



# KPM Transformer Winding Resistance Tester (KPM-TWRT20)

KPM -TWRT20 is a transformer winding resistance tester.

▪ Simple operation & performs the winding resistance test of all the transformers.

▪ The three current sources of 20A DC backed by a high voltage  $\geq 30V$  stabilizes the readings in the least time.



▪ Act as a high current single phase transformer winding resistance tester with 40A DC current source .This highly increases the ability of KPM-TWRT20, making it a one stop solution for winding resistance testing of all Transformers.

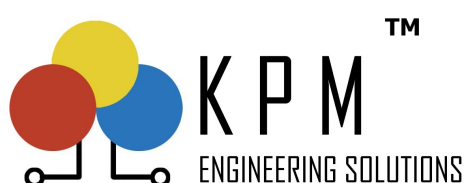
## Key Points:

- **High Current of 40A in 1-ph mode for testing of large capacity transformers**
- **High Current of 20A in 3-ph mode provides three phase resistance measurement in Single Test**
- Large capacity non-volatile memory.
- **Quick & stable results due to high power sources**
- **Simple operation**
- **Inbuilt printer**
- **Automatic discharge function with audio/visual indication**

## Key Specifications:

|                               |   |                                |
|-------------------------------|---|--------------------------------|
| <b>Input Power</b>            | AC 220V $\pm$ 22V, 50Hz $\pm$ 2Hz           |                                |
| <b>Output</b>                 | User Selectable Current Ranges              |                                |
|                               | 3 Phase Mode                                | 1 Phase Mode                   |
|                               | Up to 1A                                    | Up to 1A                       |
|                               | Up to 5A                                    | Up to 5A                       |
|                               | Up to 10A                                   | Up to 10A                      |
|                               | Up to 20A                                   | Up to 20A                      |
|                               | NA  | Up to 40A                      |
|                               | Open Circuit Voltage $\geq 30V$             |                                |
|                               | Maximum Power @ 400 Watts                   |                                |
| <b>Resistance Measurement</b> | Resistance Ranges                           |                                |
|                               | 3 Phase Mode                                | 1 Phase Mode                   |
|                               | 10m $\Omega$ -6 $\Omega$ @1A                | 10m $\Omega$ -20 $\Omega$ @1A  |
|                               | 1m $\Omega$ -1 $\Omega$ @5A                 | 1m $\Omega$ -4 $\Omega$ @5A    |
|                               | 1m $\Omega$ -2 $\Omega$ @10A                | 1m $\Omega$ -2 $\Omega$ @10A   |
|                               | 1m $\Omega$ -0.3 $\Omega$ @20A              | 1m $\Omega$ -1 $\Omega$ @20A   |
|                               | NA  | 1m $\Omega$ -0.5 $\Omega$ @40A |
|                               | Accuracy: $\pm$ (0.2% of reading+ 5 counts) |                                |
|                               | Resolution: 0.1 $\mu\Omega$                 |                                |

|                              |   |
|------------------------------|---|
| <b>Printer Interface</b>     | Inbuilt   |
| <b>User Interface</b>        | Keypads with push buttons & bright display LCD  |
| <b>Internal Data Storage</b> | 150 groups  |
| <b>Auto Discharge Alarm</b>  | Automatic discharge function with audio/visual indication   |
| <b>Environmental</b>         | Operating Temperature: 0 $^{\circ}C$ ~40 $^{\circ}C$<br>Storage Temperature: -10 $^{\circ}C$ ~60 $^{\circ}C$<br>Humidity: $\leq 80\%$   |
| <b>Dimensions</b>            | 360x280x420 (mm <sup>3</sup> )  |
| <b>Weight</b>                | 25kg (Instrument only, excluding leads & casing)  |
| <b>Case</b>                  | Rugged plastic hard carry case with stroller  |
| <b>Accessories</b>           | 220V Power Cable – 1 No.<br>Test Cables – 1 Set<br>Ground wire – 1 No.<br>Fuse (3A) – 5 Nos.<br>Instruction Manual – 1 No.<br>Test Certificate – 1 No.<br>Accessory bag – 1 No. |

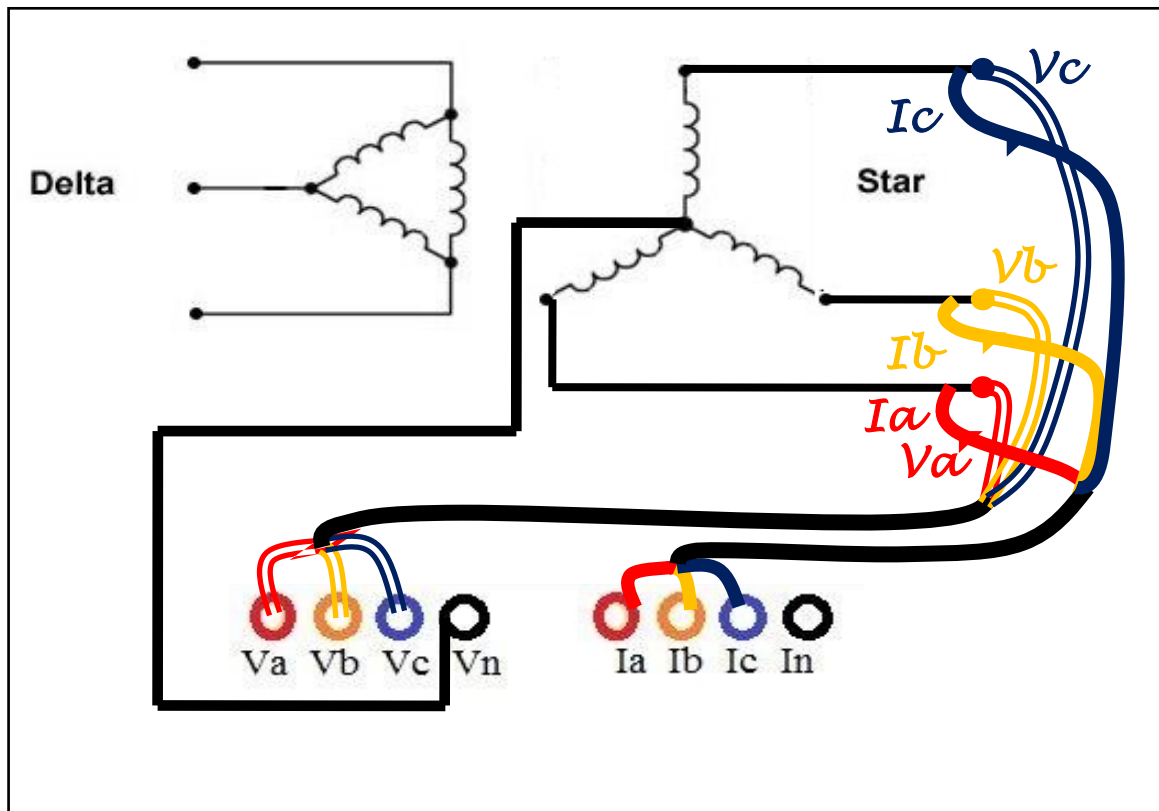




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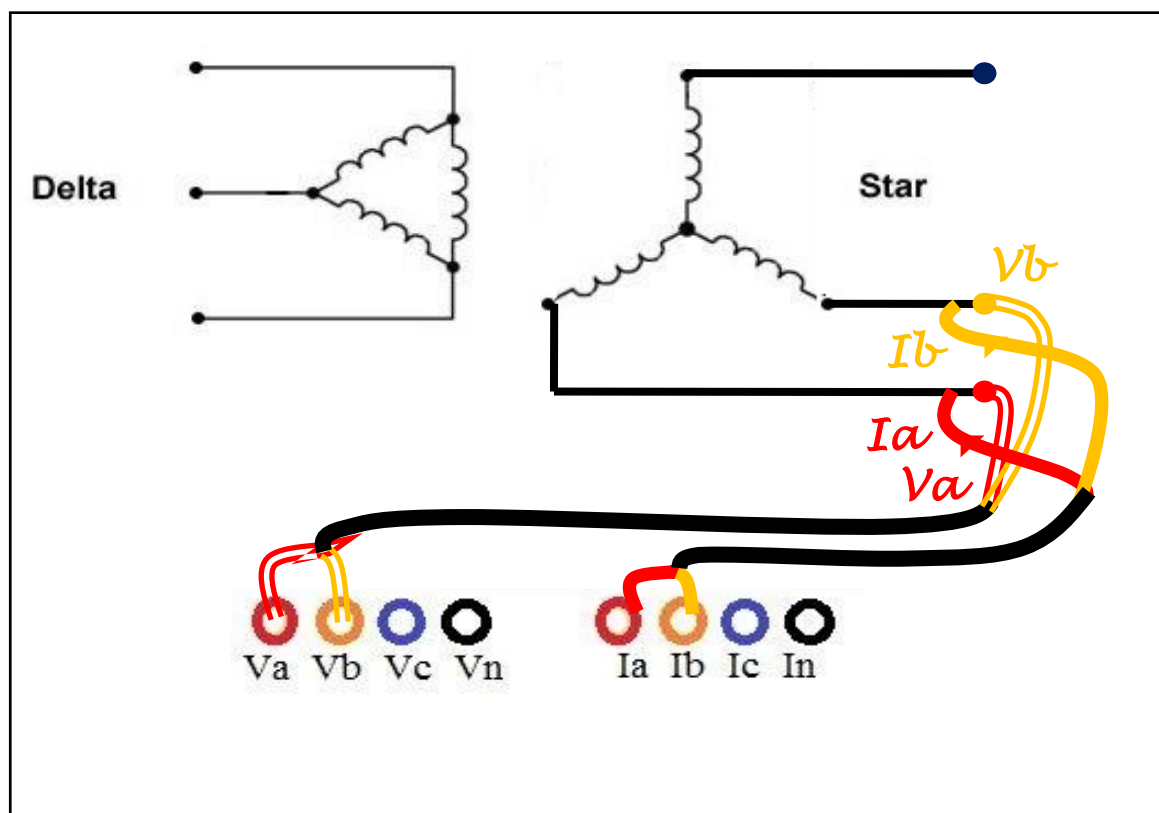
## Applications:

### 3 Phase Mode:



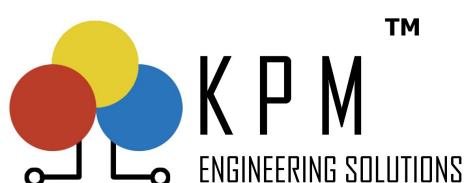
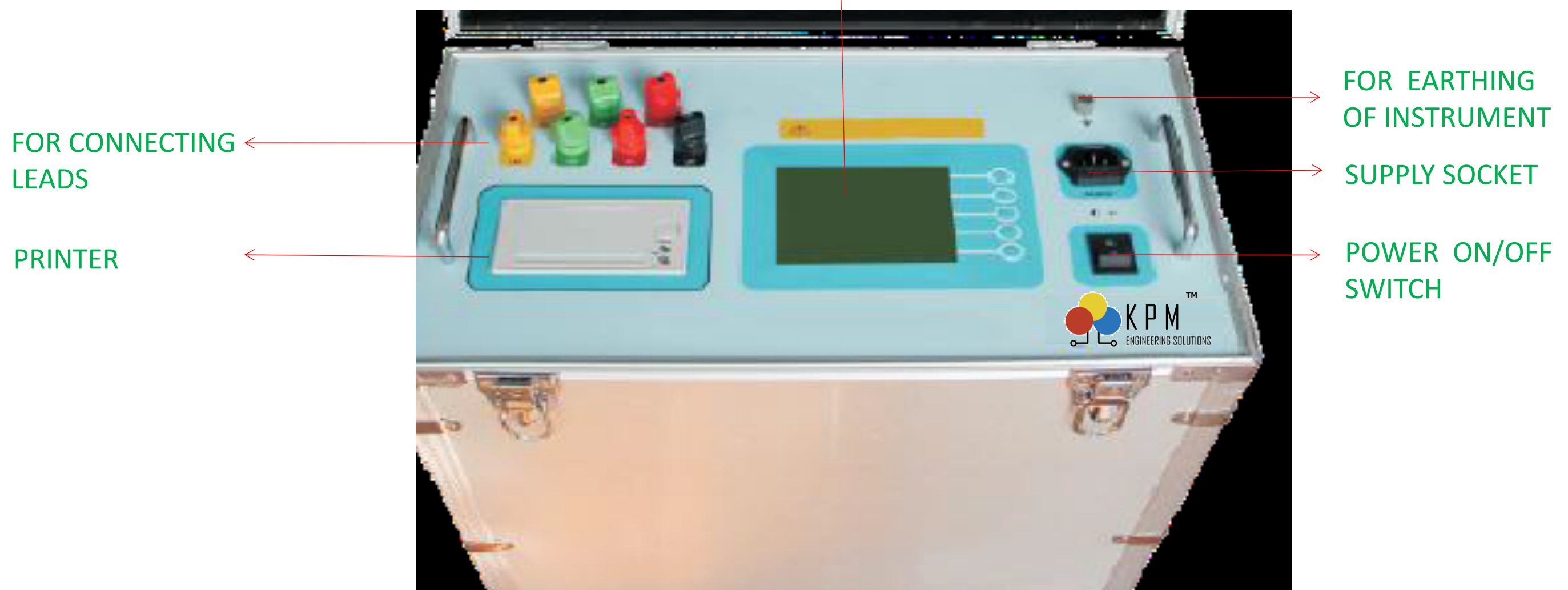
|                               |         |      |
|-------------------------------|---------|------|
| 2014.01.01                    |         | Set  |
| Measurement mode: three phase |         | View |
| Measuring current: 20 A       |         |      |
| Wiring Diagram                |         |      |
|                               | Mode    |      |
|                               | Current |      |
|                               | Measure |      |
| 14:02:51                      |         |      |

### 1 Phase Mode:



|                  |          |         |
|------------------|----------|---------|
| 2014.01.01       |          | Tap     |
| R                | 351.2 mΩ | Store   |
| Current tap: 0 1 |          | Print   |
|                  |          | Re-test |
|                  |          | Exit    |
| 14:02:51         |          |         |

## Front Panel

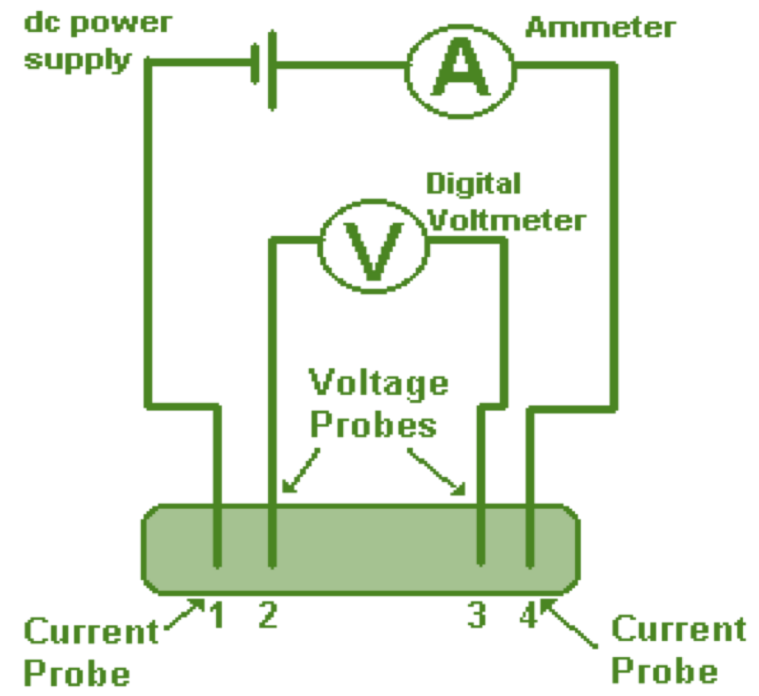


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## Selection Chart:

| Current    | 3 Phase Mode |    |     |     | 1 Phase Mode |    |     |     |     |
|------------|--------------|----|-----|-----|--------------|----|-----|-----|-----|
|            | 1A           | 5A | 10A | 20A | 1A           | 5A | 10A | 20A | 40A |
| Resistance |              |    |     |     |              |    |     |     |     |
| 1mΩ        |              | ✓  | ✓   | ✓   |              | ✓  | ✓   | ✓   | ✓   |
| 10mΩ       | ✓            | ✓  | ✓   | ✓   | ✓            | ✓  | ✓   | ✓   | ✓   |
| 300mΩ      | ✓            | ✓  | ✓   | ✓   | ✓            | ✓  | ✓   | ✓   | ✓   |
| 500mΩ      | ✓            | ✓  | ✓   |     | ✓            | ✓  | ✓   | ✓   | ✓   |
| 600mΩ      | ✓            | ✓  | ✓   |     | ✓            | ✓  | ✓   | ✓   |     |
| 1Ω         | ✓            | ✓  |     |     | ✓            | ✓  | ✓   | ✓   |     |
| 2Ω         | ✓            |    |     |     | ✓            | ✓  | ✓   |     |     |
| 4Ω         | ✓            |    |     |     | ✓            | ✓  |     |     |     |
| 6Ω         | ✓            |    |     |     | ✓            |    |     |     |     |
| 20Ω        |              |    |     |     | ✓            |    |     |     |     |

## Principle Of Operation:



- When DC current is injected by current source through the transformer windings.
- The voltage drop is measured across the transformer winding

According to the **OHM'S LAW.**

- We will get insulation resistance of the winding by:

$$R=V/I$$

## About Us

KPM is a high quality manufacturer & provider of rugged electrical testing equipment for EHV/HV/LV substations. KPM solutions are known for:

- Best in class specifications
- Unique test approach
- Interference rejection capability

Each equipment is supported by advance service center in Gurgaon backed by a team of expert application & service engineers. KPM aims in bringing highest specification products at the doorstep of Indian customers in best rates.

## Contact us

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