

# M-SCAN 120

*Handheld portable  
high-performance scanner*

- LARGE MEASUREMENT VOLUME
- STICKER-FREE TECHNOLOGY
- BLUE LASER SCANNING
- ERGONOMIC HANDLE
- REAL-TIME DISPLAY OF 3D DATA
- AUTO-GENERATED 3D TRIANGULAR MESH
- HIGH-SPEED LASER SCANNING

Metronor M-Scan 120 is a complete, handheld 3D metrology solution that combines blue-line laser scanning with electro-optical navigation technology, operating completely free of stickers.

M-Scan 120 can quickly capture high-accuracy 3D information. Its real-time tracking technology is sticker-free, even when measuring large volumes, making it easy to use and very fast to set up. This introduces improved efficiency to the traditional 3D scanning methods.

The base system is comprised of two cameras for continuous tracking, a handheld 3D scanner and a laptop with pre-installed software. To measure features, our handheld probe called Lightpen, is also included. This allows you to measure hidden features and align exactly to coordinate systems.

All components are delivered in portable cases, making M-Scan 120 a mobile system that can perform in any location. The product modularity, a key feature in all Metronor systems, makes upgrading a simple process.

Benefiting from the combined state-of-the-art technologies of scanning and tracking, M-Scan 120 offers the obvious advantage in accuracy, efficiency and quality.



#### APPLICATIONS INCLUDE:

- Reverse engineering
- Prototyping
- CAD twin
- Tool and die inspection
- In-process inspection
- On-machine inspection
- As-built documentation
- Deformation analysis

For more information: [www.metronor.com](http://www.metronor.com)

## Technical Specifications

### M-Scan 120

#### PERFORMANCE SPECIFICATIONS

|  |  |
|--|--|
| <b>Points per Stripe</b>                       | Up to 2000 (non-interpolated)  |
| <b>Stripe Width</b>                            | Up to 120 mm   |
| <b>Measurement Depth</b>                       | Up to 100 mm   |
| <b>Accuracy (2 Sigma)</b>                      | $U95 = \pm (0.035 + L/70000)$  |
| <b>Measuring Laser</b>                         | Blue laser (for measurement): Max output 2.01 mW, Wavelength 450 nm, Class II (eye safe)   |
| <b>Full FoV Indicator Laser</b>                | Red laser (for rangefinder): Max output 1.00 mW, Wavelength 650 nm, Class II (eye safe)  |
| <b>Measurement Rate</b>                        | At 100% depth x 100% width FOV: 300 000 pts/sec (2 000 pts/stripe x 150 stripes/sec)<br>At 100% depth x 50% width FOV: 300 000 pts/sec (1 000 pts/stripe x 300 stripes/sec)<br>At 50% depth x 100% width FOV: 450 000 pts/sec (2 000 pts/stripe x 225 stripes/sec)<br>At 50% depth x 50% width FOV: 450 000 pts/sec (1 000 pts/stripe x 450 stripes/sec) |
| <b>Scanner Stand-off Distance<sup>1)</sup></b> | For 100% depth FOV modes, stand off to the near edge is 80 mm<br>For 50% depth FOV modes, stand off to the near edge is 93 mm  |
| <b>Laser Power Adjustment</b>                  | ESP4 real-time per point   |
| <b>Scanner Depth of Field</b>                  | 100% depth FOV is 100 mm.<br>50% depth FOV is 50 mm.   |

#### HARDWARE SPECIFICATIONS

|                                       |                       |  |
|---------------------------------------|-----------------------|--|
| <b>Laser Temperature Compensation</b> | Yes (no warm up)      |  |
| <b>Environment</b>                    | Operating Temperature | 10 to 40°C (50 to 104°F)   |
|                                       | Storage Temperature   | -20 to 60°C (-4 to 140°F)  |
|                                       | Operating Humidity    | 95% relative humidity, non-condensing<br>80% maximum up to 31°C, then linearly decreasing to 50% at 40°C |
|                                       | Altitude              | Up to 2000 m   |
|                                       | No Warm-up            |  |
| <b>Electrical Power</b>               | Auto Switching        | 100-240V AC, 50-60Hz   |

<sup>1)</sup> From the scanner, in scanner Z-direction (e.g., laser axis) the stand-off to the near edge of the FOV varies dependent on FOV mode.