" for CAT IV transformers
- i. " Overvoltage Category III" for CAT III transformers  
(Optional)
- j. Markings are molded, die-stamped, paint-stenciled, stamped or etched in metal or indelibly stamped or printed on pressure-sensitive label secured by adhesive. **Except for model XH-SCT-S24+.**
- k. Unless otherwise specified, pressure sensitive labels which contain any of the required markings shall be R/C (PGDQ2/8) suitable for minimum 80°C for the surface material or finish to which adhered.



Installation instructions shipped with each unit. The following additional information shall be included in the installation manual:

- a. Intended use of the equipment
- b. Name and address of the manufacturer or supplier from whom technical assistance may be obtained;
- c. Primary voltage, frequency and current ratings
- d. Secondary current or voltage
- e. Current transformers evaluated for use in a service entrance location shall be marked "Service Entrance".
- f. Current transformers marked "Service Entrance" may additionally be marked "Overvoltage Category IV" or "CAT IV". Non-service entrance types may optionally be marked "Overvoltage Category III" or "CAT III".
- g. Pollution Degree 2
- h. Indoor use
- i. Operating ambient temperature rating -40 to 55°C
- j. Relative humidity rating
- k. Statement that if the equipment is used in a manner not specified by JIANGYIN SPARK ELECTRONIC TECHNOLOGY CO LTD, the protection provided by the equipment may be impaired.
- l. Instructions for the installation and removal of the current transformers shall include the following statements:
  - i. "WARNING" "To reduce the risk of electric shock, always open or disconnect circuit from power-distribution system (or service) of building before installing of servicing current transformers";
  - ii. The current transformers may not be installed in equipment where they exceed 75 percent of the wiring space of any cross-sectional area within the equipment;
  - iii. Restrict installation of current transformer in an area where it would block ventilation openings;
  - iv. Restrict installation of current transformer in area of breaker arc venting;
  - v. "Not suitable for Class 2 wiring methods" and "Not intended for connection to Class 2 equipment"; and
  - vi. Secure current transformer and route conductors so that they do not directly contact live terminals or bus

- m. the word "WARNING" and the following or equivalent statement,  
"To reduce the risk of electric shock, always open or  
disconnect circuit from power-distribution system (or service)  
of building before installing or servicing current  
transformers.

MODEL XH-SCT-T50+ - FIGS. 1 AND 2  
(ALSO REPRESENTS MODELS XH-SCT-T06+ - FIGS. 3 & 4, XH-SCT-T10B+ - FIGS. 5 & 6,  
XH-SCT-T18+ - FIGS. 7 & 8, XH-SCT-T12+ - FIGS. 9 & 10, XH-SCT-T36+ - FIGS. 11  
& 12, **XH-SCT-T20+ - FIGS. 23 & 24**)

General - Model XH-SCT-T50+ is constructed as described below. All Models are similar except hosing and core size, and Pressure sensitive labels which contain any of the required markings shall be R/C (PGDQ2/8) or R/C (PGJI2/8), suitable for minimum 100°C and for the PA66 surface material.

Housing - R/C (QMFZ2), PA66. Consists of three pieces, minimum thickness is 0.8 mm. Case halves are secured together by pressure. R/C (QMFZ2), ASAHI KASEI CORP (E48285), Type FR200(k)(p), HWI=3, HAI=0, CTI 0, rated V-0, 105°C. See ILL.1 for dimensions. **See ILL. 2 for model XH-SCT-T20+ dimensions.**

Coil - R/C (OBMW2), Enameled copper wire wound on core. Ends are soldered to lead wires. Rated minimum is 130°C.

Bobbin - R/C (QMFZ2), ASAHI KASEI CORP (E48285), Type FR200(k)(p), HWI=3, HAI=0, rated V-0, 105°C, minimum 0.8 mm thick.

Core - Steel grain oriented silicon. See ILL. 1 for dimensions.

Winding Outerwrap - R/C (OANZ2), PET film insulating tapes with acrylic adhesive, rated minimum 130°C, two layers provided, minimum 0.025 mm thick per layer.

Lead wire - R/C (AVLV2/8), rated min 600V, 105°C, with min 0.75 mm thick insulation, Min 1.5 m length. See the below table for lead type and size.

Burden Component - See below table for the information.

Model	Figs.	Wire Gauge, Style/AWG	Resistance, Watt	Resistance, ohm	Diode Type (for current output)
			(for voltage output)		
XH-SCT-T06+	3, 4	1015/18 AWG	1/4 Watt,	MAX 100	P4KE12CA for 1 mA, 12V, P4KE6.8 CA for 10 mA, 6.8V.
XH-SCT-T10B+	5, 6			MAX 100	
XH-SCT-T18+	7, 8			MAX 100	
<b>XH-SCT-T20+</b>	<b>23, 24</b>			<b>MAX 100</b>	
XH-SCT-T12+	9, 10			MAX 200	
XH-SCT-T36+	11, 12			MAX 200	
XH-SCT-T50+	1, 2			MAX 50	

Latch - PVC material. Use to hold Transformers Housing in position.

**Potting material - R/C (QMFZ2), GUANGZHOU POCHELY NEW MATERIAL TECHNOLOGY CO LTD(E204979), Type 5225A/B, minimum 0.8 mm, all color, rated V-0, 130 °C, HWI=2, HAI=0. Completely potted the inside of housing, void and bubble free.**

MODEL XH-SCT-3000+ - FIGS. 13 AND 14  
(ALSO REPRESENTS MODELS XH-SCT-0750+ - FIGS. 15 & 16, XH-SCT-1250+ - FIGS. 17  
& 18, XH-SCT-2000+ - FIGS. 19 & 20)

General - Model XH-SCT-3000+ is constructed as described in below. All Models are similar except hosing and core size.

Housing - R/C (QMFZ2), PA66. Consists of three pieces, minimum thickness is 0.8 mm. Case halves are secured together by pressure. R/C (QMFZ2), ASAHI KASEI CORP (E48285), Type FR200(k) (p), HWI=3, HAI=0, rated V-0, 105°C. See ILL.1 for dimensions.

Coil - R/C (OBMW2), Enameled copper wire wound on core. Ends are soldered to lead wires. Rated minimum is 130°C.

Bobbin - R/C (QMFZ2), ASAHI KASEI CORP (E48285), Type FR200(k) (p), HWI=3, HAI=0, rated V-0, 105°C, minimum 0.75 mm thick.

Core - Steel grain oriented silicon. See ILL. 1 for dimensions.

Winding Outerwrap - R/C (OANZ2), PET film insulating tapes with acrylic adhesive, rated minimum 130°C, two layers provided, minimum 0.025 mm thick per layer.

Lead wire - R/C (AVLV2/8), rated min 600V, 105°C, with min 0.75 mm thick insulation, Min 1.5 m length. See the below table for lead type and size.

Burden Component - See below table for the information.

Model	Figs.	Wire Gauge, Style/AWG	Resistance, ohm	Resistance, ohm	Diode Type (for current output)
			(for voltage output)		
XH-SCT-0750+	15, 16	1015/18AWG	1/4 Watt,	200	P4KE12CA for 1 mA, 12V,
XH-SCT-1250+	17, 18			200	P4KE6.8 CA for 10 mA, 6.8V.
XH-SCT-2000+	19, 20			200	
XH-SCT-3000+	13, 14			30	

Potting material - R/C (QMFZ2), GUANGZHOU POCHELY NEW MATERIAL TECHNOLOGY CO LTD(E204979), Type 5225A/B, minimum 0.8 mm, all color, rated V-0, 130 °C, **HWI=2, HAI=0. Completely potted the inside of housing, void and bubble free.**



## MODEL XH-SCT-T25+ - FIGS. 21 AND 22

General - Model XH-SCT-T25+ is constructed as described in below. All Models are similar except hosing and core size.

Housing - R/C (QMFZ2), PA66. Consists of three pieces, minimum thickness is 0.8 mm. Case halves are secured together by pressure. R/C (QMFZ2), ASAHI KASEI CORP (E48285), Type FR200(k) (p), HWI=3, HAI=0, CTI=0, rated V-0, 105°C. See ILL.1 for dimensions.

Coil - R/C (OBMW2), Enameled copper wire wound on core. Ends are soldered to lead wires. Rated minimum is 130°C.

Bobbin - R/C (QMFZ2), ASAHI KASEI CORP (E48285), Type FR200(k) (p), HWI=3, HAI=0, rated V-0, 105°C, minimum 1.6 mm thick.

Core - Steel grain oriented silicon. See ILL. 1 for dimensions.

Winding Outerwrap - R/C (OANZ2), PET film insulating tapes with acrylic adhesive, rated minimum 130°C, two layers provided, minimum 0.025 mm thick per layer.

Lead wire - R/C (AVLV2/8), rated min 600V, 105°C, with min 0.75 mm thick insulation, Min 1.5 m length. See the below table for lead type and size.

Burden Component - See below table for the information.

Model	Figs.	Wire Gauge, Style/AWG	Resistance, Watt/ohm (for voltage output)	Diode Type (for current output)
XH-SCT-T25+	21, 22	1015/18 AWG,	1/4 Watt, 100 ohms	P4KE12CA for 1 mA, 12V, P4KE6.8 CA for 10 mA, 6.8V.

Potting material - R/C (QMFZ2), GUANGZHOU POCHELY NEW MATERIAL TECHNOLOGY CO LTD(E204979), Type 5225A/B, minimum 0.8 mm, all color, rated V-0, 130 °C, **HWI=2, HAI=0. Completely potted the inside of housing, void and bubble free.**

## MODEL XH-SCT-S24+ - FIGS. 25 AND 26

General - Model XH-SCT-S24+ is constructed as described in below. All Models are similar except hosing and core size. And Pressure sensitive labels which contain any of the required markings shall be R/C (PGDQ2/8) or R/C (PGJI2/8), suitable for minimum 80°C and for the PC/ABS surface material.

Housing - R/C (QMFZ2), PC/ABS. Consists of three pieces, minimum thickness is 1.5 mm. Case halves are secured together by ultrasonic welding. R/C (QMFZ2/8), Covestro Deutschland AG [PC Resins] (E41613), Type FR3010 +, HWI=3, HAI=0, CTI=0, rated V-0, 95°C. See ILL. 3 for dimensions.

Coil - R/C (OBMW2), Enameled copper wire wound on core. Ends are soldered to lead wires. Rated minimum is 130°C.

Core - Steel grain oriented silicon. Outerwrap - R/C (OANZ2), PET film insulating tapes with acrylic adhesive, rated minimum 130°C, two layers provided, minimum 0.025 mm thick per layer.

Winding Outerwrap - R/C (OANZ2), PET film insulating tapes with acrylic adhesive, rated minimum 130°C, two layers provided, minimum 0.025 mm thick per layer.

Lead wire - R/C (AVLV2/8), Style 1015, 20 AWG, rated min 600V, 105°C, with min 0.75 mm thick insulation. See the below table for lead type and size.

Output Cord Strain Relief Bushing - PVC bushing integrally molded on Output Cord and physically fitted in Housing. Rated 105°C. Dimensions see the strain relief ILL. 4.

Burden Component - See below table for the information.

Model	Figs.	Wire Gauge, Style/AWG	Resistance, Watt/ohm (for voltage output)	Diode Type (for current output)
XH-SCT-S24+	25, 26	1015/20 AWG	1/4 Watt, Max. 100 ohms	P4KE12CA for 1 mA, 12V

Figure-1 Page-1



Figure-2 Page-1





Figure-3 Page-1



Figure-4 Page-1



Figure-5 Page-1



Figure-6 Page-1

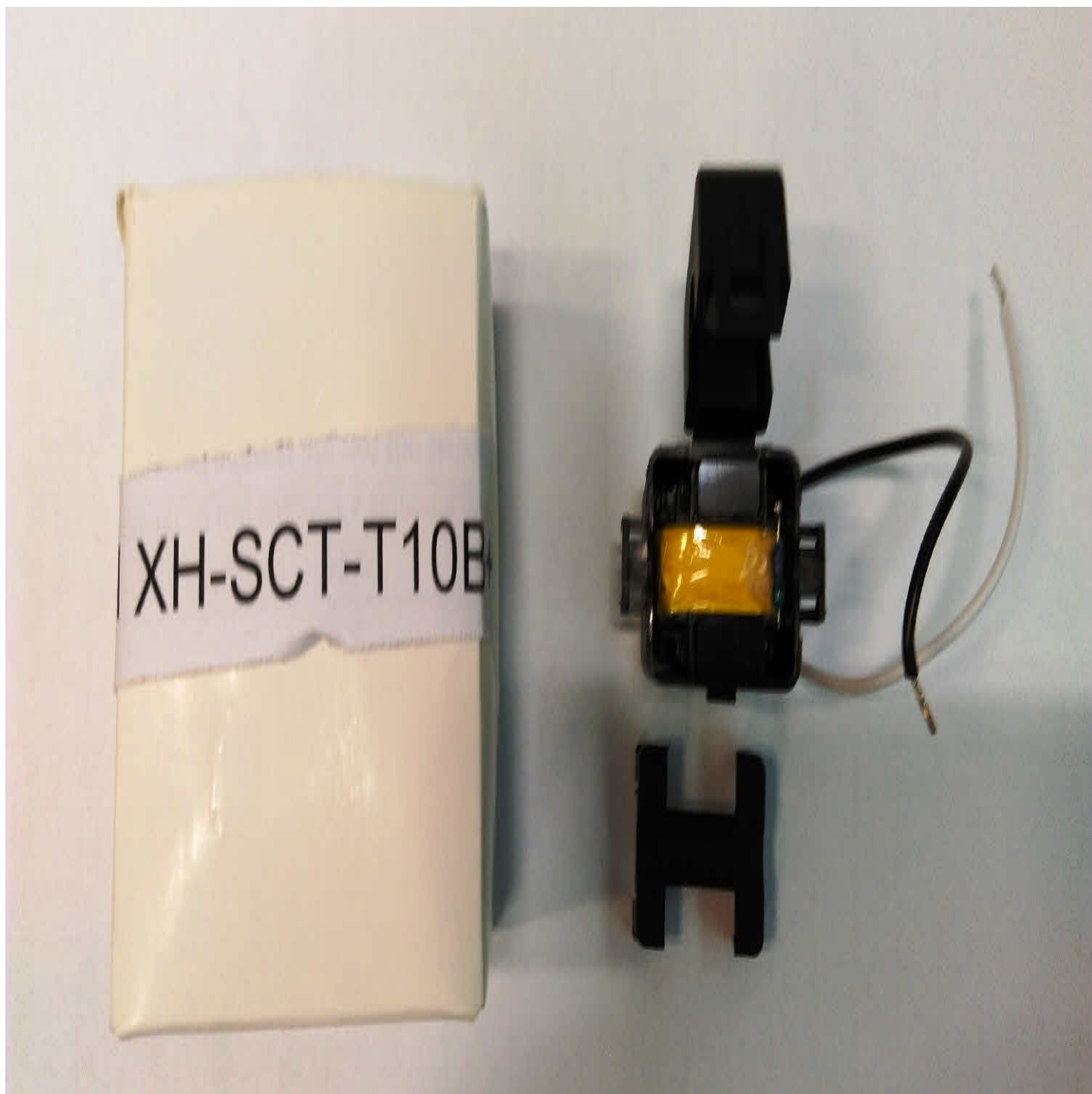


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Figure-8 Page-1





Figure-9 Page-1





Figure-10 Page-1

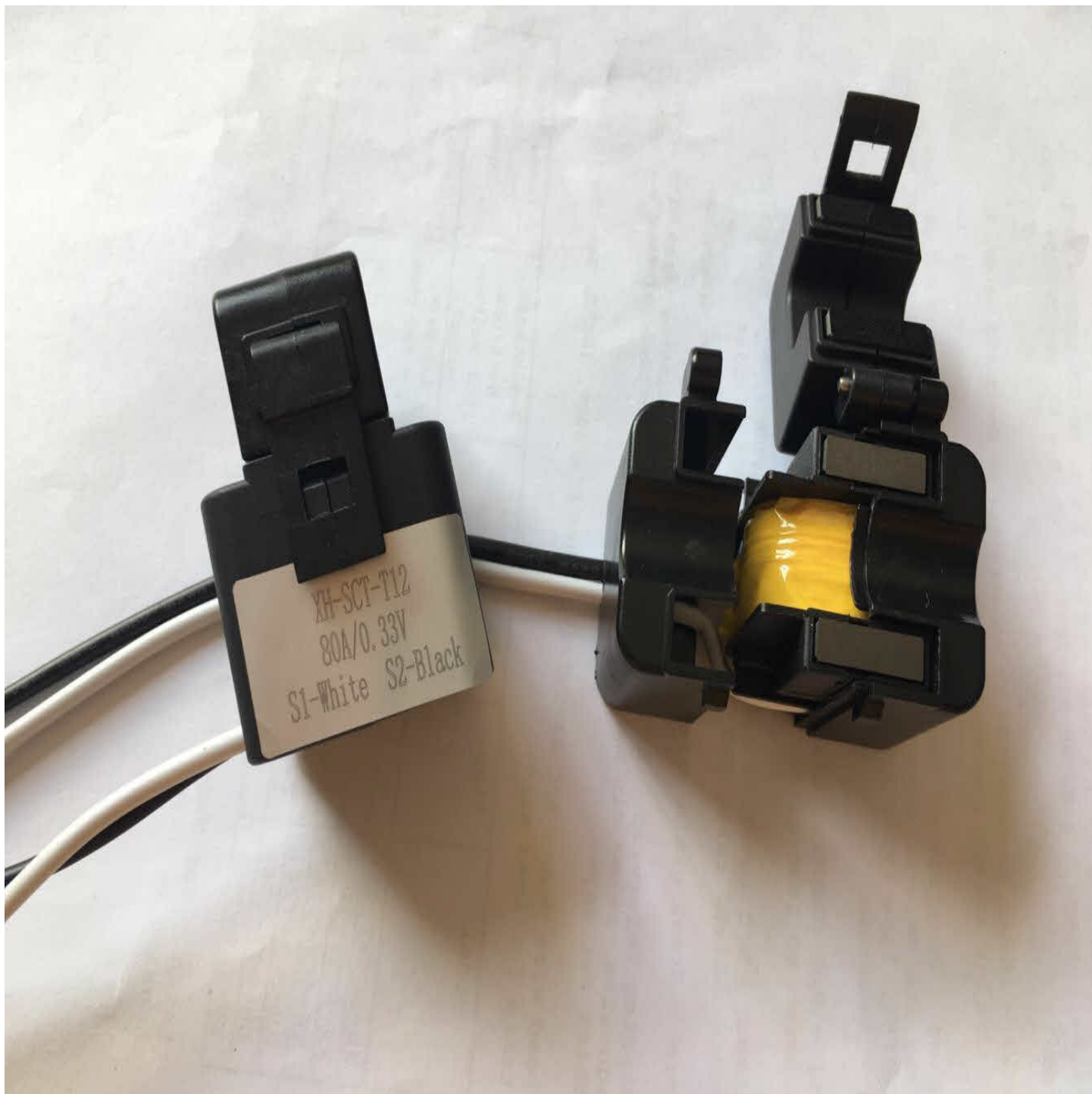


Figure-11 Page-1



Figure-12 Page-1



Figure-13 Page-1



Figure-14 Page-1





Figure-15 Page-1



Figure-16 Page-1





Figure-17 Page-1



Figure-18 Page-1



Figure-19 Page-1



Figure-20 Page-1





Figure-21 Page-1



Figure-22 Page-1



Figure-23 Page-1





Figure-24 Page-1



Figure-25 Page-1

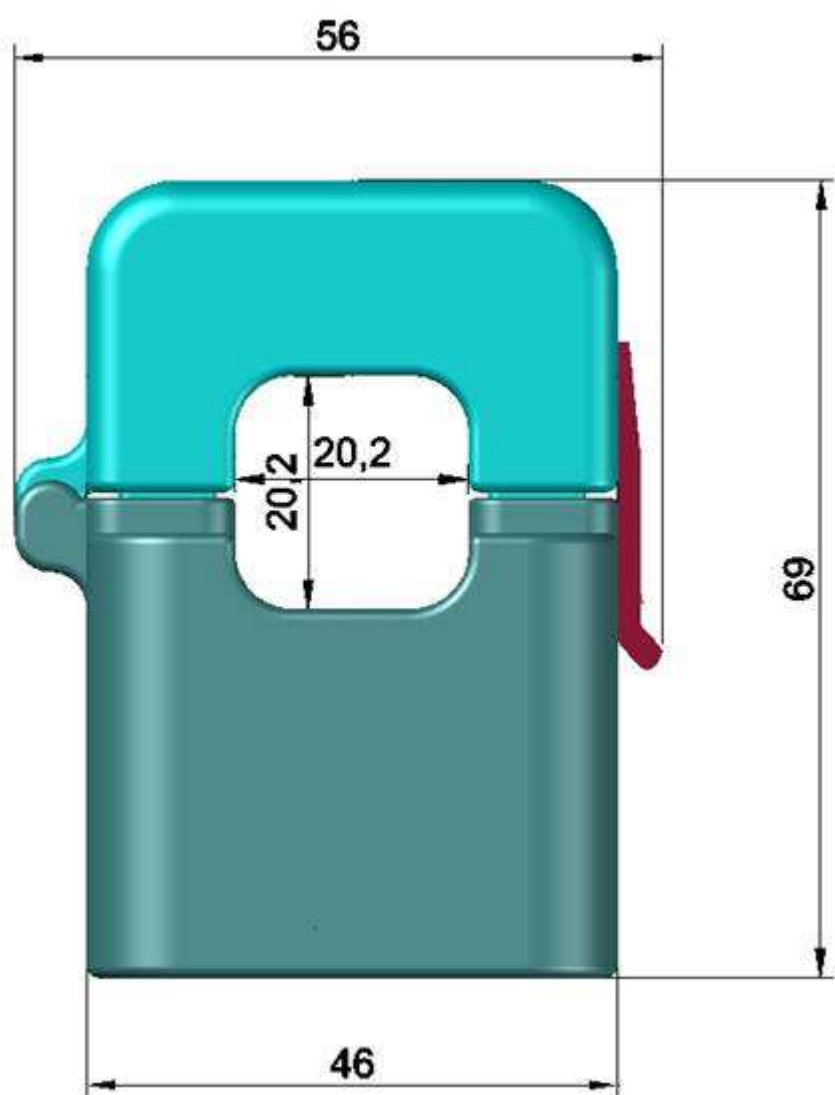




Figure-26 Page-1



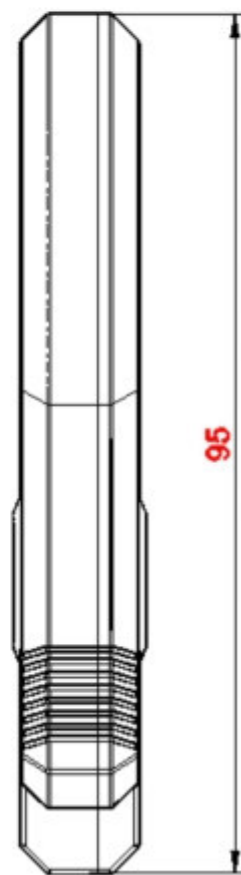
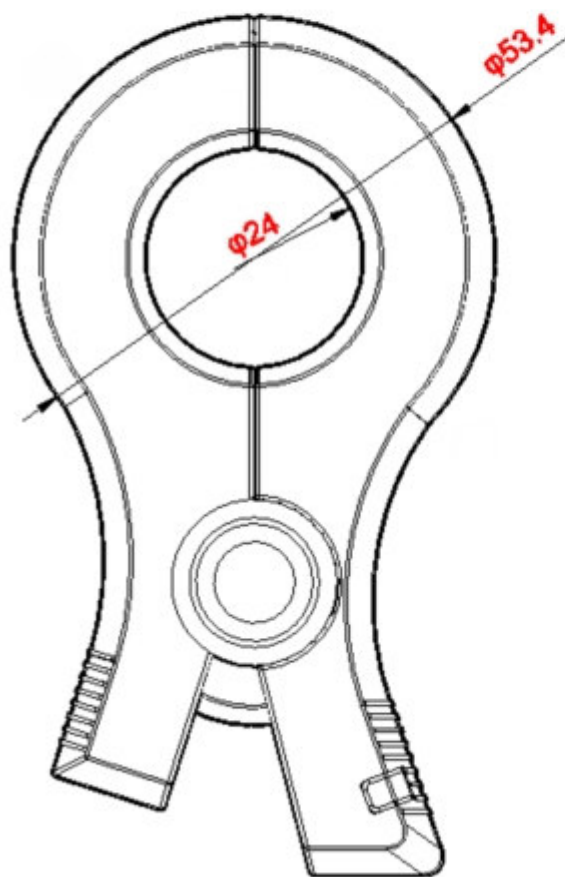
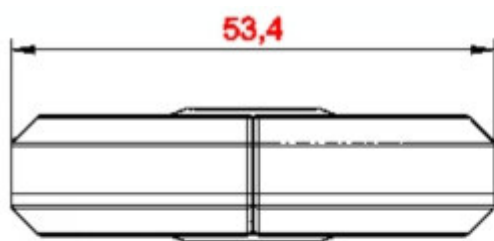
The following Page(s) are related to Illustration-2. The next supplement, if applicable, will be identified with a new Supplement Page Heading.



unit: mm

The following Page(s) are related to Illustration-3. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

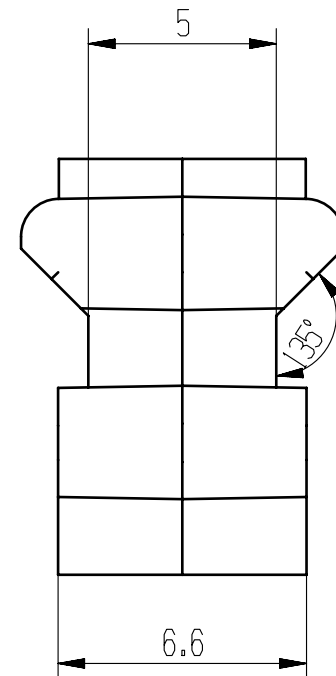
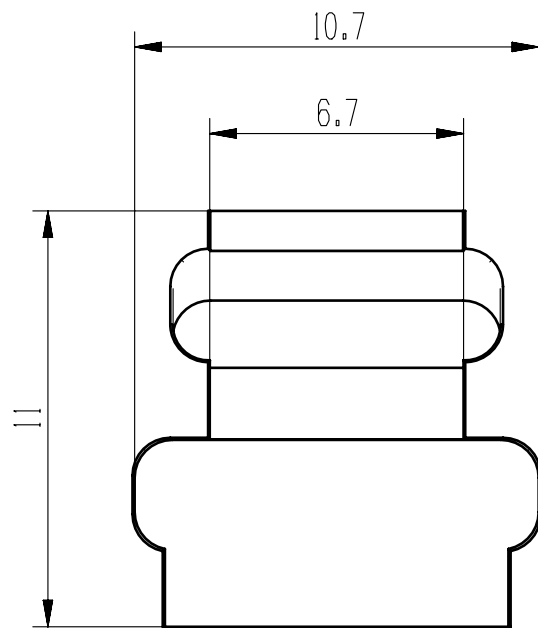
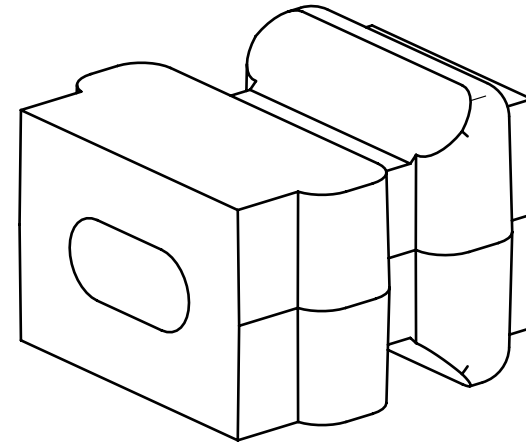
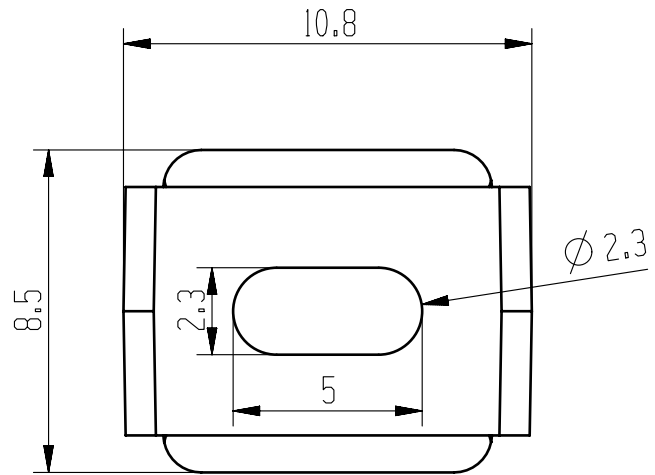
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The following Page(s) are related to Illustration-4. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

unit: mm



TEST RECORD NO. 1

## SAMPLES:

Samples of the current transformers as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

Models	Maximum Primary Voltage , V	Freque ncy, Hz	Max. Primary Current, A	Max. Rated Secondary (V/mA)	RF	Maximum Ambient °C
XH-SCT-T06+	CAT III 250	50/60	80	3 V/160 mA	1.0	55
XH-SCT-T10B+	CAT III 250	50/60	80	3 V/160 mA	1.0	55
XH-SCT-T12+	CAT III 250	50/60	120	5 V/240 mA	1.0	55
XH-SCT-T18+	CAT IV 250 or CAT III 600	50/60	300	5 V/5000 mA	1.0	55
XH-SCT-T25+	CAT IV 250 or CAT III 600	50/60	200	5 V/400 mA	1.0	55
XH-SCT-T36+	CAT IV 250 or CAT III 600	50/60	600	5 V/5000 mA	1.0	55
XH-SCT-T50+	CAT IV 250 or CAT III 600	50/60	1000	5 V/5000 mA	1.0	55
XH-SCT-0750+	CAT IV 250 or CAT III 600	50/60	200	5 V/200 mA	1.0	55
XH-SCT-1250+	CAT IV 250 or CAT III 600	50/60	600	10 V/600 mA	1.0	55
XH-SCT-2000+	CAT IV 250 or CAT III 600	50/60	1200	10 V/1200 mA	1.0	55
XH-SCT-3000+	CAT IV 250 or CAT III 600	50/60	3000	10 V/3000 mA	1.0	55

Models XH-SCT-T06+, XH-SCT-T50+, XH-SCT-0750+, XH-SCT-3000+, XH-SCT-T25+ were used for test purposes and considered representative of the entire series due to follow sampling selecting rule from CCN XODW2/8 of E341727, Report Date 2017-09-29, which has the identical models but applying for similar standards for Current Transformer IEEE C57.13 STANDARD REQUIREMENTS FOR INSTRUMENT TRANSFORMERS and CAN/CSA-C61869-1 INSTRUMENT TRANSFORMERS - PART 1: GENERAL REQUIREMENTS- and CAN/CSA C61869-2:14 INSTRUMENT TRANSFORMERS - PART 2: ADDITIONAL REQUIREMENTS FOR CURRENT TRANSFORMERS.

## GENERAL:

Test results relate only to the items tested.

The following tests were conducted.

TEST	STANDARD	CODE (See Below)	CLAUSE
LIMIT VALUES FOR ACCESSIBLE PARTS; PERMISSIBLE LIMIT TEST	CSA C22.2 NO. 61010-1 UL 2808	S	6.3 16.1
TEMPERATURE TEST	CSA C22.2 NO. 61010-1 UL 2808	S	10.1-10.4 15.1-15.11
RESISTANCE TO HEAT OF NON-METALLIC ENCLOSURE TEST	CSA C22.2 no 61010-1 <u>UL 2808</u>	MS	10.5.2 11.1
DIELECTRIC STRENGTH TEST	CSA C22.2 No. 61010-1 UL 2808	S	6.8 12.1-12.2
LEAD SECUREMENT TEST	UL 2808	OS	13.1-13.2

S = Same test.

C = Combined test (identified by the test names of two or more similar tests in multiple standards) to represent the worst-case parameters of the similar tests.

OS = Testing requirements come from one standard only.

MS = One of the two or more standards identified is more severe and the more severe one is indicated by underlining.

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in UL 2808 Outline of Investigation for Energy Monitoring Current Transformers - Edition 3 - Revision Date 2016/06/10 and CSA C22.2 No. 61010-1-12-CAN/CSA Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Edition 3 - Revision Date 2016/04/01.

#### Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

TEST RECORD NO. 2

SAMPLES:

Sample of the current transformers as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

Models	Maximum Primary Voltage , V	Freque ncy, Hz	Max. Primary Current, A	Max. Rated Secondary (V/mA)	RF	Maximum Ambient °C
XH-SCT-T20+	CAT IV 250 or CAT III 600	50/60	200	5 V/5000 mA	1.0	55

Due to similarity to series Model XH-SCT-T18+ which previously investigated in Test Record No.1 of this report, only the following tests were considered necessary.

GENERAL:

Test results relate only to the items tested.

The following tests were conducted.

MOLD STRESS RELIEF TEST (ANSI/CAN/UL2808, CLAUSE 13)

DIELECTRIC VOLTAGE-WITHSTAND TEST (ANSI/CAN/UL2808, CLAUSE 14)

LEAD SECUREMENT TEST (ANSI/CAN/UL2808, CLAUSE 15)

PERMANENCE OF MARKING TEST (ANSI/CAN/UL2808, CLAUSE 16)

TEMPERATURE TEST (ANSI/CAN/UL2808, CLAUSE 17)

PERMISSIBLE LIMIT TEST (ANSI/CAN/UL2808, CLAUSE 18)



The test methods and results of the above tests have been reviewed and found in accordance with the requirements in United States Standard for Safety for Energy Monitoring Equipment, ANSI/CAN/UL 2808, First Edition, Dated July 22, 2020.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements to in United States Standard for Safety for Energy Monitoring Equipment, ANSI/CAN/UL 2808, First Edition, Dated July 22, 2020 and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Edition or Publication Date	Latest Revision Date
ANSI/CAN/UL2808	Energy Monitoring Equipment	1ST Edition	Issue Date 2020-07-22

Test Report by:

Reviewed by:

JASON WANG (T)  
Engineer Project Associate

Donna Xu  
Staff Engineer

JOHNSON WANG  
Senior Project Engineer

TEST RECORD NO. 3

SAMPLES:

Sample of the current transformers as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

Models	Maximum Primary Voltage , V	Freque ncy, Hz	Max. Primary Current, A	Max. Rated Secondary (V/mA)	RF	Maximum Ambient °C
XH-SCT-S24+	CAT IV 250 or CAT III 600	50/60	300	5 V/5000 mA	1.0	55

Due to similarity to series Models which previously investigated in Test Record No.1 of this report, only the following tests were considered necessary.

GENERAL:

Test results relate only to the items tested.

The following tests were conducted.

MOLD STRESS RELIEF TEST (ANSI/CAN/UL2808, CLAUSE 13)

DIELECTRIC VOLTAGE-WITHSTAND TEST (ANSI/CAN/UL2808, CLAUSE 14)

LEAD SECUREMENT TEST (ANSI/CAN/UL2808, CLAUSE 15)

PERMANENCE OF MARKING TEST (ANSI/CAN/UL2808, CLAUSE 16)

TEMPERATURE TEST (ANSI/CAN/UL2808, CLAUSE 17)

PERMISSIBLE LIMIT TEST (ANSI/CAN/UL2808, CLAUSE 18)

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in United States Standard for Safety for Energy Monitoring Equipment, ANSI/CAN/UL 2808, First Edition, Dated July 22, 2020.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements to in United States Standard for Safety for Energy Monitoring Equipment, ANSI/CAN/UL 2808, First Edition, Dated July 22, 2020 and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Edition or Publication Date	Latest Revision Date
ANSI/CAN/UL2808	Energy Monitoring Equipment	1ST Edition	Issue Date 2020-07-22

Test Report by:

JASON WANG  
Engineer Project Associate

Reviewed by:

Donna Xu  
Staff Engineer

## CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the category and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the sample(s) investigated by UL and does not signify UL certification or that the product(s) described are covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the UL Listing Mark on such products which comply with UL's Follow-Up Service Procedure and any other applicable requirements of UL LLC. The Listing Mark of UL LLC on the product, or the UL symbol on the product and the Listing Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Listing and Follow-Up Service.

This Report is intended solely for the use of UL LLC (UL) and the Applicant for establishment of UL certification coverage of the described product(s) under UL's Follow-Up Service. UL retains all rights, title and interest (including exclusive ownership) in this Report and all copyright therein. The Applicant or its designated agent shall not disclose or otherwise distribute this Report or its contents to any third party, except as required for purposes of compliance with laws, regulations, or other existing agreements or schemes in which UL is currently a participant. Any other use of this Report including, without limitation, evaluation or certification by a party other than UL is prohibited and renders this Report null and void. UL shall not incur any obligation or liability for any loss, expense, or punitive damages, arising out of, or in connection with, the use or reliance upon the contents of this Report to anyone other than the Applicant as provided in the agreement between UL and Applicant. Any use or reference to UL's name or certification mark(s) by anyone other than the Applicant in accordance with the agreement is prohibited without the express written approval of UL. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. UL shall not otherwise be responsible to anyone for the use of or reliance upon the contents of this Report.

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PDE

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