**APPLICATIONS**

**MATRIX 450™**
- Transportation and Logistics
  - Automated sorting
  - Manual postal sorting
  - Loading / unloading
  - Distribution & Retail
  - Order fulfillment and verification
  - Multimedia sorting
  - Reverse logistic processes
  - Static scanning

**Matrix 450™**
- Very large reading area, FOV and DOF
- Outstanding dynamic reading capabilities, up to 3.2 m/s on 0.30 mm resolution 1D code
- White and Blue illumination options
- Continuous illumination High Power Mode, no-flashing lighting
- Colored spot indicators projected into the scanning area
- Outstanding decoding capability on any code type: 1D, 2D, Stacked, Postal symbologies
- Precise Laser Spot Aiming system
- ID-NET™ readers clustering to extend the reading area coverage on single side and multi-side applications
- Persistent Image Saving on specific reading results [No Read] for diagnostics or reporting

**NVS9000™/AV6010™**
- Transportation and Logistics
  - Postal and courier express sorting
  - Revenue recovery
  - Reverse logistic processes
- Distribution & Retail
  - Large distribution centres
  - Multimedia sorting
  - Receiving / shipping systems

**NVS9000™**
- Extended field of view: 1400mm (55”)
- Excellent reading performances on high speed conveyors: 4.8m/s (945fpm)
- Reduced system dimensions: 2.2m (7ft)
- Easy installation and maintenance
- Integration with dimensioning and scale system
- Multiside reading tunnel (6 side reading)

**AV6010**
- Integrated certified dimensioning
- Side by Side package detection
- Image saving
- Integrated camera unit

**TECHNICAL DATA**

**Matrix 450™**
- 5MP image sensor, 15 FPS
- Gigabit Ethernet Integrated Connectivity
- C-Mount Lenses, focal length: 16 mm, 25 mm, 35 mm, 50 mm
- Data output: RS232/RS485, Ethernet
- I/O: 2 inputs, 2 outputs; optocoupled
- Protection class: IP65
- Operating temperature: 0°C to 50°C
- Supply Voltage: 24 Vdc ± 20%

**NVS9000™**
- CCD sensor: 8192 pixels
- Image resolution: 110-260DPI (application dependant)
- Scan rate: 33KHz
- Readable symbologies: all standard 1D and 2D codes
- Connectivity: decoded label, high quality images
- Connectivity: RS232/RS485, Ethernet
- Video output: Gigabit Ethernet, CC-Link
- Protection class: IP65
- Operating temperature: 0°C to 50°C

**AV6010**
- CCD sensor: 8192 pixels
- Resolution 250 DPI
- Readable symbologies: all standard 1D and 2D codes
- Connectivity: Gigabit Ethernet, Serial RS232/422
- Operating system: Linux
- Operating Temperature 0°C to 50°C
- Scan rate: 19.1 KHz
APPLICATIONS

**MATRIX 210™**
- **Electronics**
  - PCB board tracking
  - Electronic product tracking
- **Medical & pharmaceutical**
  - Medical device traceability
  - Pharmaceutical supply chain traceability
- **OEM**
  - Chemical & biomedical analysis
  - Access control systems
  - Self service systems (ATM, kiosks)
  - Print & apply systems
  - Document handling

**MATRIX 300™**
- **Manufacturing, Electronics and Automotive**
  - DPM code validation after marking
  - Work-in-progress control
  - Parts and assemblies traceability
- **Food and Beverage**
  - Work-in-progress traceability
- **Document Processing**
  - High speed process control
- **Medical**
  - Medical device traceability
- **Clinical Lab Automation**
  - Biomedical analysis machines
  - Specimen collection machines

**MATRIX 410™**
- **Automotive**
  - DPM reading and verification
- **Electronics**
  - PCB board tracking
  - Electronic product tracking
- **Distribution & retail industry**
  - Presentation scanner
  - Small objects sorting
  - Warehouse applications
- **Medical & pharmaceutical**
  - Medical device traceability
  - Pharmaceutical supply chain traceability
- **Food & beverage**
  - Work-in-progress traceability
  - Code quality control

HIGHLIGHTS

**MATRIX 210™**
- WVGA sensor resolution, 60 frames/s
- Ultra-compact mechanical dimensions
- Direct or 90° reading window
- ESD safe option, YAG laser protection
- Code quality verification capability
- High speed integrated Ethernet for real time image transfer
- USB connectivity (MATRIX 210™)
- Extreme Industrial grade: IP65
  - 0-50°C operating temperature
  - Image saving and transfer capabilities (FPT protocol)

**MATRIX 300™**
- Ultra-compact reader, rotating connectors
- High performance DPM reading
- Liquid lens electronic focus control
- Integrated dual illuminator: dark field / bright field
- Fast and high resolution image sensor: 1.3 megapixels, ‘true’ 60 frame/s
- Power over Ethernet Option
- Extreme Industrial grade: IP67, 0-50°C operating temperature
- Precise dual laser aiming system
- Code quality verification capability
- Image saving and transfer capabilities (FPT protocol)

**MATRIX 410™**
- 1.3 (SXGA) & 2.0 (UXGA) megapixels models
- Adjustable focus through C-Mount lenses
- High performance reading on 1D, 2D, Stacked, Postal symbologies
- Blue Diamonds™ aiming and focusing system
- X-PRESS™ for easy and intuitive setup
- ID-NET™ embedded high speed connectivity
- Code Quality Verification Capability
- High speed integrated Ethernet for real time image transfer
- Extreme Industrial grade: IP67, 0-50°C operating temperature
- Image saving and transfer capabilities (FPT protocol)

TECHNICAL DATA

**MATRIX 210™**
- Extremely compact dimensions:
  - 50x25x45 mm & 54x45x32 mm
- High speed integrated Ethernet for real time image transfer
- CMOS matrix sensor
- WVGA image resolution
- Read rate: up to 60 frames/s
- Object speed: up to 2.0 m/s
- Connectivity: RS232, RS485, USB, EtherNet IP, Ethernet TCP/IP
- I/O: 2 inputs, 2 outputs; optocoupled
- Power supply: 10 to 30VDC
- Protection class: IP65

**MATRIX 300™**
- Compact Mechanical Dimensions: 94x54x43 mm & 74x54x63 mm
- Rotating Connectors
- Electronic Focusing Lens Control
- Multi-Pattern Embedded Illuminators
- CMOS matrix sensor
- SXGA image resolution
- Image frame rate: 60 frames/s
- Connectivity: RS232, RS485, EtherNet IP, Ethernet TCP/IP
- I/O: 2 inputs, opto-coupled, 3 outputs, programmable PNP / NPN.
- Power supply: 10 to 30VDC, 8W max.
- Power over Ethernet option
- Protection class: IP67

**MATRIX 410™**
- High speed integrated Ethernet for real time image transfer
- CMOS/CCD matrix sensors
- SXGA/UXGA image resolution
- Read rate: up to 27 frames/s
- Object speed: up to 6.0 m/s
- Connectivity: RS232, RS485, EtherNet IP, Ethernet TCP/IP
- I/O: 2 inputs, 2 outputs; opto-coupled
- Power supply: 10 to 30VDC, 8W max.
- Protection class: IP67
**APPLICATIONS**

- **TC1200 / DS1100**
  - Access control systems
  - ATL (Automated Tape Libraries)
  - Self service systems (ATM, kiosks)
  - OEM integration in automatic machines
  - Game automation (Lotto, Lottery, etc.)
  - Chemical and blood analysis machines
  - Print & apply systems
  - Film processing machines

- **DS1500 / DS2200**
  - OEM integration in automatic machines
  - Chemical and biomedical analysis machines
  - Document handling machines
  - Print & apply systems
  - High-speed pharmaceutical packaging
  - Packaging machines
  - ATL (Automated Tape Libraries)

- **DS6300 / DS6400**
  - Automated warehousing
  - Electronic industry manufacturing
  - Shopfloor on automotive, electric appliances, food & beverage
  - Sorting on logistic and distribution lines
  - Omni-sorting on small conveyors

**HIGHLIGHTS**

- **TC1200**
  - Cost-effective
  - Embedded code reconstruction software
  - Very high density code reading (up to 0.1mm / 4mils)
  - Scanner and scan engine version
  - No moving part (MTBF>200,000 hours)
  - Designed for OEM integration

- **DS1100**
  - Cost-effective
  - Direct or 90° reading window
  - Motor on/off SW control
  - Designed for OEM integration

- **DS1500**
  - Extremely compact size
  - Excellent reading capabilities
  - Designed for OEM integration
  - ACB™ Advanced Code Builder
  - Motor on/off SW control

- **DS2200**
  - Compact dimensions
  - Excellent reading capabilities for high density codes
  - Designed for OEM integration
  - Very high density code reading (up to 0.076mm / 3mils)

- **DS6300 / DS6400**
  - Adjustable or Flash™ (Dynamic) laser optics
  - Step-A-Head™ feature
  - ACR™ Advanced Code Reconstruction
  - Integrated oscillating mirror models available
  - Built-in connectivity to Ethernet/DeviceNet/Profield networks
  - PackTrack™ tracking system
  - Embedded display and keypad
  - Multilanguage Genius™ configuration tool

- **DS6300 / DS6400**
  - Optics: adj. (DS6300) Flash™ (Dynamic) (DS6400)
  - Scan rate: up to 1200 scans/s
  - Reading range: 300 to 2500mm (DS6400)
  - Max. resolution: up to 0.2mm (8mils)
  - Connectivity: RS232, RS485, Ethernet IP, Ethernet TCP/IP
  - I/O: 4 inputs, 3 outputs; optocoupled
  - Power supply: 15 to 30VDC, 15W max.

**TECHNICAL DATA**

- **TC1200**
  - CCD reader
  - Scan rate: up to 320 scans/s
  - Reading range: 50 to 430mm
  - Max. resolution: 0.1mm (4 mils)
  - RS232 and USB model
  - Power supply: 5VDC, 2W max.

- **DS1100**
  - Scan rate: up to 500 scans/s
  - Reading range: 10 to 220mm
  - Max. resolution: 0.127mm (5mils)
  - Motor on/off via software commands
  - Power supply: 5VDC, 2W max.
  - Protection Class: IP65

- **DS1500**
  - Dimensions: 40x30x22mm
  - Scan rate: up to 1200 scans/s
  - Reading range: 40 to 260mm
  - Max. resolution: 0.10mm (4mils)
  - Test mode with bar graph
  - Power supply: 5VDC, 2W max.
  - Protection class: IP65

- **DS2200**
  - Dimensions: 50x40x28mm
  - Scan rate: 500 scans/s (1000 scans/s on demand)
  - Reading range: 50 to 200mm
  - Max. resolution: 0.076mm (3mils)
  - Power supply: 5VDC, 2W max.
  - Protection class: IP65
## Laser Based Bar Code Scanners

### Applications

**DS8100A / DX8200A**
- Postal and courier automatic parcel sorting and tracking
- Goods sorting and tracking in distribution centers
- Baggage handling systems in airport facilities
- Parcel identification in DWS systems (cubing, weighing and data capture)
- Cargo applications
- Loading/unloading systems

**AXIOM**
- Postal/Parcel sorting and tracking
- Automated warehousing identification systems
- Airport baggage sorting systems
- Cargo applications
- Receiving / shipping systems

**AXIOM-X**
- Postal/Parcel sorting and tracking
- Automated warehousing identification systems
- Airport baggage sorting systems
- Cargo applications
- Receiving / shipping systems

### Highlights

**DS8100A / DX8200A**
- Market benchmark for fixed position laser scanners
- ASTRA™ multi-laser electronic focusing system
- Automatic bar code distance measurement
- DRX barcode reconstruction software for reading skewed barcode labels
- Modular scan head and wiring base for simple replacement
- Parameter storage modules makes replacement quick and easy
- Flexible Connectivity

**AXIOM**
- Scanning over 1, 2, or 4 read zones for the largest reading zones
- DRX barcode reconstruction software for reading skewed barcode labels
- Modular scan head and wiring base for simple replacement
- Parameter storage modules makes replacement quick and easy
- Flexible Connectivity

**AXIOM-X**
- Omni-directional scanning
- Highest Read performance
- Largest Coverage
- Fastest Installation
- Easy “Plug and Play” replacement

### Technical Data

**DS8100A**
- Laser pattern: single
- Scan rate: 1000 scans/s
- Reading range: 500 to 2000mm
- Max. resolution: 0.2mm (8mils)
- Dimensions: 215.5x170.5x126.5mm (8.5x6.7x5.0in)
- Protection class: IP64 (IP65 optional)
- Operating temperature: 0°C to 50°C

**DX8200A**
- Laser pattern: cross
- Scan rate: 1000 scans/s (500 scans/s on each scan line)
- Reading range: 500 to 1500mm
- Max. resolution: 0.2mm (8mils)
- Dimensions: 470x300x147mm (18.5x11.8x5.78in)
- Protection class: IP64 (IP65 optional)
- Operating temperature: 0°C to 50°C

**AXIOM**
- Laser pattern: single
- Scan rate: 1400 scans/s
- Reading range: 380mm to 1830mm
- Dimensions: 158mm x 276mm x 132mm (6.2x10.9x5.2in)
- Protection class: IP65
- Operating Temp: 0°C to 50°C
- Connectivity: RS232/RS422, Ethernet TCP/IP, EtherNet IP, DeviceNet, ProfiBus

**AXIOM-X**
- Laser pattern: cross
- Scan rate: 1120 scans/s
- Reading range: out to 2032mm
- Dimensions: 311mm x 354mm x 176mm (12.2x13.9x6.9in)
- Protection class: IP65
- Operating Temp: 0°C to 50°C
- Connectivity: RS232/RS422, Ethernet TCP/IP, EtherNet IP, DeviceNet, ProfiBus
# Laser Based Bar Code Scanners

## Applications

**DS2100N / DS2400N**
- Automated warehousing
- Conveyor sorting
- Picking systems
- Automated storage and retrieval systems
- Tote Reading

**DS4800**
- Automated warehousing
- Medium/small conveyor sorting
- Pallet reading
- Automated storage and retrieval systems
- Picking systems
- Receiving / shipping systems
- Low temperature warehouses

**DS2100N / DS2400N HIGHLIGHTS**
- Compact, high performance readers
- Subzero model (-35°C)
- Intuitive X-PRESS™ human machine interface
- ID-NET™ embedded interface for high speed communication network
- ACR Lite Advanced Code Builder
- Direct and 90° reading window
- Ambient light immunity
- Multilanguage Genius™ configuration tool
- All 1D codes including GS1

**TECHNICAL DATA**
- Scan rate: up to 1000 scans/s
- Reading range: 30 to 310mm
- Max. resolution: 0.12mm (5mils)
- Power supply: 10 to 30VDC, 4W max.
- Protection class: IP65
- I/O: 2 inputs, 2 outputs; optocoupled

**DS4800**
- Manually adjustable focus with locking
- Ambient light immunity for outside applications
- Integrated multi-language display for setup, monitoring, and diagnostics
- Subzero model (-35°C) with window defrost
- ACR4™ Advanced Code Reconstruction
- Integrated oscillating mirror model available
- ID-NET™ embedded interface for high speed communication network
- All 1D codes including GS1

**DS4800**
- Scan rate: up to 1000 scans/s
- Reading range: up to 1000mm on 0.50mm (20mils) codes
- Depth of field: up to 600mm on 0.50mm (20mils) codes
- Max. resolution: up to 0.20mm (8mils)
- Connectivity: RS232, RS485
- I/O: 2 inputs, 2 outputs; optocoupled
- Power supply: 10 to 30VDC, 6W max.
- Protection class: IP65
- Operating temperature: -35°C to 50°C (subzero model)
- 0°C to 50°C (standard model)

**AL5010**
- Largest depth of field of any mid-range laser barcode reader on the market
- PackXTrack™ advanced tracking allows closer package spacing while maintaining package ID
- Integrated web server with monitoring support for iPhone and iPads
- Multi-language integrated GUI
- Easy ‘plug and play’ replacement
- Flexible connectivity with on board Ethernet/IP, Ethernet TCP/IP

**TECHNICAL DATA**
- Scan rate: up to 1200 scans/s
- Depth of field: up to 1125mm on 0.50mm (20mils) codes
- Max. resolution: up to 0.20mm (10mils)
- Connectivity: RS232, RS485, EtherNet IP, Ethernet TCP/IP
- I/O: 4 programmable relays, 3 to 60VDC; optocoupled (Enhanced Interface Module)
- Power supply: 12 to 30VDC, 25W max.
- Protection class: IP65
- Operating temperature: 0°C to 50°C
DM3610
- Certified for Legal for Trade applications
- Works for cuboidal, near-cuboidal, and irregular package flows
- Works for singulated and non-singulated package flows
- Use in multiple head configurations to reduce shadowing

Applications
- Parcel revenue recovery
- Distribution Center spatial management
- Trailer load planning
- Automated shipping and manifesting systems

Technical Data
- Accuracy of ±5mm at transport speeds up to 3.1 m/s
- Maximum box size 2450mm x 1200mm x 900mm for a single head
- Operating temperature: 0°C to 50°C
- IP 65

Connectivity Devices
- Wide range of connectivity for the identification product range with standard IP65 (NEMA4) protection class and operating temperature up to 50°C

CBX Series
- Simplified wiring to speed up installation
- Scalable and modular connectivity
- Base and extended models
- Modular field bus connectivity
- Optional backup/restore module
- Optional display
- Low temperature model

SC Series
- Protection class: IP65 (NEMA4)
- Operation temperature: 0 to 50°C
- Network or cluster controller
- Dedicated data-collector for maximum reading performance
- Scalable and modular connectivity
- Backup/restore module
- Maximum compatibility and scalability
- Ethernet TCP/IP, EtherNet IP, Profibus, DeviceNet (QLM series)

AL5010 Interface Modules
- Simplified wiring for fast installation
- Connectivity for Ethernet TCP/IP, EtherNet IP
- Profibus, DeviceNet and other common networks (Enhanced)
- Supports high voltage relays offering mini-controller capability (Enhanced)
- Dimensions: 93 x 136 x 65mm (Basic), 134 x 191 x 67mm (Enhanced)
- Supply Voltage 12–30 VDC, 25 W Max

QL Series
- Easy, fast, modular and cost-effective solution with “plug-in connection”
- Ethernet TCP/IP and EtherNet IP (QL500)

Technical Highlights
- Simplified wiring to speed up installation
- Scalable and modular connectivity
- Base and extended models
- Modular field bus connectivity
- Optional backup/restore module
- Optional display
- Low temperature model

Dimensions:
- SC Series: 93 x 136 x 65mm (Basic), 134 x 191 x 67mm (Enhanced)
- AL5010 Interface Modules: 93 x 136 x 65mm (Basic), 134 x 191 x 67mm (Enhanced)
- Supply Voltage 12–30 VDC, 25 W Max