

**Design your maintenance
strategy to achieve
optimum breaker
performance
with
HISAC Swift**



SCOPE offers HISAC Swift - the Circuit Breaker Operational Analyzer for checking the complete dynamic performance of circuit breakers under live switchyard conditions.

The analyzer contains various intelligent measuring modules and is housed in rugged molded case. HISAC Swift gives you the power to design your own condition based maintenance strategy and obtain optimum breaker performance with minimum maintenance shutdowns.

BENEFITS

| | |
|-----------------------------|--|
| Measures | Timing, Bounce, Non-Simultaneity of Contacts and Auxiliary Contact Timings. |
| Records | Trip and Close Coil current characteristics. |
| Registers | Contact Resistance of main contacts. |
| Displays | Settings, Graphical and Tabulated test results. |
| Allows | User data entry & test setup through user friendly menu & touch-screen. |
| Prints | Results in a graphical format with test header and calculation footer. |
| Downloads | Test records to PC for viewing, analysis, comparison & storage with Windows™ based CPLOT software. |
| Condition Monitoring | effective Condition Monitoring is possible by comparing present test data with previous signatures to predict future behaviors using CPLOT software. |
| Connects | To CBs with wear resistant test leads, having quick-fit connectors. |
| Transports | Over long distance in rugged industrial case. |

FEATURES

| | |
|---------------------------|--|
| Operations | C, O, C-O, O-C, O-C-O with configurable delays and Contact Resistance |
| Setup | Breaker information data entry and system settings are possible through the touch screen keyboard, which automatically invokes when this menu is selected. |
| Contact Timing | Channels for 3 Main and 3 PIR Contacts with 0.05mS resolution. |
| Auxiliary Timing | Two software configurable Dry or Wet channels with 0.05mS resolution. |
| Coil Current | One internal channel to measure Close and Trip coil current. |
| Contact Resistance | Three multiplexed channels to measure resistance with 0.1 $\mu\Omega$ resolution and range up to 2 Ω . |
| Display | TFT Colour Graphical display with touch screen. Displays the menu which is operated through touch screen. Graph is displayed after the operation with full resolution. |
| Printout | Through inbuilt, 56mm thermal printer is provided for printing test header, graph and calculation. |
| Memory | Provided with 2 MB inbuilt memory. Can store up to 100 records |
| Software | Windows based software, CPLOT to download the record to PC for further analysis & storage. |

HISAC Swift

SCOPE I&N PVT.LTD.
PUNE, India.

Brk NO. : SW126775
Location: LONIKAND
Operator: YOGESH
Customer: MSEB PUNE
Voltage : 400KV
Gas PR. :
Oil PR. :
Air PR. :

Trigger Option: C0
Sampling Speed: 02 kC
Plot Length : 0400 nS
Delay too : 0150 nS
Delay toc : 0150 nS
Delay Close : 0100 nS
Delay Open : 0100 nS
PIR Timings : ENABLE
Range C1 : 05 Anps
Date : 03/04/10
Time : 18:31:29

One Division = 25 nSec
C1



ALL VALUES IN nSec.

| | CLOSING TIME | |
|---|--------------|------|
| | MAIN | PIR |
| R | 66.5 | 56.5 |

| | | |
|---|------|------|
| Y | 56.0 | 46.0 |
|---|------|------|

| | | |
|---|--------------|------|
| B | 61.5 63.5 | 51.5 |
|---|--------------|------|

| | OPENING TIME | |
|---|--------------|-----|
| | MAIN | PIR |
| R | 188.5 | |

| | | |
|---|-------|--|
| Y | 180.0 | |
|---|-------|--|

SOFTWARE

CPLLOT 7.01 has many new, powerful features to make your maintenance strategy extremely effective and conserve resources used for condition based maintenance.

| | |
|--|---|
| Internet Connectivity (email based) | It is now possible to share the test data at different locations over email. The results taken at site can be transmitted to Regional or Corporate HQ for further analysis. CPLLOT 7.01 gives the user a facility to set the path for storage of results in logical & structured manner. The user can send records to the Outbox by embedding the path set thus. At the recipient's end the software facilitates to read the Inbox for HISAC records automatically. It stores all downloaded records to the location as specified by sender of that record. |
| Compare Record | Header information, results and calculations of original graphical record and compared graph are seen in a single view. |
| Limit Check | It is possible to set limits for C, O and C-O times, coil current and have PASS/FAIL checks clearly marked in reports, for clarity of performance of a CB. |
| Sort and Save | The user can sort records by Make, Type and Rating of CBs and save received records under different sort rules and update sorting on demand. This helps to compare and monitor the performance of CBs of different makes and types. |
| Trend Analysis | The trend of parameters like close time, open time, bounces, CO time, coil currents of a particular circuit breaker over a period gives invaluable inputs for decision making. The data is taken from set of up to 4 selected operations from records of different dates. |
| Graph Initialization | It is possible to change colors of graphs, cursors, back ground and scale; and set maximum number of graphs, base line of graphs, graph names, graph width, graph style, maximum limits of graphs etc. |
| Printing | Calculations seen on right side of plot are printed with plot. The plot is printed with cursor positions as seen on the plot. |

BENEFITS

- Easy to use high level Graphical User Interface. Programmable Test Plans facilitating creation of Test Setup library.
- User defined, structured storage of test data for easy future retrieval. Dynamic calculations on graphical information with cursor movement facilitating easy on-screen analysis.
- Multiple signature comparison and Trend Analysis enables assessment of present condition and prediction of future performance.
- Comparison of test result with Manufacturer's test certificate using programmable limit checks.
- Facility to export test report to pdf / excel / word / html format.
- Simultaneous analysis of parameters like contact timings, current trace or auxiliary contact timings.
- Performs all standard calculations simply by moving cursors.
- Zooming and panning for detailed analysis at enhanced resolution.
- Select/de-select the channels that are to be displayed.
- Compare present data with previously recorded data or signatures.
- Possible to take copies of records on compact disks.
- Results can be printed on any Windows® compatible printer with its driver software installed.
- On-screen help is available in the software.

SPECIFICATIONS:

| CHANNELS | CONFIGURATION | RANGE | RESOLUTION | ACCURACY |
|--------------------|--|---|----------------------------------|---------------------------------------|
| Contact Status | 6: 3 Main + 3 PIR, 3 poles simultaneously | Measurement duration 1mS to 4S @ 1kC, 0.05mS to 400mS @ 20kC | 1mS @ 1kC 0.05mS @ 20kC | Value \pm 0.05% \pm resolution |
| Auxiliary Contacts | 2: Dry / Wet Selectable | 15 to 300V DC (for Wet Channels) | 1mS @ 1kC 0.05mS @ 20kC | Value \pm 0.05% \pm resolution |
| Coil Current | 1: Trip / close coil current | 1, 2, 5, 10, 25, 50A DC | 0.1% of selected range | Value \pm 1% \pm resolution |
| Contact Channels | Res. 3: Multiplexed 3 Channels. 10A Max. | 200 $\mu\Omega$, 2000 $\mu\Omega$, 20m Ω , 200m Ω & 2 Ω , autoranging | 0.1 $\mu\Omega$ @200 $\mu\Omega$ | 1% of range \pm resolution |

| | |
|-----------------|---|
| Breaker Control | : Two solid state contacts rated at 50A, 300V AC/DC for breaker operation |
| Trigger Options | : Open, Close, C-O, O-C, O-C-O, delay between operations selectable |
| Sampling Speed | : 20kC, 10kC, 5kC, 2kC & 1kC selectable |
| Plot Length | : 400mS at 20kC, 400mS at 10kC, 800mS at 5kC, 2000mS at 2kC and 4000mS at 1kC |
| Test Results | : Clear graphical result with test header and computation footer |
| Display | : 320 x 240 pixel 5.7" color TFT LCD with LED back light, touch screen |
| Control Through | : 117 x 88mm touchscreen display |
| Communication | : USB port, for data download |
| Printer | : 56 mm paper width, thermal printer |
| Environment | : 0 to 50°C, 95% RH (non-condensing), Electrical noise normally found in charged HV switchyards |
| Power | : 96-246V AC, 50/60 Hz, 25VA (approx) |
| Dimensions | : 435 x 315 x 175 mm |
| Weight | : 10kg |

ORDERING INFORMATION

Description

Std. Qty.

| | |
|--|-------|
| Circuit Breaker Analyzer Model HISAC Swift with Analysis software & Standard Accessories | 1 set |
|--|-------|

STANDARD ACCESSORIES

| | |
|--|-------|
| Contact Cable, 7 m long | 1 set |
| Auxiliary Contact Cable, 7 m long | 1 set |
| Breaker Control Cable, 7 m long | 1 set |
| Master Earthing Cable, 7 m long | 1 set |
| Resistance Cable, 7m long | 1 set |
| Mains Cord, 3 m long | 1 no |
| USB Link for communication with laptop | 1 no |
| Spare Fuses | 1 set |
| Operating Manual | 1 no |
| CPLLOT Software | 1 no |

Note : Calibration Certificate having traceability to NPL is supplied along with the instrument

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