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 Nd:YAG, Nd:YVO₄, CO₂, Diode-Pumped and Pulsed-Fiber 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 ECLIPSE® Lamp-Pumped Nd:YAG laser is designed for high speed, deep to shallow marking on hard surfaces. Extremely fast, ECLIPSE® is the choice for marking titanium and other high strength alloys, medical implants and hard plastics. The SABRE® 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 XPRESS™ Diode-Pumped and ZENITH® Nd:YAG, Nd:YVO₄ and 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™ NT and 2000 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.
Service and Support ................................................................. Page 4

ECLIPSE® Nd:Yag Lasers .......................................................... Page 5
For the ultimate in high speed, high quality marking of hard surfaces and materials.

SABRE® CO2 Lasers .................................................................. Page 6
Available in 10, 30, and 50 watt configurations, Sabre® is the choice for marking substrates like wood, glass, ceramics and fabrics.

ZENITH® 50 Watt Nd:Yag Diode-Pumped Lasers ....................... Page 7
Choose the Zenith® 50 watt for high speed, high quality marking on a variety of surfaces.

ZENITH® 10FQ and 20FQ Pulsed Fiber Lasers ......................... Pages 8 and 9
Select the ZENITH® 10FQ for low to medium speed applications and the ZENITH® 20FQ when higher power/faster process speeds are required. The 20FQ features upgraded power, and both lasers offer the long-term safeguard of a built-in, polarization/optical isolator.

Xpress™ Laser Marking Systems ............................................. Pages 10 and 11
These Diode-Pumped, Solid State Laser Marking Systems are extremely reliable, low cost alternatives to other laser designs.

Gemini™ 10FQ and 20FQ Pulsed Fiber to Fiber Lasers ............... Page 12
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.

Merlin®II LS Laser Software .................................................... Page 13
Designed to drive all core Telesis Laser Products. Simply highlight, click and mark!

Laser Marking System Selection Guide .................................. Pages 14 and 15

TMP6100/090 PINSTAMP® Marking System ............................. Page 16
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.

TMC090 Marking System Controller ........................................ Page 17
Compact design features WIN 32 Merlin®II interface and virtually unlimited pattern storage capacity.

Merlin®II Visual Design Software ............................................. Page 17
Telesis’ new WIN 32 Merlin® II 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.

TMP1700/420 and TMP1700/090 PINSTAMP® Marking Systems .................................................. Page 18
The TMP1700/420 and TMP1700/090 are the lowest cost PINSTAMP® Marking Systems. The rugged Single Pin 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.

TMP4210/420 PINSTAMP® Marking System ............................. Page 19
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.

TMP3200/420 and TMP3200/090 PINSTAMP® Marking Systems .................................................. Page 20
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.
# TABLE of CONTENTS

**TMC420 Marking System Controller** ................................................................. Page 21
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.

**TMM5400/420 PINSTAMP® Marking System** ..................................................... Page 22
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.

**TMM4200/420 PINSTAMP® Marking System** ...................................................... Page 23
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.

**TMM4250/420 PINSTAMP® Marking System** ..................................................... Page 24
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.

**TMM5100/420 PINSTAMP® Marking System** ..................................................... Page 25
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.

**TMM7200 PINSTAMP® Marking System** ........................................................ Page 26
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.

**SC3500/420 TeleScribe® Marking System** ....................................................... Page 27
An extremely quiet, economically priced Scribe Marker for automated or benchtop applications. Features a 4” x 6” (100 x 150mm) marking window.

**SC5000/420 TeleScribe® Marking System** ....................................................... Page 28
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.

**BenchMark® 320 Benchtop Marking System** ................................................. Page 29
Extremely affordable, portable BenchMark® has a unique marking arm design, electromechanical marking pin.

**BenchMark® 460 Hand-Held Marking System** ............................................. Page 30
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.

**IdentiPlate® DPP2000 Data Plate Printer** ...................................................... Page 31
Fast, flexible data plate printer can automatically feed and print a variety of plate sizes and thicknesses.

**2-D and UID Code Marking and Verification** .............................................. Page 32
2-D and UID Code applications, where accurately marked codes are the key to readability.

**Product Options and Custom Engineered Solutions** ................................ Page 33
Choose from a variety of options and customized solutions to enhance your Telesis Marking System.

**Impact Pin Selection Guide** ........................................................................ Pages 34 and 35

**PIN Marking System Selection Guide** ......................................................... Pages 36 and 37
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.

Component Exchange Programs
Should your Telesis System need out of warranty factory repair, we can provide a Loaner System for a nominal fee. This innovative program helps avoid downtime. If repairs or upgrades to your original marking system are cost prohibitive, the loaner system may be purchased at a reduced exchange price. Call us for a complete, up-to-date price listing of Exchange Marking Heads and Controller Options.

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.
For the Ultimate in High Speed, High Quality Product Identification, the Lamp-Pumped ECLIPSE® 100LY 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.

**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 . ............................................. .02 to 197 in/sec (0.5 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**

- 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 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

**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 (1.8” x 1.8”)</td>
<td>97mm (3.82”)</td>
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<tr>
<td>160mm</td>
<td>90mm x 90mm (3.5” x 3.5”)</td>
<td>176mm (6.93”)</td>
</tr>
<tr>
<td>163mm</td>
<td>110mm x 110mm (4.3” x 4.3”)</td>
<td>185mm (7.28”)</td>
</tr>
<tr>
<td>254mm</td>
<td>155mm x 155mm (6.1” x 6.1”)</td>
<td>296mm (11.65”)</td>
</tr>
<tr>
<td>* 330mm</td>
<td>215mm x 215mm (8.4” x 8.4”)</td>
<td>387mm (15.23”)</td>
</tr>
<tr>
<td>* 420mm</td>
<td>275mm x 275mm (10.8” x 10.8”)</td>
<td>493mm (19.40”)</td>
</tr>
</tbody>
</table>

* Application dependent

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
Available in 10, 30 and 50 watt configurations, SABRE® can mark substrates like wood, glass, plexiglass, quartz, ceramics, even fabrics and other organic materials.

**FEATURES**
- Unique, Single Rail Design for Easy Alignment and Increased Power
- Compact Marking Head with Two Piece Cover and Simple Mounting System
- Hand Held Pendant for Convenient Remote Operation
- Co-Axial Red Pointer Diode for Pin Point Marking Alignment
- TELESIS DESIGNED Fixed Beam Expansion and Shutter Assembly
- DETACHABLE 6’ Laser End Umbilical Cable
- Air-cooled — No External DI Water Needed
- Keyswitch, E-Stop Manual Safety Shutter and Emission Light

*All Marking Head Components and Assembly Warranted for One Year*

**SPECIFICATIONS**

Compliance ...................................................... CDRH, CE, UID
Laser Type .................................................. CO₂, Self-contained
Wavelength .................................................... 10.6 Micrometers
Wattage ............................................................ 10W, 30W, 50W
Control ...................................................... Proprietary Laser Controller
Computer ...................................................... 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
Operating System .................... Windows® NT or Windows® 2000
Operator Interface................. Graphical User Interface [proprietary]
Marking Alignment ....................... Coaxial Red Diode
Safety ......................................................... Interlocked Safety Shutter, Emission Light,
Keyswitch, Emergency Stop Palm Button
Electrical ...................................................... 110 Volts, Single Phase
Cooling ............................................................ Air Cooled
Environmental ................. 10° C to 25° C, 90% Relative Humidity — Non-Condensing

**DIMENSIONS**

Controller .................................................. 17” W x 7” H x 20” D
Laser [30W] ........................................ 5.83” W x 8.2” H x 38.5” L
Laser [50W] ........................................ 5.8” W x 8.2” H x 50” L
Umbilical Length ......................... 6 Feet [detachable]

**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>70mm x 70mm (2.7” x 2.7”)</td>
<td>81mm (3.18”)</td>
</tr>
<tr>
<td>150mm</td>
<td>100mm x 100mm (4.0” x 4.0”)</td>
<td>131mm (5.15”)</td>
</tr>
<tr>
<td>200mm</td>
<td>140mm x 140mm (5.5” x 5.5”)</td>
<td>184mm (7.24”)</td>
</tr>
<tr>
<td>250mm</td>
<td>170mm x 170mm (6.6” x 6.6”)</td>
<td>233mm (9.17”)</td>
</tr>
<tr>
<td>300mm</td>
<td>205mm x 205mm (8.0” x 8.0”)</td>
<td>283mm (11.14”)</td>
</tr>
<tr>
<td>360mm</td>
<td>250mm x 250mm (9.8” x 9.8”)</td>
<td>351mm (13.8”)</td>
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</tbody>
</table>

* Application dependent

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
The diode-pumped ZENITH® 50SY 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

LENS CONFIGURATIONS AVAILABLE

<table>
<thead>
<tr>
<th>Focal Length</th>
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<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>
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<tr>
<td>160mm</td>
<td>90mm x 90mm</td>
<td>(3.5&quot; x 3.5&quot;)</td>
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<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>
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</table>

* Application dependent

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

Select the ZENITH® 10FQ for low to medium speed applications and the ZENITH® 20FQ when higher power/faster process speeds are required. The 20F 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 ZENITH® 10FQ ........................................ 10 Watts
Average Power ZENITH® 20FQ ........................................ 20 Watts
Long term Output Power ............................................. <5% Instability
Peak Power ZENITH® 10FQ ........................................... >4KW
Peak Power ZENITH® 20FQ ........................................... >8KW
Beam Quality .............................................................. M² < 2
Fiber Length ZENITH® 10FQ .......................................... 5 Meters (16 ft) Std.
Fiber Length ZENITH® 20FQ .......................................... 3 Meters (9.8 ft) Std.
Optical Isolator ZENITH® 10FQ ................................. Optional
Optical Isolator ZENITH® 20FQ ................................. Standard
Positioning ................................................................. Visible Red Diode Light. 636nm

Marking Speed ........................................... Raster = 300 CPS; Vector>500 CPS
Input Power ............................................................ Selectable 115VAC / 230VAC, 50/60HZ
Cooling ................................................................. Air Cooled, Fan/Filter
(no water cooling required)
Operating Temperature Range ............. 10° to 42° C Non-Condensing
(50°F to 107°F)
Expected MTBF (diode) ................................ Greater than 50,000 hrs.
maintenance free

Zenith® 10FQ
PULSED FIBER TO FIBER

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

Example — Laser marking on Coated Label Stock

Customized Part Handling Options Available
Zenith® 20FQ
YTTERBIUM LASER SYSTEMS

**DIMENSIONS**

**ZENITH® 10FQ Marking Head**...11.8cm(W) x 17cm(H) x 30.2 cm (L)
(4.96” W x 6.7” H x 11.9”L)
Weight 3.8Kg (8 lbs.)

**ZENITH® 10FQ Laser Controller**...Standard Rack Mount
48.3cm (W) x 20cm (H) x 60 cm (L)
(19”W x 7.8”H x 23.6”L) Weight 24Kg (53 lbs.)

**ZENITH® 20FQ Marking Head**...11.8cm(W) x 17cm(H) x 70 cm (L)
(4.96” W x 6.7” H x 17.9”L)
Weight 7.7Kg (17 lbs.)

**ZENITH® 20FQ Laser Controller**...Standard Rack Mount
48.3cm (W) x 20cm (H) x 60 cm (L)
(19”W x 7.8”H x 23.6”L) Weight 30Kg (66 lbs.)

**LENSES CONFIGURATIONS AVAILABLE**

<table>
<thead>
<tr>
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</tr>
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<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>
</tbody>
</table>

* Application dependent

**SOFTWARE**

- **Software**...Merlin® II LS
- **Operating System**...Windows™ 2000, XP, Desktop PC (Std), Optional Laptop
- **Font Generation**...True Type Fonts
- **Barcodes 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

Powered by 110/230VAC with no water-cooling requirements, these units are extremely dependable over a long life, and are backed by a full TWO-YEAR factory warranty on the diode light source — one of the longest warranties in the laser industry.

“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

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

Example — Laser marking on Coated Label Stock
The Xpress Model 5EY Diode-Pumped, Solid-State Laser Marking System is an extremely reliable, low cost alternative to other laser designs.

Features include a CW/ 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 Xpress Model 5EY is a flexible, compact, low maintenance, easily integrated package.

**Model 5EY Specifications**

<table>
<thead>
<tr>
<th>Laser Specs</th>
<th></th>
</tr>
</thead>
<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:YAG Laser</td>
</tr>
<tr>
<td>Q-Switch Frequency</td>
<td>1 KHz to 100 KHz</td>
</tr>
<tr>
<td>Pulse Width (Duration)</td>
<td>30 nanoseconds (ns)</td>
</tr>
<tr>
<td>Mode</td>
<td>TEM0</td>
</tr>
<tr>
<td>CW Average Power</td>
<td>Less than 7 W</td>
</tr>
<tr>
<td>Long Term Output Power Stability</td>
<td>Less than + 2%</td>
</tr>
<tr>
<td>Lens (Std)</td>
<td>160mm Focal Length 110mm x 110mm Field, (4.33&quot; x 4.33&quot;)</td>
</tr>
<tr>
<td>Lens (Std)</td>
<td>100mm Focal Length 65mm x 65mm Field, (2.56&quot; x 2.56&quot;)</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>
</tr>
<tr>
<td>Humidity</td>
<td>10% to 85% Non-condensing</td>
</tr>
<tr>
<td>Expected MTBF</td>
<td>20,000 hours maintenance-free diode pumping source</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) (12.5&quot; x 6.17&quot; H x 16.885&quot;L)</td>
</tr>
<tr>
<td>Input Power (Selectable)</td>
<td>15/230 VAC, 50/60 Hz</td>
</tr>
<tr>
<td>Optical Fiber Umbilical Length</td>
<td></td>
</tr>
<tr>
<td>Rail to Controller</td>
<td>1.37 Meters(4.53 feet) Std.</td>
</tr>
<tr>
<td>Xpress Controller</td>
<td>Std. Rack mount</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
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<th>Software</th>
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<tr>
<td>Software</td>
<td>Merlin II LS®</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows™ 2000, XP Desktop PC (Std) Optional Laptop</td>
</tr>
<tr>
<td>Font Generation</td>
<td>True Type Fonts</td>
</tr>
<tr>
<td>Barcodes and Matrix</td>
<td>2D Data Matrix™, PDF417, BC 39, Interleaved 2 of 5, UPC/UPCE BC 128, Maxi Code, Code 93, QR Code and Others</td>
</tr>
<tr>
<td>Graphic Formats</td>
<td>.BMP, .GIF, .JPG, .WMF, .EMF, .PLT, .DXF</td>
</tr>
<tr>
<td>Serialization</td>
<td>Automatic and Manual Input Host Interface Capable</td>
</tr>
<tr>
<td>Linear Marking</td>
<td>Scalable with Letter Spacing Control</td>
</tr>
<tr>
<td>Arc Text Marking</td>
<td>Scalable and Adjustable</td>
</tr>
<tr>
<td>Drawing Tools</td>
<td>Line, Rectangle, Circle</td>
</tr>
<tr>
<td>Interface</td>
<td>Serial, I/O and Host Capable</td>
</tr>
</tbody>
</table>

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
The Model EP is an advanced Nd:YVO₄, fiber-coupled diode end-pumped laser marking system for applications requiring high beam quality and stability. The Model EP 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 Specs**

- **Compliance**: CDRH, CE, UID
- **Wavelength**: 1,064 nm
- **Laser Type**: Fiber-coupled diode end-pumped, Q-switched Nd:YVO₄ laser
- **Q-Switch Frequency**: 1 KHz to 100 KHz
- **Pulse Width (Duration)**: 30 nanoseconds (ns)
- **Model**: TEM₀₀
- **CW Average Power**: 7 W
- **Long Term Output Power Stability**: Less than + 2%
- **Lens (Std]**: 160mm Focal Length, (4.33” x 4.33”)
- **Lens (Std)**: 100mm Focal Length, (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
- **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)
- **Input Power (selectable)**: 115/230 VAC 50/60 Hz
- **Optical Fiber Umbilical Length Rail to Controller**: 1.37 Meters (4.53 feet) Std.
- **Xpress 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®, Windows™ 2000, XP Desktop PC (Std) Optional Laptop
- **Operating System**: Windows™, 2000, XP
- **Font Generation**: True Type Fonts
- **Barcode 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**: .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, Ellipse Interface Serial, I/O and Host Capable

**SYSTEM CONTROLLER**

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
The GEMINI™ series from TELESIS features an advanced, dual-scan marking head, based on our successful ZENITH® 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 GEMINI™ 10FQ and 20FQ are excellent choices for scribing, trimming and a variety of material processing applications.

**FEATURES**

- Reliable, 50,000 hours plus 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 throughout
- 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

**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
(for Gemini 20FQ) ................................. 10 Watts (combined 20Watts)
Average power per scan head
(for Gemini 10FQ) ................................. 5 Watts (combined 10Watts)
Beam quality ............................................. M2 < 2
Long term power stability .............................. less than ± 5%
Positioning........................................... two red diodes
Fiber optic cable length
(for Gemini 20FQ) ......................... 3 meters (9.8 feet)
Fiber optic cable length
(for Gemini 10FQ) ......................... 5 meters (16.4 feet)
Cooling ................................................... Air cooled
Max. Power Consumption
(for Gemini 20FQ) ............................... less than 550W
Max. Power Consumption
(for Gemini 10FQ) ............................... less than 450W
Operating Range ................. 10° to 35°C (50° to 95°F)
Humidity ............................................. 10% to 85% non-condensing
Expected MTBF .......... 50,000 hours maintenance-free diode pumping source
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
(with 160mm lenses) ....................... approx. 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
This powerful Merlin® II Visual Design Software is capable of driving any of the core Telesis Laser Products — Eclipse®, Sabre®, XPRESS™ or Zenith®. 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® NT and 2000 Platforms
- 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

STANDARD and CUSTOM LASER WORKSTATIONS AVAILABLE
<table>
<thead>
<tr>
<th>LASER SYSTEMS/ APPLICATIONS</th>
<th>Zenith®10FQ</th>
<th>Zenith®20FQ</th>
<th>Gemini™ 10FQ &amp; 20FQ</th>
<th>Xpress™ 5EY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1070 nm wavelength; air cooled; single phase; compact footprint; 50,000 hour average diode life; Q-switched 10 watt fiber laser marker</td>
<td>1070 nm wavelength; air cooled; single phase; compact footprint; 50,000 hour average diode life; Q-switched 20 watt fiber laser marker</td>
<td>1070 nm wavelength; air cooled; single phase; compact footprint; 50,000 hour average diode life; Q-switched 10 watt or 20 watt dual scanhead fiber laser marker (each scanhead delivers 5 watts or 10 watts)</td>
<td>1064 nm wavelength; air cooled; single phase; compact footprint; 20,000 hour average diode life; end pumped Q-switched 5 watt Nd:YAG laser marker</td>
<td></td>
</tr>
<tr>
<td>Marking metals</td>
<td>Marks almost every metal. Colored metals (copper, brass, etc.) will be more difficult to mark.</td>
<td>Marks almost every metal. Colored metals (copper, brass, etc.) will be more difficult to mark. Higher throughput than Zenith® 10FQ.</td>
<td>Marks almost every metal. Dual lens capability for higher throughput. Colored metals (copper, brass, etc.) will be more difficult to mark.</td>
<td>Marks almost every metal. Marks colored metals (copper, brass etc.) faster than Zenith® 10FQ due to higher peak power. Otherwise, slightly longer marking times than Zenith® 10FQ.</td>
</tr>
<tr>
<td>Marking plastics and label materials (3M, Tesa, etc)</td>
<td>Good choice for high contrast marks on many plastics and label materials. Relatively long pulse width (about 100ns) can cause some plastic surfaces to melt.</td>
<td>Good choice for high contrast marks on many plastics and label materials. Relatively long pulse width (about 100ns) can cause some plastic surfaces to melt. Will mark slightly faster than the Zenith® 10FQ.</td>
<td>Good choice for high contrast marks on many plastics and label materials. Relatively long pulse width (about 100ns) can cause some plastics to melt. Dual lens capability for higher throughput.</td>
<td>Excellent choice for high contrast marks on many plastics and label materials. Can mark more plastics and label materials than ZENITH® 10FQ and 20FQ because of higher peak power and shorter pulse width (about 20ns).</td>
</tr>
<tr>
<td>Chemical marking</td>
<td>Marks metals, glass and other materials using chemical marking technique.</td>
<td>Marks metals, glass and other materials using chemical marking technique.</td>
<td>Marks metals, glass and other materials using chemical marking technique.</td>
<td>Marks metals, glass and other materials using chemical marking technique.</td>
</tr>
<tr>
<td>Workstation</td>
<td>Optional</td>
<td>Optional</td>
<td>Custom</td>
<td>Optional</td>
</tr>
</tbody>
</table>
### Laser Marking System Selection Guide

#### Xpress™ EP
- 1064 nm wavelength; air cooled; single phase; compact footprint; 20,000 hour average diode life; end pumped Q-switched 7 watt Nd:YVO4 laser marker

- Marks almost every metal. Faster marking than Xpress™ 5EY, especially if material is sensitive (i.e., a thin steel foil).
- Can mark many plastics and label materials.
- Can't mark wood or glass. Can mark some other organic materials.
- Marks metals, glass and other materials using chemical marking technique.
- Can mark high quality graphics.
- Optional

#### Zenith® 50SY
- 1064 nm wavelength; close loop water cooled; single phase; medium footprint; 10,000 hour average diode life; side pumped Q-switched 50 watt Nd:YAG laser marker

- Marks almost every metal. Higher average power for shorter cycle time than Zenith 10FQ. Shorter cycle time than Zenith® 20FQ in some applications.
- Can mark many plastics and label materials.
- Can't mark wood or glass. Can mark some other organic materials.
- Marks metals, glass and other materials using chemical marking technique.
- Can mark high quality graphics.
- Custom

#### Eclipse® 100LY
- 1064 nm wavelength; water cooled; single phase; large footprint; 800 hour average lamp life; lamp pumped Q-switched 90 watt Nd:YAG laser marker

- Marks some anodized, coated or painted metals with short focal length lenses. Otherwise, used mainly for marking organic materials.
- Can mark many plastics and label materials.
- Can't mark wood or glass. Can mark some other organic materials.
- Marks metals, glass and other materials using chemical marking technique.
- Can mark high quality graphics.
- Optional

#### Sabre® 10 watt CO2
- 10600 nm wavelength; air cooled; single phase; compact footprint; 20,000 hour average tube life; 10 watt CO2 laser marker

- Marks some anodized, coated or painted metals with short focal length lenses. Otherwise, used mainly for marking organic materials.
- Can mark many plastics and label materials.
- Can't mark wood or glass. Can mark some other organic materials.
- Marks metals, glass and other materials using chemical marking technique.
- Can mark high quality graphics.
- Custom

#### Sabre® 30 watt CO2
- 10600 nm wavelength; air cooled; single phase; compact footprint; 20,000 hour average tube life; 30 watt CO2 laser marker

- Marks most plastics and label materials. Shorter marking cycle times than the SABRE® 10CO2 in some applications.
- Can mark many plastics and label materials.
- Can't mark wood or glass. Can mark some other organic materials.
- Marks metals, glass and other materials using chemical marking technique.
- Can mark high quality graphics.
- Custom

#### Sabre® 50 watt CO2
- 10600 nm wavelength; air cooled; single phase; compact footprint; 20,000 hour average tube life; 50 watt CO2 laser marker

- Marks some anodized, coated or painted metals with short focal length lenses. Otherwise, used mainly for marking organic materials.
- Can mark many plastics and label materials.
- Can't mark wood or glass. Can mark some other organic materials.
- Marks metals, glass and other materials using chemical marking technique.
- Can mark high quality graphics.
- Custom

### For all applications, it is highly recommended that samples be sent to Telesis for qualification and testing purposes.
PINSTAMP® SINGLE PIN MARKING SYSTEM

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) (see chart on pages 30 - 31)
- Pin travel accommodates surface irregularities to .25” (6mm)
- Compact TMC090 controller with WIN 32 Merlin® II graphical user interface (see page 17)
- RS232 or TCP/IP 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)
- Virtually unlimited marking pattern (File) storage capacity
- Mark straight line text, angled text, arc text, circles, boxes, ellipses, lines and arcs; import logos as DXF 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
- Optional TMP6100/090EAS configuration is available with electromechanical marking pin and autoseNSE Z-axis.

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

• Compact 11.4" W x 10.2" D x 2.9" H (290 x 259 x 74mm) footprint is convenient for table-top or integrated applications

• Use in conjunction with any PC with a USB port running on Windows® 98, 2000, Millennium or XP

• RS232 or TCP/IP Host Port via PC for interface to Host Computer or Bar Code Scanner

• “Start Print” and “Abort Print” signals from a simple contact closure

• 12-24 VDC “Start Print”, “Abort,” “Read” and “Done” I/O Signals

• Conforms to all European Community (CE) norms

• Operates on 100-130 VAC or 200-250 VAC, 50-60 Hz Power

• Up to 15 different marking patterns remotely selectable via 12-24 VDC discrete inputs

• Available with TMP6100, TMP3200 and TMP1700 Marking Heads

Merlin® II VISUAL DESIGN SOFTWARE

Telesis’ powerful WIN 32 Merlin® II 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 17)
- Dot density up to 200 dots per inch (79 per centimeter)
- Choice of Interchangeable Marking Pin Types for depths from .001" - .018" (.03 - .45mm) (see chart on pages 34 - 35)
- 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 17)
- 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 21)
- 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 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 mm (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 21)
- 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 for easy software upgrade
- PC-Based Pattern (marking file) Back-up Utility available FREE from www.telesis.com

Compact TMC420 Controller features 4-line LCD Display — no PC required.

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
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 21)
- 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 17)
- 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 21)
- 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.

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

**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, TMM4250, 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 (see page 21)
• 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 21)
• 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 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 21)
- 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 21)
- 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 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.

**FEATURES**

- 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 TMC420 Controller features 4-line LCD Display — no PC required (see page 21)
- 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 21)
- 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
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 21)
- 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**

- Panel-mount and IP/NEMA-Rated Controllers (see page 21)
- 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.

**Pin travel accommodates surface irregularities to .25″ (6mm)**

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**TELESIS**

Product Identification & Process Solutions

**TMM5100/420**

**PINSTAMP® MULTIPLE PIN MARKING SYSTEM**
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 21)
- 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 21)
- 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 21)
- 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 21)
- 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
- 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 for easy software upgrade
- PC-Based Pattern (marking file) Back-up Utility available FREE from www.telesis.com

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

Compact, BenchMark® Controller with rubber keyboard features 4-line LCD Display — no PC required
The fast, flexible DPP2000 automatically feeds and prints metal data plates in a wide range of sizes and thicknesses. This fully programmable, table-top unit prints multiple character sizes from .03" to 4.00" (.76 to 101.6mm) on a single plate using Telesis’ patented, low maintenance floating pin technology. Marking pattern design is quick and easy with DPP2000 user-friendly software.

**FEATURES**

- Character height programmable from .03" to 4.00" (.76 to 101.6mm)
- Dot matrix or continuous line characters
- Compact, table-top design
- Easily adjustable plate feed magazine accommodates plate sizes from 3/4" x 1-1/4" (19 x 31mm) to 4" x 5" (101 x 127mm) and thicknesses from 0.02" to 0.07" (.05 to 1.7mm)
- Automatically feed up to 250 data plates per batch (varies with plate thickness)
- No expensive tooling to wear out
- Long lasting, inexpensive, pneumatically driven marking pin is easy to replace
- Stores up to 75 patterns for instant access. No need to repeat pattern setups
- RS232/485 serial port for data entry via optional Bar Code Scanner or Host Computer
- Rugged data entry terminal with four-line LCD display
- Automatic serialization, date and shift coding, including user defined codes
- Discrete I/O for START PRINT, ABORT, PRINTING, and DONE signals

**OPTIONAL ACCESSORIES**

- Choose VS2000 software to back-up, design and edit patterns on a personal computer
- Bar code scanner for data entry
- Restacker neatly and automatically stacks data plates after marking
- Pre-load additional plate feed magazines for nearly continuous operation

Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements
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 (as adopted by the International Aerospace Quality Group)
- AIAG B-4
- AIAG B-17
- NASA-STD-6002
- NASA-STD-HDBK-6003
- Department of Defense Guide to Uniquely Identifying Items (UID)
- 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.

**PRODUCT OPTIONS**

Telesis is the leader in custom engineered/factory integrated marking technology. Whether it’s a fully auto-mated 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.

- **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**

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>
</tr>
</thead>
<tbody>
<tr>
<td>25S</td>
<td>22°</td>
<td>Carbide, Powdered Metal</td>
<td>1.8”</td>
<td>0.19”</td>
<td>0.09”</td>
</tr>
<tr>
<td></td>
<td>30°</td>
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<td>45mm</td>
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<td>45°</td>
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<td></td>
<td>60°</td>
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</tr>
<tr>
<td>25L</td>
<td>22.5°</td>
<td>Carbide, Powdered Metal</td>
<td>2.2”</td>
<td>0.19”</td>
<td>0.09”</td>
</tr>
<tr>
<td></td>
<td>30°</td>
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<tr>
<td>25XL</td>
<td>22.5°</td>
<td>Carbide, Powdered Metal</td>
<td>2.5”</td>
<td>0.19”</td>
<td>0.09”</td>
</tr>
<tr>
<td></td>
<td>30°</td>
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<td>60°</td>
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</tr>
<tr>
<td>25XLE</td>
<td>30°</td>
<td>Carbide</td>
<td>1.8”</td>
<td>0.16”</td>
<td>0.09”</td>
</tr>
<tr>
<td></td>
<td>45°</td>
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<td>46mm</td>
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<tr>
<td>101</td>
<td>30°</td>
<td>Carbide, Powdered Metal</td>
<td>3.9”</td>
<td>0.31”</td>
<td>0.15”</td>
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<tr>
<td></td>
<td>45°</td>
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<td>99mm</td>
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<td></td>
<td>60°</td>
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<td></td>
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</tr>
<tr>
<td>150S</td>
<td>30°</td>
<td>Powdered Metal, Carbide-Tipped</td>
<td>2.75”</td>
<td>0.62”</td>
<td>0.37”</td>
</tr>
<tr>
<td></td>
<td>45°</td>
<td></td>
<td>70mm</td>
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<td></td>
<td>60°</td>
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<tr>
<td>150SA</td>
<td>30°</td>
<td>Carbide-Tipped</td>
<td>2.75”</td>
<td>0.62”</td>
<td>0.37”</td>
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<td></td>
<td>45°</td>
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<td>70mm</td>
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<tr>
<td>150</td>
<td>30°</td>
<td>Powdered Metal</td>
<td>5.25”</td>
<td>0.62”</td>
<td>0.37”</td>
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<td></td>
<td>45°</td>
<td></td>
<td>133.4mm</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.
## IMPACT PIN SELECTION GUIDE

<table>
<thead>
<tr>
<th>MARKERS</th>
<th>APPLICATIONS</th>
<th>NOMINAL STROKE LENGTH</th>
<th>TYP. MAX Depth of Mark**</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMP4210</td>
<td>Extremely fast, limited penetration marking.  For marking small characters on relatively smooth surfaces. Pneumatically driven.</td>
<td>0.38&quot;  9.6mm</td>
<td>0.0025-0.011&quot;  0.06-0.28mm</td>
</tr>
<tr>
<td>TMM5400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TMP3200</td>
<td></td>
<td></td>
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<tr>
<td>TMM4200</td>
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<tr>
<td>TMM4250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TMP6100</td>
<td>Fast, limited penetration marking.  For marking small characters on relatively smooth surfaces. Pneumatically driven.</td>
<td>0.50&quot;  12.7mm</td>
<td>0.0025-0.016&quot;  0.06-0.40mm</td>
</tr>
<tr>
<td>TMM5100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TMP1700</td>
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<td></td>
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<tr>
<td>TMP3200</td>
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<tr>
<td>TMM7200</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>TMP6100</td>
<td>Similar to 25L. Extra length for recessed or hard to reach marking surfaces. Pneumatically driven.</td>
<td>0.50&quot;  12.7mm</td>
<td>0.0025-0.016&quot;  0.06-0.40mm</td>
</tr>
<tr>
<td>TMM5100</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>TMM7200</td>
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<td></td>
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<tr>
<td>TMP1700</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TMM7200</td>
<td>For deep marks, large dots and characters, and/or rough surfaces. Pneumatically driven.</td>
<td>0.75&quot;  19mm</td>
<td>0.006-0.022&quot;  0.15-0.56mm</td>
</tr>
<tr>
<td>TMM5100</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>TMM7200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TMP6100</td>
<td>Similar to 101. High speed marking. Pneumatically driven.</td>
<td>0.25&quot;  6.35mm</td>
<td>0.006-0.022&quot;  0.15-0.56mm</td>
</tr>
<tr>
<td>TMM5100</td>
<td></td>
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<tr>
<td>TMM7200</td>
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<td>TMM4200</td>
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<td>TMP4210</td>
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<td>TMM4250</td>
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<td>TMM7200</td>
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<tr>
<td>TMM7200</td>
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</tr>
<tr>
<td>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&quot;  25.4mm</td>
<td>0.020-0.030&quot;  0.51-0.76mm</td>
</tr>
</tbody>
</table>

**Note:** Depth of Mark indicates the depth to which the pin penetrates the surface for each marker.
<table>
<thead>
<tr>
<th>FEATURES</th>
<th>TMP6100</th>
<th>TMM5100</th>
<th>TMP3200</th>
<th>TMM7200</th>
<th>TMM4200</th>
<th>TMP4210</th>
</tr>
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<tbody>
<tr>
<td>Controller</td>
<td>TMC090</td>
<td>TMC420</td>
<td>TMC420/TMC090</td>
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<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>
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<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>
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<td>Maximum Character Height</td>
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# PIN Marking System Selection Guide

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<th>TMM5400</th>
<th>SC3500</th>
<th>SC5000</th>
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<td>Fixtured Applications</td>
<td>in Wet or Dirty Environments</td>
<td>8-Pin Marking Head</td>
<td>Nearly Silent, Moderate Penetration</td>
<td>Nearly Silent, Deep Penetration Scribe Marking</td>
<td>Stand-Alone Benchtop Applications</td>
<td>Stand-Alone Hand-Held Applications</td>
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<td>0.5 x 3.78 in. (12.7 x 96mm)</td>
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</table>
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**TELESIS FRANCE**
Parc International, d’Entreprises Arlington
4 Boulevard Michael Faraday
77 716 MARNE LA VALLEE Cedex 4
Tel: +33 (0) 1 60.42.88.19 • Fax: +33 (0) 1 60.42.87.80

**TELESIS EAGLE**
Dolphin Street, Colyton, Devon UK, EX 24 6LU
Tel: +44 (0) 1297 551313 • Fax: +44 (0) 1297 551319

**TELESIS EUROPE b.V.**
Innsbruckweg 104, 3047 AH Rotterdam
THE NETHERLANDS
Tel: +31 (0) 1046 22136 • Fax: +31 (0) 1046 23863

**TELESIS MarkierSysteme GmbH**
Wülfingstrasse 6, D-42477 Radevormwald
GERMANY
Tel: +49 (0) 2191 609080
Fax: +49 (0) 2191 6090888

**TELESIS TAIWAN**
1F, No.175, Dexiang Rd., Nanzi District, Kaohsiung City 811, Taiwan
Tel.: +886-7-3686678 • Fax: +886-7-3680289

**TELESIS CHINA**
Building #1, 1st Floor, 180 Zhangheng Road
Zhangjiang Hi-Tech Park, Pudong New District
Shanghai 201204, China
Tel.: 021 5027 8851 • Fax: 021 5027 8852

**Michigan Office**
740 Welch Road
Commerce Twp., MI 48390
Phone: 248.624.4249 • Fax: 248.624.4431

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