Product Guide

MARK OF CONFIDENCE

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TELESIS

MARK OF CONFIDENCE

YOUR IDENTIFICATION AND PROCESSING SOLUTIONS SOURCE

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:YVO$_4$, CO$_2$, 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 CO$_2$ laser can mark a variety of industrial and consumer products. Materials like glass, plexiglass, plastics and acrylics, wood, leather, vinyl and rubber benefit from CO$_2$ 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 Vista™ 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.

GSA Advantage!
www.gsaAdvantage.gov

Contract No. GS-25F-0042R

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.
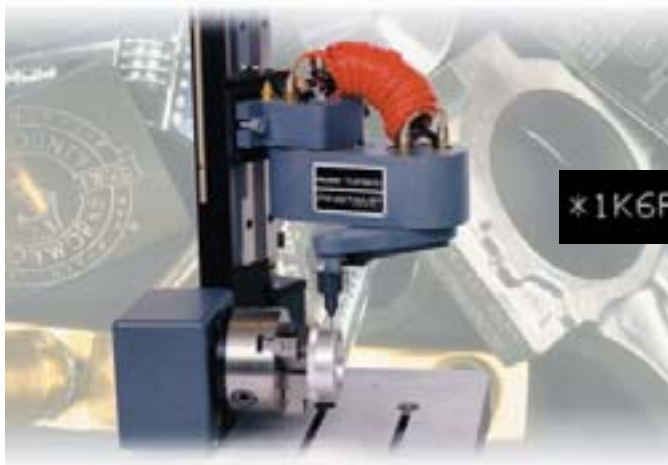
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CUSTOM ENGINEERED SOLUTIONS

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.

*Most Telesis Marking Systems are in compliance with the U.S. Department of Defense UID Requirements and ATA SPEC 2000 Aerospace Industry Standards for Data Matrix™ 2-D Code Parts Marking. Data Matrix™ is a registered trademark of Robotic Vision Systems, Inc.

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.

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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 capabilties, 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.

At Telesis, we're dedicated to support you for the life of your Marking System. We're with you 100% of the way.

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.

EV SERIES
EY5 Diode-Pumped Solid State Laser

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 ....TEM$_{00}$
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
Rail to Controller ....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
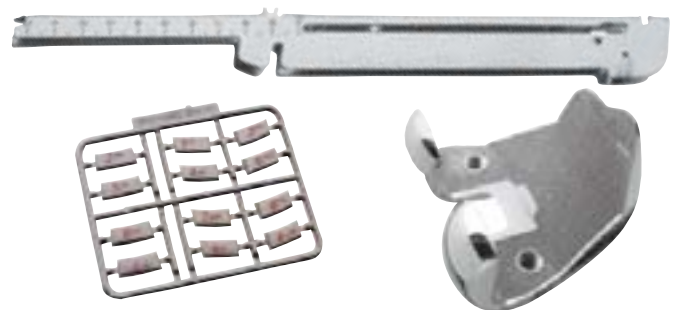
Features DATA MATRIX™ 2-D Code Marking Capability — Meets all Department of Defense UID Requirements

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EV SERIES
EV7 Diode-Pumped Solid State Laser

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
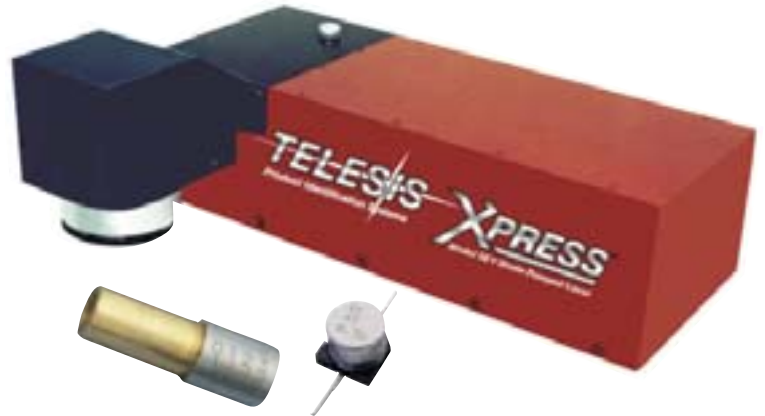
The EV7 laser has an average diode life of greater than 20,000 working hours, for outstanding reliability.

LASER SPECIFICATIONS

Compliance ....CDRH, CE, UID
Wavelength..…1,064 nm
Laser Type ....Fiber-coupled diode end-pumped, Q-switched Nd:YVO$_4$ laser
Q-Switch Frequency...1 KHz to 100 KHz
Pulse Width (Duration)....................................30 nanoseconds (ns)
Mode .... TEM$_{00}$
CW Average Power 7W
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)..............................115/230 VAC 50/60 Hz

Optical Fiber Umbilical Length Rail to Controller .... 1.37 Meters (4.53 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, 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

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")
Lens (Std)..100mm Focal Length
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 diode pumping source
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

EV4G Green Laser

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

Focal Length	Marking Field	Work Clearance
100mm	55 x 55mm (2.17 x 2.17")	90mm (3.54")
160mm	110 x 110mm (4.33 x 4.33")	176mm (6.93")
250mm	170 x 170mm (Y)	

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
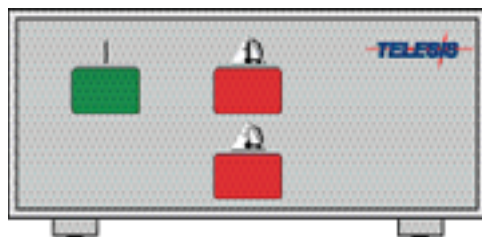
TEMPERATURE CONTROLLER

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

F-SERIES
FQ10 / FQ20 Fiber Lasers

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.

Example — Laser marking on Coated Label Stock

UNLEADED FUEL ONLY
ENDAST BLYFRI BENSIN
ESSENCE SANS PLOMB
BLEIFREIR KRAFTSTOFF
الوقود غير المعالج بالرصاص فقط

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 .... $M^2 < 2$

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..........10° to 42° C Non-Condensing (50° F to 107° F)

Expected MTTF (Diode) ....Greater than 100,000 hours

Customized Part Handling Options Available

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
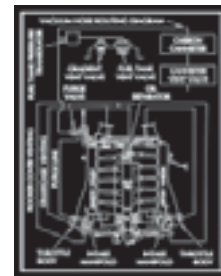
Example

Laser marking on
Coated Label Stock

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

Focal Length	Marking Field		Work Clearance	
100mm	45mm x 45mm	(1.8" x 1.8")	97mm	(3.82")
160mm	90mm x 90mm	(3.5" x 3.5")	176mm	(6.93")
163mm	110mm x 110mm	(4.3" x 4.3")	185mm	(7.28")
254mm	155mm x 155mm	(6.1" x 6.1")	296mm	(11.65")
* 330mm	215mm x 215mm	(8.4" x 8.4")	387mm	(15.23")
* 420mm	275mm x 275mm	(10.8" x 10.8")	493mm	(19.40")

* Application dependent

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 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

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FQ20DH Fiber Laser

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 (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

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

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

![TELESIS - MARK OF CONFIDENCE]

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

LENS CONFIGURATIONS AVAILABLE

Focal Length	Marking Field		Work Clearance	
100mm	45mm x 45mm	(1.8" x 1.8")	97mm	(3.82")
160mm	90mm x 90mm	(3.5" x 3.5")	176mm	(6.93")
163mm	110mm x 110mm	(4.3" x 4.3")	185mm	(7.28")
254mm	155mm x 155mm	(6.1" x 6.1")	296mm	(11.65")
* 330mm	215mm x 215mm	(8.4" x 8.4")	387mm	(15.23")
* 420mm	275mm x 275mm	(10.8" x 10.8")	493mm	(19.40")

* Application dependent

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

LY100
Lamp-Pumped Solid State Laser

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

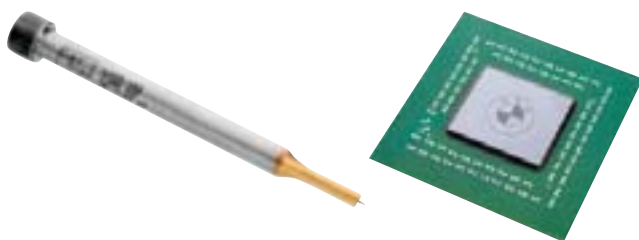- Unique, Straight INVAR Rail Design for Easy Alignment, Increased Power and Thermal Stability
- Lightweight, Dust Sealed Rail Cover features "Hideaway Handles" for easy access
- Fixed Beam Expander
- Safety Shutter, Co-Axial Red Diode Pointer and Emission Light for Simple Operation

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]

All Marking Head Components and Assembly Warranted for One Year

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

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(.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)

LENS CONFIGURATIONS AVAILABLE

Focal Length	Marking Field		Work Clearance	
100mm	45mm x 45mm	(1.8" x 1.8")	97mm	(3.82")
160mm	90mm x 90mm	(3.5" x 3.5")	176mm	(6.93")
163mm	110mm x 110mm	(4.3" x 4.3")	185mm	(7.28")
254mm	155mm x 155mm	(6.1" x 6.1")	296mm	(11.65")
* 330mm	215mm x 215mm	(8.4" x 8.4")	387mm	(15.23")
* 420mm	275mm x 275mm	(10.8" x 10.8")	493mm	(19.40")

* Application dependent

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

CO-SERIES
CO2 Lasers

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 5.75 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

Focal Length	Marking Field	Work Clearance
75mm	50 x 50mm (1.97 x 1.97")	54mm (2.13")
100mm	70 x 70mm (2.76 x 2.76")	81mm (3.19")
150mm	100 x 100mm (3.94 x 3.94")	131mm (5.16")
200mm	140 x 140mm (5.51 x 5.51")	183mm (7.20")

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.

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

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Merlin II LS LASER SOFTWARE

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.

Raster Profile

Main Programming Screen

Bar Code Editor

Vector Profile

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

On Line Help

Window Overview

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LASER MARKING SYSTEM SELECTION GUIDE

LASER SYSTEMS/ APPLICATIONS	FQ10 1070nm wavelength, air-cooled, single phase, Q-switched, 10 Watt Yb fiber laser marker	FQ20 1070nm wavelength, air-cooled, single phase, Q-switched, 20 Watt Yb fiber laser marker (Will provide shorter cycle times than FQ10.)	FQ20DH 1070nm wavelength, air-cooled, single phase, Q-switched, dual scan head, 10 Watt per scanhead, Yb fiber laser marker	EY5 1064nm wavelength, air-cooled, single phase, diode end-pumped, Q-switched, 5 Watt Nd:YAG laser marker
Marking metals	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.)	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.)	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.)	Good choice for surface and deep marking all metals.
Marking plastics and label materials (3M, Tesa, etc.)	Good choice for marking many plastics and label materials. (Some surface melting can occur due to long pulse width.)	Good choice for marking many plastics and label materials. (Some surface melting can occur due to long pulse width.)	Good choice for marking many plastics and label materials. (Some surface melting can occur due to long pulse width.)	Good choice for marking plastics and label materials.
Marking silicon	Capable of deep marking of silicon.	Capable of deep marking of silicon.	Capable of deep marking of silicon.	Capable of deep marking of silicon.
Marking organic materials	Cannot mark wood. Can mark some other organic materials.	Cannot mark wood. Can mark some other organic materials.	Cannot mark wood. Can mark some other organic materials.	Cannot mark wood. Can mark some other organic materials.
Chemical marking	Can mark metals, glass and other materials using chemical marking.	Can mark metals, glass and other materials using chemical marking.	Can mark metals, glass and other materials using chemical marking.	Can mark metals, glass and other materials using chemical marking.
Marking high quality graphics	Can mark high quality graphics on some metals.	Can mark high quality graphics on some metals.	Can mark high quality graphics on some metals.	Excellent choice for marking high resolution graphics due to small spot size.
Workstation	Optional	Optional	Optional	Optional

LASER MARKING SYSTEM SELECTION GUIDE

LASER SYSTEMS/ APPLICATIONS	EV7 1064nm wavelength, air-cooled, single phase, diode end-pumped, Q-switched, 7 Watt Nd:YVO4 laser marker	EV10 1064nm wavelength, air-cooled, single phase, diode end-pumped, Q-switched, 10 Watt Nd:YVO4 laser marker	EV15 1064nm wavelength, air-cooled, single phase, diode end-pumped, Q-switched, 15 Watt Nd:YVO4 laser marker	EV4G 532nm wavelength; air-cooled; single phase; diode end-pumped, Q-switched, 4 Watt green laser marker
Marking metals	Good choice for surface marking of all metals with very small heat effected zone.	Excellent choice for high speed surface marking of all metals with very small heat effected zone produced.	Excellent choice for high speed surface and deep marking all metals.	Excellent choice for high speed surface marking all metals with very small heat effected zone produced.
Marking plastics and label materials (3M, Tesa, etc.)	Good choice for marking plastics and label materials.	Excellent choice for marking plastics and label materials.	Excellent choice for high speed marking of plastics and label materials.	Excellent choice for marking plastics. Marks largest variety of plastics.
Marking silicon	Can do surface marking of silicon.	Good choice for surface and deep marking of silicon.	Excellent choice for deep marking of silicon.	Excellent choice for surface marking of silicon.
Marking organic materials	Cannot mark wood. Can mark some other organic materials.	Cannot mark wood. Can mark some other organic materials.	Cannot mark wood. Can mark some other organic materials.	Cannot mark wood. Can mark some other organic materials.
Chemical marking	Can mark metals, glass and other materials using chemical marking.	Can mark metals, glass and other materials using chemical marking.	Good choice for marking metals, glass and other materials using chemical marking.	Not recommended
Marking high quality graphics	Excellent choice for marking high resolution graphics due to small spot size.	Excellent choice for marking high resolution graphics due to small spot size.	Excellent choice for marking high resolution graphics due to small spot size.	Excellent choice for marking high resolution graphics due to small spot size. Highest resolution capability.
Workstation	Optional	Optional	Optional	Optional

TELESIS
MARK OF CONFIDENCE

SY50	LY100	CO10	CO30	CO50
1064nm wavelength, water-cooled, single phase, diode side pumped, Q-switched, 50W Nd:YAG laser marker	1064nm wavelength, water-cooled, three phase, lamp pumped, Q-switched, 90W Nd:YAG laser marker	10,600nm wavelength, air- cooled, single phase, RF excited, 10W CO2 laser marker	10,600nm wavelength, air-cooled, single phase, RF excited, 30W CO2 laser marker (Will provide shorter cycle times than CO10.)	10,600nm wavelength, air-cooled, single phase, RF excited, 50W CO2 laser marker (Will provide shorter cycle times than CO30.)
Good choice for high speed surface and deep marking of metals.	Good choice for high speed surface and deep marking of metals. Provides the shortest cycle times for deep marking.	Can mark some anodized metal surfaces.	Can mark anodized metal surfaces. With short focal length lenses, can mark some non-plated metal surfaces.	Can mark anodized metal surfaces. With short focal length lenses, can mark some non-plated metal surfaces.
Good choice for marking plastics and label materials.	Good choice for marking plastics and label materials.	Excellent choice for high speed marking plastics and some label materials.	Excellent choice for high speed marking of plastics and some label materials.	Excellent choice for high speed marking plastics and some label materials.
Can do deep marking and cutting of silicon.	Can do deep marking and cutting of silicon.	Not recommended	Not recommended	Not recommended
Cannot mark wood. Can mark some other organic materials.	Cannot mark wood. Can mark some other organic materials.	Excellent choice for marking wood and other organic materials.	Excellent choice for marking wood and other organic materials.	Excellent choice for marking wood and other organic materials.
Good choice for marking metals, glass and other materials using chemical marking.	Good choice for marking metals, glass and other materials using chemical marking	Good choice for marking metals, glass and other materials using chemical marking	Excellent choice for marking metals, glass and other materials using chemical marking.	Excellent choice for marking metals, glass and other materials using chemical marking.
Not recommended	Can mark high quality graphics on some metals.	Can mark high quality graphics on plastics and on some anodized metal surfaces.	Can mark high quality graphics on plastics and on some anodized metal surfaces.	Can mark high quality graphics on plastics and on some anodized metal surfaces.
Optional	Optional	Optional	Optional	Optional

For all applications, it is highly recommended that samples be sent to Telesis for qualification and testing purposes.

TMP6100/470
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 Interchangable 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.

![TELESIS - MARK OF CONFIDENCE]

TMC470
MARKING SYSTEM CONTROLLER

FEATURES

- Fully self-contained – no PC required

- Easy-to-use menu design for pattern design and access

- Ethernet port for TCP/IP commmunications

- 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 seperate 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

Merlin III
VISUAL DESIGN SOFTWARE

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.
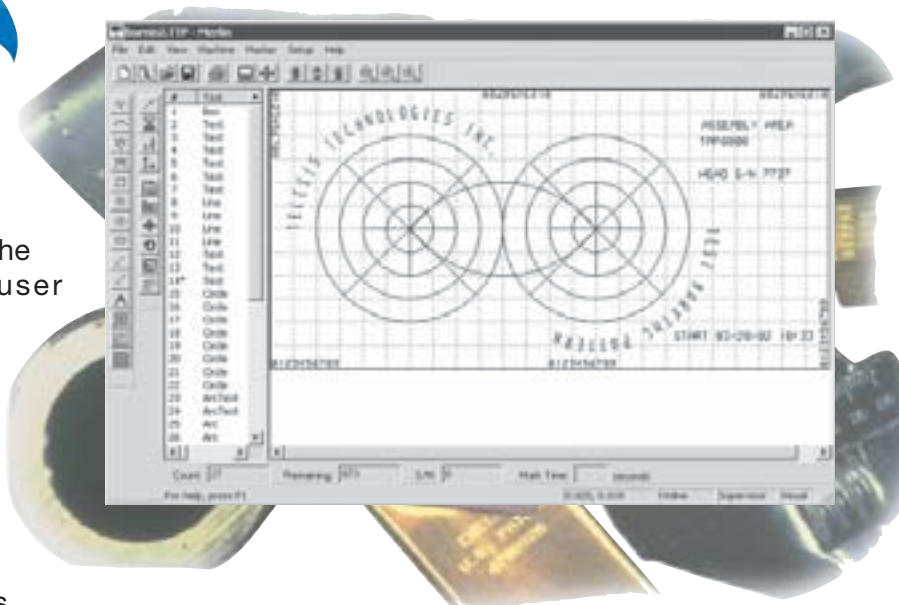
Marking "tools" available include text (at any angle), arc text, rectangles, circles, ellipses and lines. Multiple fields can be grouped and saved as a block to form a logo, or import logos via DXF CAD files. Non-printable fields clearly show the graphical representation of the part being marked. Use the convenient, "GO TO" command to avoid obstacles within the marking window.

TMP1700/420 and TMP1700/090 PINSTAMP® SINGLE PIN MARKING SYSTEMS

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

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

A protective shutter assembly shields the TMP1700 marking head from liquid and solid contaminants.

The TMP1700/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.

TMP4210/420
PINSTAMP® SINGLE PIN MARKING SYSTEM

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 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.

The TMP4210/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.

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TMP3200/420 and TMP3200/090
PINSTAMP® SINGLE PIN MARKING SYSTEMS

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.

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

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)

A protective shutter assembly shields the TMP3200 marking head from liquid and solid contaminants.

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

The TMP3200/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.

TMC420
MARKING SYSTEM CONTROLLER

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, TMM4250, TMP4210, TMM4215, TMM5100, TMM5400, TMM7200, SC3500, and SC5000 Marking Heads.

TMM5400/420
PINSTAMP® MULTIPLE PIN MARKING SYSTEM

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.
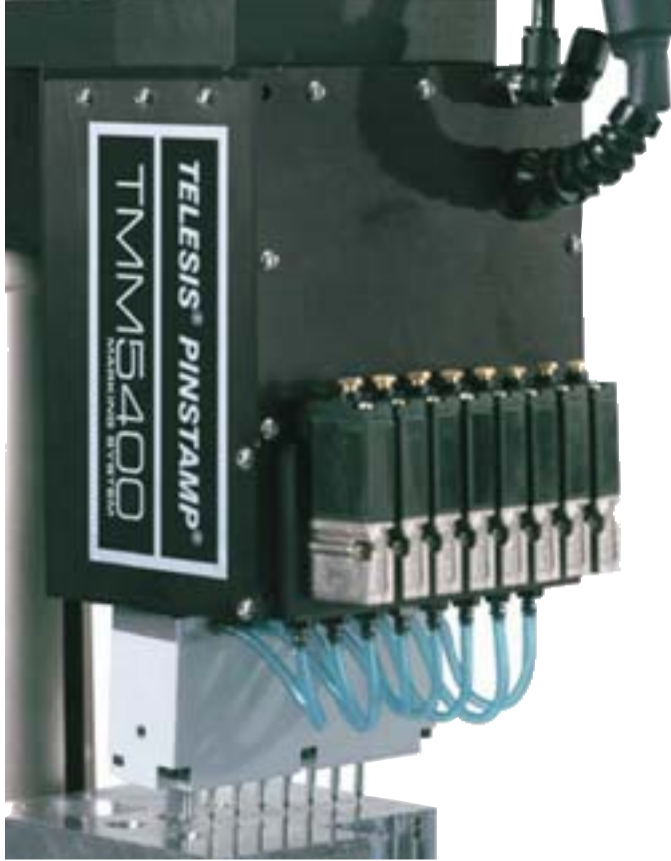
FEATURES

- 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 27)

- 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 TMM5400/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.

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.

PINSTAMP® MARKIING

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

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

The TMM4200/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.

TMM4215/420 PinStamp® Systems
PINSTAMP® DUAL PIN MARKING SYSTEM

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.

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)

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

The TMM4215/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.

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.

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, 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

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

The TMM4250/420 contains Data Matrix® 2-D code marking capability, meeting all US Department of Defense UID requirements and other industry standards.

TMM5100/420
PINSTAMP® MULTIPLE PIN MARKING SYSTEM

Mark up to six characters/second with the TMM5100/420 Multiple Pin Marking System. Its light-weight, 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.

`18953AJ20749`

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

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)

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

TMM7200
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.
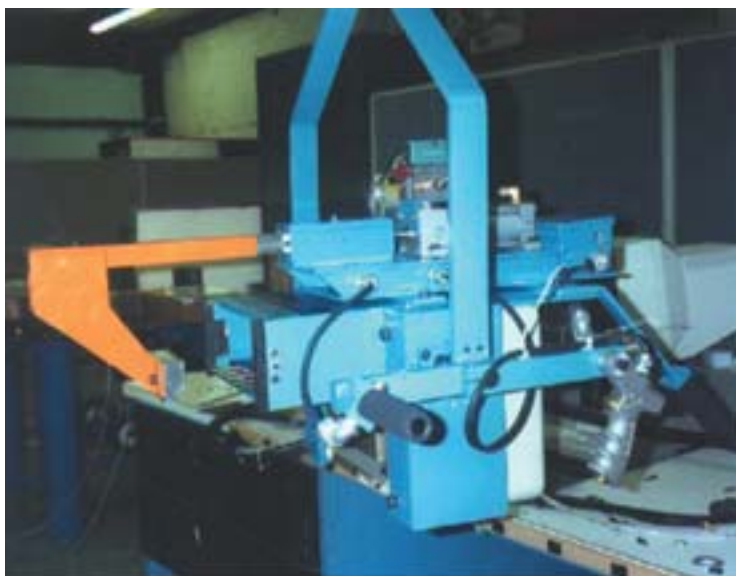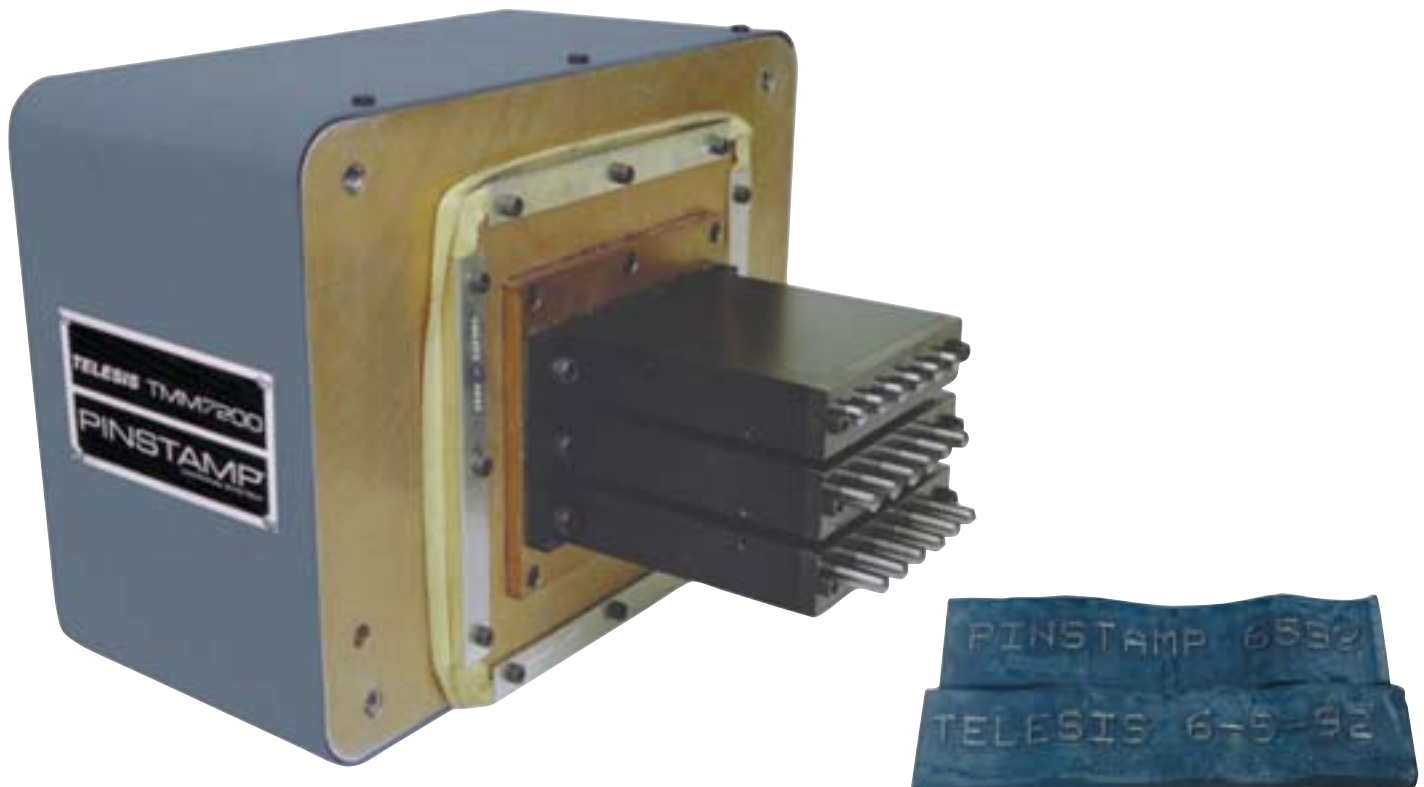
The TMM7200 is easily adapted to custom designs and fixturing options.

TELESIS
MARK OF CONFIDENCE

TeleScribe
SC3500

SC3500/420 MARKING SYSTEM

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.

TELESCRIBE®

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 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

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

TELESCRIBE®

TELESIS
MARK OF CONFIDENCE

BenchMark™ 320
BENCHTOP MARKING SYSTEM

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 (see page 27)

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

BENCHMARK®

TELESIS
MARK OF CONFIDENCE

BenchMark® 460
HAND-HELD MARKING SYSTEM

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

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

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BENCHMARK®

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 (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.

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.

IMPACT PIN SELECTION GUIDE

PIN SELECTION GUIDE
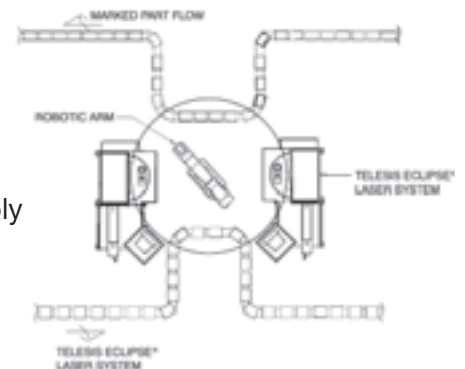
PIN STYLE	CONE ANGLES	MATERIALS*	LENGTH	MAJOR DIAMETER	MINOR DIAMETER
10MP	30º 45º	Carbide	0.62" 16mm	0.09" 2.3mm	0.04" 1.0mm
25S	22º 30º 45º 60º	Carbide, Powdered Metal	1.8" 45mm	0.19" 4.8mm	0.09" 2.4mm
25L	22.5º 30º 45º 60º	Carbide, Powdered Metal	2.2" 55mm	0.19" 4.7mm	0.09" 2.4mm
25XL	22.5º 30º 45º 60º	Carbide, Powdered Metal	2.5" 64mm	0.19" 4.7mm	0.09" 2.4mm
25XLE	30º 45º	Carbide	1.8" 46mm	0.16" 4.0mm	0.09" 2.4mm
101	30º 45º 60º	Carbide, Powdered Metal	3.9" 99mm	0.31" 7.9mm	0.15" 3.9mm
150S	30º 45º 60º	Powdered Metal, Carbide-Tipped	2.75" 70mm	0.62" 15.7mm	0.37" 9.5mm
150SA	30º 45º	Carbide-Tipped	2.75" 70mm	0.62" 15.7mm	0.37" 9.5mm
150	30º 45º	Powdered Metal	5.25" 133.4mm	0.62" 15.7mm	0.37" 9.5mm

*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.

MARKERS	APPLICATIONS	NOMINAL STROKE LENGTH	TYPICAL MAX DEPTH OF MARK**
TMP1700, TMM4200, TMM5400	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.	0.14" 3.5mm	0.001 – 0.003" 0.02mm
TMP4210, TMM5400, TMP3200, TMM4200, TMM4215, TMM4250	Very fast, limited penetration marking. For marking small characters on relatively smooth surfaces. Pneumatically driven.	0.38" 9.6mm	0.0025 – 0.011" 0.06 – 0.28mm
TMP6100, TMM5100, TMP1700, TMP3200, TMM7200	Fast, limited penetration marking. For marking small characters on relatively smooth surfaces. Pneumatically driven.	0.50" 12.7mm	0.0025 – 0.016" 0.06 – 0.40mm
TMP6100, TMM5100, TMM7200, TMP1700, TMP3200, DPP2000	Similar to 25L. Extra length for recessed or hard to reach marking surfaces. Pneumatically driven.	0.50" 12.7mm	0.0025 – 0.016" 0.06 – 0.40mm
TMP1700, TMP3200, TMP6100, Benchmark® 320, Benchmark® 460	Fast, limited penetration marking. For marking small characters on relatively smooth surfaces. Electrically driven.	0.15" 3.8mm	0.0025 – 0.011" 0.06 – 0.28mm
TMM5100, TMM7200	For deep marks, large dots and characters, and/or rough surfaces. Pneumatically driven.	0.75" 19mm	0.006 – 0.022" 0.15 – 0.56mm
TMP6100, TMM5100, TMM7200, TMP1700, DPP2000	Similar to 101. High speed marking. Pneumatically driven.	0.25" 6.35mm	0.006 – 0.022" 0.15 – 0.56mm
TMP6100, TMP3200, TMM4200, TMM4215 , TMP4210, TMM4250, TMM7200, TMP1700	Similar to 150S.	0.75" 19mm	0.006 – 0.022" 0.15 – 0.56mm
TMM7200, TMP7000	Very heavy duty, deep penetration, large character marking; and/or very rough surfaces such as castings and mill surfaces. Pneumatically driven.	1.00" 25.4mm	0.020 – 0.030" 0.51 – 0.76mm

PIN SELECTION GUIDE

Major Diameter

Cone Angle

Minor Diameter

Length

Pin Marking System Selection Guide
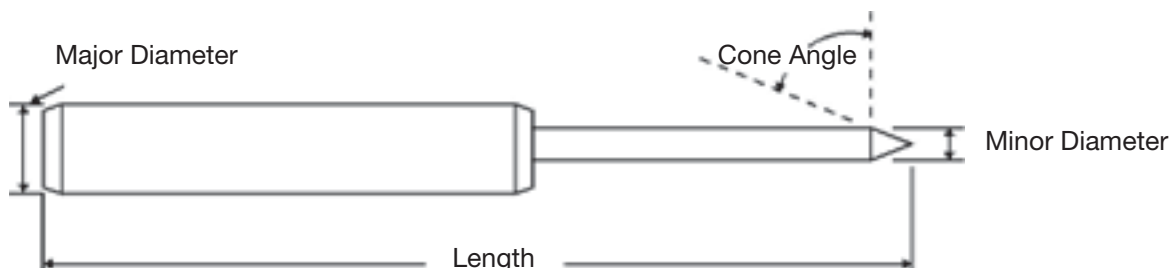
FEATURES	TMP6100	TMM5100	TMP3200	TMM7200	TMM4200	TMM4215	TMP4210
	Versatile Tabletop Marker for Batch Processes/Job Lots or On-Line Processes	Rapid, On-Line, Hand-Held, or Automated Marking, VIN Numbers	Cost-Effective On-Line High Speed Marking	Heavy-Duty, Large Character, Deep Penetration Marking	High Speed Lightweight, Hand-Held Marking or Fixtured Applications with Severe Spatial Constraints	High Speed Lightweight, Hand-Held Marking or Fixtured Applications with Severe Spatial Constraints	Hand-Held Marking or Fixtured Applications with Severe Spatial Constraints
Controller	TMC470/TMC090	TMC420	TMC420/TMC090	Various	TMC420	TMC420	TMC420
Hand-Held Applications		•	Consult Factory	Consult Factory	•	•	Yes
Mark Depth (Based on Rb53 Material Hardness)	0.001-0.013 in. (.03-.33mm)	0.001-0.013 in. (.03-.33mm)	0.001-0.013 in. (.03-.33mm)	0.001-0.022 in. (.03-.56mm)	0.001-0.010 in. (.03-.25mm)	0.001-0.010 in. (.03-.25mm)	0.001-0.013 in. (.03-.33mm)
Noise Level	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Computer Required	Yes	No	No/Yes	No	No	No	No
PS-OCR Readable Fonts	•	•	•	•	•	•	•
Marking Speed - MAX	Up to 3 Char./Sec.	Up to 6 Char./Sec.	Up to 6 Char./Sec.	Up to 21 Char. in 1.5 Seconds	Up to 8 Char./Sec.	Up to 4 Char./Sec.	Up to 8 Char./Sec.
Maximum Marking Window Size	6 x 12 in. (152 x 304mm)	0.625 x 4.5 in. (16 x 114mm)	4 x 6 in. (100 x 150mm)	64 sq. in. (413cm^2)	0.50 x 2.00 in. (13x 50mm)	0.50 x 4.00 in. (13x 100mm)	0.50 x 2.00 in. (13x 50mm)
Maximum Character Height	6.0 in. (152mm)	0.63 in. (16mm)	4 in. (100mm)	1.75 in. (44.5mm)	0.50 in. 13mm	0.50 in. 13mm	0.50 in. 13mm
Programmable "Z" Axis	Optional		Optional				
Maximum No. of Pins	1	6	1	21	4	2	1
Multiple Line Marking	•	•	•	•	•	•	•
Arc Text	Yes	Yes	Yes	Custom Software	No	No	No
Continuous Characters	•	•	•		•		•
Logos	Yes	Optional Software	Optional S.W./Yes	Custom Software	Optional Software	Optional Software	Optional Software
2-D Codes	Yes		Yes		Yes	Yes	Yes
Serialization	•	•	•	•	•	•	•
Date Codes	•	•	•	•	•	•	•
Surface Irregularities	Up to 0.25" (6mm)	Up to 0.25" (6mm)	Up to 0.25" (6mm)	Up to 0.25" (6mm)	Up to 0.25" (6mm)	Up to 0.25" (6mm)	Up to 0.25" (6mm)
Number of Std. Fonts	3	3	3	3	3	3	3
User Defined Custom Fonts	Optional Software	Optional Software	Optional Software	Optional Software	Optional Software	Optional Software	Optional Software
Host Interface	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Resolution	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)
Power	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
Air Supply	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)	60-100 PSIG (4.1-6.9 Bars)	60-100 PSIG (4.1-6.9 Bars)
Circumferential Marking	Optional		Optional				

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TMM4250	TMP1700	TMM5400	SC3500	SC5000	BenchMark®320	BenchMark®460
Fixtured Applications in Wet or Dirty Environments	Extremely Cost-Effective On-Line, High Speed Marking	8-Pin Marking Head for Extremely High Speed On-Line Applications	Nearly Silent, Moderate Penetration Scribe Marking	Nearly Silent, Deep Penetration Scribe Marking	Stand-Alone Benchtop Applications	Stand-Alone Hand-Held Applications
TMC420	TMC420/TMC090	TMC420	TMC420	TMC420	BenchMark®	BenchMark®
	Consult Factory	Consult Factory	Consult Factory	Consult Factory		Yes
0.001-0.013 in. (.03-.33mm)	0.001-0.013 in (.03-.33mm)	0.001-0.010 in. (.03-.25mm)	Varies	Varies	0.001-0.010 in. (.03-.25mm)	0.001-0.010 in. (.03-.25mm)
Moderate	Moderate	Moderate	Very Low	Very Low	Moderate	Moderate
No	No/Yes	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 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 3.78 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. (13mm)	1.50 in. (38.1mm)	0.5 in. (12.7mm)	4 in. (100mm)	2.5 in. (63.5mm)	4 in. (100mm)	1 in. (25mm)
	Optional					
4	1	8	1	1	1	1
•	•	•	•	•	•	•
No	Yes	No	Yes	Yes	Yes	Yes
•	•	•	•	•	•	•
Optional Software	Optional S.W./Yes	Optional Software	Optional Software	Optional Software	Optional Software	Optional Software
Yes	Yes	Yes			Yes	Yes
•	•	•	•	•	•	•
•	•	•	•	•	•	•
Up to 0.25" (6mm)	Up to 0.25" (6mm)	Up to 0.25" (6mm)	Up to 0.3" (7mm)	Up to 0.5" (12mm)	Up to 0.10" (2.5mm)	Up to 0.10" (2.5mm)
3	3	3	2	2	3	3
Optional Software	Optional Software	Optional Software	Optional Software	Optional Software	Optional Software	Optional Software
Yes	Yes	Yes	Yes	Yes	No	No
Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)	Continuous	Continuous	Up to 200 dpi (79 d/cm)	Up to 200 dpi (79 d/cm)
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	

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