

ONLY-BQ460 Relay Test Set



1. Main hardware configuration

Four voltage sources; six current sources; eight pairs of fiber optic Ethernet interfaces; eight FT3 fiber optic interfaces (six transmitting ports and two receiving ports); eight pairs of inputs; four pairs of general outputs; two pairs of fast outputs.

2. Technical Parameters

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| Power Supply | | AC 220V±20% (47 ~ 63Hz) , 200 ~ 380VDC, Total power consumption<2000VA |
| Support Agreement | | IEC61850-9-1/9-2, IEC60044-7/8 (FT3) , GOOSE |
| Voltage Source | AC voltage | 4x (0 ~ 125) V |
| | AC voltage accuracy | Below 2V, the absolute error < 4mV; from 2V to full range, the relative error is< 0.2% |
| | AC voltage power | When outputting rated voltage, the power is not less than 30VA; when outputting maximum voltage, the power is not less than 60VA; All voltage phases can be output with load at the same time |
| | DC voltage range | 0 ~ 350 V (L-L) ; -175 ~ +175 V (L-N) |
| | DC voltage accuracy | < 2V, the absolute error < 4mV; from 2V to full range, the relative error < 0.2% 0 ~ 350 V (L-L); -175 ~ +175 V (L-N) |
| | DC voltage power | At ±350VDC, the output power is >100W; at ±125VDC, the output power is >60W, and all voltage phases can be output with load at the same time |
| Current Source | AC current | 6x (0~35) A |
| | AC current accuracy | < 0.5A, the absolute error< 1mA; 0.5A to full range, the relative error is< 0.2% |

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| | AC current power | 0.5A: maximum load greater than 18.0Ω; 30A: maximum load greater than 0.30Ω (meets all relay protection secondary CT loads) All current phases can be output with load at the same time |
| | DC current range | (0 ~ 20) A |
| | DC current accuracy | < 0.5A, the absolute error < 1mA; 0.5A to full scale, the relative error <0.2% |
| | DC current power | Single-phase power > 200W ,All current phases can be output with load at the same time |
| Fiber Ethernet Interface | Transmission network | 100Base-FX (100M full-duplex fiber network) |
| | Number of transmission ports | 8 pairs |
| | Type of transmission port | Standard LC interface (can be configured as 9-1/9-2 SMV transmitter or GOOSE transmitter and receiver) |
| | Transmission medium | 50/125μm or 62.5/125μm multimode fiber, wavelength 1300nm, effective transmission distance > 1 km |
| FT3 Fiber Interface | Transmission network | Real-time fast one-way fiber transmission network, configurable speed |
| | Number of transmission ports | 8 pcs (6 transmitters, 2 receivers) |
| | Type of transmission port | Standard ST interface |
| | Transmission medium | 62.5/125μm multimode fiber, wavelength 850nm, effective transmission distance > 1 km |
| Synchronous | Built-in GPS | 1 (SMA head) |
| | IRIG-B interface | 2 ST optical ports (IN/OUT), 2 electrical ports (IN/OUT) |
| | IEEE-1588 interface | 1 pair (LC optical port) |
| Output frequency | | Range: 10-1000Hz ; Resolution: 0.001 Hz Error: 10 Hz < f≤65 Hz, <±0.001 Hz ; 65 Hz < f≤450 Hz, <±0.01 Hz; 450 Hz < f≤1000 Hz, <±0.02Hz; |
| Phase | | Range: ±360°; Error: <0.2°; Resolution: 0.1° |
| Input | | Eight pairs of inputs (electrical isolation), can be connected to empty nodes and potential nodes (0-250V) |
| Output (software controlled) | | Quantity: 6 pairs; Type: 4 pairs of empty contacts without polarity (electrical isolation) 2 pairs of fast output contacts (response time <100μs) time <100μs) |

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| | DC capacity: Vmax: 250VDC/Imax: 0.3A |
| Wireless function | Built-in Wi-Fi module, can wirelessly control the tester |
| Device size | 390mm*200mm*380mm (LxWx H) |
| Device weight | <15.8Kg |

3.Features

1. A digital-analog all-in-one machine in the strict sense, which truly realizes the synchronous output of digital and analog signals;
2. "Embedded industrial computer + 10.4-inch touch screen", supports offline operation, compact size, easy to carry;
3. 4-way 125V voltage + 6-way 35A current amplifier output, all voltage and current phases can be output with load at the same time;
4. Supports simultaneous transmission and reception of multiple sampling value (SMV) messages and GOOSE messages that comply with IEC61850-9-1, IEC61850-9-2, IEC60044-7/8 (FT3) specifications;
5. It has 8 pairs of LC fiber optic Ethernet interfaces (can be arbitrarily configured as 9-1/9-2 SMV transmitter or GOOSE transmitter and receiver), 8 FT3 fiber optic interfaces (6 transmitters, 2 receivers), and supports 24 independent SMV channel mapping;
6. (Optional) Supports up to 50 harmonic outputs, can simultaneously superimpose interharmonics, and is convenient for testing protection devices such as high-voltage DC filters;
7. Supports 8-way optical power testing;
8. Has multiple synchronization functions such as GPS, IRIG-B, IEEE-1588, etc.;
9. First in China, built-in Wi-Fi access function, which can realize computer control of the tester through a wireless network, greatly facilitating the operation of on-site personnel;
10. Perfect functional integration of traditional relay protection testers and digital testers, hardware indicators are completely consistent with the corresponding types of relay protection testers, and the operation consistency is strong;
11. The electrical isolation between the analog output current ground In and the voltage ground Un is more in line with the wiring requirements of the test site.
12. The working power supply supports AC and DC power supply, which is more flexible and convenient.