

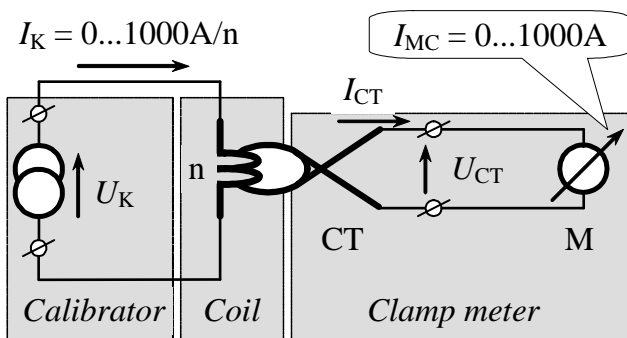
# Current Coil

Current Coils ZW's series are wound by means of insulated cooper wire. Connected to the output of the current calibrator enables of clamps, clamps meters, power clamps meters and power quality analysers testing.



## Idea of clamp meter testing

On the drawing below is presented system for testing clamp meters compound of current calibrator and clamp meter. Tested clamp meter consists of current clamp CT and meter M. Indication of tested clamp meter  $I_{MC}$  in range 0...1000A are referenced to the set current  $I_K$  of current calibrator, which is treated as a standard source.



To the output terminals of calibrator is connected coil with  $n$  number of turns, on which are closed clamps. Required range of calibrator's settings is described by equation:

$$I_K = \frac{I_{MC}}{n}$$

where:  $I_{MC}$  – indication range of (upper limit of measurements) tested meter,  
 $n$  – number of coil's turns.

As it can be seen from equation, by applying coil with number of turns  $n=100$  and calibrator with settings range  $I_K=0...10A$ , it is possible to check clamp meter with measurement range  $I_{MC}=0...1000A$ , of course under condition, that calibrator has enough load power at the output terminals.

In the presented circuit, it is also possible to test current clamps CT. In the case of current clamps with current output, the output clamp's current  $I_{CT}$  should be measured by means of reference ammeter M, in case of clamps with voltage output, the voltage  $U_{CT}$  should be measured by means of reference voltmeter M.

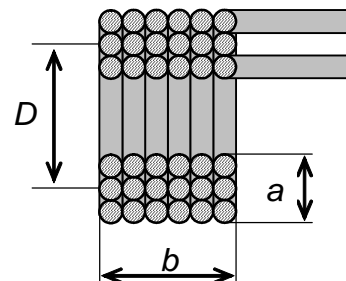
ZW100/10A i ZW10/20A

## ZW Coils for clamps and clampmeters

- Extending range up to 1000A
- Coil ZW10 for small clamps
- Coil ZW100 for clamps up to 1000A
- It is possible to design coil for individual requirements

## PARAMETERS OF ZW series COILS

Parameter / coil type	ZW10/20A	ZW100/10A
Number of turns	10	100
Nominal Current [A]	20	10
Effective current output [A]	200	1000
Frequency [Hz]	0-500	0-500
Clamp/Coil interaction for toroidal-type clamps	±0,25% ±0,02A	±0,25% ±0,02A
Wire diameter [mm]	1,8	2,0
Coil crossec. $axb$ [mm]	10x7	23x24
Coil diameter $D$ [mm]	48	63
Leads length [mm]	190	230
Coil resistance [ $\Omega$ ]	0,012	0,120
Coil inductance [ $\mu H$ ]	5	560
Coil weight [kg]	0,6	1,2



calmet Ltd.

Poland, 65-463 Zielona Góra, Fabryczna 23, tel.: +48 68 324 04 56 fax: +48 68 324 04 57

e-mail: [mail@calmet.com.pl](mailto:mail@calmet.com.pl)

internet: <http://www.calmet.com.pl>

ZW data sheet 2009-12