

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 entire production process.

Laselec 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

▶ Scalable, modular and flexible system

EasyWiring
Interactive harness
assembly board

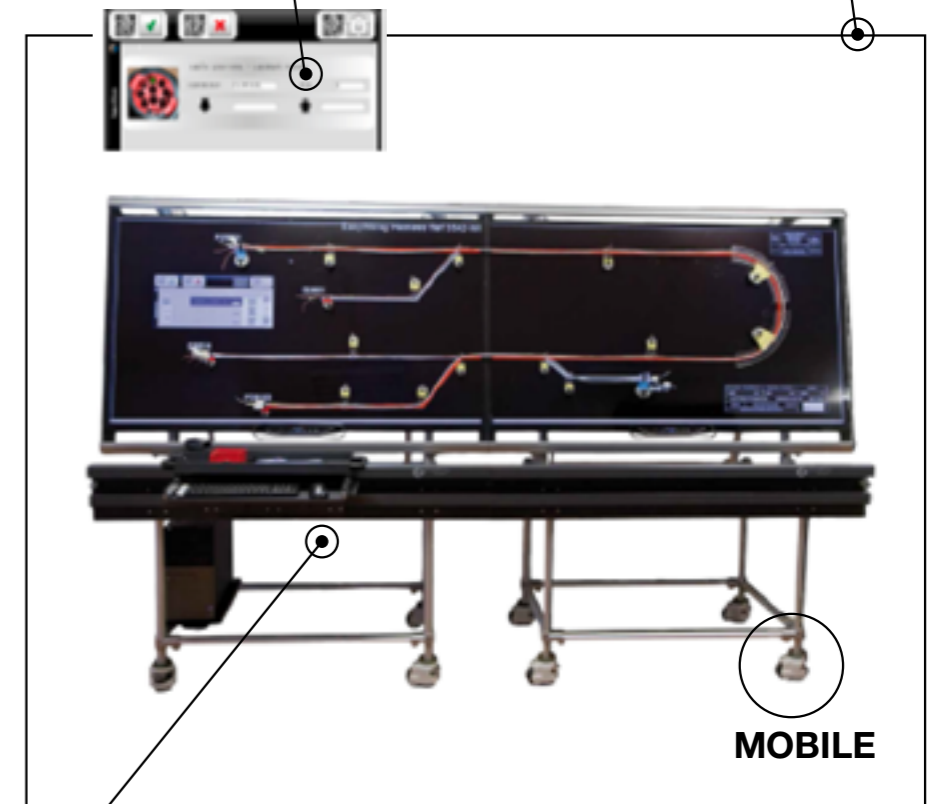
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COMPUTER AIDED MANUFACTURING

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 PADS





HIGHER PRODUCTIVITY

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

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

- Fixture can be easily repositioned for any harness
- Scalable and modular system

OPTIMIZATION OF THE WORKSHOP AREA

- Capability of assembling hundreds of different harnesses on one system
- No more wooden boards to store

Fast reconfiguration with wire support (suction cups)



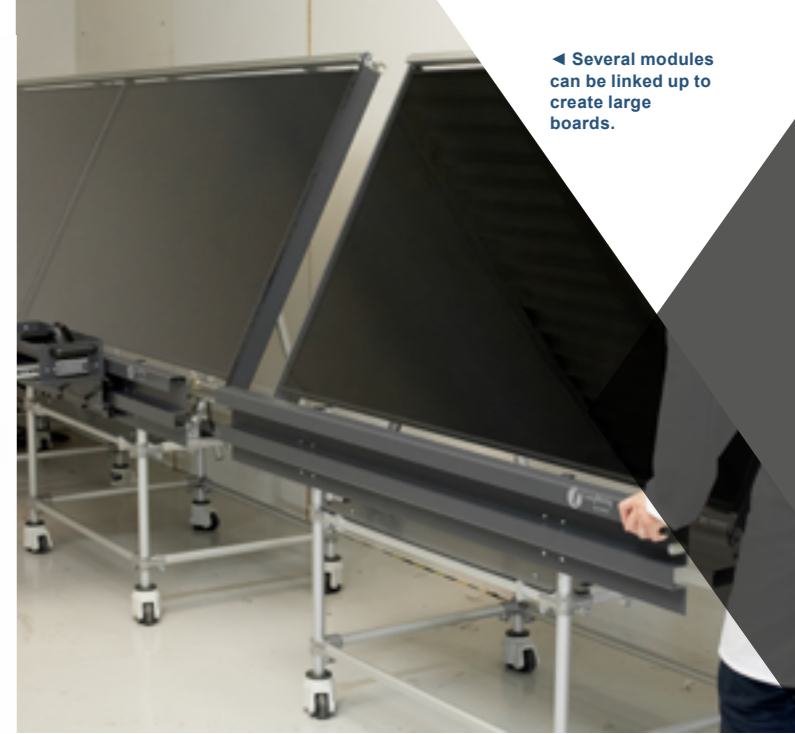
DISPLAY UNIT

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".

Display unit properties

Modules	75" PRO display	86" PRO display
Dimensions - 1 module	L = 1650 mm H = 928 mm	L = 1892 mm H = 1060 mm
Dimensions - 2 modules	L = 3333mm H = 928 mm	L = 3820 mm H = 1060 mm
Dimensions - 3 modules	L = 5016 mm H = 928 mm	L = 5748 mm H = 1060 mm
Dimensions - 4 modules	L = 6699 mm H = 928 mm	L = 7676 mm H = 1060 mm
Dimensions - 5 modules	L = 8382 mm H = 928 mm	L = 9604mm H = 1060 mm
Dimensions - 6 modules	L = 10065 mm H = 928 mm	L = 11532mm H = 1060 mm
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	EnergyStar 6.0	
Warranty	2 years	

Note: above specifications may vary depending on supplier.



Several modules can be linked up to create large boards.

CONNECTING SEVERAL MODULES

Several modules can be connected together to create a larger system.

Up to 6 screens can be connected for tables up to 10 meters in length for 75" screens and 11 metres for 86" screens.

Formboard footprint

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

	75" screen	86" screen	Unit
Length	N x 1682	N x 1932	mm
Height	1710	1800	mm
Width*	880	900	mm

DIFFERENT CONFIGURATIONS



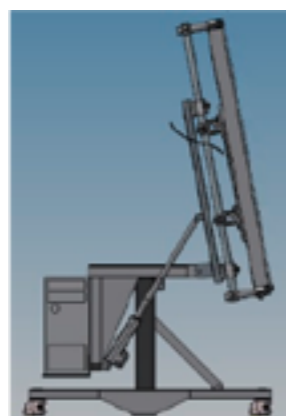
Standard stand module
75" and 86"

The stand features a removable sliding tray for tools and accessories, etc. plus a table top area that holds the mouse and keyboard.



Upper frame
75" and 86"

The display screen, complete with polycarbonate protection layer or tempered safety glass, is available with or without the frame.



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:

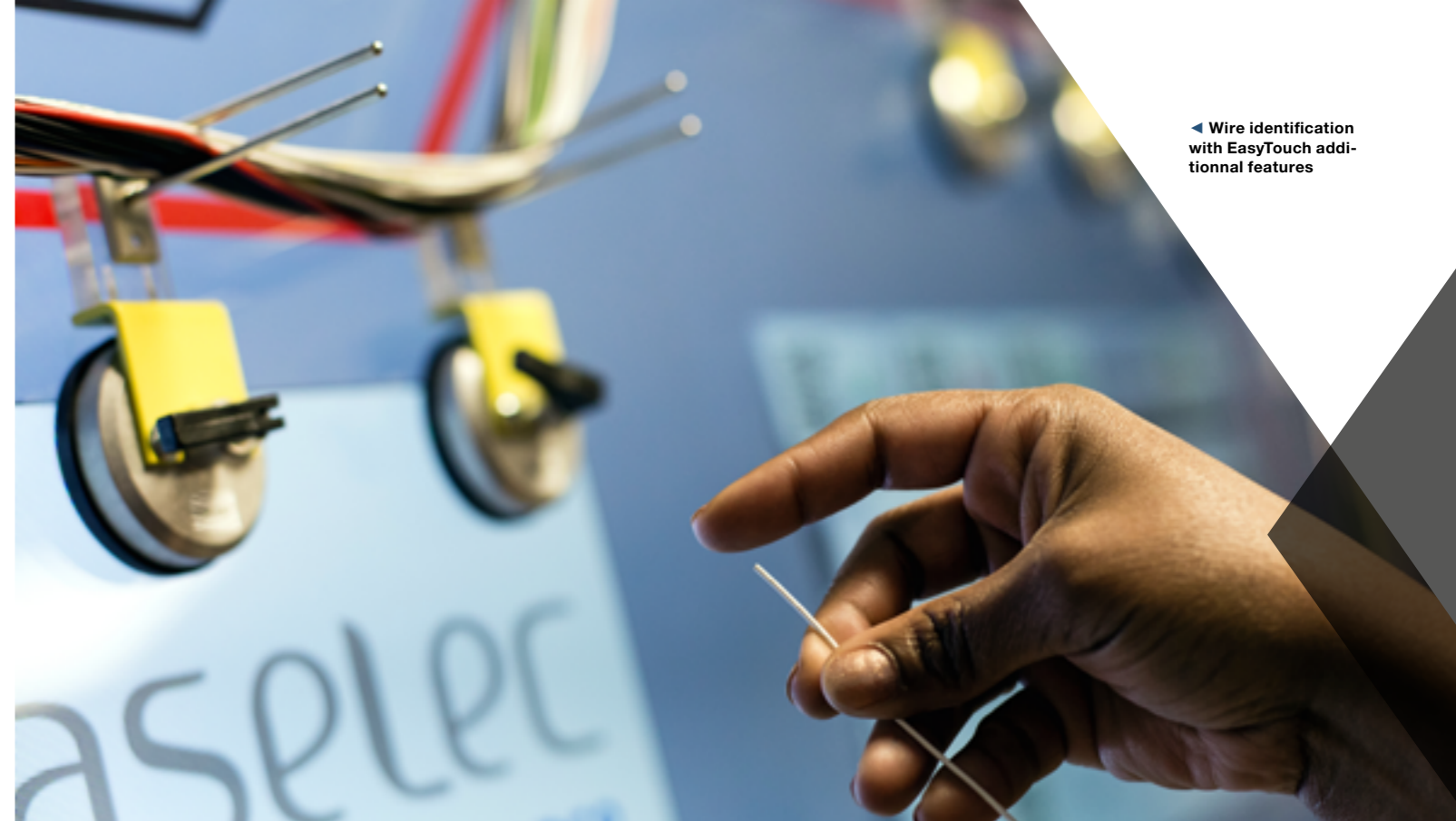
- The board can be moved up or down
- The board can be rotated from vertical to horizontal

The sliding tray is also available for the optional motorized version.



Double stand module
75"

This frame can support one screen on each side and saves floor space on the shop floor.



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 completed on the entire harness and a traceable test report is generated.

ACCESSORIES

Cable support accessories

Laselec offers a variety of fixtures for supporting 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 support 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

By connecting the barcode reader to the system, barcodes printed on the cable can be validated. The barcode accessory helps reduce production errors, control the assembly process and provides optimal traceability.

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 Blue-tooth wristband unit.



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 harness to produce from the list and it will be displayed on 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/preparation 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 Laselec laser cutting and marking machines)

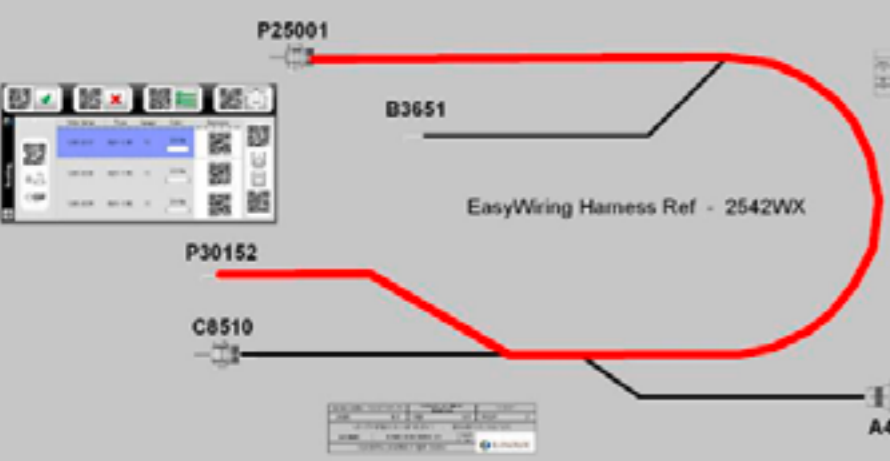


Adding information on the DXF plan (accessory positioning) ▶





Accessory positioning



Cable routing stage

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 as well as the following:

- 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

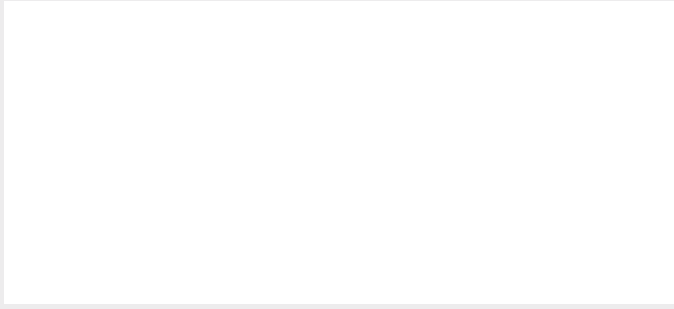
Option/Production license	EAW Light	EAW Interactive*	EAW Interactive Premium*
Display the DXF Drawing scale 1:1	Yes	Yes	Yes
Manufacturing guidance (manufacturing steps/validation)		Yes	Yes
Automatic change of the DXF		Yes	Yes
Displaying manufacturing instructions documents		Yes	Yes
Displaying DXF drawing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

*requires supervision/preparation license

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EasyWiring meets the requirements of all industries (aeronautics, automotive...)



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.

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