EASY WIRING
INTERACTIVE HARNESS ASSEMBLY BOARD
**EASY WIRING**

EasyWiring is the ideal solution for production and prototyping of electrical harnesses.

This interactive harness assembly board replaces paper plans with a dynamic display of electrical harness assembly instructions. EasyWiring guides the operator throughout the electrical harness production process.

Laslec offers a complete range of equipment comprising a display device, CAM software and removable cable holding suction pads in various formats suitable for all types of harness.

- Higher productivity
- Optimum quality
- Flexibility
- Shop floor layout optimization

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**COMPUTER AIDED MANUFACTURING**

**CLEAR INSTRUCTIONS FOR THE OPERATOR**

- Protective polycarbonate or glass plate
- Possibility to adjust the angle of inclination

**SLIDING TRAY**

- Tools and keyboard

**REAL-TIME MONITORING OF PRODUCTION INDICATORS**

- High definition display
- Video, photo, PDF instructions
- Interactive information windows
- Robust construction
- Optimization of workshop space
- Centralized data management

**FAST RECONFIGURATION WITH CABLE HOLDING SUCTION PAD**

**MOBILE**

Scalable, modular and flexible system
The display screen is protected by a polycarbonate or a safety tempered glass layer on which wire support accessories can be attached. It comes in two different formats: 75” and 86”.

**Display unit properties**

**CONNECTING SEVERAL MODULES**

Several modules can be connected to create large boards. Up to 6 screens can be connected for tables up to 10 meters in length for 75” screens and 11 meters for 86” screens.

**DISPLAY UNIT**

The display screen is protected by a polycarbonate or a safety tempered glass layer on which wire support accessories can be attached. It comes in two different formats: 75” and 86”.

**OPTIMUM QUALITY**

- Repeatable assembly methods due to predefined steps
- Reduction of human errors thanks to step-by-step assistance and visual aids
- Optimal traceability
- Validation and control of the complete assembly process

**FLEXIBILITY**

- Ergonomic and quick clamping system that can be easily repositioned and adapted to all types of harnesses
- Scalable and modular system

**HIGHER PRODUCTIVITY**

- Streamline the production of new harnesses
- Reduced training time for cable operators thanks to clear instructions
- Quick access to necessary information

**OPTIMIZATION OF THE WORKSHOP AREA**

- Capability to assemble hundreds of different harnesses on one assembly board
- No more wooden boards to store

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**Table: Formboard footprint**

<table>
<thead>
<tr>
<th>Modules</th>
<th>75” PRO display</th>
<th>86” PRO display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions - 1 module</td>
<td>L = 1650 mm</td>
<td>L = 1892 mm</td>
</tr>
<tr>
<td></td>
<td>H = 928 mm</td>
<td>H = 1060 mm</td>
</tr>
<tr>
<td>Dimensions - 2 modules</td>
<td>L = 3333 mm</td>
<td>L = 3820 mm</td>
</tr>
<tr>
<td></td>
<td>H = 928 mm</td>
<td>H = 1060 mm</td>
</tr>
<tr>
<td>Dimensions - 3 modules</td>
<td>L = 5016 mm</td>
<td>L = 5748 mm</td>
</tr>
<tr>
<td></td>
<td>H = 928 mm</td>
<td>H = 1060 mm</td>
</tr>
<tr>
<td>Dimensions - 4 modules</td>
<td>L = 6699 mm</td>
<td>L = 7676 mm</td>
</tr>
<tr>
<td></td>
<td>H = 928 mm</td>
<td>H = 1060 mm</td>
</tr>
<tr>
<td>Dimensions - 5 modules</td>
<td>L = 8382 mm</td>
<td>L = 9604 mm</td>
</tr>
<tr>
<td></td>
<td>H = 928 mm</td>
<td>H = 1060 mm</td>
</tr>
<tr>
<td>Dimensions - 5 modules</td>
<td>L = 10065 mm</td>
<td>L = 11532 mm</td>
</tr>
<tr>
<td></td>
<td>H = 928 mm</td>
<td>H = 1060 mm</td>
</tr>
</tbody>
</table>

**Dimensions**

<table>
<thead>
<tr>
<th>Modules</th>
<th>75” screen</th>
<th>86” screen</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>N x 1682</td>
<td>N x 1932</td>
<td>mm</td>
</tr>
<tr>
<td>Height</td>
<td>1710</td>
<td>1800</td>
<td>mm</td>
</tr>
<tr>
<td>Width</td>
<td>880</td>
<td>900</td>
<td>mm</td>
</tr>
</tbody>
</table>

**Formboard footprint**

EasyWiring board footprint depends on the number (N) of modules:

- Fast reconfiguration with wire support (suction cups)
- Several modules can be linked up to create large boards.

- Maximum resolution
  - 1 to 4 modules = 4 K
  - 5 to 6 modules = HD

- Electrical supply
  - AC 100 - 240 V, 50/60 Hz

- Typical consumption
  - 220W
  - 302 W

- Operating temperature
  - 0-40°C

- Certifications
  - Safety
  - EMC
  - Energy saving

- EnergyStar 6.0

- Warranty
  - 2 years

Note: above specifications may vary depending on supplier.
Cable support accessories
Laselec offers a full line of accessories for holding wires and cables on the assembly board.
A lever-controlled suction cup guarantees a firm hold, fast implementation and high configuration flexibility.
The suction cups can bear a vertical breakout force of:
- 3 to 4 kg for a suction pad 36 mm in diameter
- 9 kg for a suction pad 55 mm in diameter
Note: Laselec provides a design service to produce specific accessories according to your needs.

Barcode reader
A wired or wireless barcode reader can be connected to the system, which allows the barcodes on the cables to be validated. This accessory helps to reduce production errors and better control the assembly process by providing optimal traceability.

Motorized stand module
75” and 86”
The EasyWiring modules can be provided with a motorized frame that allows the positioning of display units to be adjusted:
- The board can be moved up or down
- The board can be rotated from vertical to horizontal
The sliding tray is also available for the optional motorized version.

Double stand module
75”
This frame can bear 1 screen on each side and saves floor space in your workshop space.

Upper frame
75” and 86”
With its protection, the screen can be sold without frame so it can be fixed according to the customer’s needs.

Standard stand module
75” and 86”
The table is fitted with a removable sliding tray for placing tools and a sliding table on which the keypad and mouse rest.

DIFFERENT CONFIGURATIONS

EASYTOUCH
EasyWiring additional features
With the “Touch mode”, the operator only needs to touch the extremity of the wire to identify it and display routing and pinning information directly on the EasyWiring harness assembly board.
With the “Continuity test mode”, the operator can perform a continuity test on a single connector during the harness assembly process and correct any errors directly on the assembly board.
By connecting all connectors to the EasyTouch Test Unit, a final test is operated on the complete harness and a traceable test report is generated.

ACCESSORIES

Cable support accessories
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EASYCONTROL
Control is even easier
EasyControl makes EasyWiring software control even easier. No need to move in front of the table to use the mouse or keyboard: the operator controls the assembly board directly from the Bluetooth unit on his wrist.
Software

Computer hardware

The interactive table is controlled by a PC which is supplied with the machine.

Minimum requirement:
- Windows 10
- Min 8 GB of RAM
- Intel Core i5 or similar
- SSD Disk 250 GB
- Graphics card with 4 mini DVI outputs

Data protection: an optional RAID 1 configuration helps to protect the system against drive failure and data loss.

EasyWiring Light software

EasyWiring Light is a manufacturing software which displays wiring plans in digital format (DXF).

The operator simply selects the cabling plan from the list and this will be displayed at a scale of 1:1 on the screen.

EasyWiring Interactive software

This software is a development of the EasyWiring Light software. The main features that have been added are interactivity, step-by-step operator guidance and traceability.

It consists of a supervision/programme license for software programming and an interactive manufacturing license for operators.

Supervision license

The supervision station allows the software to be programmed before the electrical harness is produced.

This station is connected to a server which centralises all information flows from supervision stations, cabling tables or cabling stations.

The supervision station allows the working methods and engineering departments to access the following menus:

- Data library: contains features of the tools used in production, electrical elements and cable holding accessories.
- Harness preparation process:
  - Management of plans in DXF format
  - Adding information on the DXF plan
  - Adding instructions
  - Definition of production process sequencing
  - Metrology and tool management
  - Management of operators/skills
  - Production planning

Options

- Data visualisation: production/statistical indicators
- Data visualisation: traceability, non-conformance investigation
- Exporting data: Production/Statistical indicators
- Exporting data: Traceability/Non-conformance investigation
- Generating an EASYPROD production file (for Lasotec laser cutting and marking machines)
PRODUCTION LICENSE

Intended for operators to assemble the harness on an interactive table or on a workbench for certain steps. This license includes a local supervision module and a manufacturing module for the operator.

The local supervision module contains the supervision license functions and the following functions:
- Configuration of the harness assembly board: Managing the dimensions of the drawing and the borders of the module.
- Display, verification and scaling to ensure a ratio of 1:1
- Choice of background and foreground colours

The production module for cable operators includes all stages of electrical harness production defined by the working methods and engineering departments:
- Accessory (suction pads) positioning
- Cable routing
- Installation of special accessories (frets, ducts, clamping collars, labels etc.)
- Quality control
- Connector manufacture: wire stripping, crimping contacts, plugging of contacts into the connector

MAINTENANCE CONTRACT

The software support contract (including software updates) allows optimal use of the EasyWiring software thanks to the support team advices. You can benefit from the latest features with a new software version (Interactive) every quarter. Customers on support contracts benefit from priority processing of their requests.

EasyWiring softwares

<table>
<thead>
<tr>
<th>Option/Production license</th>
<th>EAW Light</th>
<th>EAW Interactive*</th>
<th>EAW Interactive Premium*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display the DXF Drawing scale 1:1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Manufacturing guidance (manufacturing Steps/validation)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Automatic change of the DXF</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Displaying manufacturing instructions documents</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Displaying DXF drawing layers</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cable routing</td>
<td>Option</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Accessory (suction pads) positioning</td>
<td>Option</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pose cable ties</td>
<td>Option</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Manufacturing guidance for connectors and extremities</td>
<td>Option</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Automatic validation by Timer</td>
<td>Option</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*requires supervision/preparation license

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Headquartered in Toulouse, France, Laselec develops laser solutions for stripping and marking wires as well as interactive assembly boards for wire harness manufacturing.

Laselec is one of the leading companies in the world for the development and production of serial production machines and customized solutions for laser wire processing. The company meets all significant international quality standards in the aerospace industry and counts renowned aircraft manufacturers among its customers.

Having strived to be at the forefront of innovation and quality, its unique expertise and experience allows Laselec to manufacture the most efficient equipment available, while providing customers with low maintenance and operating costs.

Laselec has been part of Komax since 2017. The two companies have been working successfully together on various projects since then. Thanks to this partnership, Laselec’s solutions have increasingly found their way into other markets, such as the automotive and railway industry.