AREX400

The AREX400 is the new generation of high performance Laser Markers based on Fiber Laser technology developed to achieve the highest reliability even in harsh manufacturing environments.

Because of its' exceptionally small and robust scanhead machined from solid aluminum, the AREX400 is unbeatable in tight space installations where a small footprint is mandatory and reliability is a must.

The AREX400 incorporates the new LASER GREENSPOT, the programmable visual indicator for immediate and effective visible process feedback directly on the marking area.

The totally new embedded controller is now offering improved performances, cost effective embedded communication protocols (TCP/IP, Ethernet IP, Profinet), reduced noise level down to 65 dB and a new Safety Laser Off (SLO) feature.

HIGHLIGHTS

Scanhead
• Ultra-compact, lightweight
• Robust design for durability even in harsh environments
• IP64 protection against dust, water, oil and lubricant droplets
• High resistance conduit suitable for robotic applications
• Laser marking GreenSpot
• Lens protective cup

Controller
• All-inclusive design; no external PC or hardware required
• High performance Embedded PC
• Windows 10 IOT Enterprise 2019
• High reliability, high resolution full-fiber-laser technology
• Space saver form factor 19 inch 2.5U
• Cost effective embedded communications protocols.
• Embedded communications protocols: TCP/IP, Ethernet IP, Profinet
• Fully compatible with MARVIS (Mark and Validate Integrated Solution) for zero-defect code marking
• Low noise air cooling system

APPLICATION

Traceability
• Excellent contrast high readability text and codes on metals and color-enhanced thermoplastic materials
• Quick and clear black laser annealing, without cracks or thermal damages
• High speed deep engraving

Branding and texturing
• Personalization and branding with high resolution logo and graphics
• Flexible and cost effective aesthetic permanent marking
QUICK INSTALLATION AND SETUP
AREX400 design and configuration dramatically simplifies and speeds up machine design and system integration

- New generation of Embedded Marking Controller (EMC) up to Quadcore 1.83 GHz with latest version of LIGHTER Suite ensures quick and easy installation, setup, control and system diagnostics, even remotely via Ethernet TCP/IP
- Windows 10 IOT Enterprise 2019 Operative System, with built-in end-to-end security
- Unified Write Filter (UWF) to ensure Operative System reliability in case of abrupt power off, reduce wear on solid-state drives, increasing performances
- Built-in step motor controller, completely integrated in software editor, dramatically simplifies integration of rotary indexers, x-y tables and z axis, compatible with Micrometric Displacement Sensor for auto-focus operations

FLEXIBLE PROGRAMMING AND CONTROL
LIGHTER Suite, with its intuitive and easy-to-learn interface, simplifies the development of a complete and cost effective Laser Marking Station for OEM and Machine builders.
AREX400 can be operated in a STAND ALONE MODE with built-in control and software resources, and in a MASTER-SLAVE mode with a with supervising computer for advanced network-oriented Laser Marking Applications.

AREX SERIES

<table>
<thead>
<tr>
<th>AREX 400</th>
<th>AREX 410</th>
<th>AREX 420</th>
<th>AREX 420 MW</th>
<th>AREX 430</th>
<th>AREX 450</th>
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</thead>
<tbody>
<tr>
<td>Nominal power</td>
<td>[W]</td>
<td>10</td>
<td>20</td>
<td>20</td>
<td>30</td>
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<td>Peak power (max)</td>
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<td>Pulse energy</td>
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<td>≥ 0.75</td>
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<td>20-500</td>
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<td>ADJ 4-250</td>
<td>100</td>
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<td>Marking capabilities</td>
<td>Static, on the rotary indexer, on the fly (marking in motion); Extended-Layer (combination with X,Y Axis)</td>
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<tr>
<td>Fiber length</td>
<td>[m]</td>
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</table>

[Integration]
- Built-in 4 axis step motors controller
- INPUTS: 10 programmable digital inputs
- OUTPUTS: 10 programmable digital outputs (NPN)
- Dedicated ports for Encoder, Photocell, MATRIX family Barcode Reader.

[Interfaces]
- 6 x USB, 3 x Ethernet (PRO VERSION), 1 x RS-232, Digital I/O

[Protection rating]
- Head: IP64; Controller: IP31

[Power supply]
- 100/240 VAC – 50/60 Hz – 400 W (MAX)

[Cooling]
- Low noise, Forced air

[Head dimensions/weight]
- 89 mm x 96 mm x 311 mm – 3.5 kg

[Controller dimensions]
- 427 mm x 111 mm x 435 mm – 17.5 kg

MAIN BUILT-IN FEATURES ARE:
- Advanced Graphical Layout
- Local and Remote laser diagnostic
- Local and Remote I/O and axis control
- Local and Remote ActiveX
- Ethernet protocol for easy integration PLC and industrial environments
- Marking On-the-Fly capabilities
- Native support for Ethernet TCP/IP, Ethernet IP and Profinet communications

![Diagram](image-url)
AREX400 PULSED

HIGH PERFORMANCE AND RELIABILITY
• Ultra compact, high protection rate scanhead, IP64 for maximum performance even in aggressive environments
• Complete power range from 10 W to 50 W, long pulse, high energy fiber laser source
• Standard Datalogic I/O Interface
• Integrated Windows-based marking controller, no external PC needed
• Safe Laser Off (SLO) ready for ISO 13849-1 and ISO 11553-1 integrations
• LaserMarking Green Spot technology
• Low noise cooling system
• RS-232 Ethernet TCP/IP, EtherNet IP, Profinet IO native protocols

APPLICATION
• High contrast marking & engraving for branding & traceability on: Stainless steel, high-grade steel, steel, carbon steel, copper, iron, ferrous metals, magnesium, aluminum, brass, gold, silver, platinum, titanium
• “Aesthetic” plastic marking Polycarbonate (PC), Polysulfone (PSU), Polyphenylene sulfide (PPS)
• “High contrast” plastic marking for traceability Polystyrene (PC), Styrene acrylonitrile (SAN), Acrylonitrile Butadiene Styrene (ABS), Polyethylene terephthalate (PET) Polybutylene terephthalate (PBT)
• Additivated plastic marking Polyamide (PA), Polyoxymethylene (POM) Polypropylene (PP), Polyethylene (PE) and many other

AREX400 MOPA

HIGH FLEXIBILITY AND MARKING REPEATABILITY
Additional features:
• Linear power range from 0.1 W to full power for precise marking even on sensitive materials
• Pulse-width adjustment from 4 ns to 250 ns for best process optimization and repeatability
• High repetition rate up to 500 kHz for faster marking and accurate texturing
• High peak power for extended process capability
• Accurate Energy control for maximum marking repeatability

APPLICATION
• High precision contrast marking and annealing for branding & traceability on: stainless steel, high-grade steel, steel, carbon steel, iron, ferrous metals, magnesium, aluminum, brass, gold, platinum, titanium ...
• “Aesthetic” plastic marking for branding and texturing Polycarbonate (PC) Polysulfone (PSU), Polyphenylene sulfide (PPS), Polyether ether ketone (PEEK)
• High contrast plastic marking for traceability Polystyrene (PS), Styrene acrylonitrile (SAN), Acrylonitrile Butadiene Styrene (ABS), Polyethylene terephthalate (PET) Polybutylene terephthalate (PBT) Polyoxymethylene (POM)
• Color enhanced plastic Polyamide (PA), Polypropylene (PP), Polyethylene (PE) and many other
• Coating removal/night & day application
• Color marking on metal

INDUSTRIES
• Automotive, industrial electronics, precision mechanics, surgical tools and implants

INDUSTRIES
• Automotive, aerospace, industrial electronics, mobile & semicon electronics, precision mechanics, watch & jewelry, surgical tools & implants
MODEL SELECTION AND ORDER INFORMATION

ORDERING CODES | PRODUCT DESCRIPTION
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985180073 | AREX 110-965 Fiber Marker
985180074 | AREX 110-365 Fiber Marker
985180075 | AREX 110-665 Fiber Marker
985180076 | AREX 110-355 Fiber Marker
985180077 | AREX 110-655 Fiber Marker
985180078 | AREX 120-965 Fiber Marker
985180079 | AREX 120-365 Fiber Marker
985180080 | AREX 120-665 Fiber Marker
985180081 | AREX 120-465 Fiber Marker
985180082 | AREX 120-455 Fiber Marker
985180083 | AREX 120-765 Fiber Marker
985180084 | AREX 120-355 Fiber Marker
985180085 | AREX 120-655 Fiber Marker
985190005 | AREX A20-965 Fiber Marker
985190006 | AREX A20-365 Fiber Marker
985190007 | AREX A20-665 Fiber Marker
985190008 | AREX A20-465 Fiber Marker
985190009 | AREX A20-655 Fiber Marker
985190010 | AREX A20-765 Fiber Marker
985180086 | AREX 130-965 Fiber Marker
985180087 | AREX 130-365 Fiber Marker
985180088 | AREX 130-665 Fiber Marker
985180089 | AREX 130-465 Fiber Marker
985180090 | AREX 130-655 Fiber Marker
985180091 | AREX 130-765 Fiber Marker
985180092 | AREX 130-765 Fiber Marker
985180093 | AREX 150-965 Fiber Marker
985180094 | AREX 150-365 Fiber Marker
985180095 | AREX 150-665 Fiber Marker
985180096 | AREX 150-465 Fiber Marker
985180097 | AREX 150-655 Fiber Marker
985180098 | AREX 150-765 Fiber Marker

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