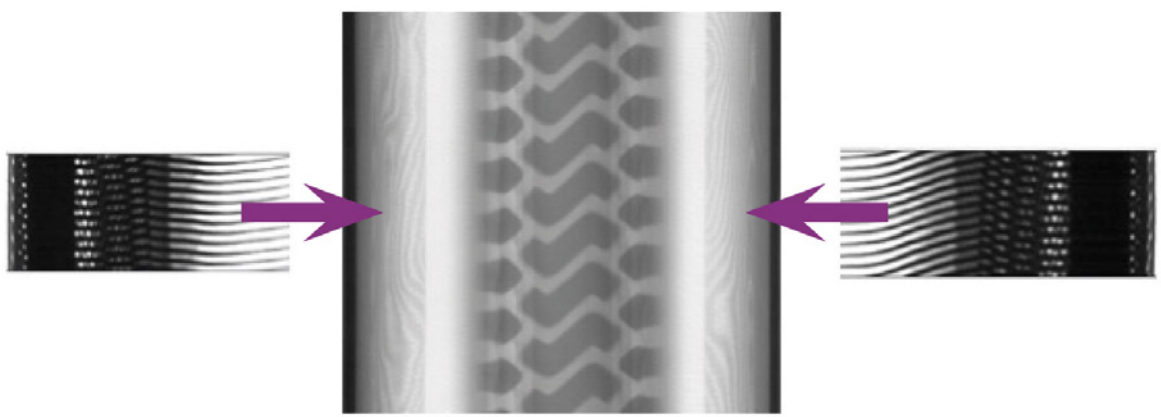
# X-Scan U series

**X-Scan linear array detector**

**X-Scan U series** is an enhanced product family of U-shaped X-ray line cameras specifically developed and optimized for high-speed digital tire inspection utilizing panoramic X-ray sources.

Increased radiation hardness for increased detector lifetime, together with excellent reliability minimizes significantly the lifetime cost of the systems.

The entire standard series covers a broad range of tire applications from passenger car and truck tires to off-the-road tires with detector active lengths 1382 mm, 1434 mm and 3379 mm, covering tire bead sizes of 15–17 and 20– 35 inches.



## Key features

- X-ray source energy range: 30–160 kVp
- Active lengths: 1382 mm, 1434 mm and 3379 mm
- Pixel pitches: 0.4 mm and 0.8 mm with binning
- Min integration time: 0.29 ms
- 16-bit AD, dynamic range: > 4000:1
- Industry leading image quality and speed
- Especially designed for high temperature, humid and contaminated environment
- Remote firmware upgrade
- Optimized design for tire applications covering tire bead sizes of 15–17 and 20–35 inches
- Easy software design based on DT's Software Development Kit
- CE compliant
- GigE interface

## Applications

- Passenger car tire inspection
- Truck tire inspection
- Off-the-road tire inspection

## General characteristics

| Product | X-Scan U01041382A | X-Scan U01041434A | X-Scan U01043379A |
|---|---|---|---|
| X-ray energy range KV | | 30–160 KV | |
| Scintillator material | | GOS | |
| Active area length | 1382 mm | 1434 mm | 3379 mm |
| Number of pixels | 3456 | 3584 | 8448 |
| Pixel pitch (spacing) | 0.4 mm | 0.4 mm | 0.4 mm |
| Pixel height | 0.6 mm | 0.6 mm | 0.6 mm |
| Pixel width | 0.32 mm | 0.32 mm | 0.32 mm |
| Max scanning speed | 138 cm/s | 138 cm/s | 57 cm/s |
| Min integration time | 0.29 ms | 0.29 ms | 0.7 ms |
| Max integration time | 128 ms | 128 ms | 128 ms |
| X-Card type | X-Card2 0.4-128G | X-Card2 0.4-128G | X-Card2 0.4-128G |
| X-Card number | 27 | 28 | 66 |
| X-Card arrangement | 3-3-3-3-3-3-3-3-3 | 8-1-10-1-8 | 20-2-22-2-20 |
| Gap among segments | <0.2 mm | <0.3 mm | <0.3 mm |
| IP classification | | IP43 | |
| Weight | ~34 Kg | ~22 Kg | ~120 Kg |
| Power consumption | ~17 W | ~18 W | ~42 W |
| A/D resolution | | 16 bits | |
| Dynamic range @1pf feedback cap | | > 4000 | |
| Data digital interface | | 16 bits | |
| Interface | | GigE (Camera link as an option) | |
| Linearity | | > 99 % | |
| Operational voltage | | +12V or +24V DC | |
| Operational temperature | | 0–65°C | |
| Operational relative humidity (non-condensing) | | 30–80% | |
| Storage temperature | | -10–70°C | |
| Lifetime under x-ray | | 100 kGy | |
| On-board calibration | | Yes | |
| Pixel discontinuity correction | | Yes | |
| Dead pixel correction | | Yes | |
| Binning function | | Yes | |
| Averaging and summing function | | Yes | |
| Remote firmware upgrade function | | Yes | |
| Multi-detector support | | Yes | |
| Compliances | | CE EMC: EN61326-1:2013, EN61000-3-2:2006+A1+A2 and EN61000-3-3:2008 | |

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