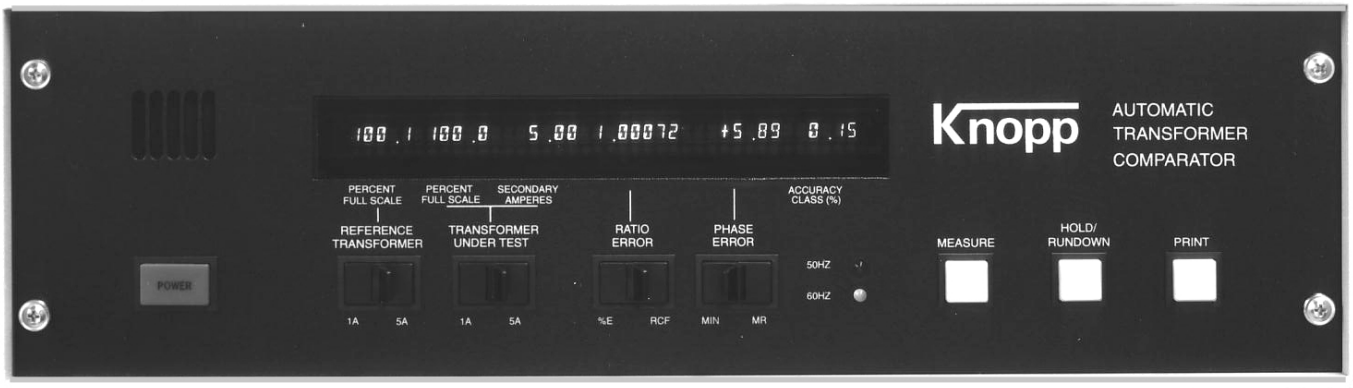
BULLETIN NO. 3501

Knopp

KATC-C1 automatic transformer comparator



description

The Knopp Type KATC-C1 Automatic Transformer comparator is an enhanced version of the popular Type KATC-C Comparator.

Some of the new features of the KATC-C1 are:

- the ability to test transformers with 1 or 5 ampere secondaries,
- automatic sensing of 50 or 60 Hertz current,
- improved data handling capabilities including the ability to be controlled by a remote computer, and
- improved resistance to damage from excessive test current.

The KATC-C1 still includes all of the features which made the KATC-C so popular, including:

- reduced testing time — test results are typically available within three seconds,
- automatic operation (no manual "nulling" or adjustments required,
- auto-ranging capability,
- digital display,
- calculation and display of ANSI accuracy class,
- interchangeable with other Knopp comparators.

This microprocessor-based comparator automatically selects the optimum measurement range, computes the results, and displays the reference and test currents, the transformer ratio and phase angle errors, and the ANSI accuracy class for which the transformer qualifies. Measurement time is greatly reduced, as operator tasks are limited to connection of the transformer-under-test and adjustment of the test current. The capability to calculate and display the ANSI accuracy class eliminates the often difficult and time-consuming task of determining whether the measured results fall within the limits of the applicable ANSI parallelogram. The transformer ratio error can be displayed as Percent Error or Ratio Correction Factor. Phase error can be displayed as Minutes or Milliradians.

The comparator circuitry is protected and will not be damaged by excessive current. The operator is alerted to such errors by an audible alarm, and is informed of the specific nature of the error by a message on the alphanumeric display.

The comparator is supplied with an RS-232C communication port to allow the transfer of test result data to a computer. In addition, this same port can be used to send commands from the computer to the KATC-C1. Various commands can: initiate a measurement sequence, hold the test results in the display, cause the comparator to remove current from the transformer-under-test (requires appropriate loading system), and initiate a transfer of test results from the comparator to the computer.

The dimensions and input circuitry allow all previous Knopp comparators, whether in Knopp transformer test systems, or portable, to be easily replaced by the KATC-C1 comparator.

specifications

dimensions: 19.75" (50.2 cm) Wide, 18.1" (45.9 cm) Deep, 6.3" (16.0 cm) High.

weight: 50 lbs. (22.7 kg).

input power: 120 VAC, 0.2 A, 50/60 Hz.

test frequency: 50/60 Hz.

ranges: 5%≤ Test Current <500% of range
-1000< Phase Error <+1000 min.
0≤ RCF <10
-100%< Ratio Error <+1000%
0%< Accuracy Class <100%

resolution: dependent on Accuracy Class (Acc. Cl.) as follows:

	RCF	Phase Angle (Minutes)	Acc. Class
0.0%≤ Acc. Cl. <0.2%	0.00001	0.01	0.01
0.2%≤ Acc. Cl. <0.7%	0.00001	0.1	0.01
0.7%≤ Acc. Cl. <1.4%	0.0001	0.1	0.01
1.4%≤ Acc. Cl. <10.%	0.0001	1	0.01
10.%≤ Acc. Cl.	0.0001	1	0.1

accuracy: ±(0.75% of reading + 1 Least Significant Digit) or (±0.01% ratio error and ±0.3 min. phase error) whichever is greater.

burden: Standard Transformer — typically less than 0.2 VA at 5 A.
Test Transformer — typically less than 0.2 VA if within 0.6% Accuracy Class.

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