

YPLU Because you need to be sure.



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**The Professional Way To Test Cables,  
Harnesses, Slip-rings & Wired assemblies**

# YPU Automated Testing Equipment

**Automated ■ Accurate ■ Affordable**

Automated analysis and testing of wired assemblies, cables, harnesses and slip-rings in military equipment such as satellites, radar installations, combat aircraft, nuclear submarines, warships, tanks, and the like, mandates the highest levels of accuracy, reliability and speed.

YPU's high-performance equipment is used to test wiring assemblies for military purposes in Israel, the UK, Mexico, Singapore, Switzerland, Germany and the USA. Traditionally, the lion's share of YPU's production has been for military use.

However, the enormous amount of expertise gained from this activity has also engendered worldwide utilization of YPU equipment in many testing environments including the aerospace, marine, automotive, electronic, robotics and telecom industries.



While constantly strengthening and expanding its global distributor/customer service network, YPU continues to demonstrate total commitment to its customers with industry-leading solutions and the highest levels of after-sales support.

**YPU** testers work fast, accurately and are surprisingly affordable. They range from robust field units to testers that rapidly verify harnesses with thousands of wires and slip rings. Most importantly, they reveal all existing and latent faults. After a YPU tester completes its job, faults can be repaired and changes that lead to improved product quality, faster throughput, higher yields and enhanced bottom lines can be implemented.

## **Building YPU programs for automated testing**

### **YPU software eliminates tedious programming steps**

Point and click boxes write commands, modes, and define parameters. The software lets users build customized libraries; prepare wire lists and functional tests; and build programs to suit the requirements of any kind of wired assembly - and all this, without the need to memorize codes.

### **YPU testers have self-learning capability**

This reduces the time and effort required to record wiring lists and build wiring test programs.

Programs no longer have to be written from scratch. All that needs to be done is to attach a "golden cable" (a UUT that is known to be good) to the YPU system. A simple command tells the computer to build and save a wiring test program that can be used later to provide the same types of results when testing other cables. This self-learning capability is particularly useful for analyzing and testing cables whose design and/or production parameters are not known. YPU testers collect and record the wiring patterns of any kind of cable or harness, generate appropriate testing programs and then conduct rapid automated test for opens, shorts, and miswires."



***YPU products perform low voltage continuity and functional testing, and high voltage insulation testing within minutes.***

They test backplans, circuits and assemblies with components for both functionality results and AC signatures. YPU products are Windows based continuity and HiPot testing systems for a wide array of cables, harnesses, slip rings and wired assemblies. YPU systems operate using 19" industrial PCs or robust portable PCs.

### **All YPU systems verify, check and report on:**

- Circuit continuity
- Pin to pin wiring
- Resistors
- Relays
- Diodes
- Capacitors
- Switch and circuit breakers

### **High Voltage Testers also verify, check and report on:**

- Insulation resistance to short circuits
- Dielectric breakdown (HiPot)

# YPU

B e c a u s e   y o u   n e e d   t o   b e   s u r e .

## YP-30H High voltage cable & harness tester

The YP-30H HiPot Wired Assemblies Tester performs high voltage testing up to 1500 V in addition to all the functions of the YP-1024 low-voltage tester. Testing includes dielectric, resistance and insulation procedures.

Modularity provides virtually unlimited scalability. The YP-30H has been developed to verify the most complex harnesses. One extraordinary aspect of the YP-30H lies in its ability to conduct tests while controlling switches, relays, LEDs and any other equipment embedded in cables that work using external power supplies. Like other YPU testers, the YP-30H significantly and costeffectively improves yields and minimizes testing costs.

### Features & benefits

- Test of continuity resistance, insulation resistance and leakage current
- Open/short continuous test between any two predefined pins
- Windows operating system
- Functional testing option
- User-friendly, menu driven software. No programming experience needed
- Complies with MIL-C3885F (Cable Assemblies and Cord Assemblies Electrical Standard)
- Operating instructions in customer's language (optional)
- Applicable to a wide variety of cable lengths and shielding
- No calibration processes required
- Implements high capacity database for reports, wiring lists and UUT connector types (Including UUT pins designation)
- Performs self-learning of good wired assembly samples
- Imports wiring lists from CAD/CAM or host computer (DIT-MCO programs translator optional)
- Includes automatic BIT and initiated selftest.
- Selection of voltage, current or resistance configured for one or a group of chains.



### Testing parameters

- |                            |   |
|----------------------------|---|
| <b>Continuity Res</b>      | <ul style="list-style-type: none"><li>■ Current -10mA, 100mA, 500mA (1A opt) <math>\pm 10\%</math> (up to 5Vdc)</li><li>■ Resistance - (2W) - 0.2<math>\Omega</math> to 100K<math>\Omega</math> <math>\pm 5\%</math> <math>\pm 0.2\Omega</math></li><li>■ Resistance - (4W) - 0.5 m<math>\Omega</math> to 100K<math>\Omega</math> <math>\pm 5\%</math> <math>\pm 0.2m\Omega</math></li></ul>      |
| <b>Insulation Res.</b>     | <ul style="list-style-type: none"><li>■ Voltage -100 to 1500Vdc (50 Volt steps) <math>\pm 5\%</math> <math>\pm 5V</math></li><li>■ Resistance - Up to 1G <math>\Omega</math> <math>\pm 5\%</math></li><li>■ Wait time - 50 mS to 60 Sec. (conditional or fixed)</li></ul>   |
| <b>Dielectric Strength</b> | <ul style="list-style-type: none"><li>■ Voltage - 200 to 1000Vdc/ac* (50 Volt steps) <math>\pm 3\%</math> <math>\pm 5V</math></li><li>■ Leakage current - 0.1mA to 1mA <math>\pm 10\%</math> <math>\pm 20\mu A</math></li><li>■ Dwell time - 50 mS to 60 Sec.</li></ul>   |
| <b>Component testing</b>   | <ul style="list-style-type: none"><li>■ Resistance (2W) - 0.1<math>\Omega</math> to 250M<math>\Omega</math> <math>\pm 5\%</math> <math>\pm 0.1\Omega</math></li><li>■ Capacitance - 200pF to 10mF <math>\pm 5\%</math> <math>\pm 100pF</math></li><li>■ Diodes, Zeners, LEDs forward voltage up to 2VDC <math>\pm 20mV</math></li><li>■ Filters &amp; component networks (AC signature)</li></ul> |

### System components

#### Basic configuration includes:

- 19 - Rack industrial PC
- Tester electronic boards (HV generator, measurement and 2W/4W matrix boards)
- Component measurement software module + Searching probe
- Windows + YP-30H software
- Optional:
  - Writing editing and conversion of testing program on demand
  - Desk-Top Printer
  - Spare boards
  - **GUI in customer's language**
  - Interface cables & adapters
  - Installation & training at customer's site
  - Functional testing Relays, switches, lamps, selectors (rotating switches) etc .
  - "PASS" labels editor

## YP-30H PORTABLE, high voltage tester (up to 1500 V)

YP-30H PORTABLE, high voltage testers (up to 1500 V) YPU's robust and field-proven Portable Tester has identical performance characteristics to the YP-30H.

The Portable has been especially developed to meet the needs of field testing for cables and harnesses that cannot be transferred to a workshop.

Air force fleets, aircraft industries and marine industries around the world are using this system to test cables and harnesses near



and inside aircrafts or ships. Complicated cable harnesses can be tested in seconds on site saving expensive disassembling.

■ Up to 600 test points



## YP-1024 Low voltage cable & harness tester (up to 5V)

Eminently efficient, affordable and highly productive, the YP-1024 tests as many as 100 pins in less than five seconds. It checks pin to pin wiring, the functionality of embedded components (diodes, capacitors, resistors and so on).

The YP-1024 also diagnoses shorts, opens, malfunctions and mis-wires in any cable. Although ideal for use in the automotive industry, this tester is suitable for all low voltage testing purposes.

### Testing parameters

- Continuity Res.** ■ 150Ω to 300KΩ ± 10% ± 20Ω (8 rangers)
- Insulation Res.** ■ 150Ω to 300KΩ ± 10% ± 20Ω (8 rangers)
- Component testing** ■ Resistance (2W) - 0.1Ω to 250MΩ ±5% ±0.1Ω
- (Optional)**
  - Capacitance - 200pF to 10mF ± 5% ± 100pF
  - Diodes, Zeners, LEDs forward voltage up to 2VDC± 20mV
  - Filters & component networks (AC signature)
  - Relay operations
  - Interactive test (with messages & questions)

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# Unique Slip-Ring Testing Solution

## YP-SRT High Voltage HiPot Slip-Ring Testers

This one-of-a-kind tester enables automated bi-directional continuity testing of each ring - SEPARATELY.

The system uniquely tests for insulation (including dynamic tests), current leakage and resistance noise. The YP-SRT complies with MIL Spec C3885F. Procedures can be programmed either for testing single rings or any number of rings simultaneously. Test results for resistance noise are graphically displayed. Every reputable slip ring manufacturer in the world uses the YP-SRT to verify the quality of their products during the production process.

### Test parameters

<b>Continuity Res.</b>	<ul style="list-style-type: none"><li>Current - 10mA, 100mA, 500mA <math>\pm</math> 10% (up to 5Vdc)</li><li>Resistance (2W) - 0.2<math>\Omega</math> to 100K<math>\Omega</math> <math>\pm</math> 5% <math>\Omega</math> <math>\pm</math> 0.2<math>\Omega</math></li><li>Resistance(4W) including noise - 0.5m<math>\Omega</math> to 100K<math>\Omega</math> <math>\pm</math> 5% <math>\Omega</math> <math>\pm</math> 0.2m<math>\Omega</math></li></ul>
<b>Insulation Res.</b>	<ul style="list-style-type: none"><li>Voltage - 100 to 1500V dc (50 Volt steps) <math>\pm</math> 5% <math>\pm</math> 5V</li><li>Resistance - Up to 1G <math>\Omega</math> <math>\pm</math> 5%</li><li>Wait time - 50 mS to 60 Sec. (conditional or fixed)</li></ul>
<b>Dielectric Strength</b>	<ul style="list-style-type: none"><li>Voltage - 200 to 1000Vdc/ac* (50 Volt steps) <math>\pm</math> 3% <math>\pm</math> 5V</li><li>Leakage current - 0.1mA to 1mA <math>\pm</math> 10% <math>\pm</math> 20<math>\mu</math>A</li><li>Dwell time - 50 mS to 60 Sec.</li></ul>
<b>Component testing</b>	<ul style="list-style-type: none"><li>Resistance (2W) - 0.1<math>\Omega</math> to 250M<math>\Omega</math> <math>\pm</math> 5% <math>\pm</math> 0.1<math>\Omega</math></li><li>Capacitance - 200pF to 10F <math>\pm</math> 5% <math>\pm</math> 100pF</li></ul>
<b>(Optional)</b>	<ul style="list-style-type: none"><li>Diodes, Zeners, LEDs forward voltage up to 2VDC <math>\pm</math> 20mV</li><li>Filters &amp; component networks (AC signature)</li></ul>

### Features & Benefits

- Testing of continuity resistance, insulation resistance (including dynamic test), leakage current and resistance noise
- Windows operating system
- User-friendly, menu driven software. No programming experience required
- Complies with MIL-C3885F (Cable Assemblies and Cord Assemblies Electrical Standard)
- Operating instructions in customer's language
- Applicable to a wide variety of cable lengths and shielding
- Automatic initiation of a change in rotation direction in res. noise test
- Graphic display of one circuit (ring resistance noise)
- No calibration processes required
- Implements high capacity database for reports, wiring lists and UUT connector types (Including UUT pins designation)
- Performs self-learning of good slip-ring assembly samples
- Imports wiring lists from CAD/CAM or host computer
- Includes automatic BIT and initiated self test
- Selection of voltage, current or resistance configured for one or a group of chains
- 30 test-points matrix module (Output - 37 pins D-Type female connector)

### System components

#### Basic configuration includes:

- 19 - Rack industrial PC
- Tester electronic boards (HV generator, measurement board, relay board and 2W/4W matrix boards)
- Components measurement software module + Searching probe
- Windows + YP-30H software
- Optional:
  - Writing, editing and conversion of testing programs on demand
  - Serial noise, 2 rings noise test
  - Desktop Printer
  - Spare boards
  - GUI in customer's language
  - Interface cables & adapters
  - Installation & training at customer site



- ➔ Wiring Test
- ➔ Self Learning
- ➔ Functional
- ➔ Wiring List Setup
- ➔ Connectors Setup
- ➔ System Parameters
- ➔ Exit
- ➔ Name List Setup
- ➔ Tester Self-Test
- ➔ Functional

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