

# Solid-Core CT, Split-Core CT and Current-Probe Selection Guide

## PMC-CT, PMC-SCCT and PMC-SCCP

series are specifically designed to be used with CET's Meters and Analyzers for non-intrusive or retrofit applications. They feature quality construction and high accuracy with excellent dynamic range that cover a wide application range with rated current from 5A to 5000A. There should be one to suit your application. PMC-CT and PMC-SCCT are current transformers, designing to match the rated input and burden of CET's devices to guarantee the best measurement accuracy. PMC-SCCP current probes are voltage-output sensor with BNC connector, guaranteeing the measurement safety, noise immunity and easy connection. It is extremely important to observe the cautionary notes to use these current measurement instruments safely.

## Caution

- Avoid using the instrument if it has been exposed to rain or moisture, or if your hands are wet.
- To avoid unexpected injury when performing measurements on live conductors, always put on insulated gloves, boots, safety helmet and other personal protective equipment.
- The instrument should only be connected to the secondary side of a breaker, which is designed to prevent accidents in the event of a short circuit. The product should never be used on the primary side of a breaker because un-restricted current could cause serious accidents if a short circuit occurs.
- To avoid short circuits and potentially life threatening hazards, never attach the instrument to a circuit that operates at a voltage exceeding its rated value.
- Never use the instrument to measure currents that are higher than the rated maximum limit for an extended period of time or it may cause permanent damage to the instrument.
- Do not use the instrument around non-insulated conductors or if the insulation has been damaged.
- The secondary output should be connected to the receiving circuit and should not be left open-circuited before connecting the instrument to a live conductor.
- Dropping the instrument or subjecting it to mechanical shock could cause damage to the contact mechanism and adversely affect its measurement accuracy.



## Limited Warranty

The instrument is guaranteed for one year from the Date of Purchase against any manufacturing defects. Shall the product fail to perform according to the specifications during the warranty period due to manufacturing defects, it will be replaced free of charge. However, the warranty would be void under the following conditions:

1. There are obvious signs that the product has been tampered with.
2. The product has been damaged due to incorrect operation under conditions other than those specified in this document.

**No responsibility is accepted for any injuries, losses, damage or costs as a result, directly or indirectly, of manufacturing defects, mishandling or incorrect operation of the instrument.**

# PMC-CT Technical Specifications



PMC-CT-50A-40mA-3P-A  
PMC-CT-100A-40mA-3P-A



PMC-CT-250A-40mA-3P-A



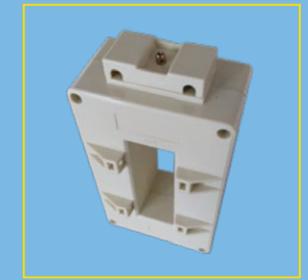
PMC-CT-630A-40mA-3P-A



PMC-CT-100A-40mA-12-A



PMC-CT-250A-40mA-A  
PMC-CT-400A-40mA-A



PMC-CT-800A-40mA-A

Technical Specifications	Rated Primary Current (In)	50A & 100A	250A	630A	100A	250A & 400A	800A
	Rated Secondary Current	40mA	40mA	40mA	40mA	40mA	40mA
	Maximum Current (Imax)	60A & 120A, continuous	300A, continuous	756A, continuous	120A, continuous	300A & 480A, continuous	960A, continuous
	Accuracy	Class 0.1 (IEC61869-2)	Class 0.2 (IEC61869-2)	Class 0.2 (IEC61869-2)	Class 0.2 (IEC61869-2)	Class 0.2 (IEC61869-2)	Class 0.2 (IEC61869-2)
	Linearity	0.1% (5%In-120%In)	0.2% (5%In-120%In)	0.2% (5%In-120%In)	0.1% (5%In-120%In)	0.2% (5%In-120%In)	0.2% (5%In-120%In)
	Magnitude Accuracy (@full load)	±0.1%	±0.2%	±0.2%	±0.1%	±0.2%	±0.2%
	Phase Accuracy (@full load)	±10'	±30'	±15'	4±4'	±15'	±15'
	Rated Load	20Ω	50Ω	50Ω	20Ω	20Ω	20Ω
	Bandwidth	50-400Hz	40-400Hz	40-400Hz	50-400Hz	50-400Hz	50-400Hz
	Withstand Voltage (Core to Coil)	4000V/min, 1mA	2500V/min, 1mA	2500V/min, 1mA	2500V/min, 1mA	4000V/min, 1mA	4000V/min, 1mA
	Insulation Resistance	1000MΩ/500VDC, 1min	1000MΩ/500VDC, 1min	1000MΩ/500VDC, 1min	1000MΩ/500VDC, 1min	1000MΩ/500VDC, 1min	1000MΩ/500VDC, 1min
	Open-Circuit Protection Voltage	Transient Voltage Suppressor: TVS-P6KE6.8CA	Transient Voltage Suppressor: TVS-P6KE6.8CA	Transient Voltage Suppressor: TVS-P6KE6.8CA	Transient Voltage Suppressor: TVS-P6KE6.8CA	Transient Voltage Suppressor: TVS-P6KE6.8CA	Transient Voltage Suppressor: TVS-P6KE6.8CA
	Applicable Meter	PMC-512-A	PMC-512-A	PMC-512-A	PMC-512-A, PMC-592	PMC-512-A, PMC-592	PMC-512-A, PMC-592
	RoHS Compliance	√	√	√	√	√	√
Mechanical Characteristics	Enclosure	ABS Flame Retardant	ABS Flame Retardant	ABS Flame Retardant	ABS Flame Retardant	ABS Flame Retardant	ABS Flame Retardant
	Dimensions (WxHxD mm)	53x62x72	59x127x52	184x78x65	52x40x22	59x79x31	105x191x56
	CT Window	3x Ø10mm	3x Ø20mm	3x Ø40mm	Ø12mm	31x24mm	103x33mm
	Core Type	3-P Moulded Case	3-P Moulded Case	3-P Moulded Case	Solid-Core	Solid-Core	Solid-Core
	Secondary Output Cable	2m, UL 20251 28AWG 6P6C 3U Flat wire, with RJ12 Connector	2m, UL 20251 28AWG 6P6C 3U Flat wire, with RJ12 Connector	2m, UL 20251 28AWG 6P6C 3U Flat wire, with RJ12 Connector	2m, UL1015 22AWG Black and White Stranded Wire	N/A	N/A
Environmental Conditions	Operating Temperature	-40°C to 85°C	-40°C to 75°C	-40°C to 75°C	-40°C to 75°C	-40°C to 85°C	-40°C to 85°C
	Humidity	≤95%	≤75%	≤75%	≤95%	≤95%	≤95%
	Atmospheric Pressure	80-110kpa	80-110kpa	80-110kpa	80-110kpa	80-110kpa	80-110kpa

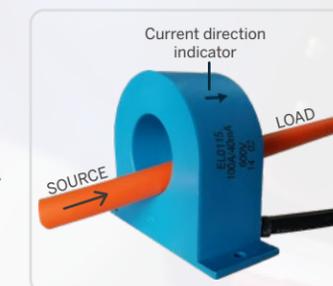
## CT Installation Procedure

### Connect CT to Circuit:

- Completely shut down the power circuit before CT installation.
- Secure CT on board and connect the CT's secondary output to meter terminals.
- The phase conductor being measured should be disconnected at one end and feedthrough the CT opening.
- Verify if the CT is installed in the same current flow direction as marked on CT.
- Reconnect the conductor to the power circuit.
- For personnel safety and device protection. It is very important to maintain a closed circuit on the secondary winding when current is flowing through the primary circuit.
- If meter or device in the secondary circuit need to be serviced. A CT shorting block should be used to maintain a closed circuit on CT secondary.

### Disconnect CT from Circuit:

- Completely shut down the power circuit before removing CT.
- Remove the phase conductor from one end. Remove the CT from the conductor and from meter terminals.
- Reconnect the conductor to the power circuit.



# PMC-SCCT Technical Specifications



PMC-SCCT-5A-1.667mA-A

PMC-SCCT-5A-2mA-A

PMC-SCCT-100A-40mA-A

PMC-SCCT-200A-40mA-A

PMC-SCCT-400A-40mA-A

PMC-SCCT-800A-40mA-A

PMC-SCCT-1600A-40mA-A

	PMC-SCCT-5A-1.667mA-A	PMC-SCCT-5A-2mA-A	PMC-SCCT-100A-40mA-A	PMC-SCCT-200A-40mA-A	PMC-SCCT-400A-40mA-A	PMC-SCCT-800A-40mA-A	PMC-SCCT-1600A-40mA-A
<b>Rated Primary Current</b>	5A	5A	100A	200A	400A	800A	1600A
<b>Rated Secondary Current</b>	1.667mA	2mA	40mA	40mA	40mA	40mA	40mA
<b>Maximum Current (Imax)</b>	10A, continuous	20A, continuous	120A, continuous	240A, continuous	480A, continuous	960A, continuous	1920A, continuous
<b>Accuracy</b>	Class 1 (IEC61869-2)	Class 1 (IEC61869-2)	Class 0.5 (IEC61869-2)	Class 0.5 (IEC61869-2)	Class 0.5 (IEC61869-2)	Class 0.5 (IEC61869-2)	Class 0.5 (IEC61869-2)
<b>Linearity</b>	1% (5%In-120%In)	1% (5%In-400%In)	0.5% (5%In-120%In)	0.5% (5%In-120%In)	0.5% (5%In-120%In)	0.5% (5%In-120%In)	0.2% (5%In-120%In)
<b>Magnitude Accuracy (@full load)</b>	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
<b>Phase Accuracy (@full load)</b>	85 ± 15'	70 ± 20'	40 ± 15'	20 ± 10'	10 ± 10'	15 ± 10'	3 ± 5'
<b>Rated Load</b>	200Ω	226Ω	20Ω	10Ω	10Ω	10Ω	10Ω
<b>Bandwidth</b>	50-400Hz	50-400Hz	50-400Hz	50-400Hz	50-400Hz	50-60Hz	50-60Hz
<b>Withstand Voltage (Core to Coil)</b>	4000V/10s, 1mA	4000V/10s, 1mA	4000V/10s, 1mA	4000V/10s, 1mA	4000V/10s, 1mA	3000V/min, 1mA	3000V/min, 1mA
<b>Insulation Resistance</b>	100MΩ/500VDC	100MΩ/500VDC	100MΩ/500VDC	100MΩ/500VDC	100MΩ/500VDC	100MΩ/500VDC, 1min	100MΩ/500VDC, 1min
<b>Open-Circuit Protection Voltage</b>	6-8V	6-8V	6-8V	6-8V	6-8V	Transient Voltage Suppressor: TVS-P6KE6.8CA	Transient Voltage Suppressor: TVS-P6KE6.8CA
<b>Applicable Meter</b>	PMC-512-A	PMC-350-C, PMC-352, PMC-D726M, iMeter D7, iMeter 7A	PMC-350-C, PMC-352, PMC-512-A, PMC-592, PMC-53A-E, iMeter D7, iMeter 7A	PMC-350-C, PMC-352, PMC-512-A, PMC-592, PMC-53A-E, iMeter D7, iMeter 7A	PMC-350-C, PMC-352, PMC-512-A, PMC-592, PMC-53A-E, iMeter D7, iMeter 7A	PMC-350-C, PMC-352, PMC-512-A, PMC-592, PMC-53A-E, iMeter D7, iMeter 7A	PMC-350-C, PMC-352, PMC-512-A, PMC-592, PMC-53A-E, iMeter D7, iMeter 7A
<b>RoHS Compliance</b>	√	√	√	√	√	√	√
<b>Enclosure</b>	Flame Rating 94-V0	Flame Rating 94-V0	Flame Rating 94-V0	Flame Rating 94-V0	Flame Rating 94-V0	Flame Retardant	Flame Retardant
<b>Dimensions (WxHxD mm)</b>	31x43x29	38x49x34	38x49x34	54x70x40	67x83x43	114x145x32	143x191x49
<b>CT Window</b>	Ø10mm	Ø16mm	Ø16mm	Ø24mm	Ø35mm	50x80mm	55x130mm
<b>Core Type</b>	Split-Core	Split-Core	Split-Core	Split-Core	Split-Core	Split-Core	Split-Core
<b>Secondary Output Cable</b>	2m, 22AWG Black and White Stranded Wire	2m, 22AWG Black and White Stranded Wire (with pluggable connector when used with PMC-350-C and PMC-352)	2m, 22AWG Black and White Stranded Wire (with pluggable connector when used with PMC-350-C and PMC-352)	2m, 22AWG Black and White Stranded Wire (with pluggable connector when used with PMC-350-C and PMC-352)	2m, 22AWG Black and White Stranded Wire (with pluggable connector when used with PMC-350-C and PMC-352)	2m, 22AWG Black and White Stranded Wire (with pluggable connector when used with PMC-350-C and PMC-352)	2m, 22AWG Black and White Stranded Wire (with pluggable connector when used with PMC-350-C and PMC-352)
<b>Operating Temperature</b>	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-15°C to 50°C	-25°C to 70°C
<b>Humidity</b>	≤85%	≤85%	≤85%	≤85%	≤85%	≤85%	≤85%
<b>Atmospheric Pressure</b>	70-106kpa	70-106kpa	70-106kpa	70-106kpa	70-106kpa	80-110kpa	80-110kpa

## Technical Specifications

## Mechanical Characteristics

## Environmental Conditions

## SCCT Installation Procedure

### Connect SCCT to Circuit:

- Secure CT on board and connect the CT's secondary output to meter terminals.
- Open the hinge lock or pull apart the top part of the CT. Install the CT around the conductor to be measured.
- Verify if the CT is installed in the same current flow direction as marked on CT.
- Close the hinge lock or reattach the removable top part of the CT.
- For personnel safety and device protection. It is very important to maintain a closed circuit on the secondary winding when current is flowing through the primary circuit.
- If meter or device in the secondary circuit need to be serviced. A CT shorting block should be used to maintain a closed circuit on CT secondary.

### Disconnect SCCT from Circuit:

- Open the hinge lock or pull apart the top part of the CT.
- Remove the CT from the conductor.
- Remove the CT's secondary wiring from meter terminals.



# PMC-SCCP Technical Specifications



PMC-SCCP-50A-500mV-B-A-B



PMC-SCCP-200A-200mV-B-B-B



PMC-SCCP-500A-500mV-B-B-B



PMC-SCCP-5kA-500mV-B-C-C

<b>Technical Specifications</b>	Rated Nominal Current (I <sub>n</sub> )	5A	20A/200A Selectable	500A	5000A
	Maximum Current (I <sub>max</sub> )	50A continuous @ 45-66Hz and 25°C	260A continuous @ 45-66Hz and 25°C	500A continuous @ 45-66Hz and 25°C	10000A continuous @ 45-66Hz and 25°C
	Output Voltage	AC 10mV/A (Max. 500mV)	AC 10mV/A @ 20A AC 1mV/A @ 200A (Max. 200mV)	AC 1mV/A (Max. 500mV)	AC 1mV/A @ 500A AC 0.1mV/A @ 5000A (Max. 500mV)
	Amplitude Accuracy	±0.3% rdg. ±0.02% f.s. @ 45Hz-66Hz, at core center	±0.3% rdg. ±0.02% f.s. @ 45Hz-66Hz, at core center	±0.5% rdg. ±0.02% f.s. @ 45Hz-66Hz, at core center	2% typical at 1% to 200% of Rated Current @25°C Linearity: ±0.2% of reading (1% to 200% of range)
	Phase Accuracy	±2° (45Hz to 5kHz)	±0.5° (45Hz to 5kHz)	±0.5° (45Hz to 5kHz)	±1° (45Hz to 5kHz)
	Amplitude Frequency Characteristics	±1% (45Hz - 5kHz), deviation from accuracy	±1% (45Hz - 5kHz), deviation from accuracy	±1% (45Hz - 5kHz), deviation from accuracy	±3dB (10Hz - 20kHz), deviation from accuracy
	Conductor Position	±0.5% (deviation from center)	±0.5% (deviation from center)	±0.5% (deviation from center)	±1% maximum
	External Magnetic Field	≤ 0.1A @ 400A/m	≤ 0.1A @ 400A/m	≤ 0.1A @ 400A/m	≤ 5A (7A max.) @ 400A/m
<b>Mechanical Characteristics</b>	Maximum Rated Voltage to Earth	300 Vrms	600 Vrms	600 Vrms	1000 Vrms
	Clamp Diameter	15mm (max. conductor diameter)	24mm (max. conductor diameter)	50mm (max. conductor diameter)	100mm, 150mm, 254mm, 371mm (Measurable conductor diameter)
	Cable Length	3m	3m	3m	Cord length: 2m (Coil to Integrator), 1m (Integrator to connector)
	Dimensions (WxHxD mm)	48x 120 x 20mm	64x 130x 26mm	108x 216x 35mm	Circuit: 57x 86x 30mm
	Weight	200g	300g	500g	180g (Coil), 300g (Integrator)
<b>Environmental Conditions</b>	Power supply	N/A	N/A	N/A	2pcs AA alkaline batteries (not included), Continuous use: 7 days @ 35 mVA. 3.5x1.3mm DC Adaptor included (Input: 100-240VAC, Output: 5V/2A)
	Output Terminal	BNC	BNC	BNC	BNC
	Measurement Category	CAT III 300V	CAT III 600V	CAT III 600V	CAT III 1000V
	Pollution Degree	II	II	II	II
	Temperature Coefficient	0.02% rdg. / °C	0.02% rdg. / °C	0.02% rdg. / °C	± 2% rdg. / °C
	Dielectric Strength	3000V AC rms for 15 seconds	3000V AC rms for 15 seconds	3000V AC rms for 15 seconds	6880V AC rms for 15 seconds (between integrator and coil @ 50/60Hz)
	Operating Temp.	0°C to 50°C	0°C to 50°C	0°C to 50°C	-20°C to 70°C
	Storage Temp.	-10°C to 60°C	-10°C to 60°C	-10°C to 60°C	-30°C to 90°C
	Relative Humidity	≤ 80% non-condensing	≤ 80% non-condensing	≤ 80% non-condensing	≤ 80% non-condensing
	Altitude	2000m max.	2000m max.	2000m max.	2000m max.
<b>Standards</b>	Safety/EMC	Safety: EN 61010-2-032: 2012 (CAT III 300V)	Safety: EN 61010-2-032: 2012 (CAT III 600V)	Safety: EN 61010-2-032: 2012 (CAT III 600V)	Safety: 1000V CAT III, 600V CAT IV EMC: EN 61326-1 2006, CE marked

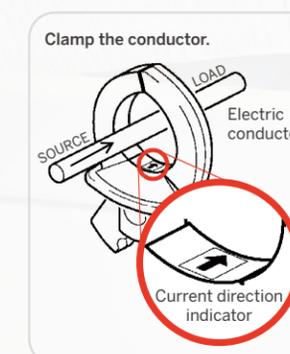
## SCCP Installation Procedure

### Connect SCCP to Circuit:

- Align the BNC connector grooves with the connector guide of the BNC receptacle. Insert and then turn the connector clockwise to lock the connection in place.
- Pull the locking lever downward to open the clamp jaw.
- Put the clamp around only the live conductor in the center with the Current direction indicator pointing towards the load side.
- Clamp around only the Live conductor for proper measure Clamp multiple wires together single-phase or 3-phase cables will not produce any readings.
- Close the clamp jaw.
- Secure the clamp in place to avoid adding extra weight on conductor.

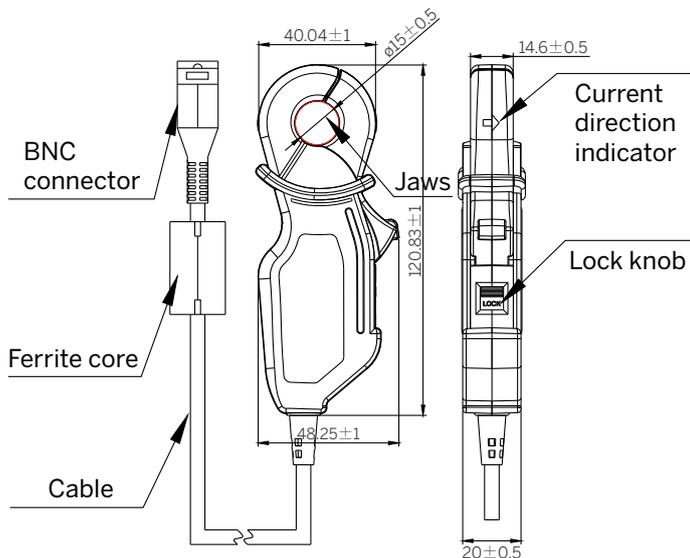
### Disconnect SCCP from Circuit:

- Open the clamp jaw and remove it away from the live conductor.
- Turn the BNC connector counterclockwise to release the lock and pull it from the BNC receptacle.

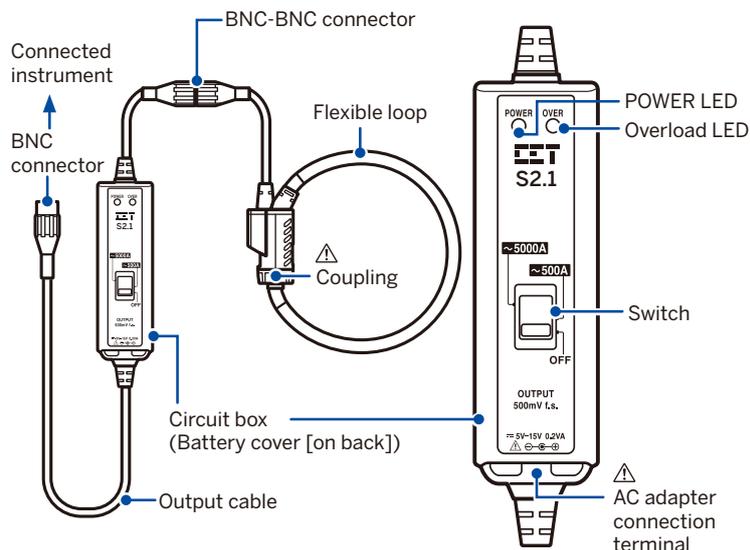


# Dimensions

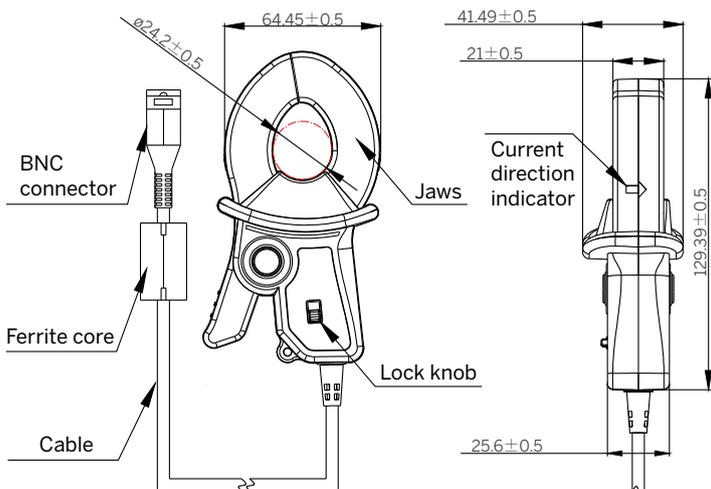
Unit:mm



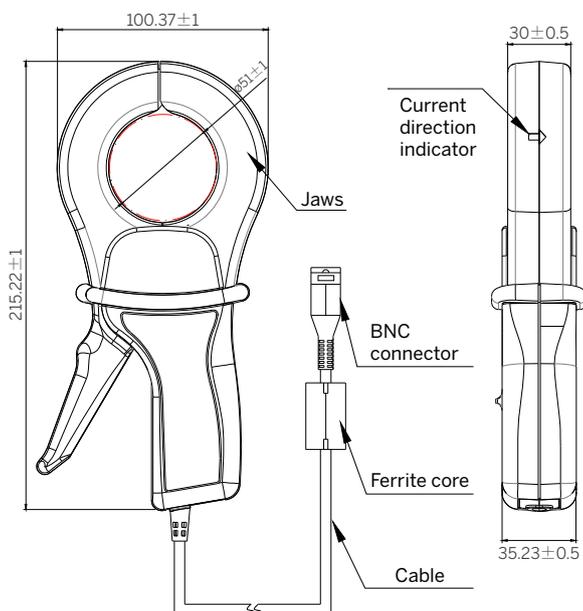
**PMC-SCCP-50A-500mV-B-A-B**



**PMC-SCCP-5kA-500mV-B-C-C**



**PMC-SCCP-200A-200mV-B-B-B**



**PMC-SCCP-500A-500mV-B-B-B**

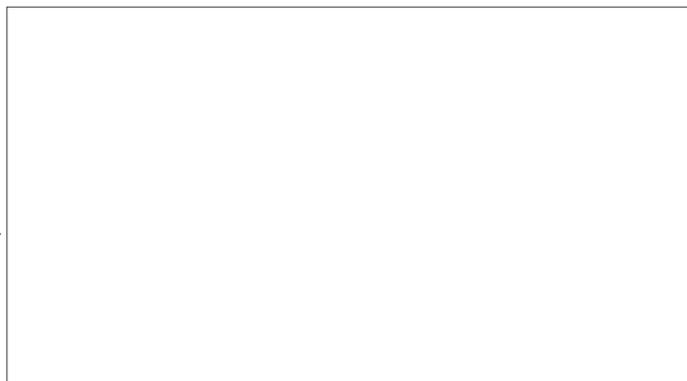
# Maintenance

- Always keep the clamp closed when it's not being used to prevent dust or exterior objects from accumulating on the contact surfaces inside the clamp jaw for best electrical and mechanical performance.
- Bending, pinching or pulling on the cable could cause permanent damage to the cable's insulation properties.
- Clean the surface of the instrument periodically with a soft cloth damped with water or mild detergent.
- Do not use abrasive cleaner or solvent such as benzene, alcohol, acetone, ether, ketones, thinners or gasoline as they can deform or cause discoloration to the case.
- Do not submerge the instrument in liquid or expose it to moisture or high humidity as these would cause oxidation and degrade its performance.
- Do not expose the instrument to direct sunlight, high temperature, high humidity or condensation for an extended period of time. Doing so may damage its insulation such that it no longer meets its safety specifications.
- Should the instrument appear to malfunction, please contact your local CET representative or distributor for support. Do not attempt to open the instrument as doing so will void the warranty.

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 Website: [www.cet-global.com](http://www.cet-global.com)

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Your Local Representative



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