Product Guide
Telesis is the leader in Product Identification and Processing Technologies. Our wide range of permanent, programmable, LASER, PINSTAMP® and TELESCRIBE® Marking Systems are fast and durable. They are relied on in thousands of manufacturing environments every day, throughout the world. ALL Telesis systems — whether standard or custom engineered — are backed by a global network of knowledgeable Sales and Service Professionals.

**TELESIS LASER MARKING SYSTEMS**

TELESIS' line of Lamp and Diode-Pumped Nd:YAG, Diode-Pumped Nd:YVO₄, CO₂, Pulsed-Fiber and Diode-Pumped Green Laser Marking Systems offers the ultimate in high-speed, high quality product identification. Manufacturers of delicate plastic products, ceramics, glass or medical instruments can mark virtually any material with text, bar codes, 2-D* codes, logos and graphics.

Our L-Series Lamp-Pumped Nd:YAG laser is designed for high speed, deep to shallow marking on hard surfaces. Extremely fast, L-Series is the choice for marking titanium and other high strength alloys, medical implants and hard plastics. The CO-Series CO₂ laser can mark a variety of industrial and consumer products. Materials like glass, plexiglass, plastics and acrylics, wood, leather, vinyl and rubber benefit from CO₂ Laser marking.

The compact, portable, economical line of E-Series Diode-Pumped and FQ Series Fiber Lasers are ideal for high precision marking on medical instruments, products made from metal, coated materials and some plastics.

Program design for any of our lasers is easy with specially designed, Merlin® II LS Software. Unique to Telesis, it’s based on the Windows® 2000, Windows® XP, and Windows VistaTM platforms and features user-friendly, drop-down menus and popular graphic interfaces.

**PIN MARKING SYSTEMS**

Fully programmable PINSTAMP® Single and Multiple-Pin Marking Systems are based on Telesis’ original, patented “Floating Pin” design. A pneumatically driven and returned metal pin permanently indents the marking surface with either dot matrix or continuous line characters — even logos, graphics or 2-D* Codes. Since the marking pin “floats” on constant return air pressure, surface irregularities up to ¼” are easily accommodated. And, no stress concentrations occur. Since the force of the mark is controlled by air pressure, product marking can be “customized” to suit most any application. Telesis manufactures over 10 versatile PINSTAMP® Models. They are cost-effective in a wide range of stand alone or on-line manufacturing situations.
TELESCRIBE® Marking Systems inscribe high quality, continuous line characters in materials from plastics to hardened steel — in virtual silence. Other Pin Marking Systems include the BENCHMARK® Series of low cost markers for stand-alone, benchtop and hand-held applications; and IDENTIPLATE®, which provides efficient, automated tag marking for a variety of industrial or consumer products.

QUALITY - ISO9001

At Telesis, manufacturing management processes must comply with rigorous ISO Quality Standards. Product Testing in every phase of production ensures reliability throughout the life of your marking system.

CUSTOM ENGINEERED SOLUTIONS

Telesis is the leader in custom engineered/factory integrated marking technology. Whether it’s a fully automated on-line application or a stand-alone manual workstation, Telesis Applications Engineers will work with you to solve your parts handling and custom software needs.

They can integrate any of our standard marking products within your specific application. You can expect a responsive, cost-effective, quality design solution to meet your unique requirements.

To learn more – or discuss a Custom Engineered Marking System, call 800.654.5696 TODAY – or visit us at www.telesis.com.


All product descriptions subject to change without notice. Please refer to Product Specification Sheets or call the Applications Engineering Department at 800.654.5696 for current information.
These Diode-Pumped, Solid State Laser Marking Systems are extremely reliable, low cost alternatives to other laser designs.

Outstanding beam quality make these lasers uniquely capable among IR lasers for marking of high resolution graphics, fine text or 2-D codes.

EV10/EV15 Vanadate Lasers

EV4G Green Laser

Select the F-SERIES FQ10 for low to medium speed applications and the F-SERIES FQ20 when higher power/faster process speeds are required. The FQ20 features upgraded power, and both lasers offer the long-term safeguard of a built-in, polarization/optical isolator.

Capable of extremely high-speed, high quality simultaneous marking on multiple surfaces, these lasers offer lower operation costs along with increased production and handling efficiencies.

Choose the S-Series Diode-Pumped Solid State Laser for high speed, high quality marking on a variety of surfaces.

For the ultimate in high speed, high quality marking of hard surfaces and materials.

Available in 10, 30, and 50 watt configurations, CO-Series CO₂ Lasers are the choice for marking substrates like wood, glass, ceramics and fabrics.

Designed to drive all core Telesis Laser Products. Simply highlight, click and mark!

The Single Pin TMP6100 is the most versatile PINSTAMP® Marking Head. It is easily integrated into either on or off-line applications. Since the marking pin can be positioned anywhere in the generous 6” x 12” (152 x 304mm) marking window, the TMP6100 can mark any character height or style, or number of lines desired. Its robotic design allows clear access to the marking window for loading and unloading of parts.

Compact design features WIN 32 Merlin® II interface and virtually unlimited pattern storage capacity.

Telesis’ new WIN 32 Merlin® III Visual Design Software makes pattern design quick and intuitive. “WYSIWYG” (what you see is what you get) displays a to-scale image of the pattern as it’s created. Just “click & drag” for immediate adjustments to field size, location or orientation.

The TMP1700 marking head features a compact, 1-1/2” x 2-1/2” (38.1 x 63.5mm) window, and marking speeds up to six characters per second. It’s an excellent choice for many factory-automated or on-line processes. When combined with optional mounting post and base, the TMP1700 is cost-effective in off-line marking applications, too.

The TMP4210/420 is an extremely lightweight, hand-held, single pin marker satisfying a wide range of portable marking applications. Its robust rack-and-pinion design and compact envelope also make it the right choice for many high production, on-line applications.
The TMP3200/420 is a rugged, cost effective utility marker for on-line and off-line high speed marking applications. Its low-maintenance design features a 4" x 6" (100 x 150mm) marking window for multi-line text, and marking speeds up to six characters per second. The TMP3200/090 includes the TMP3200 Marking Head, plus our WIN 32 Merlin®II Visual Design Software, with state-of-the-art graphical user interface.

The TMC420 is a versatile, compact system controller that can be used with most PINSTAMP® marking heads. The TMC420 is fully self-contained and requires no Personal Computer.

With eight pins marking simultaneously, the TMM5400 is the fastest dot peen marker available. It can mark up to 16 characters per second in soft plastics or hardened steel. Choose from a variety of marking pins and cartridges to optimize window size and cycle time combinations.

The unique TMM4200 Multiple Pin Marking Head can mark up to eight characters per second at depths to .013" (.33mm). Weighing 4.5 pounds, its compact, hand-tool like design with pistol-grip handle makes the TMM4200 the ultimate hand held permanent marker.

Based on the TMM4200/420 design, the TMM4215/420 provides a marking window twice the size of the TMM4200/420.

The TMM4250/420 Multiple Pin Marking System can mark up to eight characters per second. A NEMA 12 (IP55) enclosure with industrial grade, protective rubber “boot” makes it highly resistant to both solid and liquid contaminants. The TMM4250 features an extremely compact envelope. It can be integrated easily within a wide range of manufacturing settings.

With up to six pins marking simultaneously, the TMM5100 Multiple Pin Marking system can mark up to six characters per second. Its lightweight, compact design and minimal footprint make it ideal for either automated or hand-held operations. A variety of pin cartridges are available for optimal character size/depth, cycle times and marking window areas.

The TMM7200 is an extremely heavy duty marking system. It is the right choice for deep penetration marking of large characters. The flexible TMM7200 can be configured with up to 21 marking pins to print 21 characters in 1.5 seconds.

An extremely quiet, economically priced Scribe Marker for automated or benchtop applications. Features a 4" x 6" (100 x 150mm) marking window.

Powerful, heavy duty, low noise Scribe Marker with a 2-1/2" x 7-1/2" (63.5 x 190.5mm) marking window. Well suited for VIN applications.

Extremely affordable, portable BenchMark® has a unique marking arm design, electromechanical marking pin.

The BenchMark®460 is a fully programmable, cost effective alternative to old-fashioned permanent marking techniques for parts too large or heavy to be carried to a marking station.

2-D and UID Code applications, where accurately marked codes are the key to readability.

Choose from a variety of options and customized solutions to enhance your Telesis Marking System.

IMPACT PIN SELECTION GUIDE ........................................................................................................... Pages 40 – 41
PIN MARKING SYSTEM SELECTION GUIDE .................................................................................. Pages 42 – 43
All of our systems — standard and custom — are designed and built to your specifications at our 46,000 square foot (4087 square meter) facility located in Circleville, Ohio. We maintain state-of-the-art manufacturing tools for all of the mechanical, electrical and software functions needed to support your marking system. Telesis also maintains Sales and Distribution Offices in Michigan, The Netherlands, Germany, France, England, Taiwan and China.

Customer Service
At Telesis, Customers come First. Our Order Entry Specialists are fully trained to help with questions on pricing, product capabilities, accessories, spare parts and availability. They provide timely up-dates on the status of your order. Call us at 800-654-5696 for the answers!

Technical Service
We back our customers with support and service for every system we build — world-wide. This includes on-site installation and start-up by our experienced Field Service Engineers. They’ll even train your operating personnel — further assurance that your Telesis Marking System will perform dependably.

Have a technical question or concern? Call our Technical Service Department at 800.867.8670 or e-mail a Telesis Service Technician at technical_services@telesistech.com. Telesis Service Technicians are available 24 hours a day — every day — to help you. Often, they can troubleshoot and fix a problem over the phone, saving you time and money.

Training
Telesis’ commitment to customers is evident in our Training Facility. It features classroom-oriented and hands-on product training by experienced instructors. Our 3,000 square foot (279 square meter) facility gives us the flexibility to accommodate up to 40 people in a classroom setting. Smaller groups use product work-stations for a very effective, individual learning experience. All Product Training Classes are taught by experienced instructors.

Our Warranty and Guarantee
Every Telesis Marking System carries a complete Parts and Service Warranty. During this time, replacement parts can be shipped free of charge, overnight in the continental United States. Plus, component exchange programs for reconditioned equipment can reduce downtime.

Extended Service warranties are available for all Telesis Marking Equipment. Contact your Telesis Representative or our Customer Service Department for details.

At Telesis, we’re dedicated to support you for the life of your Marking System.
We’re with you 100% of the way.
The EY5 Diode-Pumped, Solid-State Laser Marking System is an extremely reliable, low cost alternative to other laser designs.

Features include a Q-switched Nd:YAG end-pumped laser with a remote fiber coupled light source. Average diode life is greater than 20,000 working hours. The EY5 is a flexible, compact, low maintenance, easily integrated package.

**LASER SPECIFICATIONS**

- **Compliance**: CDRH, CE, UID
- **Wavelength**: 1,064 nm
- **Laser Type**: Fiber-coupled diode end-pumped, Q-switched Nd:YAG Laser
- **Q-Switch Frequency**: 1 KHz to 100 KHz
- **Pulse Width (Duration)**: 30 nanoseconds (ns)
- **Mode**: TEM₀₀
- **CW Average Power**: 5 W
- **Long Term Output Power Stability**: Less than ±2%
- **Lens (Std)**: 160mm Focal Length, 110mm x 110mm Field, (4.33” x 4.33”)
- **Lens (Std)**: 100mm Focal Length, 65mm x 65mm Field, (2.56” x 2.56”)
- **Positioning**: Visible Red Diode Light, 650nm
- **Optical Fiber Length**: 1.75 meters (5.74 feet)
- **Cooling**: Air Cooled, active thermo-electric
- **Max. Power Consumption**: Less than 500W
- **Operating Temperature Range**: 18° to 35°C Non-condensing (65° to 95° F)
- **Humidity**: 10% to 85% Non-condensing
- **Expected MTBF**: 20,000 hours maintenance-free diode pumping source
- **System Weight**: approx. 24Kg (53 lb.)
- **Galvo and Rail Assembly Dimensions**: 31.75 cm (W) x 15.72 cm (H) x 42.9 cm (L) (12.5” W x 6.187” H x 16.885”L)
- **Input Power (Selectable)**: 15/230 VAC, 50/60 Hz
- **Optical Fiber Umbilical Length**: 1.75 Meters (5.74 feet) Std.
- **Controller**: Std. Rack mount 43 cm (W) x 14 cm (H) x 51 cm (L) (17” W x 5.5” H x 20” L)

**SOFTWARE**

- **Software**: Merlin II LS®
- **Operating System**: Windows® 2000, Windows XP, or Windows Vista™
- **Font Generation**: True Type Fonts
- **Barcodes and Matrix**: 2D Data Matrix™, PDF417, BC 39, Interleaved 2 of 5, UPCA/UPCE BC 128, Maxi Code, Code 93, QR Code and Others
- **Graphic Formats**: Raster and Vector .BMP, .GIF, .JPG, .WMF, .EMF, .PLT, .DXF
- **Serialization**: Automatic and Manual Input
- **Host Interface Capable**
- **Linear Marking**: Scalable with Letter Spacing Control
- **Arc Text Marking**: Scalable and Adjustable
- **Drawing Tools**: Line, Rectangle, Circle
- **Interface**: Serial, I/O and Host Capable

**EV SERIES**

**EY5 Diode-Pumped Solid State Laser**

- Features **DATA MATRIX™ 2-D Code Marking Capability** — Meets all Department of Defense UID Requirements
The EV7 is an advanced Nd:YVO_{4}, fiber-coupled diode end-pumped laser marking system for applications requiring high beam quality and stability. The EV7 does an exceptional job of high speed marking on delicate and sensitive electronic components, thin metal foils and medical instruments. It’s also a very good choice for general purpose laser marking, scribing, trimming, and other material processing applications.

**FEATURES**

- Reliable, long, maintenance-free performance
- Compact size and modular construction
- Remote, fiber-coupled pumping diode
- Exceptional beam quality and stable output power
- Active (thermo-electrical) temperature control for the pumping diode and the laser crystal
- Active AO Q-switching
- Air cooling
- Visible “red light” diode for dry run / part positioning
- Large digital display for marker status, settings, and error condition monitoring
- Standard 115/230VAC wall plug operation
- DoD-compliant Unique Identification (UID) marking

**LASER SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Compliance</td>
<td>CDRH, CE, UID</td>
</tr>
<tr>
<td>Wavelength</td>
<td>1,064 nm</td>
</tr>
<tr>
<td>Laser Type</td>
<td>Fiber-coupled diode end-pumped, Q-switched Nd:YVO_{4}, laser</td>
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<tr>
<td>Q-Switch Frequency</td>
<td>1 KHz to 100 KHz</td>
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<tr>
<td>Pulse Width (Duration)</td>
<td>30 nanoseconds (ns)</td>
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<tr>
<td>Mode</td>
<td>TEM_{00}</td>
</tr>
<tr>
<td>CW Average Power</td>
<td>7W</td>
</tr>
<tr>
<td>Long Term Output Power Stability</td>
<td>Less than ±2%</td>
</tr>
<tr>
<td>Lens (Std) 110 mm Focal Length</td>
<td>160mm Focal Length</td>
</tr>
<tr>
<td>Lens (Std) 65 mm Focal Length</td>
<td>100mm Focal Length</td>
</tr>
<tr>
<td>Positioning</td>
<td>Visible Red Diode Light, 650nm</td>
</tr>
<tr>
<td>Optical Fiber Length</td>
<td>1.75 meters (5.74 feet)</td>
</tr>
<tr>
<td>Cooling</td>
<td>Air Cooled, active thermo-electric</td>
</tr>
<tr>
<td>Max. Power Consumption</td>
<td>Less than 500W</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>18° to 35°C Non-condensing (65° to 95° F)</td>
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<tr>
<td>Humidity</td>
<td>10% to 85% Non-condensing</td>
</tr>
<tr>
<td>Expected MTBF</td>
<td>20,000 hours maintenance-free</td>
</tr>
<tr>
<td>System Weight</td>
<td>approx. 24Kg (53 lb.)</td>
</tr>
<tr>
<td>Galvo and Rail Assembly Dimensions</td>
<td>31.75 cm (W) x 15.72 cm (H) x 42.9 cm (L)</td>
</tr>
<tr>
<td></td>
<td>(12.5” W x 6.18” H x 16.88”L)</td>
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<tr>
<td>Input Power (selectable)</td>
<td>115/230 VAC 50/60 Hz</td>
</tr>
<tr>
<td>Optical Fiber Umbilical Length to Controller</td>
<td>1.37 Meters (4.53 feet) Std.</td>
</tr>
<tr>
<td>Controller</td>
<td>Std. Rack mount 43 cm (W) x 14 cm (H) x 51 cm (L), (17” W x 5.5” H x 20” L)</td>
</tr>
<tr>
<td>Software</td>
<td>Merlin II LS®</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows® 2000, Windows XP, or Windows Vista™</td>
</tr>
<tr>
<td>Font Generation</td>
<td>True Type Fonts</td>
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<tr>
<td>Barcodes and Matrix</td>
<td>2D Data Matrix™, PDF417, BC 39, Interleaved 2 of 5, UPCA/UPCE BC 128, Maxi Code, Code 93, QR Code and Others</td>
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<tr>
<td>Graphic Formats</td>
<td>Raster and Vector</td>
</tr>
<tr>
<td>Serialization</td>
<td>Automatic and Manual Input</td>
</tr>
<tr>
<td>Host Interface Capable</td>
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</tr>
<tr>
<td>Linear Marking</td>
<td>Scalable with Letter Spacing Control</td>
</tr>
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<td>Arc Text Marking</td>
<td>Scalable and Adjustable</td>
</tr>
<tr>
<td>Drawing Tools</td>
<td>Line, Rectangle, Circle, Ellipse Interface</td>
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<td></td>
<td>Serial, I/O and Host Capable</td>
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</table>

**SOFTWARE**

The EV7 laser has an average diode life of greater than 20,000 working hours, for outstanding reliability.
E-SERIES
EV10/EV15 Vanadate Laser Marking Systems

The EV10 (10W) and EV15 (15W) vanadate laser marking systems are the latest advance in the E-series line of end pumped solid-state lasers from Telesis Technologies. While suitable for a wide range of general marking applications, the outstanding beam quality makes them uniquely capable among IR lasers for marking of high resolution graphics or fine text of 2D codes.

With a short pulse width and high peak power these systems are ideal for challenging marking applications such as heat sensitive materials (including silicon), plastics, or thin foils. The narrow spot size and good depth of focus allow greater flexibility, such as marking of curved surfaces, than achieved with fiber lasers.

The EV10 and EV15 offer a diode MTBF of over 20,000 hours and essentially maintenance-free operation until diode replacement. The system is entirely air-cooled, avoiding the need for any external cooling system. The pumping diode is located in the controller and coupled by fiber to the resonator and scanning head, allowing for a robust and compact design which is easy to integrate into a production environment.

SPECIFICATIONS

Compliance..............................................CDRH, CE, UID
Wavelength..........................................................1064 nm
Laser Type..........................Fiber-coupled diode end-pumped,
Q-switched Nd:YVO4 laser
Q-Switch Frequency........................................10 kHz to 100 kHz
Pulse Width (Duration)..........................10 nanoseconds
Mode..............................................................TEMoo
CW Average Power.................EV10 — 10 Watts EV15 — 15 Watts
Long Term Output Power Stability..............Less than ± 2%
Lens (Std)................................................160mm Focal Length
110mm x 110mm Field (4.33” x 4.33”)
65mm x 65mm Field (2.65” x 2.65”)
Positioning..............................Visible Red Diode Light (650 nm)
Optical Fiber Length.................................1.75 meters (5.75 feet)
Cooling............................................Air-cooled, active thermo-electric
Max. Power Consumption......................Less than 500 Watts
Operating Temperature Range.......................18° to 30° C
Non-condensing (65° to 86° F)
Humidity........................................10% to 85% Non-condensing
Expected MTBF.........................20,000 hours maintenance-free
System Weight.......................................Approx. 30 kg (67 lbs.)

DIMENSIONS

EV10..................................................75.9 cm (L) x 17.7 cm (W) x 18.0 cm (H)
(29.9” L x 7.0” W x 7.1” H)
EV15.................................................68.0 cm (L) x 16.2 cm (W) x 19.1 cm (H)
(26.8” L x 6.4” W x 7.5” H)
Input Power (selectable)..........................115/230 VAC 50/60 Hz
Controller Dimensions..............................Std. Rack Mount
42 cm (W) x 14 cm (H) x 50 cm (L)
(16.5” W x 5.5” H x 19.5” L)
Software........................................Merlin II LS® Software
Operating System..............................Windows® 2000, XP, Vista™
Desktop PC (Std), Optional Laptop
Interface........................................Serial, I/O, and Host Capable

Features DATA MATRIX™ 2-D Code Marking Capability —
Meets all Department of Defense UID Requirements
The Telesis® EV4G is a fiber-coupled, diode-pumped, solid state (DPSS), green wavelength laser marking system. The laser beam and Q-switched pulse characteristics are optimized for applications that require high beam quality and stability. In addition, the EV4G offers extra power and speed for precision marking and it is the ideal choice for laser marking, scribing, trimming, and other material processing applications. With average diode life of greater than 20,000 working hours, the EV4G offers the user “best-in-class” reliability. The robust mechanical and optical design of the Telesis EV4G enables operation in an industrial environment where shock, vibration, and dust are a concern.

**FEATURES**

- Reliable, long-life, maintenance-free performance
- Compact size and modular construction
- Remote, fiber-coupled pump diode
- Exceptional beam quality and stable output power
- Air cooling
- Thermo-electrical temperature control of the laser crystal and pump diode
- Separate temperature controller for non-linear crystal
- Active AO Q-switching
- Large digital display for marker status, settings and error condition monitoring
- Standard 115/230VAC operation
- DoD compliant Unique Identification (UID) marking

**Operation-enhancing options for the EV4G**

- Desktop computer or notebook computer with powered cardbus-to-PCI expansion enclosure
- Externally-mounted focus-finder diode
- Tool post with manual hand crank for z-axis adjustment
- Pushbutton station (start/abort)
- I/O options:
  - TTL via PCI-DIO24 card (kit #53920)
  - Opto-isolated via Merlin® DCIO module (kit #53928)
  - TMC090 controller (for auxiliary axes; additional I/O)
- Programmable X-, Y-, or Z-axis (auxiliary axis controller required)
- Rotary drive fixture (auxiliary axis controller required)
- Vacuum system
- Workstation/work area enclosures

**SPECIFICATIONS**

Compliance.......................................................... CDRH
Laser Type.................................................. Fiber-coupled, diode pumped, Q-switched, Nd:YVO4
Wavelength.................................................. 532 nanometers (nm)
Average Power.............................................. 4 watts at 532nm
Expected Diode Lifetime......................... Greater than 20,000 hours
Long Term Output Power Drift.................. Less than ±2%
Maximum Power Consumption............... Less than 600 watts
Input Power........................................... 95 – 250 VAC, 6 amps, 50/60 Hz – single phase
Supply Voltage Fluctuation...................... ±10%, maximum; clean ground line
Operating Temperature......................... 18° – 30°C (65° – 86°F)
Recommended Temperature............... 20° – 25°C (68° – 77°F)
Operating Relative Humidity...... 10% – 85% non-condensing
Specifications measured at 20 kHz
EV4G Green Laser

LASER MARKING HEAD
Dimensions (L x W x H).............685.50 x 245.31 x 191.11mm
(26.988 x 9.658 x 7.524")
Surrounding Envelope..................840 x 305 x 250mm
(33.0 x 12.0 x 10.0")
Mounting Weight Approximately........25 kg (55 lbs.)
Mounting Holes.........................Six factory-tapped M5-0.80
Field Resolution.............................16 bit (65535 data points)
Galvanometer Repeatability............Less than 22 micro radian
Marking Field Size......................Lens-dependent (see chart below)
Fiber-Optic Cable Length...............1.75m (5.73 ft.)
Cooling.................................Air cooled, active thermo-electric

LENS CONFIGURATIONS AVAILABLE

<table>
<thead>
<tr>
<th>Focal Length</th>
<th>Marking Field</th>
<th>Work Clearance</th>
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</thead>
<tbody>
<tr>
<td>100mm</td>
<td>55 x 55mm (2.17 x 2.17&quot;)</td>
<td>90mm (3.54&quot;)</td>
</tr>
<tr>
<td>160mm</td>
<td>110 x 110mm (4.33 x 4.33&quot;)</td>
<td>176mm (6.93&quot;)</td>
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<tr>
<td>250mm</td>
<td>170 x 170mm (Y)</td>
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</tbody>
</table>

OPERATOR CONTROL PANEL
The front panel includes the system key switch, laser off pushbutton, manual safety shutter control, function indicators, and LCD display. The display allows monitoring of the diode current, the crystal and diode temperatures, system status, and error conditions.

SPECIFICATIONS
Dimensions (W x H x D)...............420 x 140 x 500mm
(16.5 x 5.5 x 19.5")
Surrounding Envelope..................500 x 140 x 560mm
(19.5 x 5.5 x 22.0")
Weight..................................Approximately 10 kg (22 lbs.)
Cooling.................................Air cooled, active thermo-electric

TEMPERATURE CONTROLLER
The temperature controller contains a power supply and temperature stabilization circuits for the non-linear crystal. The controller front panel contains three indicators: power on, over temperature, and under temperature.

SPECIFICATIONS
Dimensions (W x H x D)...............212.82 x 96.09 x 211.79mm
(8.380 x 3.783 x 8.338")
Surrounding Envelope..................280 x 165 x 280mm
(11.0 x 6.5 x 11.0")
Weight..................................Approximately 1.82 kg (4 lbs.)
Cooling.................................Air cooled, ambient air

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
Innovative, compact and flexible F-SERIES Fiber Lasers are perfectly suited for marking applications that require 24/7 “set and forget”, unattended operation.

Select the 10W FQ10 for low to medium speed applications and the 20W FQ20 when higher power/faster process speeds are required. The FQ20 features upgraded power. Both lasers offer the additional long-term safeguard of built-in, polarization/optical isolators.

**LASER SPECIFICATIONS**

- **Compliance**: CDRH, CE, UID
- **Wavelength**: 1,060nm
- **Laser Type**: Ytterbium Fiber Laser, Galvo Steered
- **Laser Source**: Diode-pumped, Fiber to Fiber, Pulsed
- **Pulse Repetition**: 20 KHz to 125KHz
- **Average Power FQ10**: 10 Watts
- **Average Power FQ20**: 20 Watts
- **Long term Output Power**: <5% Instability
- **Peak Power FQ10**: >4KW
- **Peak Power FQ20**: >8KW
- **Beam Quality**: M² < 2
- **Fiber Length FQ10**: 5 Meters (16 ft) Std.
- **Fiber Length FQ20**: 3 Meters (9.8 ft) Std.
- **Optical Isolator FQ10**: Standard
- **Optical Isolator FQ20**: Standard
- **Positioning**: Visible Red Diode Light. 636nm
- **Marking Speed**: Raster = 300 CPS; Vector>500 CPS (application dependent)
- **Input Power**: Selectable 115VAC / 230VAC, 50/60HZ
- **Cooling**: Air Cooled, Fan/Filter (no water cooling required)
- **Operating Temperature Range**: 10o to 42 o C Non-Condensing (50 o F to 107 o F)
- **Expected MTTF (Diode)**: Greater than 100,000 hours

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
F-SERIES
FQ10/FQ20 Fiber Lasers

Powered by 110/230VAC with no water-cooling requirements, these F-Series units are extremely dependable over a long life, and are backed by a full TWO-YEAR factory warranty.

“All of your employees seem to be willing and able to give that “little bit extra” to make everything go right. The laser marking equipment you have supplied to us thus far has been totally reliable and continues to perform flawlessly, helping Federal-Mogul Corporation reduce costs as it continues to improve product quality. I look forward to a continued relationship with the people I consider my “friends” at Telesis Technologies.”

Best Regards,
Ed Reinemeyer
Process Engineer,
Federal-Mogul Corporation

DIMENSIONS
FQ10 Marking Head ..................... 51.0 (L) x 12.7 (W) x 14.0 (H) cm
20.1” (L) x 5.0” (W) x 5.5” (H)
Weight 6.82 kg (15 lbs.)

FQ10 Laser Controller .................. Standard Rack Mount
42.5 (W) x 13.7 (H) x 50.8 (D) cm
16.7” (W) x 5.4” (H) x 20.0” (D)
Weight 15 kg (33 lbs.)

FQ20 Marking Head ..................... 51.0 (L) x 12.7 (W) x 14.0 (H) cm
20.1” (L) x 5.0” (W) x 5.5” (H)
Weight 6.82 kg (15 lbs.)

FQ20 Laser Controller .................. Standard Rack Mount
42.5 (W) x 13.7 (H) x 50.8 (D) cm
16.7” (W) x 5.4” (H) x 20.0” (D)
Weight 15 kg (33 lbs.)

LENS CONFIGURATIONS AVAILABLE

<table>
<thead>
<tr>
<th>Focal Length</th>
<th>Marking Field</th>
<th>Work Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>100mm</td>
<td>45mm x 45mm</td>
<td>(1.8” x 1.8”)</td>
</tr>
<tr>
<td>160mm</td>
<td>90mm x 90mm</td>
<td>(3.5” x 3.5”)</td>
</tr>
<tr>
<td>163mm</td>
<td>110mm x 110mm</td>
<td>(4.3” x 4.3”)</td>
</tr>
<tr>
<td>254mm</td>
<td>155mm x 155mm</td>
<td>(6.1” x 6.1”)</td>
</tr>
<tr>
<td>* 330mm</td>
<td>215mm x 215mm</td>
<td>(8.4” x 8.4”)</td>
</tr>
<tr>
<td>* 420mm</td>
<td>275mm x 275mm</td>
<td>(10.8” x 10.8”)</td>
</tr>
<tr>
<td>* Application dependent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOFTWARE

Software .......................................................... Merlin® II LS
Operating System ......................... Windows® 2000, Windows XP, or Windows Vista™
Font Generation ........................................ True Type Fonts
Barcode and Matrix ...................... 2D Data Matrix TM, PDF417, BC 39,
Interleaved 2 of 5, UPCA/UPCE BC 128,
Maxi Code, Code 93, QR Code and Others
Graphic Formats ............................ Raster and Vector,
BMP, .GIF, .JPG, .WMF, .EMF, .PLT, .DXF
Serialization .................................. Automatic and Manual Input Host
Interface Capable
Linear Marking .................. Scalable with Letter Spacing Control
Arc Text Marking .......................... Scalable and Adjustable
Drawing Tools .............................. Line, Rectangle, Arc, Circle
Interface ........................................ Serial, I/O and Host capable
Power Monitoring ...... Self-Calibrating, Output Power Feedback
and Auto Adjustment

Features DATA MATRIX™ 2-D Code Marking Capability —
Meets all Department of Defense UID Requirements

Example
Laser marking on Coated Label Stock
The FQ20DH from TELESIS features an advanced, dual-scan marking head, based on our successful Pulsed-Fiber Laser platform. Capable of extremely high-speed, high quality simultaneous, duplicate marking on two surfaces, it offers lower operation costs along with increased production and handling efficiencies. In addition to marking, the FQ20D is an excellent choice for scribing, trimming and a variety of material processing applications.

**GENERAL SPECIFICATIONS**
- Compliance: CDRH, CE, UID
- Wavelength: 1,060 nm (+/-10nm)
- Laser Type: ytterbium doped Q-Switched fiber laser
- Q-Switch Frequency: 20KHZ to 80KHZ
- Average power per scan head: 10 Watts (combined 20 Watts)
- Beam quality: M2 < 2
- Long term power stability: less than ±5%
- Positioning: two red diodes
- Fiber optic cable length: 3 meters (9.8 feet)
- Cooling: Air cooled
- Max. Power Consumption: less than 550W
- Operating Range: 10° to 35°C (50° to 95°F)
- Humidity: 10% to 85% non-condensing
- Expected MTBF (Diode): Greater than 100,000 hours
- Shipping weight (for 160mm lenses): approx. 35 kg (77 lbs)

**LASER MARKING HEAD SPECIFICATIONS**
- Dimensions (L x W x H): 20.0” x 13.9” x 5.486”
- Mounting Weight: 16 kg (35lbs)
- Mounting Holes: six M5-0.8

**LASER CONTROLLER SPECIFICATIONS**
- Dimensions (W x H x L): 16.74” x 5.25” x 20.0”
- Weight: approx. 15.5 kg (34 lbs)
- Input Power (selectable): 115/230VAC 50/60 Hz

**FEATURES**
- Reliable, maintenance free performance
- Compact size and modular construction
- Requires a fraction of normal power consumption for optimum performance
- Exceptional beam quality and stable output power
- Active AO Q-Switching
- Output laser beam delivery via fiber optic cable
- Sealed marking head prevents dust penetration into the optical compartment
- Two scan head configuration for doubling marking throughput
- Two visible “red light” diodes for dry run / positioning for each scan head
- Air cooled
- Display monitors the actual laser power
- Display monitors worked hours
- Standard 115/230VAC wall plug operation
- DoD-compliant Unique Identification (UID) marking
SY50
Diode-Pumped Solid State Laser

The SY50 Diode-Pumped Solid State Laser is configured for high precision, high speed marking. Features include high quality beam performance and low maintenance. It’s an economical choice for marking titanium and other high strength alloys and medical implants.

FEATURES
- Unique, Three Rail Design for Easy Alignment, Increased Power and Thermal Stability
- Lightweight, Dust Sealed Rail Cover
- Fixed Beam Expander
- Safety Shutter, Co-Axial Red Diode Pointer and Emission Light for Simple Operation

DIMENSIONS
Laser ............................................... 8" W x 8" H x 33" L
Water Chiller System ........... 12.6" W x 23.5" H x 20.9" D
Umbilical Length ....................... 6 Feet [detachable]

SPECIFICATIONS
Compliance.................................................. CDRH, CE, UID
Type .................................................. Nd: Diode-pumped YAG
Wavelength ................................................... 1,064 Nm
Average Power .................................................. 50 Watts
Mode .................................................. Q-Switched
Q-Switch Frequency .......................... 2 to 50 KHz
Marking Speed ..................... 02 to 197 in/sec (.5 to 5000 mm/sec.)
Marking Fields .......................... Several Available
Electrical ........................................... Single phase, 110V, 60Hz nominal
Total System Power Consumption .......................... 2.2 kW input AC Power
Internal DI Water ............ Requires (1.5) gallons, steam distilled
External Cooling Water .................. Not required

LASER CONTROLLER SYSTEM FEATURES
- Self-Contained Remote DI Water System / DI and Particle Filters (No External Chiller Required)
- Flow and Temperature Sensors
- Keyswitch and E-Stop with Manual Shutter Control
- 1st Pulse Suppression Circuitry
- System PC, Mounted directly in control cabinet
- Alternate electrical box for mounting/wiring peripheral components

LENSES CONFIGURATIONS AVAILABLE

<table>
<thead>
<tr>
<th>Focal Length</th>
<th>Marking Field</th>
<th>Work Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>100mm</td>
<td>45mm x 45mm</td>
<td>(1.8&quot; x 1.8&quot;)</td>
</tr>
<tr>
<td>160mm</td>
<td>90mm x 90mm</td>
<td>(3.5&quot; x 3.5&quot;)</td>
</tr>
<tr>
<td>163mm</td>
<td>110mm x 110mm</td>
<td>(4.3&quot; x 4.3&quot;)</td>
</tr>
<tr>
<td>254mm</td>
<td>155mm x 155mm</td>
<td>(6.1&quot; x 6.1&quot;)</td>
</tr>
<tr>
<td>330mm</td>
<td>215mm x 215mm</td>
<td>(8.4&quot; x 8.4&quot;)</td>
</tr>
<tr>
<td>420mm</td>
<td>275mm x 275mm</td>
<td>(10.8&quot; x 10.8&quot;)</td>
</tr>
</tbody>
</table>

* Application dependent

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
For the Ultimate in High Speed, High Quality Product Identification, the Lamp-Pumped LY100 is designed for hard surface treatments. It’s the powerful, reliable choice for deep engraved, to shallow, annealed marking on titanium and other high strength alloys, medical implants and hard plastics.

**FEATURES**
- Unique, Straight INVAR Rail Design for Easy Alignment, Increased Power and Thermal Stability
- Lightweight, Dust Sealed Rail Cover features “Hideaway Handles” for easy access
- Fixed Beam Expander
- Safety Shutter, Co-Axial Red Diode Pointer and Emission Light for Simple Operation

**DIMENSIONS**
- Laser .............................................. 8” W x 9” H x 56” L
- Laser Power/DI Water Supply Cabinet .................. 24” W x 27” H x 30” D
- Umbilical Length .................. 10 Feet [detachable]

**LASER CONTROLLER/DI WATER CABINET FEATURES**
- Compact, “All in One Design” Mounted on Casters
- Slide-out DI Water System / DI and Particle Filters
- Flow, Temperature and DI Sensors
- Keyswitch and E-Stop with Manual Shutter Control
- 1st Pulse Suppression Circuitry

**LENSES CONFIGURATIONS AVAILABLE**

<table>
<thead>
<tr>
<th>Focal Length</th>
<th>Marking Field</th>
<th>Work Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>100mm</td>
<td>45mm x 45mm</td>
<td>97mm (3.82&quot;)</td>
</tr>
<tr>
<td>160mm</td>
<td>90mm x 90mm</td>
<td>176mm (6.93&quot;)</td>
</tr>
<tr>
<td>163mm</td>
<td>110mm x 110mm</td>
<td>185mm (7.28&quot;)</td>
</tr>
<tr>
<td>254mm</td>
<td>155mm x 155mm</td>
<td>296mm (11.65&quot;)</td>
</tr>
<tr>
<td>* 330mm</td>
<td>215mm x 215mm</td>
<td>387mm (15.23&quot;)</td>
</tr>
<tr>
<td>* 420mm</td>
<td>275mm x 275mm</td>
<td>493mm (19.40&quot;)</td>
</tr>
</tbody>
</table>

* Application dependent

**SPECIFICATIONS**
- Compliance ..................................................... CDRH, CE, UID
- Type ................................................... Nd: Lamp-pumped YAG
- Wavelength .............................................................. 1,064 Nm
- Average Power .........................................................100 Watts
- Mode ............................................ Q-Switched or CW (Continuous Wave)
- Q-Switch Frequency ...........................................0 to 100 KHz
- Marking Speed ...........................................0 to 197 in/sec.(5 to 5000 mm/sec.)
- Marking Fields ........................................... Several Available
- Electrical ...........................................3 phase/3 wire, 230V, 50-60Hz nominal
- Total System Power Consumption .................... 7.5 KVA
- Internal DI Water .................................. Requires (5) gallons, steam distilled
- External Cooling Water ......................... 5 gallons/min. (19 liters/min.)
- 50° F - 65° F, (10°- 18° C)

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
The Telesis CO-Series Lasers are optimized to provide extremely high-speed operation, through the use of a reliable galvo scanner using self-diagnostic servo drivers. The reliable RF-excited CO2 tube assures a long life cycle and virtually maintenance-free operation. Due to its compact size and modular construction, the CO-Series Laser Marker can fit where it’s needed on the plant floor.

**FEATURES**

- The CO-Series lasers are perfect for "Mark-on-the-fly" linear and circular movements
- Standard 100 – 240VAC, 50 – 60Hz operation
- Easy-to-use Merlin II Visual Design Software
- Support of linear and 2-D bar codes including the QR code
- DoD compliant Unique Identification (UID) marking
- Multi-language support
- Available in 3 different power levels, 10W model CO10, 30W model CO30 and 50W model CO50

**Flexibility and ease-of-use: CO-Series laser options**

- Tool post with manual hand crank for Z-axis adjustment
- Pushbutton station (start/abort)
- I/O options:
  - TTL via PCI-DIO24 card (kit #53920)
  - Opto-isolated via Merlin DCIO module (kit #53928)
  - Auxiliary controller (for auxiliary axes; additional I/O)
- Programmable X-, Y-, or Z-axis (auxiliary controller required)
- Rotary drive fixture
- Vacuum system
- Workstation/work area enclosures
- Quadrature shaft encoder
- TTL level part position detector

**SPECIFICATIONS**

- **Laser Type**: 10W, 30W, 50W, air cooled RF-excited CO2 laser at 10.6µm wavelength (9.3µm option is available)
- **Marking Head Size (H x W x L)**:
  - 781.0 x 184.3 x 206.5mm (10W) (30.75 x 7.26 x 8.13")
  - 861.3 x 206.9 x 226.8mm (30W) (33.91 x 8.14 x 8.93")
  - 1143.5 x 141.6 x 207.8mm (50W) (45.02 x 5.6 x 8.18")
- **Controller Size (H x W x L)**: 570 x 419 x 176mm (22.4 x 16.5 x 6.9")
- **Marking Head Weight**:
  - 13.8 kg (30.4 lbs.)(10W)
  - 26.3 kg (58 lbs.)(30W)
  - 25.45 kg (56 lbs.)(50W)
- **Controller Weight**: 14.3 kg (31.5 lbs.)
- **Input**: 100 – 240 VAC, 50 – 60Hz
- **Operating Temperature**: 16 – 35°C

**LENS CONFIGURATIONS AVAILABLE**

<table>
<thead>
<tr>
<th>Focal Length</th>
<th>Marking Field</th>
<th>Work Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>75mm</td>
<td>50 x 50mm (1.97 x 1.97&quot;)</td>
<td>54mm (2.13&quot;)</td>
</tr>
<tr>
<td>100mm</td>
<td>70 x 70mm (2.76 x 2.76&quot;)</td>
<td>81mm (3.19&quot;)</td>
</tr>
<tr>
<td>150mm</td>
<td>100 x 100mm (3.94 x 3.94&quot;)</td>
<td>131mm (5.16&quot;)</td>
</tr>
<tr>
<td>200mm</td>
<td>140 x 140mm (5.51 x 5.51&quot;)</td>
<td>183mm (7.20&quot;)</td>
</tr>
</tbody>
</table>

Other lens sizes available

**MARKING SPEED**

- Up to 152 m/minute (500 ft./minute) line speed for “Mark-on-the-fly” applications
- 400 characters/second (multiline marking is supported)*

*Character marking speeds and production line speeds depend on material, character size and the desired marking quality.
This powerful Merlin® II Visual Design Software is capable of driving any of the core Telesis Laser Products. Each system is shipped with a fully functioning version of the Software (on CD), that allows off-line program development.

TELESIS LASER SOFTWARE FEATURES:
- Specially Designed by TELESIS – based on Windows® 2000, Windows XP, or Windows Vista™
- Import a wide range of Graphic Formats including DXF from AutoCAD™, WINDOWS® Bitmaps, True Type Fonts as Vector or Raster Files
- Supports 4 Axis Movement (XYZ & Rotary)
- Highlight, click and mark!

COMPUTER REQUIREMENTS:
- Pentium® III 128 Mb RAM (minimum)
- Multi-gigabyte HDD
- Video, Sound Card
- CD-ROM and 3.5” Floppy Disk Drive
- SVGA Monitor, Mouse and Keyboard
<table>
<thead>
<tr>
<th>LASER SYSTEMS/APPLICATIONS</th>
<th>FQ10</th>
<th>FQ20</th>
<th>FQ20DH</th>
<th>EY5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marking metals</td>
<td>Good choice for surface and deep marking of some metals. (Sensitive to back reflection. Not recommended for copper, brass or any other highly reflective or polished metals.)</td>
<td>Good choice for surface and deep marking of some metals. (Sensitive to back reflection. Not recommended for copper, brass or any other highly reflective or polished metals.)</td>
<td>Good choice for surface and deep marking of some metals. (Sensitive to back reflection. Not recommended for copper, brass or any other highly reflective or polished metals.)</td>
<td>Good choice for surface and deep marking all metals.</td>
</tr>
<tr>
<td>Marking plastics and label materials (3M, Tesa, etc.)</td>
<td>Good choice for marking many plastics and label materials. (Some surface melting can occur due to long pulse width.)</td>
<td>Good choice for marking many plastics and label materials. (Some surface melting can occur due to long pulse width.)</td>
<td>Good choice for marking many plastics and label materials. (Some surface melting can occur due to long pulse width.)</td>
<td>Good choice for marking plastics and label materials.</td>
</tr>
<tr>
<td>Marking high quality graphics</td>
<td>Can mark high quality graphics on some metals.</td>
<td>Can mark high quality graphics on some metals.</td>
<td>Can mark high quality graphics on some metals.</td>
<td>Excellent choice for marking high resolution graphics due to small spot size.</td>
</tr>
<tr>
<td>Workstation</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>LASER SYSTEMS/ APPLICATIONS</td>
<td>EV7 1064nm wavelength, air-cooled, single phase, diode end-pumped, Q-switched, 7 Watt Nd:YVO₄ laser marker</td>
<td>EV10 1064nm wavelength, air-cooled, single phase, diode end-pumped, Q-switched, 10 Watt Nd:YVO₄ laser marker</td>
<td>EV15 1064nm wavelength, air-cooled, single phase, diode end-pumped, Q-switched, 15 Watt Nd:YVO₄ laser marker</td>
<td>EV4G 532nm wavelength; air-cooled; single phase; diode end-pumped, Q-switched, 4 Watt green laser marker</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Marking metals</td>
<td>Good choice for high speed surface marking of all metals with very small heat affected zone.</td>
<td>Excellent choice for high speed surface marking of all metals with very small heat affected zone.</td>
<td>Excellent choice for high speed surface and deep marking all metals.</td>
<td>Excellent choice for high speed surface marking all metals with very small heat affected zone.</td>
</tr>
<tr>
<td>Marking plastics and label materials (3M, Tesa, etc.)</td>
<td>Good choice for marking plastics and label materials.</td>
<td>Excellent choice for marking plastics and label materials.</td>
<td>Excellent choice for marking plastics. Marks largest variety of plastics.</td>
<td></td>
</tr>
<tr>
<td>Chemical marking</td>
<td>Can mark metals, glass and other materials using chemical marking.</td>
<td>Can mark metals, glass and other materials using chemical marking.</td>
<td>Good choice for marking metals, glass and other materials using chemical marking.</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Marking high quality graphics</td>
<td>Excellent choice for marking high resolution graphics due to small spot size.</td>
<td>Excellent choice for marking high resolution graphics due to small spot size.</td>
<td>Excellent choice for marking high resolution graphics due to small spot size.</td>
<td>Excellent choice for marking high resolution graphics due to small spot size. Highest resolution capability.</td>
</tr>
<tr>
<td>Workstation</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>
## LASER SELECTION GUIDE

<table>
<thead>
<tr>
<th>Model</th>
<th>Wavelength</th>
<th>Cooling</th>
<th>Phase</th>
<th>Pumping</th>
<th>Excitation</th>
<th>Power</th>
<th>Marking Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO10</td>
<td>10,600nm</td>
<td>Air</td>
<td>Single</td>
<td>RF</td>
<td>Air-cooled</td>
<td>10W</td>
<td>Can mark some anodized metal surfaces. Can mark high quality graphics on plastics and on some anodized metal surfaces.</td>
</tr>
<tr>
<td>CO30</td>
<td>10,600nm</td>
<td>Air</td>
<td>Single</td>
<td>RF</td>
<td>Air-cooled</td>
<td>30W</td>
<td>Can mark anodized metal surfaces. With short focal length lenses, can mark some non-plated metal surfaces.</td>
</tr>
<tr>
<td>CO50</td>
<td>10,600nm</td>
<td>Air</td>
<td>Single</td>
<td>RF</td>
<td>Air-cooled</td>
<td>50W</td>
<td>Can mark anodized metal surfaces. With short focal length lenses, can mark some non-plated metal surfaces.</td>
</tr>
<tr>
<td>CO50</td>
<td>10,600nm</td>
<td>Air</td>
<td>Single</td>
<td>RF</td>
<td>Air-cooled</td>
<td>50W</td>
<td>Excellent choice for marking wood and other organic materials. Can mark some other organic materials.</td>
</tr>
<tr>
<td>CO30</td>
<td>10,600nm</td>
<td>Air</td>
<td>Single</td>
<td>RF</td>
<td>Air-cooled</td>
<td>30W</td>
<td>Excellent choice for marking wood and other organic materials. Can mark some other organic materials.</td>
</tr>
<tr>
<td>CO10</td>
<td>10,600nm</td>
<td>Air</td>
<td>Single</td>
<td>RF</td>
<td>Air-cooled</td>
<td>10W</td>
<td>Excellent choice for marking wood and other organic materials. Can mark some other organic materials.</td>
</tr>
</tbody>
</table>

For all applications, it is highly recommended that samples be sent to Telesis for qualification and testing purposes.
The TMP6100 is the most versatile PINSTAMP® Marking Head. It is easily integrated into either on or off-line applications. Since the marking pin can be positioned anywhere in the generous 6” x 12” (152 x 304mm) marking window, the TMP6100 can mark any character height, style or number of lines desired. Its robotic design allows clear access to the marking window for loading and unloading of parts.

“We recommend Telesis hardware to our clients because we believe it is the best marking equipment available. The success of our software business depends on high quality 2D Data Matrix™ dot peen marks and Telesis consistently delivers quality marks – every day – every time!”

Chuck Stewart, Stewart Technologies Inc.

**FEATURES**

- Large 6” x 12” (152 x 304mm) marking window
- Unique rigid positioning drive features robotic technology
- Marks a wide range of materials from soft plastics to hardened steel — up to Rc60
- Dot density up to 200 dots per inch (79 per centimeter)
- Choice of Interchangeable Marking Pin Types for depths from .001” – .018” (.02 – .45mm)
- Pin travel accommodates surface irregularities to .25” (6mm)
- Compact, self-contained TMC470 Controller with integral display and keyboard – no PC required
- RS232 or TCPIP Host interface to download text to individual fields or call up entire patterns
- Automatically generates serial numbers, time, date and shift codes
- Easily interfaced to PLCs (Programmable Logic Controllers)
- Pattern backup via USB port
- Stores up to 200 marking patterns (files)

**OPTIONAL ACCESSORIES**

- Rotary fixtures for marking circumferences of cylindrical parts
- Marking head mounting posts, including programmable Z-axis version
- Logo/Font design Software Package for design of custom fonts or simple logos
- Powerful Windows-based Merlin® III software (available in early 2009)

The TMP6100/470 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.
FEATURES

- Fully self-contained – no PC required
- Easy-to-use menu design for pattern design and access
- Ethernet port for TCP/IP communications
- Durable membrane keyboard
- Pattern backup via USB port
- Stores up to 200 marking patterns locally
- One RS232/485 and one RS232 serial port and discrete I/O capabilities with spare I/O available for customer-specific needs
- Optional internal board to control third and fourth axis (Z and rotary) – no separate driver required
- Optional panel-mount kit for panel mounting in NEMA/IP rated enclosures
- Conforms to all European Community (CE) norms
- Operates on 100 – 130 VAC or 200 – 250 VAC, 50 – 60 Hz power

Telesis’ powerful WIN 32 Merlin® III Visual Design Software with its state-of-the-art graphical user interface, makes marking pattern design quick and easy.

“WYSIWYG” (what you see is what you get) interface provides a to-scale image of the pattern as it’s created. Just “click & drag” for immediate adjustment to field size, location or orientation. Pattern Wizard Mode makes simple pattern design a snap even for the computer novice.

Marking “tools” available include text (at any angle), arc text, rectangles, circles, ellipses and lines. Multiple fields can be grouped and saved as a block to form a logo, or import logos via DXF CAD files. Non-printable fields clearly show the graphical representation of the part being marked. Use the convenient, “GO TO” command to avoid obstacles within the marking window.
The TMP1700/420 is the lowest cost PINSTAMP® Marking System. The rugged TMP1700 marking head features a compact, 1-1/2” x 2-1/2” (38.1 x 63.5mm) window, and marking speeds up to six characters per second. It’s an excellent choice for many factory-automated or on-line processes. The TMP1700/090 includes the TMP1700 Marking Head, but features our WIN 32 Merlin® II Visual Design Software, providing a state-of-the-art graphical user interface.

**FEATURES**

- 1-1/2” x 2-1/2” (38.1 x 63.5mm) Marking Window
- Rugged, low-maintenance X/Y platform
- Compact Marking Head — approximately 6.6” x 6.2” x 4.7” (168 x 158 x 120mm)
- Marks a wide range of materials from soft plastics to hardened steel — up to Rc60
- Shutter assembly protects marking head from solid and liquid contaminants
- Compact, convenient TMC420 Controller with rubber keyboard and 4-line LED Display — no PC required (see page 27)
- Dot density up to 200 dots per inch (79 per centimeter)
- Choice of Interchangeable Marking Pin Types for depths from .001” - .018” (.03 - .45mm)
- Pin travel accommodates surface irregularities to .25” (6mm)
- Automatically generates serial numbers, time, date and shift codes
- Stores up to 75 marking patterns
- Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers

**OPTIONAL ACCESSORIES**

- TMP1700/090 System includes the TMC090 Controller and Merlin®II Visual Design Software in lieu of TMC420 Controller (see page 23)
- Rotary fixtures for marking circumferences of cylindrical parts
- Marking head mounting post including programmable Z-axis version
- Panel-mount and IP/NEMA Rated Controllers (see page 27)
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from www.telesis.com

The TMP1700/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.
The TMP4210/420 is an extremely lightweight, hand-held, single pin marker satisfying a wide range of portable marking applications. Its robust rack-and-pinion design and compact envelope also make it the right choice for many high production, on-line applications.

**FEATURES**

- Simple, Easy to Use Single Pin Design
- Compact and Ergonomic; Weighs about 2.0kg (4.4 pounds)
- Available with 25S or 150SA Marking Pin
- 50 x 13mm (2” x .5”) Marking Window
- Economically Priced
- Marks up to 3.5 3mm (1/8”) High Characters per Second
- Utilizes Same Rugged Rack-and-Pinion X/Y Platform as Field-Proven TMM4200
- Detachable Electronics Cable for Improved Serviceability
- Teamed with Reliable, Self-Contained TMC420 Controller (see page 27)
- Also Available Without Handle and Stand-Off for Fixtured Applications

**OPTIONAL ACCESSORIES**

- Cable Balancer Attachment Bracket
- Marking Head Standoff V-Blocks for Marking the Circumference of Cylindrical Parts
- Bar Code Scanner for automatic data entry
- Logo-Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from [www.telesis.com](http://www.telesis.com) for easy software upgrade
- PC-Based Pattern (marking file) Back-up Utility available FREE from [www.telesis.com](http://www.telesis.com)

The TMP4210/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.
The TMP3200/420 Single Pin Marking System features a large 4” x 6” (100 x 150mm) marking window, and marking speeds up to six characters per second. Well suited for both bench top and factory-automated applications, its simple, yet robust belt-driven dual rail, X/Y platform yields high quality characters and low maintenance operation. The TMP3200/090 includes the TMP3200 Marking Head, plus our WIN 32 Merlin® II Visual Design Software, with state-of-the-art graphical user interface.

**FEATURES**
- 4” x 6” (100 x 150mm) Marking Window
- Belt-driven, dual rail X/Y mechanism with superior wear characteristics
- Patented floating pin technology accommodates surface irregularities of up to .25” (6mm)
- Marks a wide range of materials from soft plastics to hardened steel — up to Rc60
- Choice of pin sizes for marking depths from .001” - .018” (.03 - .45mm)
- Compact, convenient TMC420 controller with rubber keyboard and 4-line LCD display — no PC required (see page 27)
- Automatically generates serial numbers, date, time and shift codes
- Stores up to 75 marking patterns
- Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers
- Dot density up to 200 dots per inch (79 per centimeter)

**OPTIONAL ACCESSORIES**
- TMP3200/090 System includes the TMC090 Controller and Merlin® II Visual Design Software in lieu of TMC420 Controller (see page 23)
- Rotary fixtures for marking circumferences of cylindrical parts
- Marking head mounting post including programmable Z-axis version
- Panel-mount and IP/NEMA-Rated Controllers (see page 27)
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from www.telesis.com

A protective shutter assembly shields the TMP3200 marking head from liquid and solid contaminants.
The TMC420 is a versatile, compact system controller that can be used with a wide range of Telesis Marking Heads. The TMC420 is fully self-contained and requires no Personal Computer. Other features include a 4-line LCD display and rugged membrane keyboard. With an RS232/485 serial port and eight discrete inputs/outputs, the TMC420 is easily integrated with factory automated applications.

The TMC420P is a panel-mount version designed specifically for mounting in industrial enclosures.

The TMC420N is a NEMA 12 (IP55) rated version for wall mounting or table top use.

**FEATURES**

- No PC required
- Three standard character fonts
- Automatic serialization, date coding and shift coding
- Four-line LCD display and rugged, sealed keyboard
- User-friendly pattern design software and prompted, interactive data entry
- Stores up to 75 marking patterns
- Extremely compact 12-1/2” W x 8” D x 2.8” H (317 x 203 x 71mm) envelope
- 12-24 VDC “Start Print,” “Abort,”, “Ready” and “Done” I/O signals
- Up to 15 different marking patterns remotely selectable via 12-24 VDC discrete inputs
- RS232 Host/Scanner Interface to download text to individual fields or call up entire patterns
- Up to 31 controllers can be networked to a single host
- “Start Print” and “Abort Print” signals from a simple contact closure
- Operates on 100-130 VAC or 200-250 VAC, 50-60 Hz power
- Conforms to all European Community (CE) norms
- Flash memory and PC-based software utility provide for software upgrades without Eprom change
- Optional PC-based Logo-Font Design Software allows user-defined fonts or logos to be created in a PC, then downloaded to the TMC420
- Available with TMP1700, TMP3200, TMM4200, TMP4250, TMP4210, TMM4215, TMM5100, TMM5400, TMM7200, SC3500, and SC5000 Marking Heads.
Equipped with eight marking pins, the TMM5400/420 is the fastest dot peen marker available. Its speed and its compact envelope make it the perfect solution for many on-line, high-speed marking applications.

FEATURES

- Marks up to 16 Characters per Second
- Marking windows as large as .5” x 3.78” (13 x 96mm)
- Two marking pin cartridge configurations available to optimize marking window size/cycle time combinations
- Extremely compact marking head for easy integration into factory-automated applications
- Marks a wide range of materials from soft plastics to hardened steel — up to Rc60
- Telesis’ patented “Floating Pin” technology accommodates surface irregularities up to .25” (6mm)
- Compact, convenient TMC420 Controller with rubber keyboard and 4-line LCD display — no PC required
- Automatically generates serial numbers, date, time and shift codes
- Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers
- Stores up to 75 marking patterns

OPTIONAL ACCESSORIES

- Panel-mount and IP/NEMA-Rated Controllers (see page 27)
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from www.telesis.com

Compact TMC420 Controller features 4-line LCD Display — no PC required.
The unique TMM4200 Multiple Pin Marking Head can be equipped with up to four marking pins for very high speed marking, yet weighs only 4.5 pounds (2.0kg). Its light weight, compact ergonomic design, plus optional pistol-grip handle make the TMM4200 the ultimate hand-held permanent marker.

**FEATURES**
- Compact, Ergonomic Design
- Weighs 4.5 pounds (2.0kg)
- Available with four 25S or two 150SA Marking Pins
- Marks up to eight .125" (3mm) high Characters per Second
- Marking Windows up to 0.5” x 2” (13 x 50mm)
- Depths up to 0.013” (.33mm) in Mild Steel
- Rugged Rack-and-Pinion X/Y Platform for low maintenance operation
- Simple Shutter Plate Protects Head from Solid and Liquid Contaminants
- Detachable Electronics Cable for Improved Serviceability
- Compact, convenient TMC420 Controller with rubber keyboard and 4-line LCD display — no PC required (see page 27)
- Also Available Without Handle and Stand-Off for Fixtured Applications
- Automatically generates serial numbers, date, time and shift codes
- Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers

**OPTIONAL ACCESSORIES**
- Panel-mount and IP/NEMA-Rated Controllers (see page 27)
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from www.telesis.com

The TMM4200/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.
The innovative dual-pin TMM4215 has a 100 x 13mm (4 x 0.5”) marking window which doubles the marking window length of the popular TMP4210 system — expanding the capabilities of this proven performer. The use of two pins also increases the speed of marking, making the marker even more suitable for handheld marking applications or integration into high-speed production lines.

FEATURES

The TMM4215 is available in two configurations

Handheld design
- The compact and ergonomic package weighs only 2.0 kg (4.4 lbs.)
- Allows for all-day use with minimal operator fatigue, resulting in fewer mis-marks and higher productivity
- The optional quick-disconnect tool post creates a flexible marking workstation

Fixtured design
- The slim envelope is ideal for integration into production lines
- Takes up minimal space while reaching hard-to-mark areas

The TMM4215 is built around Telesis’s patented “floating pin” pneumatic design
- Accommodates surface irregularities up to 6.5mm (0.25”)
- Available with the high-speed 25S pin or the deep-marking 150SA pin

The TMC420 controller creates a self-contained system
With PC-free operation, the TMC420 is designed for ease of integration, programming, and communications

OPTIONAL ACCESSORIES
- Quick-disconnect tool post
- Standoff V-blocks for marking along the length of cylindrical parts
- Cable balancer and attachment bracket
- Debris shield kit for protection from solid contaminants
- Start-print footswitch and pushbutton station
- Marking head extension cables
- Bar code scanner kit for data entry
- PC-based logo/font design, pattern backup, and upgrade software
- Panel-mount (TMC420P) and NEMA enclosure (TMC420N) controllers (see page 27)
TMM4250/420
PINSTAMP® MULTIPLE PIN MARKING SYSTEM

The TMM4250/420 Multiple Pin Marking System can mark up to eight characters per second. It is ideal for many on-line applications with severe spatial constraints — or in wet or dirty environments. The TMM4250 Marking Head features an extremely compact envelope and provides marking windows up to 0.5” x 2” (13 x 50mm). It can be easily integrated within a wide range of manufacturing settings. A NEMA 12 (IP55) enclosure with industrial grade, protective rubber “boot” makes it highly resistant to both solid and liquid contaminants, including machine tool coolants.

FEATURING
• NEMA 12-Rated (IP55) with Rubber Boot for Protection Against Solid and Liquid Contaminants
• Extremely Compact for Ease of Integration
• Available with four 25S or two 150SA Marking Pins
• Marks up to eight .125” (3mm) high Characters per Second
• Marking Windows up to 0.5” x 2” (13 x 50mm)
• Depths up to 0.013” (.33mm) in Mild Steel
• Rugged Rack-and-Pinion X/Y Platform for low maintenance operation
• Detachable Electronics Cable for Improved Serviceability
• Compact, convenient TMC420 Controller with rubber keyboard and 4-line LCD display — no PC required (see page 27)
• Automatically generates serial numbers, date, time and shift codes
• Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers

OPTIONAL ACCESSORIES
• Panel-mount and IP/NEMA-Rated Controllers (see page 27)
• Logo/Font design software package for design of custom fonts or logos
• PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
• PC-Based Pattern Back-up Utility available FREE from www.telesis.com

The TMM4250/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.
Mark up to six characters/second with the TMM5100/420 Multiple Pin Marking System. Its lightweight, compact design and minimal footprint are ideal for hand-held, stand-alone or completely integrated, factory automated operations. A variety of pin sizes/configurations are available to mark character heights from .04” - .63” (1 - 16mm) on a wide range of materials.

FEATURES
- High speed — up to six pins marking simultaneously
- Marking windows up to .625” x 4.5” (16 x 114mm)
- Marks a wide range of materials from soft plastics to hardened steel — up to Rc60
- Available with a variety of marking pin cartridge configurations for optimal combination of character size, marking depth, marking window size and cycle time
- Compact, rugged X/Y positioning mechanism
- The right choice for many VIN (Vehicle Identification Number) Marking Applications
- Compact, convenient TMC420 Controller with rubber keyboard and 4-line LCD display — no PC required (see page 27)
- Automatically generates serial numbers, time, date and shift codes
- Stores up to 75 marking patterns
- Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers
- Pin travel accommodates surface irregularities to .25” (6mm)

OPTIONAL ACCESSORIES
- Panel-mount and IP/NEMA-Rated Controllers (see page 27)
- Marking head support tooling and balancers
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from www.telesis.com
The TMM7200 is an extremely heavy duty multiple pin marking system configured on a “per project” basis to provide optimum solutions for individual applications. The TMM7200 is the right choice for the deep penetration marking required for large character sizes, or when marking especially rough surfaces. The flexible TMM7200 can be equipped with up to 21 marking pins, allowing it to print 21 characters in 1.5 seconds. In addition, marking pins can be located on varying horizontal and vertical center distances from .25” (6mm) to 1.75” (44.5mm) to provide a wide range of very large marking windows.

The TMM7200 is easily adapted to custom designs and fixturing options.
Virtually silent, the economical SC3500/420 inscribes high quality, continuous line characters in most metals and plastics. It is well suited for a wide range of automated on-line and stand-alone bench top applications.

**FEATURES**

- Extremely low noise marking
- Durable, heavy duty marking head provides large 4” x 6” (100 x 150mm) marking window
- Economically priced Scribe Marker, well suited for a wide range of automated on-line and stand-alone Bench Top applications
- Compact, convenient TMC420 Controller with rubber keyboard and 4-line LCD display — no PC required (see page 27)
- Automatically generates serial numbers, date, time and shift codes
- Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers
- Marks a wide range of materials from soft plastics up to hardened steel
- Stores up to 75 marking patterns

**OPTIONAL ACCESSORIES**

- Marking head mounting post with base
- Panel-mount and IP/NEMA-Rated Controllers (see page 27)
- Marking head support tooling and balancers
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from www.telesis.com

Compact TMC420 Controller features 4-line LCD Display — no PC required.
The powerful, extremely heavy-duty SC5000/420 is the right choice when deep, low noise marking is required. It is especially well-suited for VIN (Vehicle Identification Number) Marking applications.

**FEATURES**

- Extremely low noise marking
- Powerful, rugged marking head drive mechanism for deep scribe marking
- 2½” x 7½” (63.5 x 190.5mm) marking window
- Especially well suited for VIN (Vehicle Identification Number) applications
- Compact, convenient TMC420 Controller with rubber keyboard and 4-line LCD display — no PC required (see page 27)
- Automatically generates serial numbers, date, time and shift codes
- Easily interfaced to PLCs (Programmable Logic Controllers) and Host Computers
- Marks a wide range of materials from soft plastics up to hardened steel
- Stores up to 75 marking patterns

**OPTIONAL ACCESSORIES**

- Marking head support tooling and balancers
- Panel-mount and IP/NEMA-Rated Controllers (see page 27)
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from [www.telesis.com](http://www.telesis.com) for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from [www.telesis.com](http://www.telesis.com)
- Optional SS5500/420 Servo Motor Driven Versions Available For High Speed Applications
The BenchMark® 320 is an economical, fully programmable alternative to old-fashioned permanent marking techniques. This complete system, with self-contained controller and extruded aluminum marking head mounting post and base, is the right choice for many stand-alone bench top marking applications. An ELECTROMECHANICAL marking pin eliminates the need for any air supply, making it easy to move the BenchMark® 320 from one work area to another.

“I want to thank Telesis for manufacturing a product that performs as well in real life as it states in your literature. Our new BenchMark® 320 Marking System from Telesis has performed above our expectations since putting it into service. The BenchMark® 320 greatly simplified our identification tag printing process and provided Krispy Kreme with “just in time” tag production capabilities. If you are looking for high quality, flexibility and reliability in permanent marking equipment, Telesis has the solution.”

Jeff Renz, Krispy Kreme

FEATURES

- Extremely affordable
- High quality, permanent, programmable marking on a wide range of materials — from soft plastics to hard metals up to Rc60
- Large 4” x 6” (100 x 150mm) marking window
- Unique marking arm design allows clear access for loading and unloading of parts
- Electromechanical marking pin eliminates the need for air supply
- Marks up to 5 characters per second
- Automatically generates serial numbers, as well as date, time and shift codes
- Compact, convenient controller with rubber keyboard and 4-line LCD display — no PC required

OPTIONAL ACCESSORIES

- Rotary fixture for marking circumferences of cylindrical parts
- Bar Code Scanner for automatic data entry
- Start-Print footswitch and pushbutton station
- Logo/Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from www.telesis.com for easy software upgrade
- PC-Based Pattern Back-up Utility available FREE from www.telesis.com

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
The BenchMark® 460 is a fully programmable, cost effective alternative to old-fashioned permanent marking techniques for parts too large or heavy to be carried to a marking station. Its hand-held marking head is lightweight and ergonomically designed, while providing a generous 25 x 100mm (1” x 4”) marking window. An electromechanical marking pin eliminates the need for any air supply, making the BenchMark® 460 truly portable.

**FEATURES**

- Compact, ergonomic marking head weighs only 1.7 kg (3.75 pounds)
- Generous 25 x 100mm (1” x 4”) marking window
- High quality, permanent, programmable marking on a wide range of materials — from soft plastics to hard metals up to Rc60
- No consumables
- Electromechanical marking pin eliminates the need for air supply
- Marks up to 5 characters per second
- Automatically generates serial numbers, as well as date, time and shift codes

**OPTIONAL ACCESSORIES**

- Bar Code Scanner for automatic data entry
- Logo-Font design software package for design of custom fonts or logos
- PC-Based Upgrade Utility available FREE from [www.telesis.com](http://www.telesis.com) for easy software upgrade
- PC-Based Pattern (marking file) Back-up Utility available FREE from [www.telesis.com](http://www.telesis.com)

Compact, BenchMark® Controller with rubber keyboard features 4-line LCD Display — no PC required

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
2-D and UID CODE
MARKING AND VERIFICATION

Manufacturers are increasingly turning to the use of 2-D code direct part marking (DPM) and reading technologies. DPM reduces costs, improves quality, and satisfies a number of industry-specific and government mandates, including U.S. Department of Defense UID (Universal Identification) requirements. Successful implementation requires the integration of robust, industrial marking systems with 2-D code verifiers located at the marking station. Together, they insure the ability to easily read and track the 2-D code.

Telesis’ extensive experience in the automotive, aerospace and firearms industries makes us uniquely qualified to provide, completely integrated, “mark-read” solutions. We offer the following products and services to satisfy a wide range of 2-D code applications:

- Telesis’ PINSTAMP® Dot Peen Marking Systems
- Telesis’ PROSCRIPT® Laser Marking Systems
- Expert integration of these Telesis products, as well as the integration of 2-D code verifiers marketed by a number of suppliers

PINSTAMP® Markers provide an effective but extremely economical solution to many 2-D code DPM applications on materials as diverse as plastics and hardened steel. Telesis’ patented PINSTAMP® Marking Technology provides highly accurate dot placement at specific X/Y locations. This process makes PINSTAMP® Markers far superior to conventional “oscillating stylus” dot peen markers, especially in 2-D code applications, where accurately marked codes are the key to readability.

TELESIS Lasers are truly “state-of-the-art”, producing almost perfectly formed 2-D codes nearly instantly on a wide range of materials, including virtually all plastics and metals. These qualities make PROSCRIPT® Lasers the perfect choice for applications requiring extremely high throughput or very small 2-D codes.

COMPLIANCE

All TELESIS LASERS and all PINSTAMP® Markers except for the TMM5100/420 and TMM7200 comply with all major 2-D code DPM standards, including:

- SAE AS9132
- NASA-STD-6002
- NASA-STD-HDBK-6003
- AIAG B-4
- Department of Defense Guide to Uniquely Identifying Items (UID)
- AIAG B-17
- MIL-STD-130L
Choose from a variety of options to enhance your Telesis Marking System. All are tested for compatibility and carry a one-year limited warranty. Ask your Telesis Sales Representative about the options best suited for your application.

**Rotary Fixtures**
For easy circumferential marking

**Desktop and Notebook Computers**
For systems requiring computers

**Bar Code Scanners and Wands**
Eliminates manual data entry

**A variety of Industrial Controller Enclosures are Available**
Protect control components from harsh environments.
Several wall and floor-mount styles/colors available

**Four Wheeled Carts**
For portable applications

**Laser Carts**

**Marking Head Gimbals, Stand-offs and Cable Balancers**
For flexible, virtually weightless, hand-held marking

**Manual Push Button Stations and Foot Switches**
For manual control of on-line automated marking stations and remote start control

**Marquee Displays**
Increase production and avoid errors with quick verification of downloaded messages

**Marking Head Mounting Posts**
With manual, pneumatic or stepper motor-driven head positioning mechanisms

**CUSTOM ENGINEERED SOLUTIONS**

Telesis is the leader in custom engineered/factory integrated marking technology. Whether it’s a fully automated on-line application or a stand-alone manual work-station, Telesis Applications Engineers will work with you to solve your parts handling and custom software needs.

They can integrate any of our standard marking products with your specific application. You can expect a responsive, cost-effective, quality design solution to meet your unique requirements.

Just call 800.654.5696.
Our Engineering Group will capably assist you.
<table>
<thead>
<tr>
<th>PIN STYLE</th>
<th>CONE ANGLES</th>
<th>MATERIALS*</th>
<th>LENGTH</th>
<th>MAJOR DIAMETER</th>
<th>MINOR DIAMETER</th>
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<td>30° 45°</td>
<td>Carbide</td>
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<td>0.09&quot;</td>
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<td></td>
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<td>45mm</td>
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<td>55mm</td>
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<td>99mm</td>
<td>7.9mm</td>
<td>3.9mm</td>
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<td>150S</td>
<td>30° 45° 60°</td>
<td>Powdered Metal, Carbide-Tipped</td>
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<td>Carbide-Tipped</td>
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<td>150</td>
<td>30° 45°</td>
<td>Powdered Metal</td>
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<td></td>
<td>133.4mm</td>
<td>15.7mm</td>
<td>9.5mm</td>
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</tbody>
</table>

*Carbide = Tungsten Carbide (Hardness approximately 92 Rockwell A), Powdered Metal (Hardness 63 – 65 Rockwell C).

**Varies with material hardness, cone angle and marking head utilized.
<table>
<thead>
<tr>
<th>MARKERS</th>
<th>APPLICATIONS</th>
<th>NOMINAL STROKE LENGTH</th>
<th>TYPICAL MAX DEPTH OF MARK**</th>
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</thead>
<tbody>
<tr>
<td>TMP1700, TMM4200, TMM5400</td>
<td>Great for high resolution graphics and 2-D codes with multi-pixel cells. Pneumatically driven. Light marking in plastic or soft metals. Extremely fast marking, especially in multi-pin markers.</td>
<td>0.14” 0.15” 0.75”</td>
<td>0.001 – 0.003” 0.02mm 0.006 – 0.022” 0.15 – 0.56mm</td>
</tr>
<tr>
<td>TMP4210, TMM5400, TMM3200, TMM4200, TMM4215, TMM4250</td>
<td>Very fast, limited penetration marking. For marking small characters on relatively smooth surfaces. Pneumatically driven.</td>
<td>0.38” 0.50” 0.25”</td>
<td>0.0025 – 0.003” 0.06 – 0.28mm 0.006 – 0.022” 0.15 – 0.56mm</td>
</tr>
<tr>
<td>TMP6100, TMM5100, TMP1700, TMM3200, TMM7200</td>
<td>Fast, limited penetration marking. For marking small characters on relatively smooth surfaces. Pneumatically driven.</td>
<td>0.50” 0.38” 0.25”</td>
<td>0.0025 – 0.016” 0.06 – 0.40mm 0.006 – 0.022” 0.15 – 0.56mm</td>
</tr>
<tr>
<td>TMP6100, TMM5100, TMM7200, TMM1700, TMM3200, DPP2000</td>
<td>Similar to 25L. Extra length for recessed or hard to reach marking surfaces. Pneumatically driven.</td>
<td>0.50” 0.75” 0.25”</td>
<td>0.0025 – 0.016” 0.06 – 0.40mm 0.006 – 0.022” 0.15 – 0.56mm</td>
</tr>
<tr>
<td>TMP1700, TMM3200, TMP6100, Benchmark® 320, Benchmark® 460</td>
<td>Fast, limited penetration marking. For marking small characters on relatively smooth surfaces. Electrically driven.</td>
<td>0.15” 0.50” 0.25”</td>
<td>0.0025 – 0.011” 0.06 – 0.28mm 0.006 – 0.022” 0.15 – 0.56mm</td>
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<tr>
<td>TMM5100, TMM7200</td>
<td>For deep marks, large dots and characters, and/or rough surfaces. Pneumatically driven.</td>
<td>0.75” 0.25” 0.75”</td>
<td>0.006 – 0.022” 0.15 – 0.56mm 0.006 – 0.022” 0.15 – 0.56mm</td>
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<tr>
<td>TMP6100, TMM5100, TMM7200, TMM1700, DPP2000</td>
<td>Similar to 101. High speed marking. Pneumatically driven.</td>
<td>0.25” 0.75” 0.25”</td>
<td>0.006 – 0.022” 0.15 – 0.56mm 0.006 – 0.022” 0.15 – 0.56mm</td>
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<tr>
<td>TMP6100, TMM3200, TMM4200, TMM4215, TMM4210, TMM4250, TMM7200, TMM1700</td>
<td>Similar to 150S.</td>
<td>0.75” 0.75” 0.75”</td>
<td>0.006 – 0.022” 0.15 – 0.56mm 0.006 – 0.022” 0.15 – 0.56mm</td>
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<tr>
<td>TMM7200, TMP7000</td>
<td>Very heavy duty, deep penetration, large character marking; and/or very rough surfaces such as castings and mill surfaces. Pneumatically driven.</td>
<td>1.00” 1.00” 1.00”</td>
<td>0.020 – 0.030” 0.51 – 0.76mm 0.020 – 0.030” 0.51 – 0.76mm</td>
</tr>
</tbody>
</table>

![Diagram of impact pin dimensions](image-url)
## Pin Marking System Selection Guide

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>TMP6100</th>
<th>TMM5100</th>
<th>TMP3200</th>
<th>TMM7200</th>
<th>TMM4200</th>
<th>TMM4215</th>
<th>TMP4210</th>
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</thead>
<tbody>
<tr>
<td>Version</td>
<td>Versatile Tabletop Marker for Batch Processes/Job Lots or On-Line Processes</td>
<td>Rapid, On-Line, Hand-Held, or Automated Marking, VIN Numbers</td>
<td>Cost-Effective On-Line High Speed Marking</td>
<td>Heavy-Duty, Large Character, Deep Penetration Marking</td>
<td>High Speed Lightweight, Hand-Held Marking or Fixtured Applications with Severe Spatial Constraints</td>
<td>High Speed Lightweight, Hand-Held Marking or Fixtured Applications with Severe Spatial Constraints</td>
<td>Hand-Held Marking or Fixtured Applications with Severe Spatial Constraints</td>
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<tr>
<td>Controller</td>
<td>TMC470/TMC3090</td>
<td>TMC420</td>
<td>TMC429/TMC3090</td>
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<td>TMC420</td>
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<td>Hand-Held Applications</td>
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<tr>
<td>Mark Depth (Based on Rb 53 Material Hardness)</td>
<td>0.001-0.013 in. (0.03-0.33mm)</td>
<td>0.001-0.013 in. (0.03-0.33mm)</td>
<td>0.001-0.013 in. (0.03-0.33mm)</td>
<td>0.001-0.022 in. (0.03-0.56mm)</td>
<td>0.001-0.010 in. (0.03-0.25mm)</td>
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<td>Noise Level</td>
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<td>Computer Required</td>
<td>Yes</td>
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<td>PS-OCR Readable Fonts</td>
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<tr>
<td>Marking Speed - MAX</td>
<td>Up to 3 Char./Sec.</td>
<td>Up to 6 Char./Sec.</td>
<td>Up to 6 Char./Sec.</td>
<td>Up to 21 Char. in 1.5 Seconds</td>
<td>Up to 8 Char./Sec.</td>
<td>Up to 4 Char./Sec.</td>
<td>Up to 8 Char./Sec.</td>
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<tr>
<td>Maximum Marking Window Size</td>
<td>6 x 12 in. (152 x 304mm)</td>
<td>0.625 x 4.5 in. (16 x 114mm)</td>
<td>4 x 6 in. (100 x 150mm)</td>
<td>64 sq. in. (413cm²)</td>
<td>0.50 x 2.00 in. (13x 50mm)</td>
<td>0.50 x 4.00 in. (13x 100mm)</td>
<td>0.50 x 2.00 in. (13x 50mm)</td>
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<tr>
<td>Maximum Character Height</td>
<td>6.0 in. (152mm)</td>
<td>0.63 in. (16mm)</td>
<td>4 in. (100mm)</td>
<td>1.75 in. (44.5mm)</td>
<td>0.50 in. (13mm)</td>
<td>0.50 in. (13mm)</td>
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<td>Maximum No. of Pins</td>
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<td>21</td>
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<td>Custom Software</td>
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<td>Continuous Characters</td>
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<td>Custom Software</td>
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<td>2-D Codes</td>
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<td>Yes</td>
<td>Custom Software</td>
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<td>Serialization</td>
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<td>Date Codes</td>
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<td>Surface Irregularities</td>
<td>Up to 0.25” (6mm)</td>
<td>Up to 0.25” (6mm)</td>
<td>Up to 0.25” (6mm)</td>
<td>Up to 0.25” (6mm)</td>
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<td>User Defined Custom Fonts</td>
<td>Optional Software</td>
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<td>Host Interface</td>
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<td>Resolution</td>
<td>Up to 200 dpi (79 dpcm)</td>
<td>Up to 200 dpi (79 dpcm)</td>
<td>Up to 200 dpi (79 dpcm)</td>
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<td>Power</td>
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<td>Air Supply</td>
<td>60-100 PSIG (4.1-6.9 Bars)</td>
<td>60-100 PSIG (4.1-6.9 Bars)</td>
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**Page 42**
<table>
<thead>
<tr>
<th>Model</th>
<th>Fixtured Applications in Wet or Dirty Environments</th>
<th>8-Pin Marking Head for Extremely Cost-Effective High Speed On-Line Applications</th>
<th>Nearly Silent, Moderate Penetration Scribe Marking</th>
<th>Nearly Silent, Deep Penetration Scribe Marking</th>
<th>Stand-Alone Benchtop Applications</th>
<th>Stand-Alone Hand-Held Applications</th>
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<tbody>
<tr>
<td>TMM4250</td>
<td>TMM5400</td>
<td>SC3500</td>
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<td>BenchMark®320</td>
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</tr>
</tbody>
</table>

- **0.001-0.013 in. (0.03-0.33mm)**
  - **0.001-0.013 in. (0.03-0.33mm)**
  - **0.001-0.010 in. (0.03-0.25mm)**
  - **Varies**
  - **Varies**
  - **0.001-0.010 in. (0.03-0.25mm)**
  - **0.001-0.010 in. (0.03-0.25mm)**

- **Moderate**
  - **Moderate**
  - **Moderate**
  - **Very Low**
  - **Very Low**
  - **Moderate**
  - **Moderate**

- **No**
  - **No**
  - **No**
  - **No**
  - **No**
  - **No**
  - **No**

- **Up to 8 Char./Sec.**
  - **Up to 6 Char./Sec.**
  - **Up to 32 Char. in 2 Seconds**
  - **Up to 2 Char./Sec.**
  - **Up to 4 Char./Sec.**
  - **Up to 5 Char./Sec.**

- **0.50 x 2.00 in. (13 x 50mm)**
  - **1.50 x 2.50 in. (38.1 x 63.5mm)**
  - **0.5 x 3.75 in. (12.7 x 96mm)**
  - **4 x 6 in. (100 x 150mm)**
  - **2.5 x 7.5 in. (63.5 x 190.5mm)**
  - **4 x 6 in. (100 x 150mm)**
  - **1 x 4 in. (25 x 100mm)**

- **0.50 in. (12.7mm)**
  - **1.50 in. (38.1mm)**
  - **0.5 in. (12.7mm)**
  - **4 in. (100mm)**
  - **2.5 in. (63.5mm)**
  - **4 in. (100mm)**
  - **1 in. (25mm)**

- **4**
  - **1**
  - **8**
  - **1**
  - **1**
  - **1**
  - **1**

- **Yes**
  - **Yes**
  - **Yes**
  - **Yes**
  - **Yes**
  - **Yes**
  - **Yes**

- **Optional Software**
  - **Optional S.W.**
  - **Optional Software**
  - **Optional Software**
  - **Optional Software**
  - **Optional Software**
  - **Optional Software**
  - **Optional Software**

- **Yes**
  - **Yes**
  - **Yes**
  - **Yes**
  - **Yes**
  - **Yes**
  - **Yes**

- **Up to 200 dpi (79 d/cm)**
  - **Up to 200 dpi (79 d/cm)**
  - **Continuous**
  - **Continuous**
  - **Continuous**
  - **Continuous**
  - **Continuous**

- **115 or 220 VAC**
  - **115 or 220 VAC**
  - **115 or 220 VAC**
  - **115 or 220 VAC**
  - **115 or 220 VAC**
  - **115 or 220 VAC**
  - **115 or 220 VAC**

- **60-100 PSIG (4.1-6.9 Bars)**
  - **60-100 PSIG (4.1-6.9 Bars)**
  - **60-100 PSIG (4.1-6.9 Bars)**
  - **60-100 PSIG (4.1-6.9 Bars)**
  - **60-100 PSIG (4.1-6.9 Bars)**
  - **None**
  - **None**

- **Optional**
  - **Optional**
  - **Optional**
  - **Optional**
  - **Optional**
  - **Optional**
  - **Optional**
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