



NF802

IEC61850 Digital Protection Relay Test Kit

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Introduction

The new generation of optical digital relay tester, 8 optical port design, and powerful data processing capability can realize full functional test of the optical digital protection devices. It also can simulate closed-loop test on MU. Equipped with GPS, IRIG - B code synchronization interface and supports the IEEE1588 to provide the conditions to substation internal debugging and substation to substation combine debugging.

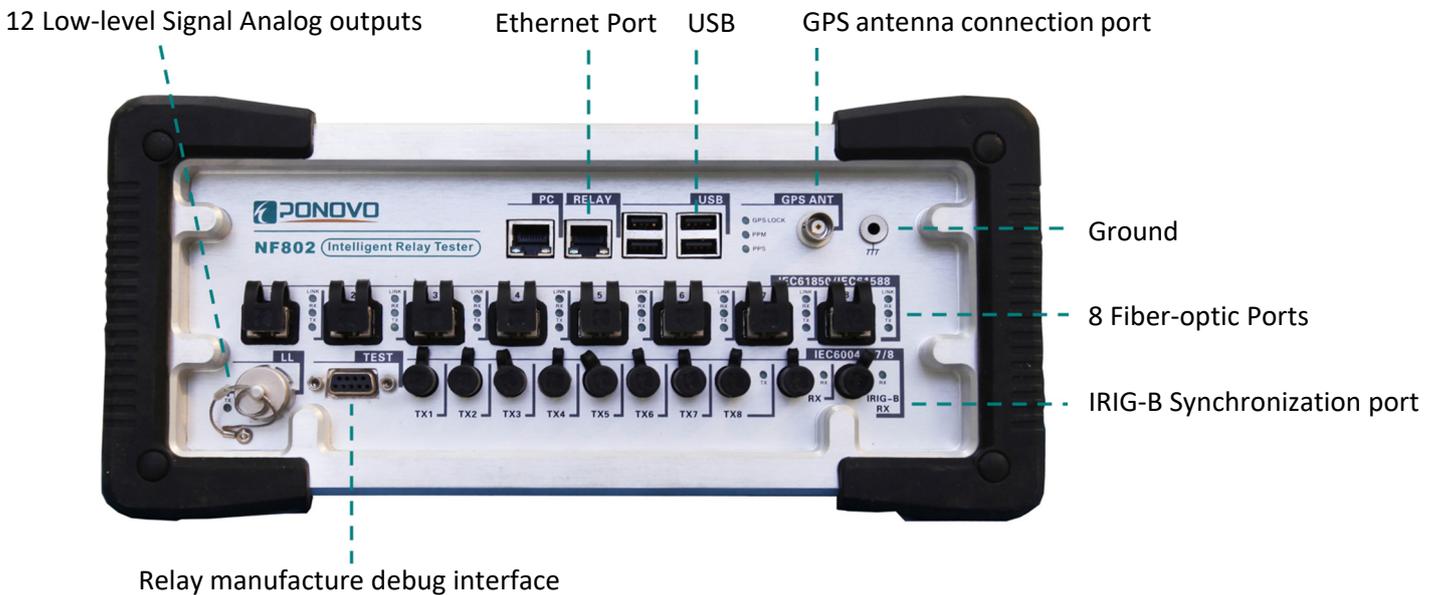
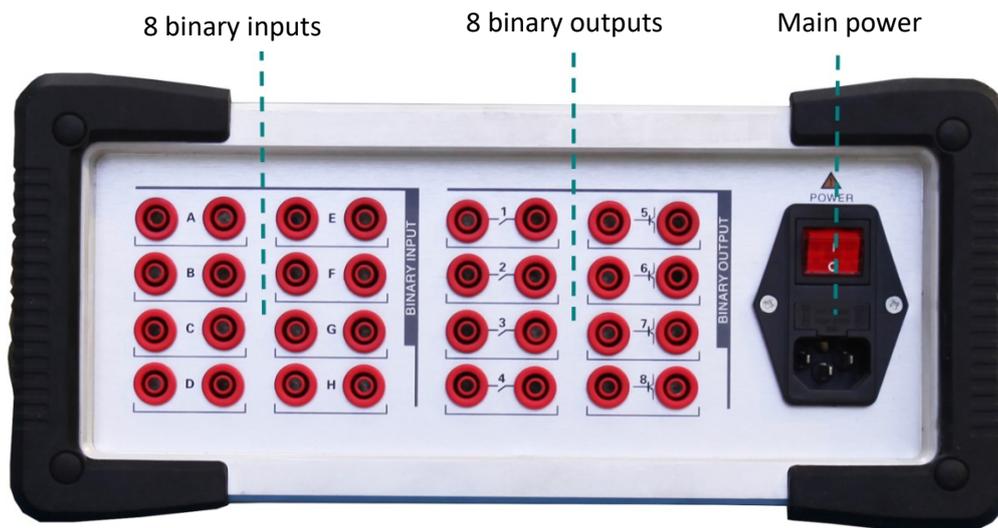
Software has years of testing experience. It based on powerful test functions and the template function. It integrated the unique functional testing of optical digital protection include: the abnormal SV simulation, virtual terminal test, the optical power testing and so on. Efficient, fast to complete the intelligent station test.

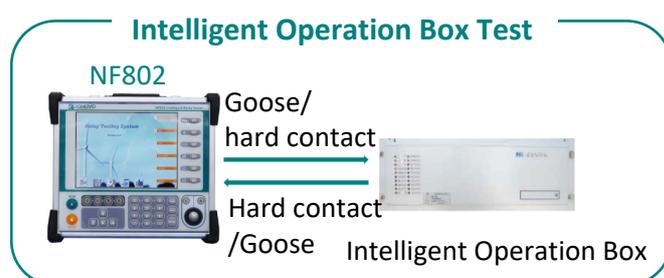
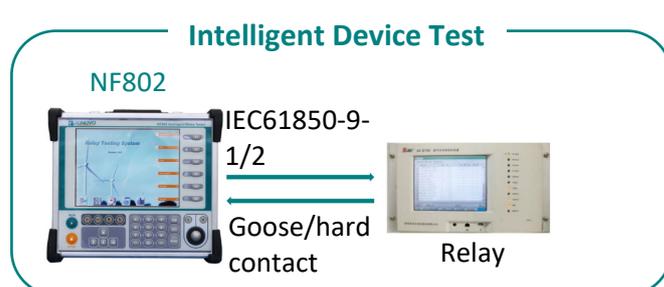
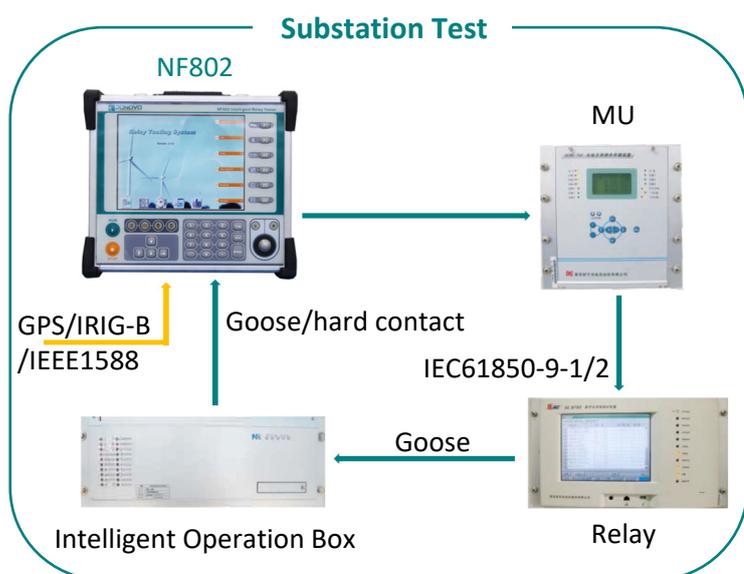
Features

- 8 Fiber Optical Ports for
 - Receiving and sending IEC61850-9-2 and Goose message
 - Receiving and sending IEEE1588 message
 - Measuring received fiber optical power
- Provide flexibility to configure both SV (IEC61850-9-2) and GOOSE ports independently
- Strong data receiving and sending capability for each fiber optical port
 - Can send 6 groups of SV at the same time
 - Can send 15 groups of GOOSE at the same time
 - Can receive 13 groups of GOOSE message
 - Can send/receive IEEE1588 message
- While sending SV, the dispersion of the MU is better than $\pm 80\text{ns}$
- Can receive SV, realizing self-loop test
- Fiber-optic ports can be used to measure received optical power
- 12 configurable independent low-level analog signal output terminals, can be used to test the low-level signal input device
- Can publish/subscribe many different GOOSE control block message
- Analyze model file (SCD, ICD, CID, NPI) automatically
 - Can configure SV, sample channel message, GOOSE message automatically
 - Can check the GOOSE communication link
- SV, GOOSE configure message can be saved and recall repeatedly.
- Simulate the abnormal message (jitter, frame loss, flying spot, wrong sequence, data anomalies, packet retransmission, channel invalid, out of step, etc.)
- With IEEE1588 synchronization function and the deviation of the time is less than 80ns.
- IRIG-B synchronization port and built-in GPS synchronization mechanism.

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Panel Description





Specification

Fiber-optic communication port:

IEC61850-9-2, GOOSE

Type	100Base-FX (100Mbit, Fiber, full-duplex)
Port Number	8 pairs LC ports
Fiber Type	62.5/125 μ m (Multi-mode Fiber, orange)
Wave Length	1310nm
Transmission Distance	>1km

12 Low-level Signal Analog Output

Amplitude Setting Range	AC: 0-7.07Vrms, DC:0-10V
Amplitude Accuracy	0.07-7.07Vrms: Error<0.2%; 0.02 -0.07Vrms: Error< 1%
Amplitude Resolution	250 μ V
Amplitude Distortion (THD+N)	<0.1%
Frequency Sine signal	10-250Hz
Frequency Transit Signal	DC-10.0kHz
Frequency Accuracy	0.002% (Industry Frequency, Error 1mHz)
Frequency Resolution	0.001Hz
Phase Angle Range	0 to 359.999 $^{\circ}$
Phase Accuracy	<0. 1 $^{\circ}$
Resolution	0 001 $^{\circ}$

Main Power

Rated voltage	220V (AC), 50/60Hz
Range	100V -240V (AC)
Frequency Range	40-60Hz

8 Pair of Binary inputs (A-H)

Input Characteristic	30V -250V (DC) or empty contact (automatic identification)
Sample Rate	10kHz
Time Resolution	100 μ s
Max Measurement Time	1.50X10 ⁵ s
Timing Error	\pm 1ms (0.001s-1s) \pm 0.1%(1s-1.50x10 ⁵ s)
Anti-jitter time setting range (Software)	0ms-25ms
Electrical Isolation	8 pair input electrical isolation
Threshold Impedance Parameters (Dry Contact)	5k Ω -13k Ω

4 Pair Binary Output (1-4)

Type	Empty contact, regardless of polarity
AC Capacity	Vmax:250V (AC) /Imax:0.5A
DC Capacity	Vmax:250V (DC) /Imax:0.5A

4 Pair Binary Output (5-8)

Type	Fast contact output, speed of response is 100 μ s
AC Capacity	Vmax:220V (AC) /Imax:0.5A
DC Capacity	Vmax:220V (DC) /Imax:0.5A

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Since 2001, Ponovo Power has been focusing on providing professional solutions to over 5000 clients in the fields of intelligent testing and power quality control in China and aboard



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