Intelligent substation maintenance partner
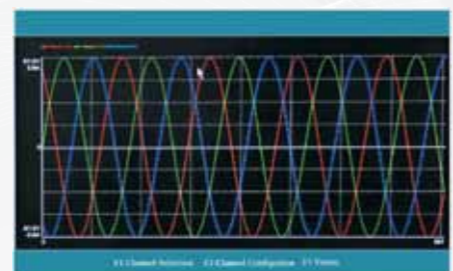
NS601

Handheld Digital Signal Analyzer

Stable operating environment, high reliability.

Building a strong smart grid and popularization of the intelligent substation made secondary monitoring, protection has undergone a historic transformation. The change in the way of data transmission in process level has brought new problems to test and calibration work. The traditional instrument has not completed optical digital signal measurements, the living construction or substation maintenance person need a new method for optical digital signal analysis. NS601 handheld digital signal analyzer is a professional digital signal tools for the optical measurement, with multi–meter, oscilloscope, harmonics analyze, phase check, CT polarity analyze function, as well as, automatic detection, resolve IEC61850–8–1, IEC61850 –9–1, IEC61850–9–2/LE, IEC60044–8 format messages, It's portable, stable and user–friendly, and also the essential tool for intelligent substation maintenance.

**Portable
Stable operation
User-friendly,**

➤ Automatically detect IEC61850-9-1,IEC61850-9-2/LE, IEC60044-8 anddisplay waveform, RMS value, phase

➤ Analyze message status information including:
- MU synchronization status
- Channel validation status
- Operating and maintenance status

7-inch TFT Color Screen

Status Indicator

Status Indicator

64-bit rubber full-function keyboard

SD Card Slot

USB Port (OTG)

Charging Port

Power Switch

2 Pair 100Mbps optical Ethernet port(ST):1310nm wavelength,receiving IEC61850-9-2/1 SV、GOOSE message

Optical Serial Interface:Multi-mode Optical Fiber Port Receive FT3 Signal

➤ IEC61850-9-1、IEC61850-9-2/LE、IEC60044-8 format SV message parameters are displayed in real-time.

⌐ IEC61850-9-1 : LDName Number of ASDU Sample Frequency、Channel Number, Configuration Version Number、APPID、Rated Phase Current、Rated Neutral Current、Rated Phase

⌐ IEC61850-9-2: SVID、 Number of ASDU、APPID、Channel Number、MAC DestinationAddress、Synchronization State、VLANMessage(Priority VID)

⌐ IEC60044-8:LDName、Sample F、Baud Rate、Rated Phase Current、Rated Neutral Current、Rated Phase Voltage、Rated Delay、Channel Number

➤ Automatically detect IEC61850-9-1(GOOSE) message of different MAC address in the network and analyze the message of the optional GOOSE control model.
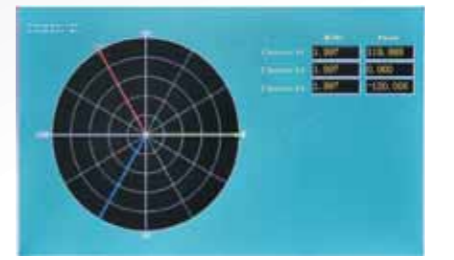
⌐ IEC61850-8-1: IGoCBRef, GOOSE ID, DataSetRef, MAC destination address, APPID(0X), Allowed Survival time, Commission, test, configuration version, StNumber, SqNumber, Database Number, Vlan Sign (Priority, VID)
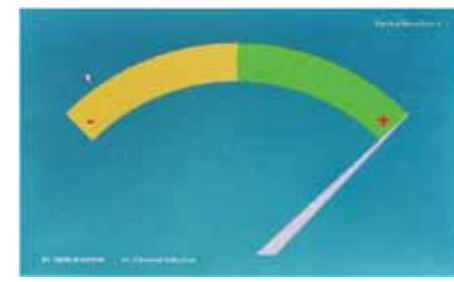
⌐ Real-time displays GOOSE status

⌐ Real-time displays the GOOSE deflection

⌐ Offer history status consulting of GOOSE

➤ • 2 group optical port
• receive signal from 2 groups MU at the same time
• comparing RMS,phase

➤ Automatic Analyze harmonics information including:
- Harmonics amplitude
- Harmonics pase and phase
- Frequency of the sample value

➤ CT polarity test

Technic parameter

Environment Conditions
Altitude: ≤4000m
Environment temperature:-10℃～50℃
Relative humidity: 5%～95%
Atmospheric pressure: 86～106 kPa

Security Standard
GB / T 17626.2-1998 EMC testing and measurement
techniques Electrostatic discharge immunity test 4
GB / T 17626.4-1998 EMC testing and measurement
techniques Electrical fast transient burst immunity test 4
IEC 60255-21-1:1988 Electrical relays Part 21:
Measuring vibration, shock, bump and seismic tests of relays
and devices, Chapter One: Vibration tests (sinusoidal)
Enclosure rating IP5X

Power Supply
Battery: 6 18650 4400mAh large capacity lithium battery
Charging power adapter:
Input: 85V ～ 264V AC-DC Universal
Output: DC19V, 4.74A
Charging time: 2-3 hours full of need, the new battery
charge time greater than 12 hours is recommended,
at the first three times.
full power working hours＞ 4 hours
Standby time＞ 400 hours

Support the signal detection and numerical analysis specification
IEC61850-9-1 signal samples
IEC61850-9-2/LE signal samples
IEC61850 GOOSE signal
IEC60044-7 / 8 optical serial signal

Interface parameters
1 USB port (OTG)
2 100Mbps Optical Ethernet: 1310nm wavelength,
receiving IEC61850-9-2 / 1 samples, GOOSE messages
2 ST Interface: 850nm wavelength, multimode fiber
interface (supports 2.5M, 5M, 10M baud rate),
receiving the FT3 signal.

Type of fiber optic cable
62.5/125um multi-mode fiber or 50/125um multi-mode fiber.

Other parameters
Dimensions: 270mm (length) × 280mm (width) × 55mm (H)
Display: 7 inch TFT color screen, 800 × 480 dot-matrix,
 liquid crystal display
Keyboard: 64-bit rubber full-function keyboard
Expansion slot: SD card slot

Self-protection
Built-in charging circuit and over-discharge protection
circuit to ensure the reliability of rechargeable battery

Handheld
Digital Signal Analyzer

Subject to modification without notice
Revised in March 2012

www.relaytest.com