



UTK8

TELEPROTECTION COMMAND TESTER

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MEASURING PARAMETERS

In relay protection systems, blocking, permissive and direct tripping commands are transmitted via PLC channels, dedicated optical fibers and telecommunication networks between substations. Teleprotection command transmission allows localization of a fault faster and more selectively. Currently, binary inputs / outputs used at most substations to exchange commands between substations. As a rule, up to 4 commands are enough for protection of single-circuit high voltage power lines, and up to 8 commands are enough for protection of dual-circuit ones.

TELEPROTECTION EQUIPMENT MEASURING PARAMETERS

The most important parameters for all protection systems are dependability (low probability of missing command), security (extremely low probability of unwanted command) and minimum tripping time. Therefore, it is extremely important to ensure minimum command transmission time in case of fault at the protected substations.

In addition, command must be transmitted within shortest possible time, even if there is interference in the channel (dependability).

On other hand, interference in communication channels should not cause the malfunction of the teleprotection equipment with the formation of unwanted commands by the receiver without commands presence at the inputs of the transmitter and interference in communication channels should not lead to the transformation of one transmitted command to another command at the output of the receiver (security).

Mentioned above parameters must be guaranteed by the manufacturer of teleprotection equipment and must be confirmed in compliance with customer requirements.

TEST EQUIPMENT FOR MEASURING COMMAND PARAMETERS

There is test equipment for measuring the correct functioning of teleprotection equipment and for measuring the command parameters in different format. Usually, this is a set of diagnostic and testing units that have big overall dimensions and weight, leading to complicated tests and increasing time of testing.

Small-sized specialized devices with low weight for command transmission testing are not available now on the market.

UTK8 TELEPROTECTION COMMAND TESTER

Unitel Engineering LLC offers UTK8 specialized teleprotection command tester that allows you to inspect the parameters of command transmission during:

- Factory Acceptance Tests
- Commissioning
- Maintenance

While testing, the UTK8 performs the functions of protection relays connected to the teleprotection equipment (replaces them) and in accordance to specified test procedure sends and receives commands.

UTK8 allows you to simultaneously test of up to 8 commands.



UTK8 has overall dimensions of 220 x 140 x 40 mm and weight of 0.8 kg.

UTK8 TELEPROTECTION COMMAND TESTER

EASY TESTING OF ALL TYPES OF TELEPROTECTION COMMAND EQUIPMENT

KEY FEATURES

- Small overall dimensions and weight of UTK8
- Testing any teleprotection equipment having binary inputs and outputs to transmit commands via PLC channels, dedicated optical fibers and telecommunication networks
- Both, standalone operation and operation under control of the UTK8 software installed on PC
- 8 binary outputs to control the binary inputs of the teleprotection equipment under test
- Ability to operate the binary inputs of the teleprotection equipment under test using both «dry» contacts and substation battery voltage
- Overcurrent protection of binary outputs
- 8 binary inputs for analysis of commands received by the teleprotection equipment under test
- Internal DC voltage source and an external substation battery for 8 binary inputs operations
- Built-in «dry» contact allows simultaneously to control the operation of various devices (for example, an attenuator or a noise generator) and testing of commands
- Universal power supply 230 V AC / 220 V DC
- Built-in calibration function
- 0.1 ms accuracy for measurement of command transmission time
- Ability to create, store and load configuration profile (up to 16 profiles)
- Capability to archive test results in the UTK8
- Graphical view of transmitted and received commands
- Dependability and security measurements



EASY OF USE

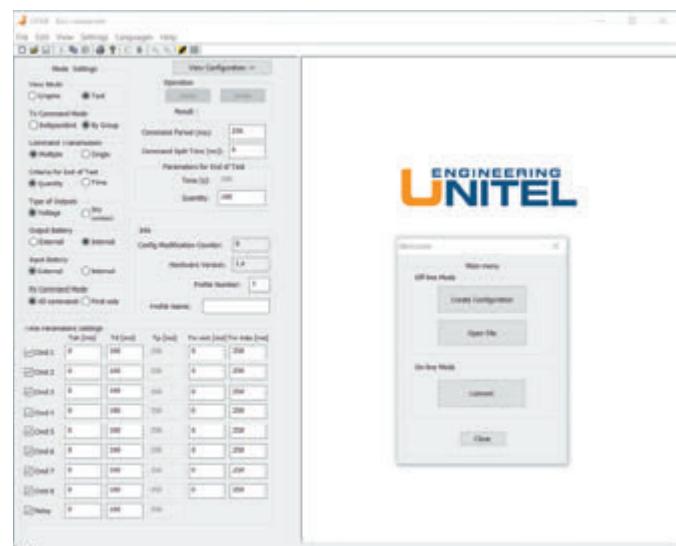
The UTK8 teleprotection command tester can operate both autonomously and via USB port under the control of the UTK8 software installed on PC.

While UTK8 is operating autonomously, the tester keyboard is controlling the testing process and the tester graphical display is monitoring the measurement progress. Each window is used to set a group of test parameters or to display the test progress and test results.



The UTK8 autonomous operation allows the configuration of test settings, carrying out all the tests provided, as well as, analyzing and archiving the test results.

The UTK8 software, installed on PC and connected to the teleprotection command tester, makes testing even more convenient.





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02.2021