



ModelMaker
MMDx - MMCx
Digital handheld laser scanners
Ready to scan any material

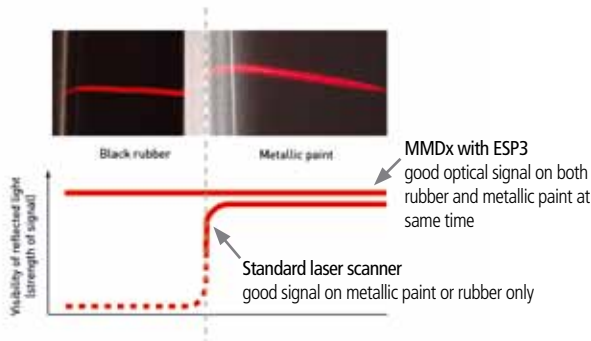
Groundbreaking performance

The digital handheld scanner

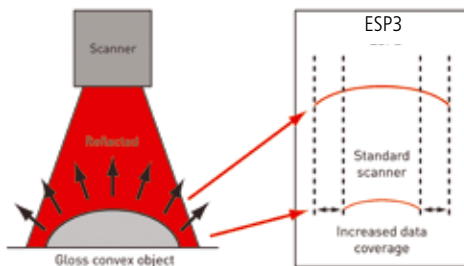
The unmatched accuracy, usability and performance of the digital ModelMaker scanner make it the perfect tool for all inspection, reverse engineering, and other 3D data capture applications. The ModelMaker MMDx/MMCx scanners are again a leap forward in 3D digitizing, as both models feature Enhanced Sensor Performance of the 3rd generation (ESP3) making it suitable to scan any material.

Scan any material

Through Enhanced Scanning Performance (ESP3), the ModelMaker scanner adapts its laser power to suit the surface characteristics of the object. During scanning, it automatically tracks changes in surface conditions – both color and reflectivity – and adapts laser power and sensor settings accordingly in real-time. As a result, ModelMaker is able to accurately and efficiently handle parts with any surface color and texture, without requiring re-scanning or spraying.



ModelMaker scanners also feature an intelligent anti-reflection filter to provide accurate measurements when scanning very shiny or polished materials. The functionality filters out all reflective laser light that is scattered in many directions.



Thanks to ESP3, ModelMaker is able to scan the steep sides of convex surfaces, often a challenge due to poor light reflection.



MMCx80 entry-level digital ModelMaker scanner

Best-in-class productivity

Featuring high frame rates and laser stripes up to 200mm, the digital MMDx/MMCx provides the ultimate in scanning productivity. The scanners' digital cameras benefit from a true (non-interpolated) resolution of over 1.000 points per stripe, providing optimum resolution for scanning freeform surfaces and features efficiently.

Easy to use

Weighing around 390g and featuring a comfortable stand-off distance, ModelMaker scanners are optimized for ergonomic use.

Localizer compatibility

Nikon Metrology ModelMaker laser scanners are compatible with all major brands of portable CMM equipment:

- Nikon Metrology MCA / MCAII articulated arms
- Nikon Metrology K-Scan Optical CMMs (MMDx 100/200 only)
- Faro articulated arms
- Hexagon (Romer/Cimcore) articulated arms

The right tool for the right job

The ModelMaker is available in 2 performance variants and 3 stripe widths to match your specific productivity and resolution needs.

	Scan rate	Productivity	Accuracy
MMDx50	••••	••	••••
MMDx100	••••	•••	•••
MMDx200	••••	••••	••
MMCx80	••	••	••
MMCx160	••	•••	•

Intuitive scanning - one click analysis



Total solution

ModelMaker scanners are supplied with Focus Scan Handheld data acquisition and optionally with Focus Inspection processing software for inspection and reverse engineering. ModelMaker laser stripe scanning solutions tightly integrate hardware and software, guaranteeing smooth and error-free operation.

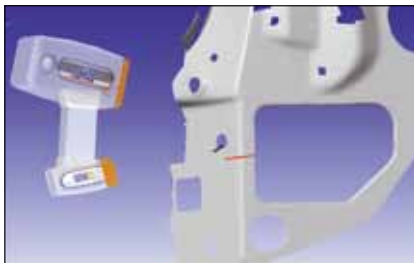
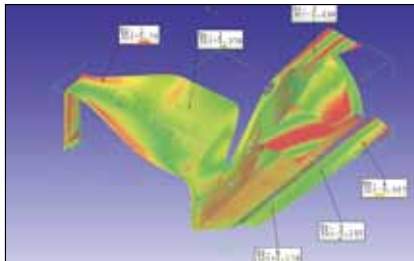
Scanning and application software

The Focus Handheld software enables operators to intuitively complete handheld scanning using articulated arms or optical CMMs for both inspection and reverse engineering projects. Focus Handheld is specifically designed to easily control data flows with minimum user interaction. The point cloud mesh is built up in real-time with immediate inspection of the specimen geometry against CAD or another scan.

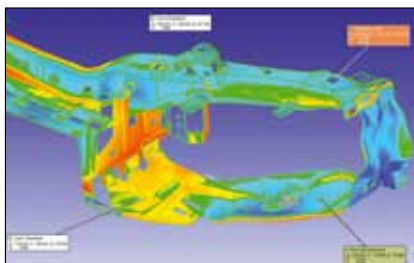
For advanced inspection functionality including feature inspection and gap & step analysis, Focus Inspection is seamlessly integrated with Focus Scan Handheld software.

Alternatively, the Focus Handheld API integrates Nikon Metrology handheld scanning with other 3rd party inspection software, such as PolyWorks, Rapidform, Geomagic, etc.

For reverse engineering applications, users can select from a broad offering of applications including Focus RE Basics or 3rd party packages software, all tightly integrated with the scanning application.



The operator navigates the left software menu using the localizer arm



Focus Scan Handheld's scan data for part-to-CAD inspection analysis

Focus Handheld software features

- Patented real-time rendering and instant surface inspection
- Point cloud filtering, and (polygon) meshing tools
- Advanced datuming, coordinate system creation
- Remote menu navigation using articulated arm and K-Scan probe
- Automatic sensor intensity adaptation to scan surfaces with varying color or high reflectivity
- Uses sound as standoff indicator
- Support leapfrogging for scanning large objects
- Import/export of all standard CAD formats (IGES, STL, CATIA, UG, Pro-E, STEP, VDA)
- Macro support for scanning automation

Applications

- Fast & accurate 3D scanning
- Part-to-CAD inspection: First article inspection against CAD model
- Inspection of geometric features
- Gap-and-flush inspection
- Reverse engineering: from concept studio clay to class A surfaces
- Input for rapid prototyping

Specifications

ModelMaker benefits

- Faster and more accurate scanning saves time and money
- Ergonomic scanner that is compact and lightweight
- Optimized for hard-to-scan surfaces
- Designed for use under all shop floor or field conditions
- Extremely temperature stable
- Quick and easy plug-and-play setup
- Calibration files stored on on-board memory
- One-stop-shop for a total scanning solution
- Compatible with all major brands of portable localizers/point cloud software

Technical specifications

	MMDx50	MMDx100	MMDx200	MMCx80	MMCx160
Stripe width (Y) (mm)	50	100	200	80	160
Start measuring range (mm)	95	100	110	100	110
Measuring range (Z) (mm)	50	100	150	100	150
Accuracy (1 σ) (μ m) ¹	7,5	15	22,5	22,5	30
Data rate at full FOV (Hz)	50		60	30	
Max. data rate (Hz)	150		180	30	
Enhanced Sensor Performance	ESP3			ESP3	
Points per stripe	1.000			800	
Temperature compensation	Yes			No	
Sensor weight (g)	400	390		390	
Laser power	Class 2			Class 2	
Localiser compatibility	Nikon Metrology MCA / MCAII Nikon Metrology K-Scan Romer / Cimcore Infinite / Infinite 2.0 Faro Platinum / Titanium / Fusion				

¹ Typical values are 30% better than listed accuracy



NIKON METROLOGY NV

Geldenaaksebaan 329
B-3001 Leuven, Belgium
phone: +32 16 74 01 00 fax: +32 16 74 01 03
info@nikonmetrology.com

NIKON METROLOGY EUROPE NV
tel. +32 16 74 01 01
sales_europe@nikonmetrology.com

NIKON METROLOGY GMBH
tel. +49 6023 91733-0
sales_germany@nikonmetrology.com

NIKON METROLOGY SARL
tel. +33 1 60 86 09 76
sales_france@nikonmetrology.com

NIKON METROLOGY, INC.
tel. +1 810 2204360
sales_us@nikonmetrology.com
us.nikonmetrology.com
www.nikoninstruments.com

NIKON METROLOGY UK LTD.
tel. +44 1332 811349
sales_uk@nikonmetrology.com

NIKON CORPORATION

Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome
Chiyoda-ku, Tokyo 100-8331 Japan
phone: +81 3 3773 9026 fax: +81 3 3773 9062
www.nikon-instruments.jp/eng/

NIKON INSTRUMENTS (SHANGHAI) CO. LTD.
tel. +86 21 5836 0050
tel. +86 10 5869 2255 (Beijing office)
tel. +86 20 3882 0550 (Guangzhou office)

NIKON SINGAPORE PTE. LTD.
tel. +65 6559 3618

NIKON MALAYSIA SDN. BHD.
tel. +60 3 7809 3609

NIKON INSTRUMENTS KOREA CO. LTD.
tel. +82 2 2186 8400

