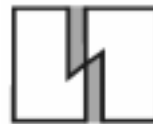


# Columbia AC/DC Clamp-On Tong Test Ammeters

**Wide Variety of Jaw Sizes and Ranges**  
**Rugged Construction**  
**No Breaking of Circuit or Insulation**  
**No Batteries Needed**  
**Instant Readings**  
**One Hand Operation**  
**Ranges Changed Quickly**  
**No Transformers or Shunts Needed**

The Columbia AC/DC Clamp-On Tong Test Ammeters (now manufactured by Weschler Instruments) measure AC or DC current instantly and accurately simply by encircling the conductor with the jaws and closing them. A clear accurate reading instantly registers on the scale. Readings are taken without breaking the circuit or insulation and accurate readings are made even through insulated cables. Readings can be taken without shutdowns avoiding time, labor or production losses. Current measurements are made without the use of transformers, ammeters, shunts and millivoltmeters.



**WESCHLER  
INSTRUMENTS**

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**Measures True RMS Values.** The Columbia AC/DC Clamp-On Tong Test Ammeter reads the true effective (heating) value, regardless of wave shape. On DC currents from a rectifier or an SCR controlled source, it will measure the true RMS value of the DC and the AC ripples. On AC, particularly when current is obtained from an SCR source, the Tong Test reading is the true RMS value of the fundamental current and the harmonics.

**Will not Burn Out.** The Columbia AC/DC Clamp-On Tong Test Ammeter contains no rectifiers, switches or electrical windings of any kind. It can be continuously around a conductor without fear of overheating.

**Flexible and Easy to Read.** Quickly interchangeable ranges are available which insures accurate readings over the entire range of a given instrument. The operator sees only one scale at a time. There is no confusion as to the correct reading and no multi-range scales to interpret. They can be used on all commercial alternating current frequencies of 25 to 400 cycles, as well as on direct current.

**Insulated Jaws and Triggers.** A plastic handle with an integral hand-shield and a slot for inserting a carrying strap is provided for all types. Care should be exercised with the supporting frame as it is not insulated. The Columbia AC/DC Clamp-On Tong Test Ammeter can be safely used for measuring currents on lines up to 2300 volts if the cables are properly insulated for such voltages. However, when it is used on bare conductors where the voltage exceeds 440 volts and is under 6900 volts, the use of a high voltage attachment is recommended. It consists of an insulated handle (five feet long) with an adapter attachment for fastening the handle to the Clamp-On Tong Test Ammeter.

**Rugged Construction.** The Columbia AC/DC Clamp-On Tong Test Ammeter is a split-electro-magnet type of instrument operating on the moving iron attraction principle. The magnetic circuit consists of two equal packs of laminations. One is rigidly fixed and the other pack is hinged to the cast aluminum alloy frame. The packs are mounted to form an iron core with two gaps. One is a butt joint of low reluctance and the other is a specially shaped gap of comparatively high reluctance in which the movement operates. The air dampened, jeweled movement is integral with the sealed bakelite range housing. A handle and a simple efficient trigger mechanism are provided.

**Flexible Ranges.** It is possible to lower the range of a scale by winding two or more turns of the conductor around the tongs. For example, assume 5 Amps flowing in a line. This would be too low a current to read accurately on the 50 Amp range. By winding two turns of the conductor around the tongs, the indication would now be twice the current actually flowing. This indication divided by two would give the actual line current. Five and ten turn coils are available for insertion into load lines when measuring low value currents.

**Accuracy.** Ranges from 50 Amps up to and including 500 Amps have an accuracy of 2% on AC and 5% on DC. The 0-600, 0-800, and 0-1000 Ranges have an accuracy of 5% on AC or DC. All accuracies are in plus or minus percentage of full scale deflection. Accuracies stated above for AC are for frequencies of 25 to 100 cycles. Add 1% to above percentages for use on 100 to 400 cycles. Tongs are calibrated with equipment that is traceable to NIST. Certification of calibration and/or test data are available.

### Applications

- Verifying current flow in plating tanks, coating systems and welding equipment.
- AC or DC measurement in all lines.
- Load determination distribution between generators operating in parallel.
- Load distribution on feeders, transformer banks, switches, fuses, motors, transformers, generators, arc welders, plating diodes, rapid transit trains, engine batteries, etc.
- Calibration adjusting and checking on overload relays, accelerating relays and other current operating devices.
- Location of open phases.
- Approximation of the number of turns in a coil.

### Ordering Instructions

1. Determine the tong model you need by comparing the jaw sizes to the conductors from which you need to take measurements.
2. Determine the highest range needed by determining the maximum current you need to measure.
3. Select the lower ranges needed for ease of reading over the span of currents you'll be measuring. We suggest the selection of scales that overlap such as: 0-75/0-200/0-500/0-1000.

### Standard Models

Type AX Accommodates conductors up to 1-1/2" diameter.

Type D Accommodates conductors up to 3" diameter or bus bars up to 4-1/2" x 1/2" or 4" x 1".

Type C Accommodates conductors up to 2-1/2" diameter.

### Low Current Models

Type AM Accommodates conductors up to 1-1/2" diameter.

Type DM Accommodates conductors up to 3" diameter or bus bars up to 4-1/2" x 1/2" or 4" x 1".

The AM & DM Models use high permeability Mu-Metal jaws to allow measurement of low current levels in conductors too large for many other low range clamp-ons. These units are similar in construction to the standard models. The addition of a magnetic attachment allows measurement of DC currents below 20 Amps. These units are supplied with 0-20 DC Amps, 0-50 AC Amps/DC Amps and 0-100 AC Amps/DC Amps ranges.

### Thin Jaw Model

Type CS Accommodates conductors up to 2-1/2" diameter.

The Type CS Model is a variation of the Type C Model that allows use behind fuses and conductors with clearance of as little as 9/16". Ranges below 400 Amps measure both AC and DC current. Ranges 500 Amps and above measure either AC or DC.

### Hand Held AC/DC Voltmeter

Model UV1

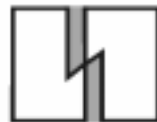
Compact voltmeter (2" x 2-7/8" x 4-5/8") with 0-150 and 0-600 AC and DC ranges. Designed as a quick means of measuring voltages. Supplied with leads (no batteries required).

**Carrying case holds a tong and five ranges.**

**When ordering, specify the type of instrument, various ranges required and carrying case (if required).**

**CAUTION: The metal frame and certain other parts are not electrically insulated. For this reason, we do not recommend the use of any instrument on bare conductors because extreme caution must be observed by the user to avoid shock, shorting between conductors, or between conductors and ground.**

***In a constant effort to improve our products, specifications may change from those published.***



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