HIGHVOLT Prüftechnik Dresden GmbH
Marie-Curie-Straße 10
01139 Dresden,
Phone +49 351 8425 700
Fax +49 351 8425 679
E-mail sales@highvolt.de
Website http://www.highvolt.de

Data Sheet 12.11/3

PLC Firmware, Type iCOS Basic

Classification

The PLC firmware iCOS Basic is a module of the control system HiCOS. iCOS Basic forms together with the module HiCO Basic the basic control. This allows the manual control of high voltage test systems and the application of automatic test procedures.

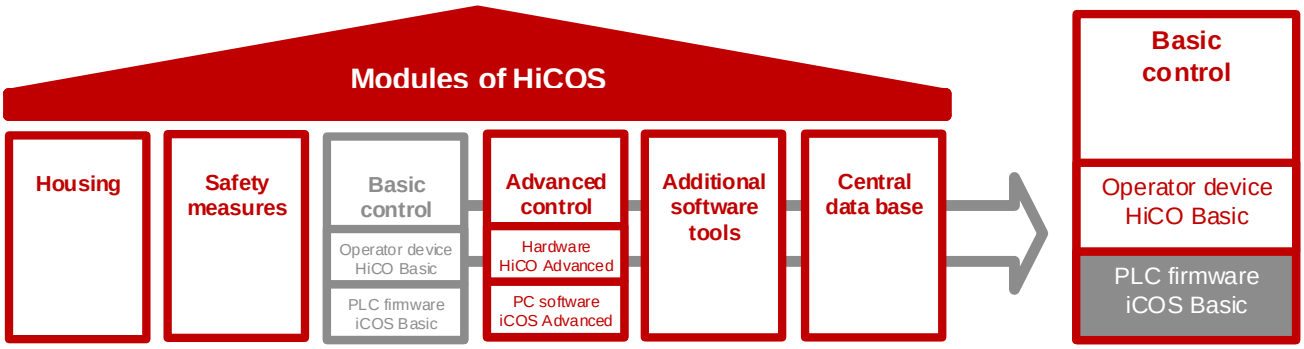


Figure 1: Overview of HiCOS modules – topic of this data sheet: PLC firmware iCOS Basic

The control system HiCOS is a collection of modules to control test systems and to record, manage, evaluate and report the measuring data. It is suitable for mobile and stationary test systems. The modular design of the control system HiCOS even allows further expansions of the functions.

Existing test systems from other manufacturers can be upgraded with HiCOS.

Description

The PLC firmware is installed on the operator device and the PLC to control high-voltage test systems. For each type of test systems, different firmware versions are available. Manual and semi-automatic test procedures can be carried out.

Table 1: Software versions

Name	Application
iCOS Basic T	AC test system with transformer
iCOS Basic V	AC resonant test system with variable frequency
iCOS Basic R	AC resonant test system with variable inductance
iCOS Basic TT	AC test system based on static frequency converter for transformer testing
iCOS Basic DT	AC test system based on static frequency converter for distribution transformer testing
iCOS Basic H	high-current test system
iCOS Basic G	high-voltage DC test system
iCOS Basic I	impulse voltage test system
iCOS Basic M	module test system

The following descriptions explain the main functions of the PLC firmware versions.

iCOS Basic T

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- voltage increase/decrease
- preselection of test voltage and test time
- preselection of two regulating speeds
- display of voltage and current limits for system protection
- operation of compensation (optionally)
- password protection of essential system settings

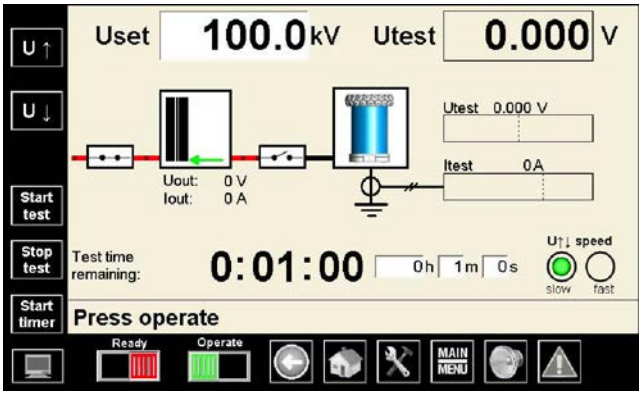


Figure 2: Data display during a test

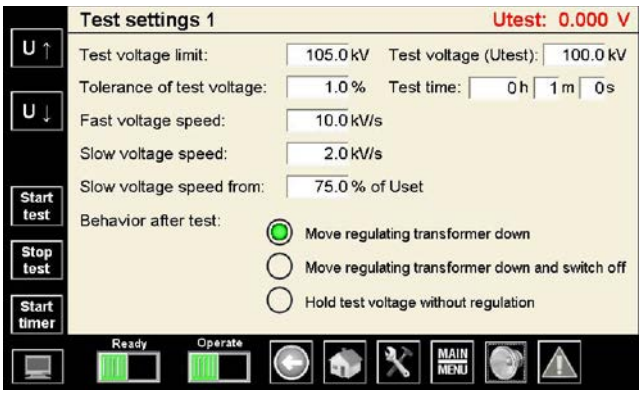


Figure 3: Preselection of parameters

iCOS Basic V

- main switch on/off
- status indication of main switch
- warning and error messages of the test system
- voltage increase/decrease
- preselection of test voltage, test time and frequency
- preselection of two regulating speeds
- display of voltage and current limits for system protection
- password protection of essential system settings

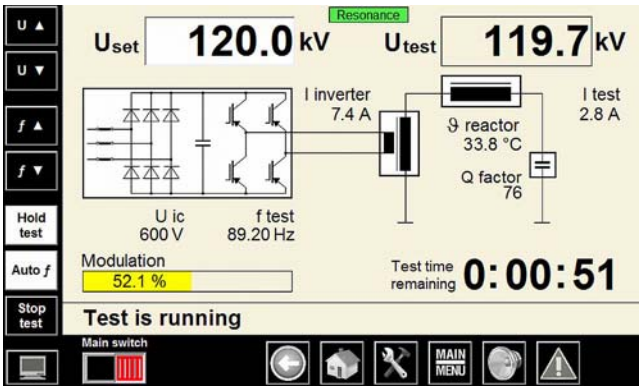


Figure 4: Data display during a test

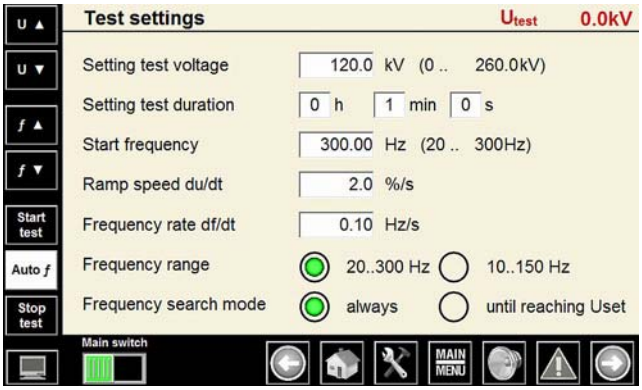


Figure 5: Preselection of parameters

iCOS Basic R

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- voltage increase/decrease
- preselection of test voltage and test time
- preselection of two regulating speeds
- display of voltage and current limits for system protection
- operation of compensation
- remote control of water conditioning unit (optionally)
- password protection of essential system settings

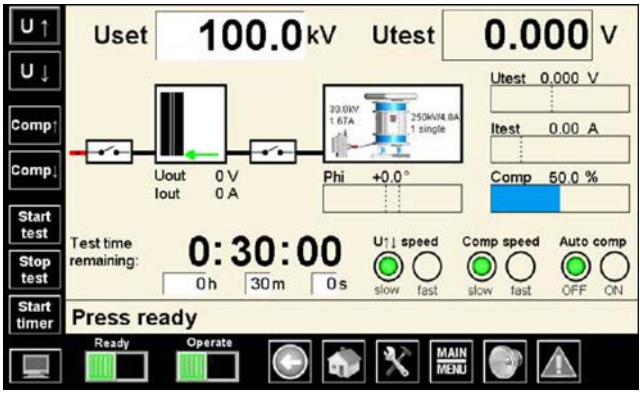
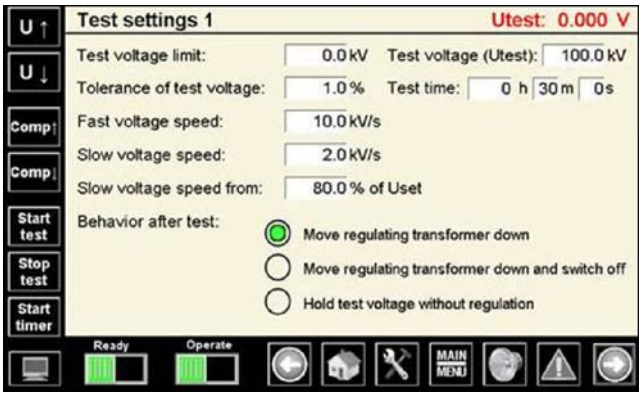


Figure 6: Data display during a test



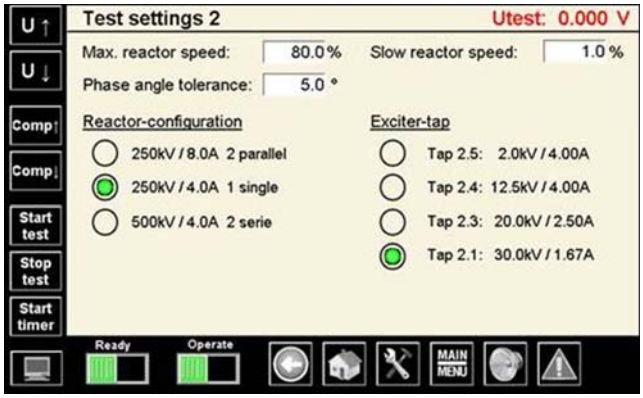


Figure 7 and 8: Preselection of parameters

iCOS Basic TT

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- voltage increase/decrease
- preselection of test voltage, frequency and test time
- preselection of regulating speed
- display of voltage and current limits for system protection
- operation of compensation (optionally)
- password protection of essential system settings

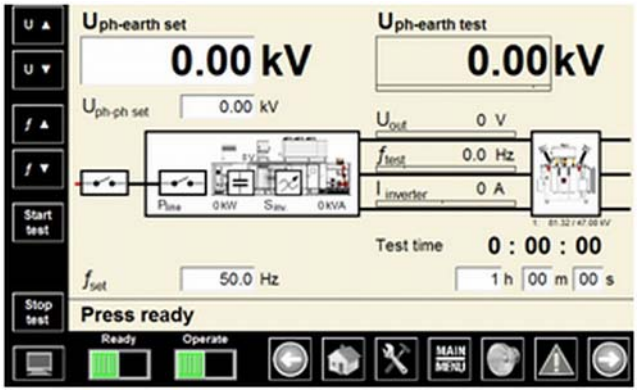


Figure 9: Data display during a test

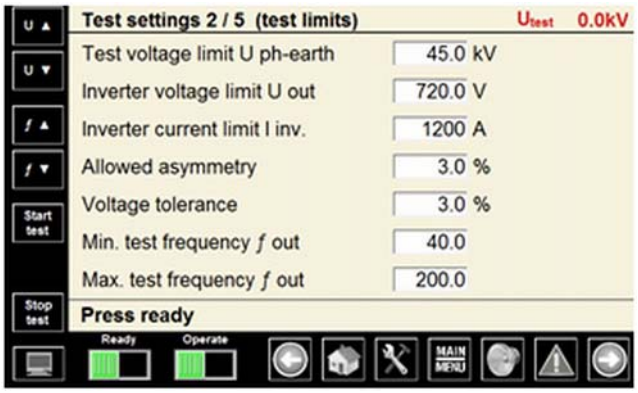


Figure 10: Preselection of parameters

iCOS Basic DT

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- manual voltage/current/power increase/decrease
- predefined test sequences for standard tests
- display of measuring results of the power-loss measurement
- visualisation of the necessary connections between test object and test system
- automatic set-up of the test system (tap changer, compensation, measurement)
- manual mode for free configuration of the test system
- display of voltage and current limits for system protection
- storage of measured data
- export of test reports to PC/USB stick
- password protection of essential system settings

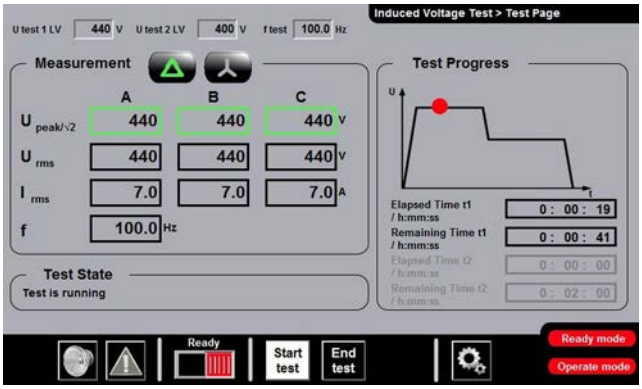
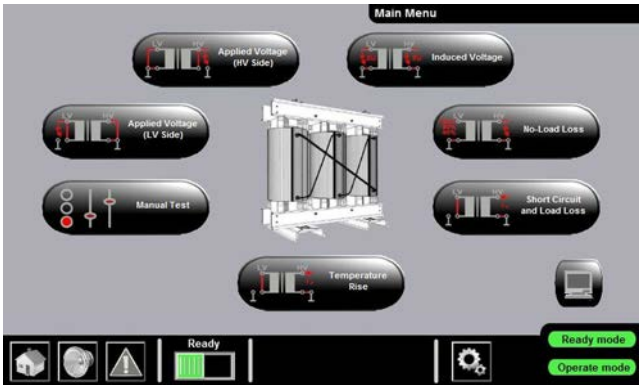


Figure 11: Data display during a test



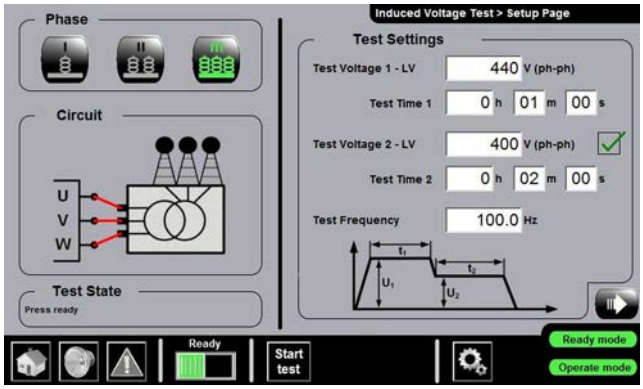
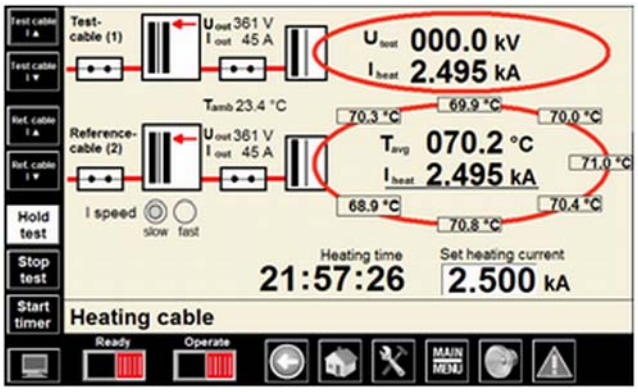


Figure 12 and 13: Preselection of parameters

iCOS Basic H

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- current increase/decrease
- preselection of test temperature or test current and test time
- preselection of two regulating speeds
- display of temperature and current limits for protection of tested cable
- synchronisation with HIGHVOLT AC test system
- password protection of essential system settings



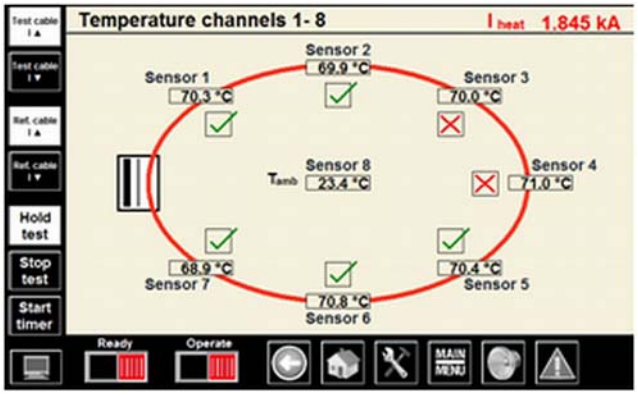


Figure 14 and 15: Data display during a test

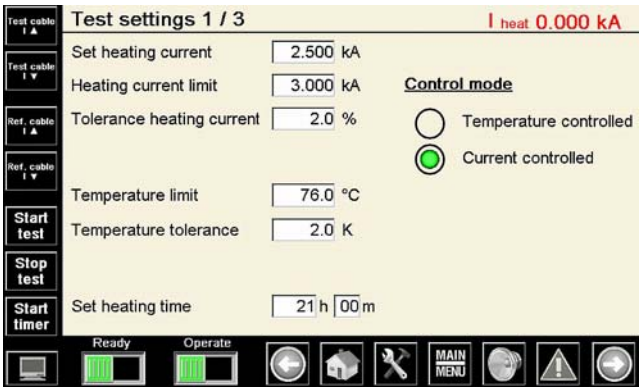


Figure 16: Preselection of parameters

iCOS Basic G

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- voltage increase/decrease
- preselection of test voltage, polarity and test time
- preselection of two regulating speeds
- display of voltage and current limits for system protection
- operation of earthing
- operation of discharging resistor (optionally)
- password protection of essential system settings

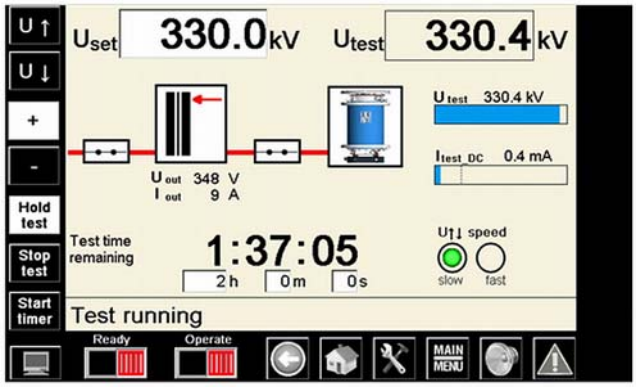


Figure 17: Data display during a test

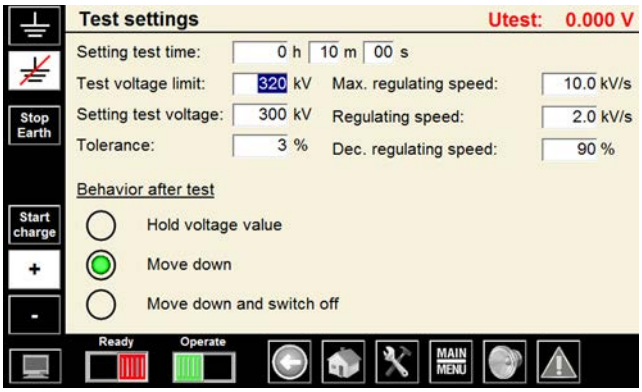


Figure 18: Preselection of parameters

iCOS Basic I

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- operation of polarity, earthing and automatic charging
- softkey for triggering of sphere gap
- preselection of charging voltage per stage and charging time
- preselection of impulses
- impulse counter
- password protection of essential system settings

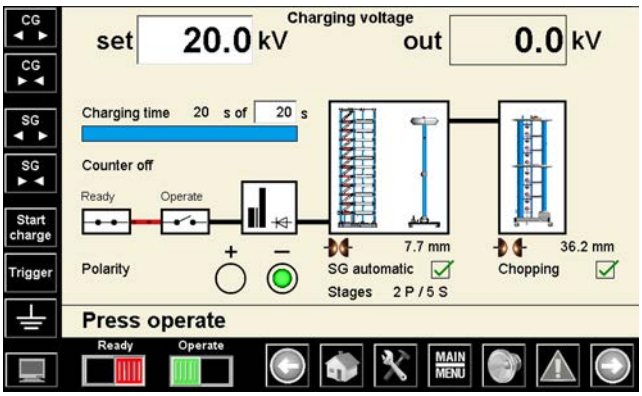
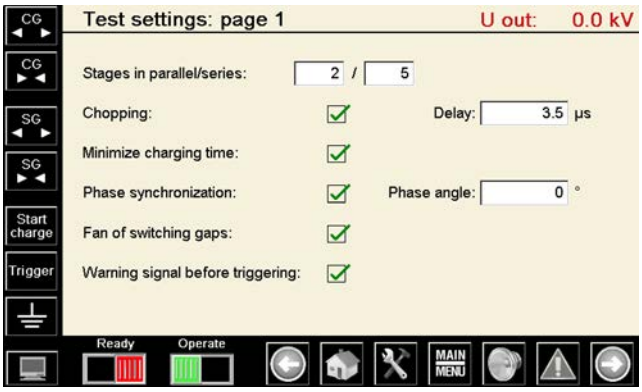


Figure 19: Data display during a test



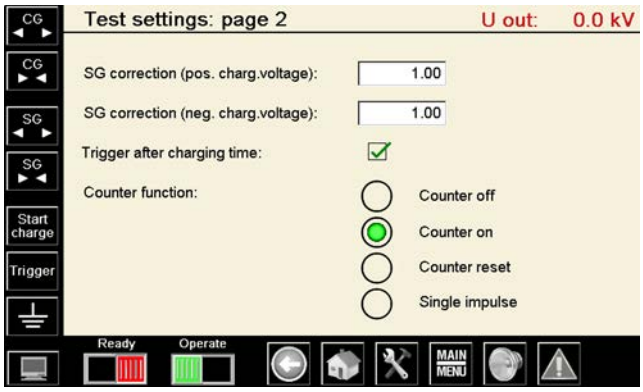


Figure 20 and 21: Preselection of parameters

iCOS Basic M

- main/operating switch on/off
- status indication of main/operating switch
- warning and error messages of the test system
- voltage increase/decrease
- preselection of test voltage and test time
- preselection of two regulating speeds
- display of voltage and current limits for system protection
- password protection of essential system settings

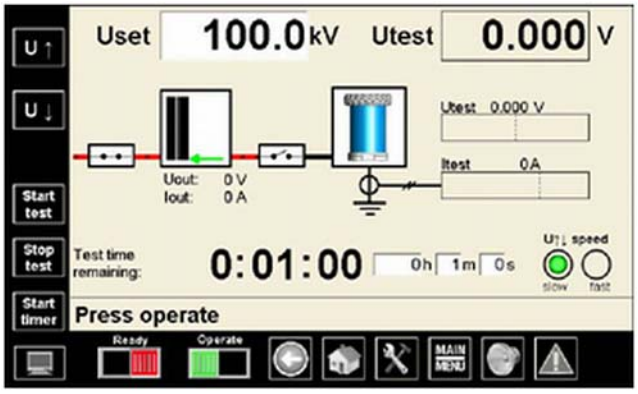


Figure 22: Data display during a test

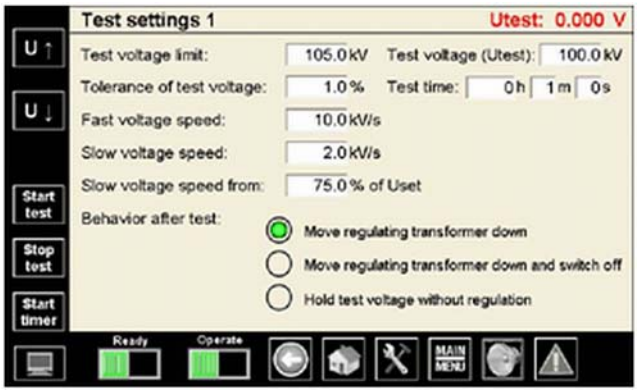


Figure 23: Preselection of parameters