
Y160 / Y160H / Y160S Fault Simulator

Operating Instructions



SEAWARD

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Limited Warranty & Limitation of Liability

Seaward guarantees this product for a period of 1 year.

The period of warranty will be effective at the day of delivery.

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Disposal of Old Product



This product has been designed and manufactured with high quality materials and components that can be recycled and reused.

When the crossed out wheeled bin symbol is attached to a product it means the product is covered by the European Directive. Please familiarise yourself with the appropriate local separate collection system for electrical and electronic products.

Please dispose of this product according to local regulations. Do not dispose of this product along with normal waste material. The correct disposal of this product will help prevent potential negative consequences for the environment and human health.

User Notes



DO NOT touch the product or test leads while performing checks.



Only perform testing where the Fault Simulator is correctly connected to the outlet box of the equipment under test, where the simulator is provided with a plug for connection.



DO NOT plug the fault simulator into any mains outlet



DO NOT exceed stated test voltages

Y160 – Instructions for use

The Y160 Fault simulator is intended to provide a quick and simple method of ensuring the test functions of an Electrical Safety Tester are working as expected. It is assumed the operator is competent with the operation of the test equipment and is trained to understand the hazards that may arise with performing High voltage testing.

The Y160 fault simulator series has 3 main test functions, Earth Bond, Insulation Resistance and AC Dielectric Withstand (Flash) Test.

Note: Y160 is supplied with bare ended connection terminals, and the Y160Hare supplied with a plug for easy connection to UK or output terminals. The Y160S is fitted with a Schuko plug for connection to equipment with European test sockets.


Notes for HAL Users

For each test below it is advised to create a single test sequence for each test. This way the fail condition can be logged, Creating all three tests within a single sequence will not be possible, as the aim is to fail the test. We cannot perform the next test if the sequence fails

Checking the Earth Bond Function

The Y160 is designed to offer a pass and a fail measurement for instruments with a 0.1 Ω limit.

Maximum test time 5 seconds
Maximum test current 25A AC
Allow to cool for 5 minutes before re-test



- 1) Plug the Y160H / Y160S into the test socket of the Test Instrument to be checked.
- 2) If using a Y160 connect the output clip of the test instrument to the Earth Cable of the simulator.
- 3) Connect the Earth Return Clip of the Test Instrument to the external metal connection point.
- 4) Perform an Earth Bond Test for no longer than 5s.
- 5) Perform the test and observe a reading of approx. 0.1 Ω , if your tester has a limit, set this to 0.09 Ω ms to initiate a Failure condition.

Checking the Insulation Resistance Function

- 1) Plug the Y160H / Y160S into the test socket of the Test Instrument to be checked.
- 2) If using a Y160 ensure the Live and Neutral cables of the fault simulator are connected to the output terminal of the test equipment, and that the Earth cable is connected to the return terminal of the test instrument.
- 3) Perform an Insulation Resistance Test at 500V Test Voltage, a one second test time should be sufficient.
- 4) Perform the test and observe a reading of 0.4M Ω if performed at ac voltage or 0.2M Ω if performed at dc
- 5) If you wish to check the trip circuits, set your lower limit to 1M Ω ms and ensure the test fails

Checking the Flash Test Function

- 1) Plug the Y160H / Y160S into the test socket of the Test Instrument to be checked
- 2) If using a Y160 ensure the Live and Neutral cables of the fault simulator are connected to the output terminal of the test equipment, and that the Earth cable is connected to the return terminal of the test instrument.
- 3) Ensure the Trip Limit of the Flash Tester is set to 5mA.
- 4) Perform a Flash Test ramping the voltage from 0V, do not exceed 1500V.
- 5) The unit should produce a fail condition and operate the trip function of the instrument between 0.9 and 1.1kV with a reading greater than 5mA.

Environmental Conditions

The Y160/ Y160H / Y160S have been designed to perform test and measurements in a dry indoor environment.

Maximum barometric elevation at which measurements can be recorded is 2000m.

Contamination degree 2 according to IEC 61010-1.

Overvoltage Category II

Protective system IP40 according to IEC 60529.

Operating temperature range of 5°C to 40°C without moisture condensation.

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