

ZIRCON[®]

Portable High Performance Phased Array UT Instrument

FEATURES & BENEFITS

Battery-operated for portability

- ▶ Up to 8 hours of battery life, you get the job done

Compact and rugged for the real-world

- ▶ Portable with no air intake means Zircon can easily be deployed virtually anywhere, even contaminated areas

Easily handles advanced lightweight material inspections

- ▶ ZIRCON TR supports the innovative Time Reversal technique for the inspection of complex lightweight materials like CFRP (Carbon Fiber Reinforce Polymers)

Superior signal quality for better results

- ▶ State-of-the-art electronics delivering high-quality and outstanding signal to noise ratio

3-D Work Environment

- ▶ Controlled by UltraVision[®] offering 3-D work environment for creation of components and data visualization



REAL-WORLD PERFORMANCE YOU CAN COUNT ON

Portable and rugged, ZIRCON is designed for demanding inspections. As the instrument of choice for any mission-critical ultrasonic application, ZIRCON offers a 32/128PR Phased Array configuration and two conventional UT channels for pulse-echo, pitch-catch or TOFD inspections. ZIRCON delivers significant benefits including automatic probe detection, self-diagnostics, an impressive data throughput and up to 1024 focal laws in a rock-solid fan-less casing.

Driven by the UltraVision software platform ZIRCON

offers advanced data acquisition and analysis. The unique 3-D environment provides all the tools necessary for the creation of components, data analysis and visualization.

Using the Time Reversal inspection technique, ZIRCON TR is the optimal choice for the inspection of CFRP (Carbon Fiber Reinforce Polymers) or other advanced lightweight materials.

Count on ZIRCON to perform in extreme, real-life conditions with no compromise on signal quality.

High Performance Phased Array UT

| FEATURE | ZIRCON | ZIRCON TR |
|--|--|--|
| Size (H x W x D) | 110 x 290 x 322 mm (4.3 x 11.4 x 12.8 in) | 110 x 290 x 322 mm (4.3 x 11.4 x 12.8 in) |
| Weight | 5.2 kg (11.5 lb)* | 5.2 kg (11.5 lb)* |
| Air Intake | No | No |
| Battery Operation | Yes | Yes |
| Phased Array Connector | Custom ZIF with latch | Custom ZIF with latch |
| Phased Array Channels | 32/128PR | 32/128PR |
| UT Channels | 2 | 2 |
| Digitizing Frequency | up to 100 MHz | up to 100 MHz |
| Amplitude Resolution Phased Array signal | 16-bit | 16-bit |
| Network Interface | 1000 Base-T | 1000 Base-T |
| Maximum PRF | 12 kHz | 12 kHz |
| Global Data Throughput | Up to 10 MB/sec | Up to 10 MB/sec |
| Max. Pulsar Voltage (50Ω load) | 75V PAUT 200V UT | 75V PAUT 200V UT |
| Bandwidth (-3 dB) | 0.5 to 15 MHz | 0.5 to 15 MHz |
| Real-time Data Compression | Yes | Yes |
| Rectification | Digital | Digital |
| Filtering | Analog | Analog |
| Smoothing (video filter) | Digital | Digital |
| Self-Check | Yes | Yes |
| Automatic Probe detection | Yes | Yes |
| Dynamic Depth Focusing (DDF) | Yes | Yes |
| # Focal Laws | 1024 | 1024 |
| A-scan length | Up to 16,328 | Up to 16,328 |
| Amplifier | LIN | LIN |
| Encoder Interfaces | 2 quadrature-type | 2 quadrature-type |
| PC Software Control | Yes | Yes |
| Software control | UltraVision* | UltraVision* |
| Time Reversal support | No | Yes |

General Specifications

Power Requirements

- ▶ **Voltage:** 120 VAC or 240 VAC
- ▶ **Frequency:** 50 Hz or 60 Hz
- ▶ **Maximum power:** 75 VA

Environment

- ▶ **Operating Temperature Range:**
0°C to 40°C (32°F to 104°F)
- ▶ **Storage Temperature Range:**
-20°C to 70°C (-4°F to 158°F)
- ▶ **Relative Humidity:**
95%, non-condensing

CE mark approves the conformity with all applicable directives and standards of the European Community. The ZIRCON is an instrument of Class 1 and installation category II.

Environmental Tests

As per MIL-STD-810G:

- Cold Storage - 502.5 Procedure I
- Cold Operation - 502.5 Procedure II
- Heat Storage - 501.4 Procedure I
- Heat Operation - 501.4 Procedure II
- Temperature Shock - 503.5 Procedure II
- Vibration - 514.6 Procedure I
- Transit Drop - 516.6 Procedure IV

Ordering Information

| PART # | SHORT DESCRIPTION | DESCRIPTION |
|----------|--------------------------------|---|
| 10036104 | ZPA-RDT-ZIRCON-32/128PR-KIT | PA UT system with up to 32 simultaneous active channels and 128 in total. Can use same 32 channels as transmitters and receivers or 32 channels as transmitters and 32 others as receivers. Custom ZIF connector with latch and 4 Lemo 00. |
| 10050599 | ZPA-RDT-ZIRCON-32/128PR-TR-KIT | PA UT system with up to 32 simultaneous active channels and 128 in total - Can use same 32 channels as transmitters and receivers or 32 channels as transmitters and 32 others as receivers - Including Time Reversal (TR) hardware - Custom ZIF connector with latch and 4 Lemo 00. Includes Time Reversal function firmware option. |

Kit includes: 2 batteries, 1 battery charger, 1 carrying case, 1 shoulder strap, 1 power cable NA, 1 power cable Europe, 1 Ethernet cable, 1 AC adapter.

Zetec: Innovation That Delivers Results

For nearly 50 years, Zetec has advanced NDT standards and science. We provide new insight and control through inspection solutions that protect our customers' most important assets and ensure the quality of their products. By integrating design and engineering with our own manufacturing, Zetec delivers solutions that optimize productivity, safety and total cost of ownership.



Zetec holds ISO 9001 and ISO/IEC 17025 certifications



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