NEW RELEASE 2025



CAD.Able s.r.l.

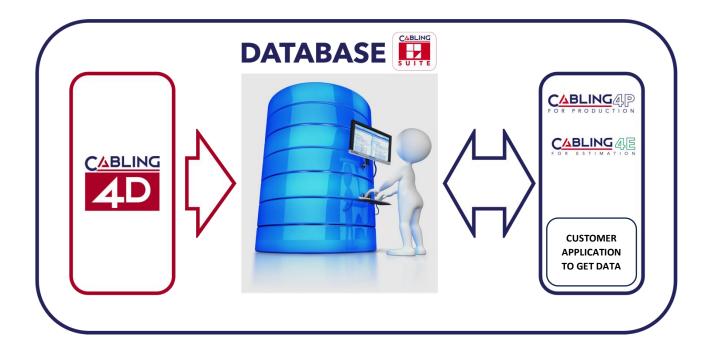
C.so Giambone, 69 10134 - Torino - Italy Tel. +39 011 614236 <u>info@cadable.it</u> <u>www.cadable.it</u>

THE NEW RELEASE 2025

SIMPLIFY YOUR DAILY WORK AND SUPPORT YOUR BUSINESS GROWTH

THE NEW **2025 RELEASE** MARKS AN IMPORTANT MILESTONE IN PRODUCT DEVELOPMENT, ACHIEVED WITH THESE INNOVATIONS:

- 1. **EVOLUTION OF THE USER INTERFACE** TO FACILITATE ITS USE BY USERS AND INCREASE THE SPEED OF DESIGN
- 2. **STABILITY OF OPERATION** TO ENSURE MAXIMUM PERFORMANCE
- 3. SIMPLIFICATION OF USE WHILE INCREASING POTENTIAL
- 4. INCREASE IN THE **POTENTIAL** OF DESIGNING THE **ELECTRICAL DIAGRAM**
- 5. **IMPROVEMENT** OF DESIGN WITH **PANEL DESIGN**, A MODULE FOR DESIGNING SMALL/MEDIUM-SIZED ELECTRICAL PANELS
- 6. CREATION OF A CENTRALIZED DATABASE WHERE TO SAVE THE HARNESS DATA DESIGNED WITH CABLING 4D. IN THE NEW CABLING SUITE (EXTERNAL PROGRAM IN WINDOWS ENVIRONMENT) TWO APPLICATIONS ARE AVAILABLE: CABLING 4P (FOR PRODUCTION) AND CABLING 4E (FOR ESTIMATION) RESPECTIVELY TO MANAGE HARNESSES DATA TOWARDS AUTOMATIC CUTTING/STRIPPING/CRIMPING MACHINES AND TO CALCULATE PRODUCTION TIMES.





CABLING 4P (FOR PRODUCTION)

IT IS THE BASIS FOR SOLVING ORGANIZATIONAL PROBLEMS RELATED TO THE PRODUCTION PROCESS, HAVING AN OVERALL VISION, IN ORDER TO IMPROVE PLANNING AND KNOW HOW TO MANAGE EMERGENCIES WITHOUT INTERRUPT BUSINESS CONTINUITY.

DISCOVER ALL THE ADVANTAGES OF CABLING 4P

CABLING 4E (FOR ESTIMATION)

IT REPRESENTS AN INDISPENSABLE SOLUTION FOR COMPANIES WISHING TO IMPROVE OPERATIONAL EFFICIENCY AND OBTAIN A CLEAR VISION OF THE COSTS ASSOCIATED WITH HARNESSES PRODUCTION.

DISCOVER ALL THE ADVANTAGES OF CABLING 4E

EVER GREATER INTEGRATION CABLING 4D AND SPAC AUTOMAZIONE

WITH THE GOAL ACHIEVED OF INTEGRATING CABLING 4D WITH THE GREATER NUMBER OF INDUSTRIAL ENVIRONMENTS, INTERACTION WITH **SPAC AUTOMAZIONE 2025** HAS BEEN STRENGTHENED IF THE **CABLES MODULE 9** IS PRESENT.

THE CAVI MODULE 9 ALLOWS THE MANAGEMENT OF MULTIPOLE AND CONNECTORIZED CABLES ON SPAC AUTOMAZIONE DIAGRAMS.

THE INTERACTION OF SPAC AUTOMAZIONE WITH CABLING TAKES PLACE IN A BIDIRECTIONAL WAY THROUGH:

- IMPORTING SPECIAL CABLES (OR HARNESSES) DESIGNED WITH CABLING 4D INTO SPAC AUTOMAZIONE 2025: THE SAVED ASSEMBLIES ARE CONSIDERED WITH THE POSSIBILITY OF ATTRIBUTING THE CONNECTIONS OF THE ELECTRICAL DIAGRAM THE BELONGING TO SUCH ASSEMBLIES, THE POSSIBILITY OF INSERTING THEIR LAYOUT AND OF INTEGRATING THE ASSEMBLED CODE AND THE MATERIALS THAT COMPOSE IT IN THE SPAC MATERIAL DRAWING.
- **IMPORTING** AN ELECTRICAL DIAGRAM DESIGNED WITH SPAC **INTO CABLING 4D 2025:** A SPECIAL ELECTRICAL DIAGRAM NAVIGATION WINDOW ALLOWS YOU TO CHOOSE WHICH ELEMENTS TO USE FOR DESIGNING A CABLE LAYOUT (OR HARNESS). IN THIS VERSION IT IS POSSIBLE TO IMPORT ONLY THE CONNECTIONS THAT HAVE BEEN ATTRIBUTED TO AN ASSEMBLY IN SPAC AUTOMAZIONE, SO AS TO MAKE IMPORTING EVEN EASIER.



INSTALLABLE ON

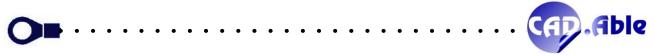




Autodesk 2025 64 bit graphic engine

APP to AutoCAD version

Installable on AutoCAD 2023, 2024 and 2025



HARDWARE & SOFTWARE REQUIREMENT

Minimum hardware & software configuration required:

HARDWARE

Personal Computer

- Processore Intel Core i5[©] or higher with SSE2 technology
- Processore AMD Ryzen 5TM or higher with SSE2 technology
- Mouse or other pointing device
- Possible plotter or printer
- 8 GB RAM memory

Video card

- 1 GB video card with 29 GB/s of bandwidth, compatible DirectX 11
- Screen DPI scale factor less than or equal to 125%
- Are compatible also the Ultra HD-4K monitors

USB Ports

- USB port for the hardware protection
- USB 2.0 port for installation

Free space on disk:

- CABLING 4D 2025 7.5 GB
- CABLING 4D CAD 2025 9.5 GB (associated to SPAC Automation CAD 2025)

Internet access for the installation and on-line update

SOFTWARE

O.S.

- Windows© 10 64 bit version 1909 or successive
- Windows© 11 64 bit

App to AutoCAD

- Autodesk AutoCAD or Electrical rel. 2023/2024/2025 already installed and working.
- AutoCAD LT is not valid for the installation.

OEM version

• Autodesk AutoCAD© is not required with SPAC Automation OEM engine.

Suggested hardware configuration:

- 3GHz Intel[®] Core[™] i7 or AMD Ryzen[™] 7 Processor with SSE2 technology
- 4 GB video card with 106 GB/s of bandwidth, compatible DirectX 11
- USB 3.0 port for installation
- RAM memory: 16 GB
- Autodesk certified graphics hardware and drivers available at the following link <u>https://knowledge.autodesk.com/it/certified-graphics-hardware</u>

Attention

• System administrator permissions are required to install.



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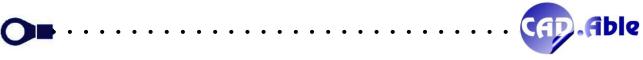


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1 MISCELLANEOUS

1.1 CONNECTORS MATERIAL DATABASE

In the connectors window, if you select a single Pin from the list and add a Pole with 'Add', the usual window opens but with the new checkmark 'Insert Pin ID before the selected one'.

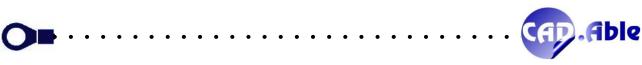
	Add Del ABLING Pins and related Wire Terminal No. Terminals Add-on I No		Accessories Code Supplier Supplier Code	OK Cancel	
C		als	Δrrecovies		
		Supplier C	ode Description		
	Add Del	DataBase Add	one or more Terminals: Cabling will choose the appropriate one base	d on the section of the connections for each Pins	
Co	de Supplier	Supplier C	ode Description	Min. section Max. section	
	Without additional Wire Terminal	s	 Insert Pin Id before the selected one Add-on length for Connections inside a Connector (mm) Strip Length (mm) 		
Pin	and related wire Terminals	N	Pin Id		
	ng 2025 - Pins management and related Wire Terminals			×	
	Total Articles: 167			Save End	
	•			Available commands ~	
	E Sequence	e			
3 3 N 4 4 N 5 5 N	°				
1 1 N 2 2 N	o o	0 0	Subblief Cone		
	and related Wire Terminals o. Terminals Add-on leng	th No. Pluas	Accessories Code Supplier Supplier Code	Graphic Symbol	
Aptiv_DTBMHPE348K BLC1	AC	APTIV AC	DTBMHPE34BKSV BLC1	34 M 1 M	
Aptiv_211PL249S0033 Aptiv_DTBFHPE34BKSV	AC AC	APTIV APTIV	211PL249S0033 DTBFHPE34BKSV	24 M 34 F	
APTIV_13800155 APTIV_1530027 Aptiv_211PC249S0033	AC AC AC	APTIV APTIV APTIV	13800155 1530027 211PC249S0033	16 F 2 M 24 F	
AMPHENOL_C01610G00	224V-NSR Connettore 600012 Connettore	AMPHENOL AMPHENOL	AT06-2S-D122 C01610G0060	2 F 7 F	
	401BLK Connettore	TE Undefined AMPHENOL	280262-5 46708003 AT04-2P-MM0	11 M 7 2 M	
46708003 AMPHENOL_AT04-2P-MI		TE TE	154746/2 180913/0 290363 5	5 M I	
154746/2 180913/0 280262-5 46708003 AMPHENOL_AT04-2P-MI		Supplier	Supplier Code Description	No.Pins Gender Graphic Symbol	

1.2 ASSEMBLIES – CREATE NEW SYMBOL

In the material archive, when creating a new symbol of an Assembly, a new dialog window is now opened with the new checkbox 'Exclude further wiring diagram'.

Cabling 2025 - Assemblies database			×
Code Family Supplier	Supplier Code	Description	Drawing/Database
<u>22222</u>			
Filter Code Filter Supplers	×		Graphic Symbol able commands reate new symbol elect from User Library
CABLING Total Articles: 1			Save End

If the checkbox is enabled (it is by default), the wiring diagram entities will be omitted from the creation of the new symbol representing the assembly. If assemblies are used to be inserted as SubSet, this checkbox is useful.



1.3 ADD OR MODIFY SHEATH/TUBE OR TAPE

To facilitate the distinction between sheaths/tubes and tapes, the possibility of choosing which of the two categories the individual material belongs to has been inserted in the add and edit windows of the materials database.

Cabling 2025 - Modify	Sheath, Tube or Tape		×
Code *	0000		
Supplier		SONEPAR ITALIA SPA	
Supplier Code	BF130	● Sheath/Tube ○ Tape	
Family	Tape Canvas	~	
Description EN	G. 29 POLY. TG		
Description IT	G. 29 POLY. TG]
Description FR]
Description DE]
Description ES]
Diameter (or Width)	6.4		
Minimum Diameter	3.2		
Maximum Diameter	6.4		
Hatching	ANSI31 ANSI Ferro	~	
CABLIN JIS_STN_2.5: Hatch not f		OK Cancel	

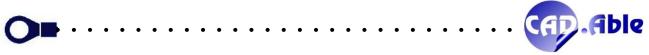
Selecting the 'Tape' category requires you to enter a value that begins with 'TAPE' in the 'Family' box.

This distinction was made to allow you to recognize a tape from a sheath/tube in CABLING processing.

Those who do not wish to touch their material database can continue to code all these materials under the 'Sheath/Tube' category.

These two new alerts may appear:

CABLING Warning		×
	Family must start with 'TAPE'	
	ОК	
CABLING Warning		×
	Family must NOT start with 'TAPE'	
	Family must NOT start with 'TAPE'	





In automatic printing, the Job-orders to be printed are presented with the relative sheets. Since CABLING works by managing the single multisheet, when printing in the window only the sheets of the currently open multisheet are highlighted in green.

If the print is repeated in the same multisheet, the previously printed sheets are re-presented. Previously, if a print was performed on another multisheet, that list was re-presented and the user had to remember to re-select those of the current multisheet.

V Print				×
Name	Description		Printer - Active Page	Settings -
	Description		◯ from DWG	~ /
			 Custom 	PDF 🗸 🔶 🗙
			Custom	
			Printer	SPAC To PDF.pc3
			Paper	ISO A3 (420 x 297 mm)
			Style	SPAC Default.ctb
			Offset	Center the plot
			Area	Extends
			Rotation	Unrotated
			Grouping	Entire Job Order 🗸 🍌
				PDF
			Preview	
		Print 2 Sheets of 2 totals		
C:\SPAC AUTOMAZIONE CAL	2025\COMMESSE_AUTOMOTIVE\pdf_A	UTOMOTIVE.pdf		
				a 🖪 🔊
		OK Cancel		🐭 🔛 🕑

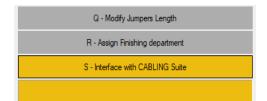


1.5 INTERFACE WITH CABLING SUITE

A centralized database has been created in which to save the harness data designed with CABLING 4D in order to use them with the new CABLING Suite (external program in Windows environment).

At the moment in CABLING Suite there are two applications available: CABLING 4P (for Production) and CABLING 4E (for Estimation) respectively to manage the harness data towards automatic cutting/stripping/crimping machines and to calculate production times.

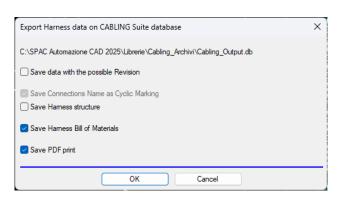
The centralized database is an 'open' database in which you can, following our instructions, access to extract data useful to your company.



In the Industrialization menu using the button 'S – Interface with CABLING Suite' the window below opens:

Interface with CABLING Suite	\times
Export hamess data on CABLING Suite database Import Strips/Department/Add-on length from database Output for automatic machine Unions on desk output Splices output Set CABLING Suite database	
OK Cancel	

With the option 'Export harness data to CABLING Suite database' the window below opens where you can choose what and how to export.



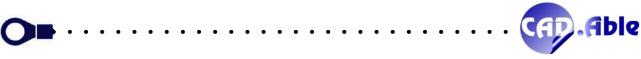
Before the first export it is necessary to set the CABLING Suite database (which must be called Cabling_Ouput.db) indicating its position in the work folders.

CABLING Suite, with the 4P application for the management of automatic machines, allows some changes to the cutting list exported from CABLING 4D. For this reason, the following items appear in the window with the interface commands:





- Import Stripping/Department/Add-on Length from database allows you to update an harness layout with information that has been modified in the database by Cabling Suite: starting and arrival stripping, connection add-on length and crimping department
- Output for Automatic Machine allows you to create a wires table with only the processed ones on automatic machines, starting from the data in the database by Cabling Suite
- Unions on desk table allows you to create a wires table of only the processed to be carried out at the bench (finishing) starting from the data in the database by Cabling Suite
- Output Splices allows you to create a Splices table starting from the data in the database by Cabling Suite.

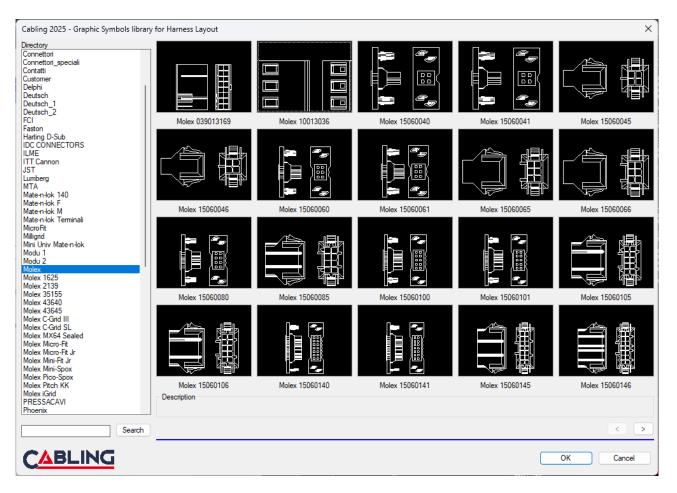


1.6 NEW GRAPHIC SYMBOLS IN CABLING_BLK_LIB

In CABLING 2025 we increased the number of blocks in the CABLING_BLK_LIB library. We went from about 3,000 symbols to about 3,500, many of which are MOLEX brand.

In addition, the library has been fixed by modifying obsolete codes of existing connectors.

Having an increasingly large library of available symbols in addition to our willingness to increase it on request remains one of our musts.





The sheet title legend has been revised and in particular the possibility of saving the list in XLS format has been added.

Cabling 2025 - Sheet title	es list		×
Multi-sheet S	heet Title	e Translation	
WASHING MACHINE 1			
For drawing only			
O Translation on one line		• Translation over double lines	Settings
	Dra	wing Table CSV File CSV File	Summary Cancel

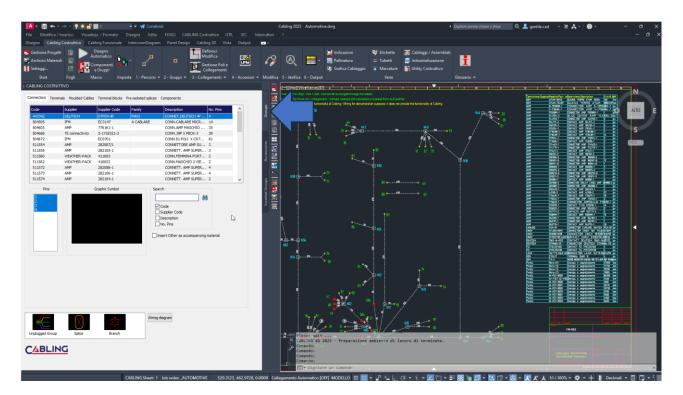
Title legend cor	figuration						×
Table				LEGE	NDAT		
Number of rows		26	Line pito	:h		7.5	
Column numbers		2	Column	pitch		190.5	
Туре	Description		Х	Y	Color	Height	
Point	Insert		0	0			
Attribute Attribute	Sh. Number Sh. title		30 55	242 242	7	3.2 3.2	
Text Color	7	×	30			Change	
Text Height	3.2	Y	242		Se	elect point <	
			I.E.S.		ОК	Cancel	



2 HARNESS LAYOUT

2.1 INSERTING GROUPS AND COMPONENTS

CABLING 2025 introduces a new method for inserting Groups into the harness layout via the new window below:



The window has the following features:

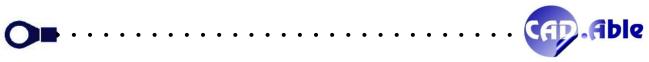
- It is resizable.
- It can be anchored to the left or right side of the drawing area.
- It can be minimized without being closed.
- It has three side tabs for three different modes: Groups, Accessories, and Inserted Groups.

In the Groups mode, the window displays a series of tabs at the top corresponding to the available material categories: Connectors, Wire Terminals, Moulded Cables, Terminals, Pre-isolated Splices and Components.

At the bottom of the window, three images are available for inserting Unplugged Groups, Splices and Branchings.

Below the materials list, there are other areas that depend on the material category: for example, for a Connector, the list of Pins, the image, and for all categories, an area dedicated to searching for the desired material using keywords.

It is also possible to set Filters by right-clicking on the material list titles.



Connectors	Terminals Mo	ulded Cables Terminal blocks	Pre-isolated splices	Components
Code	Su	Set Filter on Supplier		Description
447342	D	Remove Filter on Suppli	er	CONNET.DEUTSCH 4P
504595	IF	Remove all Filters		CONN.CABLARE MICR
504605	AI	Nerriove an Enters		CONN.AMP MASCHIO
504668	TE	Selection Fields to visual	ize	CONN.39P X PBOX-3
504672	IF			CONN 81 POLI X CR7
511554	AMP	282087/1		CONNETTORE AMP SU
511555	ΔMP	282105-1		CONNETT AMP SLIPER

Right-clicking on the material list will open a context menu where you can:

- Select a material to place on the drawing.
- Update the material list if there have been any changes in the materials archive. •
- Open the materials archive. •
- For connectors and terminals, search for the mating part. •

Connectors	Terminals	Moulded Cables	Terminal blo	ocks	Pre-isolated splices	Components	
Code	s	upplier	Supplier Co	de	Family	Description	No. Pins
447342	D	EUTSCH	DTP04-4P		MAXI		4
504595	I	FM	EC3147		A CABLARE		14
504605	A	MP	776161-1				35
504668	Т	E connectivity	5-1718321	-3			39
504672	I	FM	EC0701				81
511554	A	MP	282087/1				3
511555	A	MP	282105-1				3
511560	V	VEATHER-PACK	411693		Select group on dr	awing	2
511562	V	VEATHER-PACK	416053	Õ	Update List	-	2
511572	A	MP	282088-1	-			4
511573	A	MP	282106-1	\oplus	Materials database		4
511574	A	MP	282104-1		Mating Part search		2

Additionally, two extra buttons:

- Wiring Diagram: to switch to the same window adapted for the this environment. •
- Help (only for Components): To open a help file on how it works. •

Kar III ↔ - → - ♥ III → = A Condividi File Medifica / Inversci Visualizza / Formato Diskegna Edita FOGU CABLING Costrutis		・Digitare parola chiave o fraze 0、 💄 gentile.cad - 河 A・ 🗑 の × - の ×
Pile Modifica / Inserisci Visualizza / Pormato Disegna Eaita POGLI CAbLING Costructi Disegno Cabling Costructivo Cabling Funzionale InterconnDiagram Panel Design Cabling 30		
© Gestione Progets: 22 Disegno Statomatica Statomatica Statoga	Poli Contractore C	Gostavio -
: CABLING COSTRUTTIVO	t= [(=][Alto][Wireframe:2D] + + +	
Connectors Terminals Moulded Cables Terminal blocks Pre-isolated splices Components	• maigate tool flogil (Use + and - commands to rowigate through the sheets stands an Rie Excel con i collegament / Hames indicad with connectors imported from an Excel Rie	Concurrent/Bearley/Netsite/Pure Landers / Developere (Parentyson / Tarifa 3/4 Ref Alture 4214 - Science / Tarifa 2/4 - Science / Tarifa 3/4
Code Suppler Suppler Code Family Cocception It/L No Eff Eff EC1	orthogonal Image: Section access to be acce	
Graphic Symbol Search Code Search Sea	Marced Code Suppler Suppler Code Deverytion StitleS Accessions Code Suppler Suppler Code Ory Graphic Symbol Code Suppler Suppler Code Ory Graphic Symbol Code Suppler Suppler Code Ory Graphic Symbol Address Code Suppler Suppler Code Ory Graphic Symbol Code Suppler Code Ory Graphic Symbol Code Suppler Suppler Code Ory Graphic Symbol Code Code Ory G	No Fords Synthod
	Ineed ONLY he Mang Pals of the Congorent. Gone Congorent and indeed Accessories in Bit of Materials	
Unplaged Grap Splat Branch CABLING CABLING CABLING Sheet 1 Job order: AUTOMOTIVE	2 - Caracter Caracte	

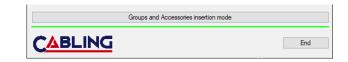
Inserting materials: Choose a material from the upper material list and insert it by dragging and dropping it with the mouse into the drawing area. You will then be prompted for additional information (e.g., name, function...) and asked for the insertion point on the drawing, as in previous versions. The same applies to the images for Free Groups, Soldering, and Branchings.



The checkbox 'Insert as accompanying material' allows you to insert the selected material not as a group but as an accessory.

If you do not wish to use this new mode of operation, you can revert to the previous mode as follows:

- Go to the Harness Layout environment settings.
- Use the button below.



Check the box for 'Disable new Insertion Mode'.

Cabling 2025 - Groups and Accessories insertion mode	×
Disable new insertion mode	
	OK Cancel

In 'Inserted Groups' mode, the following window appears, listing the materials inserted into the current layout. In this window, you can also select a material and drag it into the drawing area to insert it.

le	Supplier	Supplier Code	Description	Family	
	AMP	0-1355082-1	CONNECTOR AMP 0-1355082-1	Connector	
	AMP	1-1718484-1	CONNECTOR AMP 1-1718484-1	Connector	
	AMP	1355881-1	CONNECTOR AMP 1355881-1	Connector	
	AMP	144935-1	CONNECTOR AMP 144935-1	Connector	
	AMP	172074-1	CONNECTOR AMP 172074-1	Connector	
	AMP	174463-1	CONNECTOR AMP 174463-1	Connector	
	AMP	174779-1	CONNECTOR AMP 174779-1	Connector	
	AMP	180900-5	CONNECTOR AMP 180900-5	Connector	sories
	AMP	180907-0	CONNECTOR AMP 180907-0	Connector	S S S
	AMP	180941-0	CONNECTOR AMP 180941-0	Connector	Accessories
	AMP	280232-0	CONNECTOR AMP 280232-0	Connector	<
	AMP	281871-3	CONNECTOR AMP 281871-3	Connector	
	AMP	281988-2	CONNECTOR (RELAY CASE) AMP 281988-2	Connector	
	AMP	282080-1	CONNECTOR AMP 282080-1	Connector	<u>8</u>
	AMP	776522-1	CONNECTOR AMP 776522-1	Connector	
	AMP	776532-1	CONNECTOR AMPSEAL16 776532-1	Connector	Inserted Groups
	AMP	926522-1	CONNECTOR AMP 926522-1	Connector	ste
	AMP	962189-1	CONNECTOR AMP 962189-1	Connector	2
	AMP	962191-1	CONNECTOR AMP 962191-1	Connector	- <u>-</u> [
	CARLING	VCH-01	CONNECTOR CARLING SWITCH VCH-01	Connector	
	CINCH	17401EV10M1	CONNECTOR CINCH 10V 17401EV10M1	Connector	
	CINCH	18308EV6M8	CONNECTOR CINCH 18308EV6M8	Connector	
	DEUTSCH	DTMN06-2S	CONNECTOR DEUTSCH DTMN06-2S	Connector	
	LEAR	16779.562.699	CONNECTOR LEAR 16779.562.699	Connector	
	OEM	EYELET	TERMINAL DIAM. 8	Wire Terminal	

2.2 NEWS ABOUT COMPONENTS WITH CODE

In the Harness Layout environment a component consists of a graphic symbol and one or more ports.

There are three types of ports:

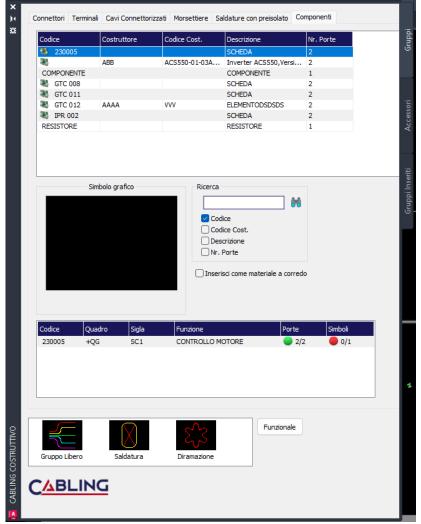
- Ports with mating part
- Ports with multiple pins
- Sequence of single pins

For each component to be inserted, the Panel, a unique Name (which cannot be repeated) and an optional function are required.

For components with multiple ports or with only one port with mating part, a name and a function (optional) will be required for each port.

In the case of simple components, the name of the component will correspond to the name of the single port without mating part.

In the dockable window, select the top tab 'Components', choose a material from the top list and insert it by dragging it into the drawing area with a drag & drop.





With the exception of simple components, all others will be inserted into the 'Inserted Components' list at the bottom of this window.

The reason for this list is to keep an eye on the list of Ports and graphic symbols inserted in the drawing (Ports and Symbols columns) where if you find green dots it means that the component has been completely inserted. If it is not, you can drag the selected component from this list into the work area to complete the insertion.

For example, if you have inserted a port of a component that has two ports, you can select it from the lower list and drag it into the drawing area to insert the second port.

Panel	=QG				✓ …
NAME					
Function					
Material					
Code	Supplier	Supplier Code	Description		Nr. Ports Symbol
504565	IFM ELECTRON	IC SRL CR7132			0
Accessories				Graphic symbol	Ports of Component
Code	Supplier	Supplier Code	Qty Graphic Symbol		ID Port Nr. Pins Function
			s belonging to the Hamesses. Name of the Component.		
It's possible t	-				
	Mating Parts of the Com	ponent		Insert Graphic Symbol	

After dragging & dropping the window below opens:

If after inserting the name you activate the checkbox 'Insert ONLY the Mating parts of the Component', the component will not be inserted and you will be asked to insert the ports, with or without mating parts. Otherwise and if the relative graphic symbol is defined, the component will be inserted and the ports will be inserted subsequently.

The component (even if not inserted) is saved in the drawing and considered a Usage with a specific panel, name and function.

The Name of the Ports of a component are proposed in this way:

Component Name + ID of the port defined in the material database separated by a space. The Function eventually defined in the material database is proposed.

Obviously you can change the Name and the Function as you like, with the exception of the Panel which will remain the one defined in the component.



2.3 INSERT ACCESSORIES

CABLING 2025 has introduced a new way to insert Groups and Accessories into the harness layout via the new window below:

	segment of shea	th/Tube/Tape as acce	5301 Y						<u> 98</u>	10
de	Supplier	Supplier Code	Family	Description	UM			Groups		
1105	GRAFOPLAST	GFKE727012442			mm	_		5	UT	
418882-1	AMP	1418882-1			pz					tto la gyar rificare l'isc
11559	AMP	76319			pz					dOV tro sol
11576	AMP	75553			pz				— I	de the wire de ha the ha iso
11583	AMP	493581-1			pz					he iso
11621	AMP	75555			pz			Accessories	7	
17145	ILME	CAO06L21	CUSTODIA					220		
57318	AMP	929674			pz			8		
74010	CERMASI	SA1121			pz			<		
									±₽ ₩	
Gr	aphic Symbol	Search	de	. 11				Inserted Groups		Pro C
Gr	aphic Symbol	Co	pplier Code						1 01	Pres
Gr	aphic Symbol	Co								Piez Color
Gr	aphic Symbol	Co	pplier Code						, , , , , , , , , , , , , , , , , , , 	X00 Marro
Gr	aphic Symbol	Co	pplier Code	. 66						XXO Marro XXO Bianc XXO Giallo
Gr	aphic Symbol	Co	pplier Code	. 00						XXX Blam XXX Blan XXX Giallo XXX Verd
Gr	aphic Symbol	Co	pplier Code							X00 Marr X00 Bian X00 Gialli X00 Verd X00 Rosc
Gr	aphic Symbol	Co	pplier Code							XXO Man XXO Bian XXO Gial XXO Vero

Activate the window to insert Accessories using the corrispondent side tab.

The window has two upper tabs to select the type of accessory:

- Harness accessories
- Pieces of Sheath/Tube/Tape as an accessory.

Also in this window, choose a material from the upper materials list and insert it by dragging it with the mouse into the drawing area (drag & drop): the other necessary information will be requested with a further window.



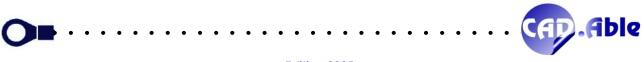
2.4 REPORT GROUPS AND CONNECTIONS

The report has been enriched with new information:

- 1. Splices are divided from those with pre-insulated
- 2. For sploces without pre-insulation it is possible to have a count of how many different sections (sum of the sections of the connections that are connected to the individual splices) are present on the harness
- 3. Branches are counted
- 4. The Bundles are counted divided by: taped, without material and with material, the last one divided by Type (if defined in the materials archive).

Total Connectors : 57 Total Wire Terminals : 6 Total Splices : 100 Total Unplugged Groups : 6 Total Moulded Cables : 1 Total Connections : 596 Total Connections on Splices : 407 Total Wire Terminals on Groups : 756 Total Accessories : 151	Cabling 2025 - Groups and Connections report	×
Continue Cancel	Total Wire Terminals : 6 Total Splices : 100 Total different Splices Section : 23 Total Unplugged Groups : 6 Total Moulded Cables : 1 Total Connections : 596 Total Connections on Splices : 407 Total Wire Terminals on Groups : 756 Total Seal Protectors : 52	
		Continue Cancel

Cabling 2025 - Groups and Connections report	×
Total Connectors : 3 Total Wire Terminals : 36 Total Splices : 1 Total Sonnections : 37 Total Connections on Splices : 17 Total Connections on Groups : 18 Total Bundles with material with 'Type' UIPLA : 1 (Total length : 98 mm) Total Bundles with material without 'Type' 1 (Total length : 98 mm) Total Bundles with material without 'Type' 1 (Total length : 98 mm) Total Bundles without covering material 63 (Total length : 16950 mm) Total Accessories : 61	
	Cancel



2.5 OUTPUT HEADERS

It is possible to insert a title at the top of the outputs. To configure this possibility use the 'Output Headers' button in the settings of the table or file outputs.

	Available fi	ields			Output order fields	
Tag	F	ield title	Width mm	Field Title	Field Title	
Code		lode	50		Code	
Supplier		Supplier	50		Supplier	
Supplier Code Description		Supplier Code Descrizione	40 80	Width	Supplier Code Descrizione	
Qty).tà	20		Q.tà	
UM		JM	10		UM	
Multi-Sheet		IULTIFOGLIO	50	Modify		
Sheet		OGLIO	20	moully		
Pos. Description IT		os Jescrizione IT	10 80	Text Color		
Description EN		escrizione EN	80			
Description FR		escrizione FR	80			
Description DE		escrizione DE	80			
Description ES		escrizione ES	80	Add >		
Name Hamess		GLA ABLAGGIO	80 40			
M.s.		.M.	40	< Remove		
Job Order		OMMESSA	40			
Family	T	ipologia	40	Standard	Acquire Fields	
			'ByBlock' o	olor = Table Text color	Output Header	
mensions					Colors for Table drawing	•
laximum Table height	251 mm	Maximum rows	number	49	Edges : 4	
heet height	235 mm	Titles height		3	Titles: 2	
heet width	380 mm	nues neight		3	nues. 2	
able width	250 mm	Texts height		2.5	Texts: 7	
					Tables following the first one	

CABLING allows you to create outputs in Table and XLS or CSV files with a header whose data is taken from the attributes of the Master^{*} Title Block of the current Multisheet. This window allows you to configure this header even for different title blocks.

Cabling 2025 - Attr	ibutes setting	s of MASTER* Title b	locks for outputs	×
data	coming from Att is window allow	ributes of Master* Title	CSV File with a header containing block of current Multi-Sheet. rfor different Title blocks. ut title at its begin.	
Able Header				
for Table output		for XLS of	or CSV File output	
Title block name		Tag	Tag Title	
Sel		Mod	Del	
Table output title	Output type Title	BILL_OF_MATERIALS		
CABLI	NG	I.E.S.	OK Cano	el

Only for table outputs you can enter a title, for example BILL OF MATERIALS The 'Title' is maintained, it will not be necessary to set it when creating new job-order or new multisheets.



DISTIN	TA MATERIALI				
Codice	Costruttore	Modello	Descrizione	Q.tà	UM
C23382			CAVO CAN ISO11898 2X0,5 P/F	0.31	m
CU-00.5-B			CAVO SEZ.0,5 BIANCO	0.475	m
CU-01.0-CG			CAVO SEZ.1 ARANCIO GIALLO	0.345	m
CU-01.0-HB			CAVO SEZ.1,0 GRIGIOBIANCO	0.345	m
CU-01.0-N			CAVO SEZ.1,0 NERO	0.234	m
CU-01.5-BN			CAVO SEZ.1,5 BIANCONERO	0.255	m
CU-01.5-NG			CAVO SEZ.1,5 NEROGIALLO	0.355	m
CU-01.5-RG			CAVO SEZ.1,5 ROSSO-GIALLO	0.355	m
CU-04.0-B			CAVO SEZ.4 BIANCO	0.345	m
E00000				4	



2.6 COPY BETWEEN SHEETS

The command that allows you to copy an harness to another sheet of the same multisheet or another one has now been revised to allow easier navigation between Areas and Job orders. With the new window that opens after selecting the elements to copy, you can navigate the Job Orders and choose Multisheets and Destination Sheet.

Copy between Sheets - Choose Multishe	et and destination Sheet						×
Area\Job order	Customer	Nr.	Multi-Sheet	Designer	DATE	Description	Opz.
		1	Automotive		18/11/2010 11:27		<
	SDProget						
	SDProget						
	SDProget						
	SDProget						
Cable							
Cable from Spac							
Flexible Wiring							
Generic							
Washing Machine							
		Layer	Sheet T	ītle			
		1	1				
		2	2				
CABLING						ОК	Cancel

As in the previous version, if the drawing has been modified you are asked whether to save it and you are also asked whether to copy the Connections between the selected Groups.

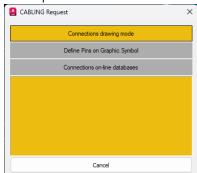


2.7 CONNECTIONS CABLING Harness Layout UTIL 🕇 Settings... AUTOMATIC DRAWING hours and Groups Import ^P 1 - BUNDLES 🚡 Bundle Utilities 2 - GROUPS 😫 Import Groups List of Groups Group Utilities 🔄 3 - CONNE 🔄 Import Connections Pins and Connections management Connection Utilities 📅 4 - Harness ACCESSORIES Accessory Utilities 78 EDIT Indications 🚯 Balloons

When launching the command by pressing Enter to the question on the command line

Select a Group or a Connection / Enter for options :

the revised CABLING options window opens.



With the 'Connection Drawing Mode' option, this window opens:

Connections drawing mode	×
Standard with selection of Source Group only Standard with selection of Source and Destination Group Draw single Connections	
OK Cancel	D,

'Draw Single Connections' now becomes a mode that remains modal for the entire work session, unless you change it with the same menu or reopen the drawing.

This change was made necessary by the growing number of users who use the 'Draw Single Connections' mode.



When designing with Single Connections, if you select a connector that does not have defined pins on the graphic symbol, the following question is asked:

CABLING Request	\times						
Draw single Connections Do you want to define the Pins on the Graphic Symbol ?							
Yes No							

If you press yes, the Pins definition window on the graphic symbols will open, where you can specify the reference points of the graphic symbol where the single connections should arrive.

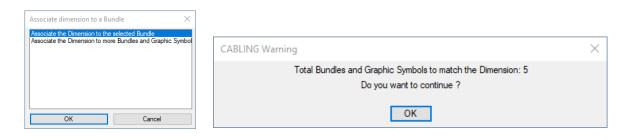


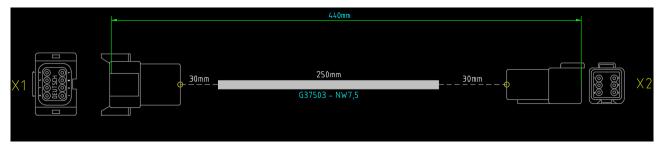
2.8 ADDED NEW DIMENSION FIELD

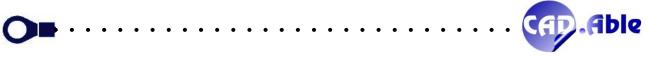
For Connectors and Molded Cable, the new dimension field is now available in the Cabling materials database, where you can indicate the length of the connector or molded cable.

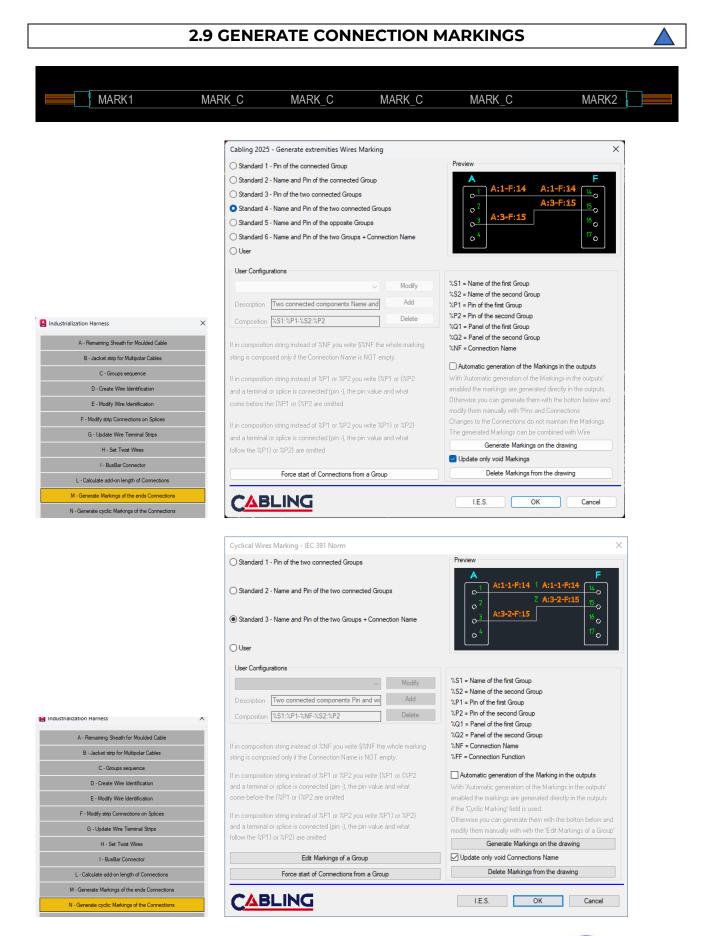
Cabling 2025 - Modify	Connector		×				
Code *	447342						
Supplier	DEUTSCH	DEUTSCH	\sim				
Supplier Code	DTP04-4P						
Family	MAXI	MAXI	~				
Description EN				i'			_
Description IT	CONNET.DEUTSCH 4P MOBILE F	MMINA MAXI		E3	Modify Bundle		
Description FR					Info Bundle		
Description DE					Create / Modify Connection		
Description ES							
Gender	M Male	✓		<u> </u>	Redraw		
Color				5	Copy characteristics		
Dimension (Length)		_ mm 🧹 🔰			Join to other Bundles with Material		
Wire Minimun diameter	2.5			*‡*	Move Bundle Texts		
Wire Maximun diameter	6				Setting and update Texts		
For harnesses check	Sealed with Seals and Plugs	Sealed with Plugs			Insert/Move Indication		
Mating Part				~-50	Graphic		
Code	Supplier Supplier Co	de	Add	<u> </u>		> Model Bundle	
557340	DEUTSCH DTP06-4S				Utility	,	
			Del			Associate dimension to the B Break Bundle	unc
	_					Join to another Bundle	
	G	ОК	Cancel				
-				· 037		Define/Modify Harness	

This information can be used to include, in the cable and harness layout, the assignment of multiple Bundles to a dimension and have the total size of the cable including the lengths of the connector or molded cable. You are asked to select the graphic symbols of the connector or molded cable and are asked for confirmation before the assignment.











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Important news in the connection markings, both those at the ends and those cyclical along the wire:

- The dialog windows have been improved
- The cyclical markings are no longer saved as a connection name but as separate information
- The cyclical marking information can now be viewed, in addition to the group indications, on all CABLING outputs including the graphic ones (tag %MC% in TblWire* blocks)
- For the cyclical markings, the 'Edit Group Markings' button has been added in the window dedicated to them, which allows you to modify, add or delete the marking texts. For the markings at the ends, the commands '3 Connections' and 'Pins and Connections Management' continue to be used.
- On both markings (ends and cyclical), the 'Force connections start from a Group' button has been added, which allows you to invert (if necessary) the connection. Where start and end group information is involved this allows the markings to be generated in the desired sequence/direction
- Markings can also be exported to CABLING 4P (Cabling for Production) for inkjet printing with automatic cut/strip/crimp machines.
- Cyclic markings are intended for inkjet printing on wire only, end markings for both printing and wire markers/labels.



2.10 MOVE GROUP

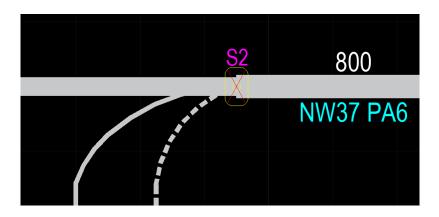
Two new features have been added:

- It is possible to move the Splice group also on a Bundle object of union
- After moving the group the question is asked:

CABLING Request		×
	Move Group Indication ?	
	Yes No	



2.11 SPLICES OUTPUT



In the presence of a splice (S2) at a point where more than 2 Bundles arrive, up to now the output did not calculate the left and right directions of the connections.

X4/E/11	H8480320			BN-1	14				
D2.2/67			1108	BN-1					
D3.2/67			1108	BN-1					

Now the evaluation is done on the Bundles where the connections actually pass: if they are 2, the left and right directions are calculated.





2.12 GROUP INDICATIONS SETTINGS

Cabling 2025 - Group Indications Tables parameters									
	Available fields				Output order fields				
Туре	Field	Field title	Width mm	Field Title	Field Title				
GROUP	Name Name and Position Panel Function Code Supplier Supplier Code Description Color Total Connections			Width Modify Add >	Group Name Group Function Polo Col. Sez. Cavo Cross				
INFO ACCESSORY	Accessories Code Supplier Supplier Code Description		0 0 0 0	Concatenate >					
PIN	Pin Pin Function	Polo Funz, Polo	10 20						
	e only graphic and keep current fi r (fields with width = 0) and titles Height 2.5 Color fields with width > 0) Height 2.5 Color	of fields 2 Style CBL_	GROUP_TAE	3 V Hei	ght 'Group Name' 5	_ £\$\$			
Table alternation for									
Table characteristics	Lines color	1 Max number	of rows table b	oody 30		ţŎŗ			
Options									
	Scale of tables 1 Texts width factor 1 Distance between texts and 1		see only conn Ily graphic and	ected Pins) d keep current fields		ζζ.			
	٩G			I.E.S.	Save	Cancel			

The many fields available for these tables have now been grouped by type.



2.13 AUTOMATIC DRAWING

New controls have been added to the window to make it easier to use during modifications. After defining multiple starting groups and multiple destination groups, you can order them differently with the arrows next to their list. You can also completely invert a Cable/Harness.

Cabling 2025 - Ar	utomatic drawing	g of a Cable/Harness						×
1 - Common Bund	dle LC							
Add	Mod	No common Bundle						
Code	Supplier	Supplier Code	Description			Length	Diameter Cable	
2 - Source data								
Materials Databa	ase	\sim						
2 - Start Group(s)				End Group(s)				
Add Group	Del	Outside Bundle S1	0 mm Mod	Add Gro	De	Outside Bu	ndle S2 0 m	m Mod
Panel	Name	Category	Outside Bundle	Panel	Name	Category	Outside Bundle	,
Code				Code				
Supplier		Supplier Code	•	Supplier		Supp	lier Code	
Description Function				Description Function				
4 - Start Accesso Add Accesso				4 - End Acces Add Acce				
Code	Supplier	Supplier Code	Qty UM	Code	Supplier	Suppl	ier Code Qty	UM
						o draw a Cable/Hames add one or more Start G he right). You can defir or each Group. A zero Yah Draw and 3 - Defi Mah Draw and 3 - Defi drawn automatically and Mith 'No common Bund and more Groups on the The 'Cfg' button sets the	e drawing dimensions.	way, You can nd Groups (on I an Outside Bundle Bundle. ories, I e/Hamess is w is opened. • Group on a side
CABL	ING		Reve	rse Groups	Cfg	Draw and 3 - De	fine Connections	Cancel



2.14 BUNDLE TEXTS SETTING

	xt					
Enable drawi	ing text	Text co	mposition	%C	%C = Code %S = Supplier	
Height	3		Color	4	%M = Supplier Code %D = Description EN	%D = Description IT
Text style	CBL_BU	NDLE_TXT			%T = Family %E = Diameter	%X = Description FR %Y = Description DE
Width factor (bet	tween 0.5 and	1)		1	%F = Diameter with Ø %N = Name	%Z = Description ES
Connections Dat	ta text (Bundles	s without mat	erial with only	one Connection))	
Enable drawi	ing text	Text co	mposition	%I %S		
Height	3		Color	4	%I = Color %S = Section	
Text style	CBL_BU	NDLE_TXT			%N = Name √ %C = Name	
Width factor (be	tween 0.5 and	1)		1	%F = Function	
				L		
			@-T		VT - Tetel las etc	
Enable drawi	ing text Te	ext compositio			%T = Total length %P = Partial length	
Enable drawi		ext compositio	on %T Color	7		npensation
Bundles Length Enable drawi Height Text style	ing text Te	ext compositi		7	%P = Partial length %S = Length with Com %N = Taping Step	
✓ Enable drawi Height	ing text Te 3 CBL_BU	NDLE_TXT		7	%P = Partial length %S = Length with Con	
Enable drawi Height Text style Width factor (bell	ing text Te 3 CBL_BU tween 0.5 and	NDLE_TXT			%P = Partial length %S = Length with Com %N = Taping Step Bundles without mater	
Enable drawi Height Text style Width factor (bef Bundles Data an	Ing text Te 3 CBL_BU tween 0.5 and nd Length texts	NDLE_TXT		[1	%P = Partial length %S = Length with Com %N = Taping Step Bundles without mater	
✓ Enable drawi Height Text style	Ing text Te 3 CBL_BU tween 0.5 and nd Length texts	NDLE_TXT			%P = Partial length %S = Length with Com %N = Taping Step Bundles without mater	

New configurations have been added:

- %W for English description
- %X for French description
- %Y for German description
- %Z for Spanish description
- %F for diameter with ø

1000
G37002 Ø5 Passo=5
G37002 Ø5 Passo=5

With %F, if there is a taping, in addition to the diameter set by the user, the taping step is also inserted.

If %%C is inserted in the marking string, it is now accepted and interpreted as $^{\varnothing}$



2.15 INSERT BRANCHES

When inserting Branches the following question is now asked:

CABLING Request		×
	Do you want to insert the Branch between the Bundle ends ?	
	Yes No	

This allows you to break the Bundle and insert the Node in one go, speeding up the work.



2.16 WIRE COLORS ON TABLE TBL_WIRE*

CABLING 2025 allow to create Wires cutting table using the colors of them, like in the example.

Output type	e		Block for dr	awing'	Excl	ude Multipolar Cables	
Table		~			Excl	ude Moulded Cables	
	Orients Splice				Excl	ude Connectors with No. of F	Pins less than
			Require in	sert point multiple Tables	Sele	ct Unplugged Groups for Spl	ices Drawing
Current Mu Harness	lti-Sheet hamesses Groups Q.ty	Sheet	Name	Function			
Hamess	55	5neet	Name	Function			
2	2	1					
Groups list	divided by harness						
Hamess	Category	Panel	Name	Code	Supplier	Supplier Code	No. Pins
2	Connector Connector	=QG =QG	63 89	AMP§180907-0 AMP§926522-1			
2	Connector		63 89	AMP\$180907-0 AMP\$926522-1			
2 2 Description Function	Connector		63 89	AMP\$180907-0 AMP\$926522-1			Groups sequenc
2 Description			63 89	AMP\$180907-0 AMP\$926522-1	Pins	Graphic sy	
2 Description Function			89	AMP\$926522-1	Pins		
2 Description Function Accessorie	Connector s	=QG	89	AMP\$926522-1	Pins		
2 Description Function Accessorie Code	Connector s	=QG Suppler Co	89	AMP\$926522-1	Pins		
2 Description Function Accessorie Code Regenerate	Connector s Supplier	=QG Supplier Co management'	89 ide Descripti	AMP\$926522-1	Pins		
2 Description Function Accessorie Code Regenerate	Connector Supplier s e output in 'Output rate all Hamesses	=QG Supplier Co management'	89 ide Descripti	AMP§926522-1	Pins		Groups sequenc
2 Description Function Accessorie Code	Connector Supplier s e output in 'Output rate all Hamesses	=QG Supplier Co management'	89 de Descripti Regenerate all Sp	AMP§926522-1			

		ENZA/SOU										IV0/DESTI		
AME/PIN	STRIP	CONTACT	SEAL		MARKING	WIRE NR. CA	BLE COL	SEZ	L. (mm)	MARKING	SEAL	CONTACT	STRIP	NAME/PI
A/1	7	D:FINITURA >			AA TTT	10 A	AR	1	100	AA TIT	AAA	FORCU4R	7	B /1
A/1	7	D:FINITURA >				10 B	AR	1	200				5	c/-
A/2	7	FOR CU4R				11	AR	1	300		AAA	F0RCU4R	7	B/2
						12	GY	1	400					
D/-	7	DIFINITURA				12					AAA	FORCU4R	7	B/3
	1			1										



2.17 TABLE TBL_WIRE* SCALE

With CABLING 2025 it is also possible to scale the outputs created with the TBL_WIRE* Blocks, such as the cable conformation table and the Semi-finished Table, Splices Table and Connector Connections outputs.





2.18 EDIT BUNDLE GRAPHICS



On Bundles with covering material, in the presence of the relative Bundle graphics, a new item has been added to the context menu: 'Edit Bundle Graphics'.

This new option opens the following dialog box:

Cabling 2	025 - Modify graphic	of the Bundle		×
Model	JIS_STN_2.5		Reset	
Angle			0	
Scale			1	
CA	BLING	Apply	End	

It displays the hatching pattern, angle and scale. Remember that the path graphics are generated with the angle at zero and with the scale set in Settings \rightarrow General settings \rightarrow Hatching scale factor.

By changing the angle and scale values and pressing the 'Apply' button, the hatching is modified and the values are stored on the Bundle. This means that the new graphics of the selected path will be maintained even if the graphics are regenerated.

To eliminate the forcing of the two parameters, use the same window and use the 'Reset' button, which will be enabled automatically.

These forcings allow you to create specific hatching graphics for individual Bundles by playing with angles and scale, making the drawing even clearer and more comprehensible to read.



2.19 IMPORTING CONNECTIONS INTO THE HARNESS LAYOUT

When using the 'Import Connections' command in the harness layout, it is assumed that the user has first imported the groups: importing groups means not only inserting them but also checking that they are correct with respect to the data source, whether it is an imported file or a electrical diagram.

To give the user greater security when import the connections without having checked that the groups are correct, an additional check has been inserted at the start of the command.

Cabling 2025 - Import Connections from database	×
C:\CABLING 2025\PROGETTI\QBM\MCX 90-110\WIRING DIAGRAM_N	ICX 90-110.DB (of 13/03/2025 -
Connections Add-on length calculated in according to Connection length Jumper length between pins of same Group	1 % 0 mm
Delete all Connections before place new ones Keep Contacts already placed	
	OK Cancel

After the previous window, the checks are carried out and in the event of an error, a further dialog box opens with their list, asking the user whether to continue or not. The errors are also written to the AutoCAD text window.

Cabling 2025 - Errors have been found. Look at text window.	×
A (+QG) : Group with different material - Using the Import Groups command B (+QG) : Pins different - Using the Import Groups command	
CABLING	Continue Cancel

Comando:
Selezionare un Gruppo di un Cablaggio:
Percorso non appartenente a nessun cablaggio:
Foglio: 1 - Posizione: (152.50, 180.00, 0.00) <> (237.50, 180.00, 0.00)
B (+QG) : Gruppo con materiale differente - Utilizzare il comando Importa Gruppi
A (+QG) : Poli differenti - Utilizzare il comando Importa Gruppi

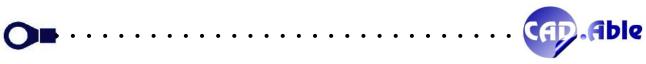


2.20 BUNDLES UNION CONTROL

More controls are now made by CABLING to check and correct the sequence of Bundles connected together with a Union.

Ricordiamo che l'unione tra Percorsi con materiali serve ad avere un'unica lunghezza e a effettuare un report corretto del taglio guaine.

We remember that the union between Bundles with materials is used to have also a single length and to carry out a correct report of the sheath cutting.



2.21 UPDATE OF GROUP INDICATIONS

In Cabling, it is possible to assign specific fields to the indications of the individual Groups. In this case, modifying the fields and then updating the indications would make all the indications of the layout unique, unless you use the selection modification. Now, if you activate the modification of the settings from the right-click menu of an indication, after the field modifications and before the update this question may appear:

CABLING Request		×
Update	e only the Indications with the same fields as the selected one	?

The question is not asked if the drawing contains only Indications with homogeneous fields.



2.22 MULTIPLE BUNDLES DRAWING

In Cabling the Multiple Bundles drawing window has been completed with the relative images of the result that will be obtained in the various modes.

Cabling 2025 - Multiple Bundles	×
Radially Aligned 1 Aligned 2 Aligned 3 On selected Nodes	100 100 100
Number of Bundles	2
Angle between Bundles	15
Distance between Bundles	10
Initial diameter	0.0
	OK Cancel
Cabling 2025 - Multiple Bundles	×
Radially Aligned 1 Aligned 2 Aligned 3 On selected Nodes	110
Number of Bundles	2
Number of Bundles Angle between Bundles	2
Angle between Bundles	15

In the radial Bundles drawing the position of the texts has been moved towards the free end thus avoiding overlapping of the texts with the other Bundles.

	22.22	2.5 22.5 22.5	
-0	, vir.	2.5	



Finally, if you draw Bundles with material containing arcs, you are prompted to disable the checkbox 'Enable Connections on Bundles edges'. This is because in some particular situations the connection is so small that the command that creates the graphics of the Bundles with materials may not work correctly.

Cabling 2025 - Bundles		×
Scale > Length	238.8 mm (Drawing detected Length: 238.8)	
Tolerance	0 = no tolerance / 20 = ± 20 mm / Free text ex. +20/0	
Length compensation	0 mm (positive value to extend on overlap or negative to re	educe on braches)
Name (optional)		
Type of Bundle	Linetype of the Bundle Line	Type scale
With covering material \checkmark	CONTINUOUS Solid Line 🗸 1	(Var. LTSCALE = 10)
Fillets on edges Bundle	Bundle diameter Settings Scale factor 0.5 Diameter on 3.2	Calculate 6.4 Diameter of the
		covering material
Available materials	ABLING Request	×
Sel All the Supp	The Bundle contains arcs: it is recommended to disable the F	Ellete en edece
Code Supplier	Do you want to continue ?	eter
01141 SONEPAR I	Yes No	erei
01147 ELEKTROZ 01305 ELEKTROZUBE	114684	12
01311 ELEKTROZUBE	114683	9
502029 POLYFLEX 502030 POLYFLEX		7.5
502030 POLYFLEX		13
502032 POLYFLEX		17
502033 POLYFLEX		23
502034 POLYFLEX 503016 WURTH		37
503016 WURTH 528216		19 12
528236		10
528248		7.5
528249		4.5
528288 528301 ELEKTROZUBE	11/695	8.5 18
528303 ELEKTROZUBE		12.7
CABLING		Set Texts OK Cancel



2.23 MODIFY BUNDLES DIAMETER

After changing the diameter of a Bundle with covering material CABLING asks if you want to scale all those with the same code, if founded in the currente sheet.

Cabing 2025 - Luici	bunule							^		
Length		2000	mm (Drawing de	etected Leng	gth: 250.6)					
Tolerance		30	0 = no tolerance	e / 20 = ± 20) mm / Free text ex.	+20/0				
Name (optional)										
Type of Bundle		Linetype of the Bu	ndle			LineTy	pe scale			
Single Multipolar Cable	• ~	CONTINUOUS	Solid Line	•		~ 1	(Var. LTSCALE = 10)	New Cable		
		Bundle diameter	Scale factor	1	Diameter on	10	< Calculate 0	Cable diameter MULTIPOLAR		
Cable Name	Code	Supplier	Sup	plier Code	Description			Conductors		
* -W03	DEMO0030				Cavo multipo	blare FROR F	FLEXlpiù 450/750 V e 300/500	V Sez. 24G1 mmq ?		
CABLIN	NG Reques	t						×		
	Draw single Connections									
	Do you want to define the Pins on the Graphic Symbol ?									
	Do you want to define the Pins on the Graphic Symbol ? Yes No									

These small changes are often requested by users that we insert into the program to improve it. These are changes that:

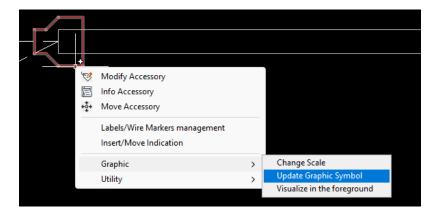
- make work easier and faster
- do not complicate the program because the questions to the user only occur if the conditions are met
- often the questions are accompanied by the checkbox 'Do not ask the again' for the current drawing session.





2.24 UPDATE ACCESSORIES GRAPHICS

The graphic symbol of an accessory can also be updated by using the graphics of the block saved in the user graphic symbol library (Cabling_Blk).





2.25 ADDITIONAL CHECK IN HARNESS CHECK

With the 'Check harness' command, but also at each start of the 'Connections' command, Cabling performs a check to ensure that any terminals of a connector are not of more different types: male and female.

This can happen on connectors that can accommodate both male and female terminals, such as faston connectors.

These additional checks are also requests that often come from users and are used to check that the design work has been carried out correctly.



2.26 CREATE MULTIPLE BUNDLES ON FIRST ENTER

The ability to create multiple Bundles is now also given if you press enter after defining the starting point of a Bundle. The previous mode that allowed you to create multiple Bundles after drawing the first segment is maintained. The new possibility was inserted mainly as a 'logic' improvement in the use of CABLING.

CABLING Request	×
Arc	
Create multiple Bundles	
USE THE LAST STRAIGHT SEGMENT AND ASK THE TYPE AND NUMBER OF SEGMENTS TO DRAW PARALLEL TO IT	t
Cancel	



2.27 SECTIONING MANAGEMENT

Improved sectioning with the ability to assign connections to the sectioning pins.

Cabling 2025 - /	Associate C	Connection	s to the Sectioning					\times
Name S.	Pin S.	Name	Function	Color	Section	Pin D.	Name D.	Pins
AA BB	2			M	1	2	BB BB	1 2
						[Associate	Dissociate
CABL						[OK	Cancel

This way you can directly decide how to associate the connections to the pins of the connectors inserted to section the selected Bundles.



2.28 OUTPUT CONNECTIONS OF CONNECTORS

Many users define the faston cover as a one-way connector. No problem for CABLING, but in the output 'List of Connections \rightarrow Drawing of Connectors Wiring they appear. For those who do not want to see connectors with a number of pins equal to 1 (but also up to 5) in this type of output, the checkbox 'Exclude Connectors with a number of Pins less than' has been inserted

	e		Block for dra	wing'	Excl	ude Multipolar Cables	
Drawing o	of Connectors wiring	~	701 14/105			ude Moulded Cables	
, and the second second			TBL_WIRE4	•	🔽 Excl	ude Connectors with No. of F	Pins less than 1
	Orients Splices	1	Require ins	ert point multiple Tables	Sele	ct Unplugged Groups for Spli	ces Drawing
iurrent Mu	ulti-Sheet hamesses li	st					23
Hamess	Groups Q.ty	Sheet	Name	Function			4
Groups list Harness	t divided by hamess Category	Panel	Name	Code	Supplier	Supplier Code	No. Pins Sheet
1	Splice	=QG	S1	Code	Supplier	Supplier Code	1 1
	Wire Terminal Wire Terminal	=QG =QG	T1 T2	SDP-0200 SDP-0212			
	Connector	=QG =QG	X1 X2	SDP-0100 SDP-0110			
	n						Groups sequence
unction					Pins	Graphic syr	
Description Function Accessorie Code		Supplier C	ode Descriptio	on	Pins		
Eunction Accessorie Code	es		ode Descriptio	on	Pins		
Function Accessorie Code Regenerat	es Supplier	anagement'		on lices and Connectors	Pins		
Function Accessorie Code Regenerat	es Supplier te output in 'Output m erate all Hamesses	anagement'			Pins		



2.29 EDIT CONNECTION IDS

Cabling has long had an additional information regarding the Connections of the Harness layout: ID Coll or Wire ID.

This value is not found in the standard connection management windows but in the Harness Industrialization commands.

It is a value that is managed to uniquely identify a connection when it becomes necessary, for example, to find this identifier in the production context. If you manage this identifier, it could be easier to find cut wires, tied with adhesive tape with this number.

A Industrialization Harness	×
A - Remaining Sheath for Moulded Cable	
B - Jacket strip for Multipolar Cables	
C - Groups sequence	
D - Create Wire Identification	
E - Modify Wire Identification	
F - Modify strip Connections on Splices	

The command has been revised with the window that manages:

- sorting of groups
- repetition of start groups (S_Name) to facilitate editing based on the group
- reporting of the Coll IDs already defined with respect to the total connections
- display of the start and end group information

Cabling 2025 -	- Edit Connection	is ID							>
S_Name	S_Pin	D_Name	D_Pin	Conn_ID	Color	Section	Code	Cable	
	- - 6765234 1334512	X2 X2 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1	3 4 5 1 2 5 6 7 - 1 2 - - 6 3 4				SDP-0814 SDP-0818 SDP-0800 SDP-0808 SDP-0808 SDP-0808 SDP-0812 SDP-0813 SDP-0814 SDP-0818 SDP-0818 SDP-0813 SDP-0813		
	Enter on	edit box to search C	Conn_ID			Mod	Searc	ch	
Name Function Category Accessories Panel	S1 Saldatura Splice SDP-0001 / SD =QG	IP-0007		Name Functior Categor Code Supplier Supplier Descript Nr. Pin Accesso	y Code ion	X2 Connettore Connector SDP-0110 Harting 0933006260 Connettore m 7 (1 2 3 4 5 6 SDP-0011 / 5	aschio 6+PE cont PE)	attia vite 500V 16A	1
C <mark>A</mark> BI		otale Id Coll definiti:	0 / Total Connect	ions: 9			ОК	Canc	el



2.30 FIELD 'TYPE' ON ACCESSORIES INDICATIONS

Upon request, the Family (or Type) field has been added, which reports the one eventually defined in the materials database. For example, on layouts created by design companies, being able to generically insert the Accessory Family (or Type) simplifies the reading by those who produce the harnesses, who will choose the appropriate material (Strap, Cable Gland, Label, etc.)

Accessory Indications Drawing Parameters (measure in	mm) ×
Available fields Name Code Supplier Supplier Ode Description Quantity Family	Output order fields Add > < Remove
Data text Height 2:5 Color 2 Style CBL_ACCESSORY_TAB Table characteristics Lines color 1	Options Indications Scale I Text width factor I Margin around Texts I Name text height Draw lines
	Save Cancel



2.31 FUNCTION OF CONNECTIONS

By pressing the '...' button next to the function, the 'List of used functions' dialog box opens, which now has two tabs:

- Insert Phrases to choose a phrase from the phrase database (already existing tab)
- List of used functions to choose one of the phrases already used in the current drawing (new tab)

				Source	Ð							Destinatio	on		
SDP-10002 (A) (=QG)T1 - SDP-0200 (A) (=QG)X1/2 2 SDP-10002 (a) (=QG)X1/2 (weid) (a) (=QG)X1/2 3 SDP-10002 SDP-10002 (b) (=QG)X1/2 (c)	CONNECTO	DR =QG	X1	Conn	ettore		~		WIRE TER	MIN =QG	T1	Termin	iale		
SDP-10002 SDP-10002 SDP-10002 SDP-10002 SoP-10002 SoP-10002	Pin	Contact	Seal	Color	Section	Name/Fu	Cross		Pin	Contact	Seal	Color	Section	Name/Fu	Cross
Cabling 2025 - List used Functions X SDP-10002 Double click on a Pin to see Destinat Double click on a Pin to see Destinat Material SDP-0100 - Connettore Material SDP-0100 - Connettore N 1 Contact SDP-10002 Seal		SDP-10002				(A)	(=QG) T1			SDP-0200				(A)	(=QG)X1/1
SDP-10002 Inset Phrases Double click on a Pin to see Destination Inset Phrases Double click on a Pin to see Destination Inset Phrases Material SDP-0100-Connettore N1 Contact SDP-10002 Inset Phrases Seal Inset Phrases		SDP-10002		_			(=0G) T2		(void)						
SDP-10002 Double clock on a Pin to see Destination meetor =QG X1 Connettore Material SDP-0100-Connettore m N1 Contact SDP-10002 Seal		SDP-10002		Cabling	2025 - List us	ed Functions						×			
SDP-10002 SDP-10002 Seal		SDP-10002		1				_							
Double click on a Pin to see Destinationnector =QG X1 Connettore Material SDP-0100 - Connettore m IN 1 Contact SDP-10002 Seal	j	SDP-10002		List use	ed Functions	Insert Pl	nrases								
Immetter = QG X1 Connettore Immetter = QG X1 Connettore Material SDP-0100 - Connettore m N 1 Immetter = Contact Sop-10002 Immetter = Contact Seal Immetter = Contact				_											
	Contact Seal		7 mm	C	BLIN	IG				ОК		Cancel			
Edit	Contact Seal	SDP-1000	7 mm	C	BLIN	IG				ОК		Cancel			
Name A Function Add-on 0 mm Length 630 mm Manual mode	Contact Seal Strip	Connec	7 mm		BLIN	IG			xdd-on	,	Length		Ec	dit	Connect
Name A Function Addien I mm Length 530 mm Manual Delate	Contact Seal Strip	Connec	7 mm		BLIN	IG		. A	Add-on	,	Length		Ec	dit	Connect
Name A Function Add-on 0 mm Length 630 mm Manual mode Delete	Contact Seal Strip Name	Connec A s O Cables	7 mm		BLIN	IG		. A	۱dd-on ا	,	Length		Ec Ma mod	dit nual de	Connect

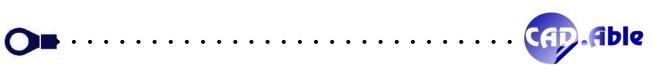


2.32 REMOVE UNUSED CONNECTIONS

During the design it can happen, even if rarely, that some connections remain hanging only from one end or from both.

CABLING Harness Layout UTIL IEC Swite	Connections Utilities	
1 Settings	Substitute Wires	
AUTOMATIC DRAWING A Insert COMPONENTS and Groups	Substitute Cable	
Import	Delete Connections not used	
م ا - BUNDLES	Delete all Connections	
Bundle Utilities	Verify DB Import Connections	
2 - GROUPS	Import Name/Function/Add-on length from fil	e
😫 Import Groups	Shield drawing	
📫 List of Groups		
🎁 Group Utilities		
3 - CONNECTIONS		
😝 Import Connections		
Pins and Connections management		
Gonnection Utilities		
4 - Harness ACCESSORIES	Cancel	

With this command these connections are deleted but now the indications of the Groups are also updated, avoiding the user having to do it.



2.33 INSERT MOULDED CABLES

Always to simplifying and speeding up the work of designers, after choosing to insert a Moulded Cable group, the following question is asked:

CABLING Request		\times
	Do you want to draw the Bundle of the Moulded Cable ?	
	Yes No	

If you answer Yes, CABLING will allow you to draw the Bundle of the cable and opens the window for defining the Bundle directly with the type 'Single Multipolar/Moulded Cable' where you can enter the its length.

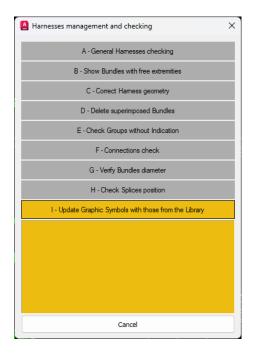
Cabling 2025 - Bundles		×
Scale > Length	59.2 mm (Drawing detected Length: 59.2)	
Tolerance	0 = no tolerance / 20 = ± 20 mm / Free text ex. +20	0/0
Length compensation	0 mm (positive value to extend on overlap or negativ	e to reduce on braches)
Name (optional)		
Type of Bundle	Linetype of the Bundle	LineType scale
With covering material \sim	CONTINUOUS Solid Line ~	1 (Var. LTSCALE = 10)
Fillets on edges Bundle	Bundle diameter Settings Scale factor 1 Diameter on	6.4 Calculate 6.4 Diameter of the covering material
Available materials		
Sel All the Suppliers	✓ All the Families	✓ All ✓ < Filter
		< Search
Code Supplier	Supplier Code Description	Diameter
01141 SONEPARITALI 01147 ELEKTROZUBE 01305 ELEKTROZUBE 01311 ELEKTROZUBE 01305 ELEKTROZUBE 502029 POLYFLEX 502030 POLYFLEX 502031 POLYFLEX 502032 POLYFLEX 502033 POLYFLEX 502034 POLYFLEX 502035 POLYFLEX 502036 POLYFLEX 502037 POLYFLEX 502038 POLYFLEX 502039 POLYFLEX 502030 POLYFLEX 522216 522248 522288 52280 523030 ELEKTROZUBE	117186 114684 114683	6.4 9.5 12 9 7.5 10 13 17 23 37 19 12 10 7.5 4.5 8.5 8.5 12,7
		Set Texts OK Cancel



2.34 UPDATE GRAPHIC SYMBOLS

Among the possible checks that can be performed with the 'Harness Management and Checking' command, there is now the option 'I – Update Graphic Symbols with those from the Library' that updates the graphic symbols present in a harness layout, maintaining the scale and rotation of each individual symbol.

This allows you to easily update the graphic symbols on old drawings if changes have been made to the symbols stored in the Cabling_Blk folder or in one of its sub-folders.





2.35 CALCULATE ADD-ON LENGTH OF CONNECTIONS

In this command, the 'Update only void Add-on lenght' checkbox has been added which allows you to update only Connections that have a Add-on length of zero.

Cabling 2025 - Add-on Lengths on Bran	nches					>
It is possible to set	the add-o	n length	for the C	onnections passing th	rough the Branches.	
The add-on length depends by	the angle	betweer	n two bur	dles convergent in a l	Branch (also with 2 Bundles	only)
A Connection passing inside tw	o bundles	converg	ging in a l	Branch gets an add-or	n length depending by the ar	ngle.
In a Branch Node with forced v	alue, the a	add-on le	ngth will	be added to all the Co	nnections passing in the Bra	anch.
						_
Add-on length on Bundles with angle from	0	to	60	degrees (mm)	0	mm
Add-on length on Bundles with angle from	60	to	120	degrees (mm)	30	mm
Add-on length on Bundles with angle from	120	to	180	degrees (mm)	50	mm
	e only void	I Add-on	length			
	5	Foro	e value o	n Branch Node	Update Layout	End
1.Lev	<i>.</i>	1010		in branch wood	opudic Edyodi	Lind



2.36 HARNESSES CHECKING

New checks have been added to this command, including:

- Check that the maximum lengths of moulded cables defined in the material database are respected in the current drawing. Otherwise, a warning is given as in the image below
- Especially in the automotive sector, there are connectors that can accommodate male or female terminals (for example, fastons). Now a warning is given if a connector has terminals of both genders, which is not normally correct: Connector X1 Sheet 1: Terminals of different 'Gender' found.

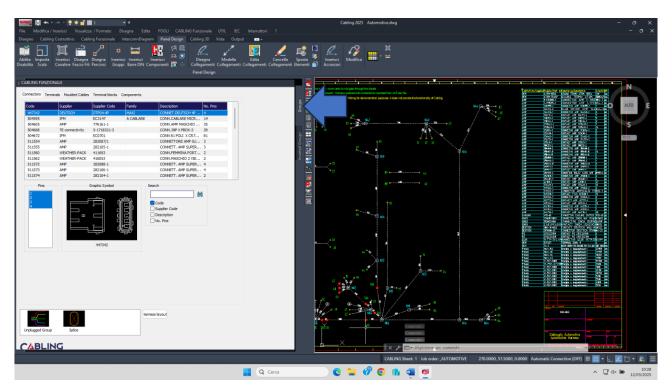
Cabling 2025 - Reports	×
Moulded Cable Xz - Sheet 1: Length 1050 greater than that defined in the Material Archive 100 CABLING Warning ×	
Total reports: 2 Also list on AutoCAD Text Window (F2 key)	
	End



3 WIRING DIAGRAM

3.1 INSERT GROUPS AND COMPONENTS

CABLING 2025 has a new way to insert Groups into the wiring diagram through the new window below:



The window has the following features:

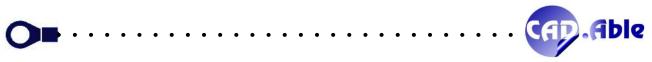
- It is resizable.
- It can be anchored to the left or right side of the drawing area.
- It can be minimized without being closed.
- It has two side tabs for two different modes: Groups and Inserted Groups.

In the Groups mode, the window displays a series of tabs at the top corresponding to the available material categories: Connectors, Wire Terminals, Moulded Cables, Terminals and Components.

At the bottom of the window, two images are available for inserting Unplugged Groups and Splices.

Below the materials list, there are other areas that depend on the material category: for example, for a Connector, the list of Pins, the image, and for all categories, an area dedicated to searching for the desired material using keywords.

It is also possible to set Filters by right-clicking on the material list titles.



ABLING FUN	ZIONALE		
onnectors T	erminals Moulded Cable	s Terminal blocks Components	
Code	Supplier	Set Filter on Supplier	scription
447342	DEUTSCH	Remove Filter on Supplier	DNNET.DEUTSC
504595	IFM		NN.CABLARE
504605	AMP	Remove all Filters	ONN. AMP MASC
504668	TE connectiv	Selection Fields to visualize	DNN. 39P X PBO
504672	IFM	Selection Fields to visualize	DNN 81 POLI X
511554	AMP	282087/1	CONNETTORE AM
511555	AMP	282105-1	CONNETT. AMP S
511560	WEATHER-PACK	411693	CONN.FEMMINA
511562	WEATHER-PACK	416053	CONN.MASCHIO

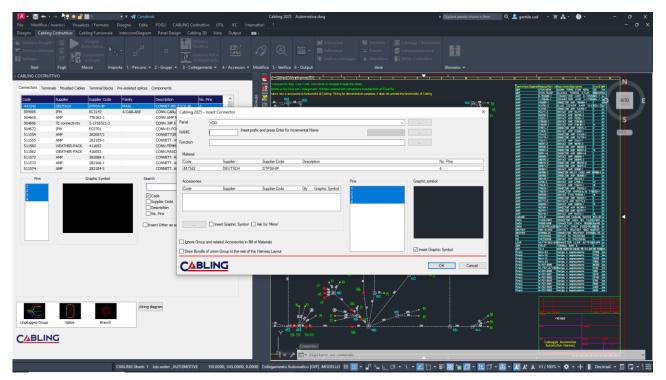
Right-clicking on the material list will open a context menu where you can:

- Select a material to place on the drawing.
- Update the material list if there have been any changes in the materials archive.
- Open the materials archive.
- For connectors and terminals, search for the mating part.

Code	Supplier	Supplier Code	Family	Description	No. P
447342	DEUTSCH	DTP04-4P	MAXI	CONNET.DEUTSCH 4P	4
504595	IFM	EC3147	A CABLARE	CONN.CABLARE MICR	14
504605	AMP	776161-1		CONN. AMP MASCHIO	35
504668	TE connectivity	5-1718321-3		CONN. 39P X PBOX-3	39
504672	IFM	EC0701		CONN 81 POLI X CR7	81
511554	AMP	282087/1		CONNETTORE AMP SU	3
511555	AMP	282105-1		CONNETT. AMP SUPER	3
511560	WEATHER-PACK	🖳 Select group (on drawing	NN.FEMMINA PORT	2
511562	WEATHER-PACK	() Update List	2	N.MASCHIO 2 VIE	2
511572	AMP			NETT. AMP SUPER	4
511573	AMP	(+) Materials data	abase	NETT. AMP SUPER	4
511574	AMP	Mating Part s	earch	NETT, AMP SUPER	2

Additionally, two extra buttons:

- Harness Layout: to switch to the same window adapted for the this environment.
- Help (only for Components): To open a help file on how it works.



Inserting materials: Choose a material from the upper material list and insert it by dragging and dropping it with the mouse into the drawing area. You will then be prompted for additional



information (e.g., name, function...) and asked for the insertion point on the drawing, as in previous versions. The same applies to the images for Unplugged Groups and Splices.

If you do not wish to use this new mode of operation, you can revert to the previous mode as follows:

- Go to the Harness Layout environment settings.
- Use the button below.

Groups and Accessories insertion mode	
	End

Check the box for 'Disable new insertion Mode'.

Cabling 2025 - Groups and Accessories insertion mode	×
Disable new insertion mode	
	OK Cancel

In 'Inserted Groups' mode, the following window appears, listing the materials inserted into the current diagram. In this window, you can also select a material and drag it into the drawing area to insert it.



3.2 NEWS ABOUT COMPONENTS WITH CODE

A component is made up of one or more graphic symbols with entry points called Pins, possibly divided into Ports.

If the component is made up of multiple graphic symbols, the first is considered the 'mother' component, the subsequent 'children'.

The choice of having a single graphic symbol or multiple symbols depends on the user's needs. Example: a coil can have its contacts in the same symbol or have the coil separated from its contacts. Another example: a symbol of an electronic board that cannot fit into a single drawing sheet can be separated into multiple symbols.

There are three types of ports:

- Ports with mating part
- Ports with multiple pins
- Sequence of single pins

For each component to be inserted, the Panel, a unique Name (which cannot be repeated) and an optional function are required.

For components with multiple ports or with only one port with mating part, a name and a function (optional) will be required for each port.

In the case of simple components, the name of the component will correspond to the name of the single port without mating part.

Ports with mating part (for example a connector) require the insertion of _MORS* symbols that correspond to the pins of the mating part. Ports without mating part instead require the insertion of reference points on the single graphic symbol or on the graphic symbols of the component. The peculiarity of CABLING is that it is not necessary to store the graphic symbols with reference points: they are defined directly during the first insertion and then saved in the materials archive for subsequent uses.

In previous versions of CABLING it was necessary to insert the _MORS* symbols also for ports without mating part.

Select the upper tab 'Components', choose a material of a component from the upper list and insert by dragging it into the drawing area with a drag & drop: the symbols of the component will be inserted first and then the ports will be inserted.

With the exception of simple components, all the others will be inserted in the list of components inserted in the lower part of this window.

The reason for this list is to monitor the list of ports and graphic symbols inserted in the diagram (Ports and Symbols columns) where if you find green dots it means that the component has been completely inserted. If it is not, you can drag the selected component from this list into the drawing area to complete the insertion.

For example, if you want to insert a coil with a separate contact (2 graphic symbols), you can first insert the coil as a new material and then (in another sheet of the diagram) the contact, select from the lower list and drag into the drawing area to insert the child contact.



CABLING FU	NZIONALE						
Connectors	Terminals Moulded Cables	Terminal blocks	Components				Groups
Code	Supplier	Supplier Code	Family	Description	Nr. Ports	7	Groups
USER	IFM ELECTRONI	CR7132	ECU	(PRG)CENTRALINA IF	0		
USER			RESISTORE	RESISTENZA 1 KOHM 1W			
USER	LITTELFUSE		RESISTORE VOLANTE	RESISTENZA 120 OHM PORTAFUS, VOLANTE			
USER USER		10485008	ZOCCOLO RELE	ZOCCOLO NERO X REL			<u>8</u>
							Inserted Groups
	Graphic Symbol	De		96			
Code	Components inserted Panel Name	Function	damar	Ports Symbols			
			farness	layout			

To sum up:

I	
Simple single port	Insertion of one or more graphic symbols with reference points
component without mating	defined on the blocks without requiring further name because
parts	the name is that of the component.
Component with mating	Insertion of one or more graphic symbols with reference points
parts or with multiple ports	defined on the blocks for Ports without mating parts and with
	insertion of _MORS* symbols for Ports with mating part.

The window that opens after dragging into the drawing area is the one below, where you can indicate the Panel, Name and function, see the material data, the Ports and the graphic symbols that compose it.

	=QG					V			
me	R1 New Con	mponents				~			
nction									
Naterial Code	Supplier	Supplier Code	Description					Nr. Ports	
516106	Supplier	Supplier Code	Description					1	
orts and relat	ed Pins						Gi	raphic symbols	
ID Port	Nr. Pins Function		ld Pin ld S In	nserted	Symbol			d Ins. Name	
+	2								
								Insert Graphic Symbol	
								Use saved Connection Poin	its
* A mi								Insert	End
								Use saved Connection Poir	End

There is another way to insert components: define the components but do not insert them into the electrical diagram, inserting only the mating parts. This mode can be used to create simplified wiring diagrams dedicated mainly to the interconnection of the harness.

The component (even if not inserted) is saved in the drawing and considered a 'usage' with a specific code and function.

To enable this operation, simply remove the 'Insert Graphic Symbols' flag from the previous window.

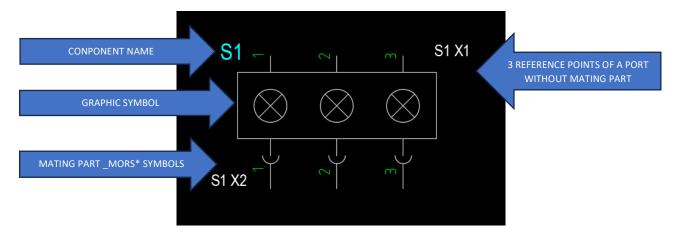
For Ports with a mating part, the _MORS* symbols will continue to be inserted and the same will happen for the other Ports, not being able to use the referecne points of the graphic symbols.

The Names of the Ports of a component are proposed in this way:

Component Name + ID of the port defined in the material database separated by a space. The one eventually defined in the material archive is proposed as the Function.

Obviously you can change the Name and the Function as you like, with the exception of the Panel which will remain the one defined in the component.

Here is an image of a component with only one graphic symbol, a port with mating part (X2) and a port without mating part (X1):

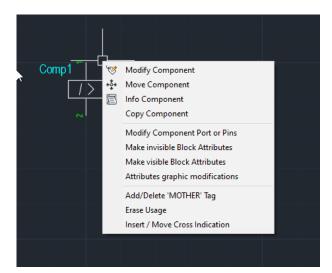




3.3 EDIT COMPONENTS

Modification of a component can be done with the following rules:

- 1. selecting the graphic symbol of a component and using the 'Modify Component' option in the context menu to change the Panel, name and function, not the material.
- 2. selecting a pin of a mating part of a component to modify its characteristics
- 3. selecting the graphic symbol of a component and using the 'Modify Port or Component Pins' option in the context menu to modify the name and function of one of the ports without a mating part inserted in the symbol with the relative reference points.



A symbol of a component can also be moved by selecting it and using the 'Move Component' option in the context menu: the _MORS* symbols of the counterparts will also be moved, together with any connections.

Finally, a component can be copied by selecting it and using the 'Copy Component' option: the component name will be requested and the new symbol with the relative ports will be inserted.

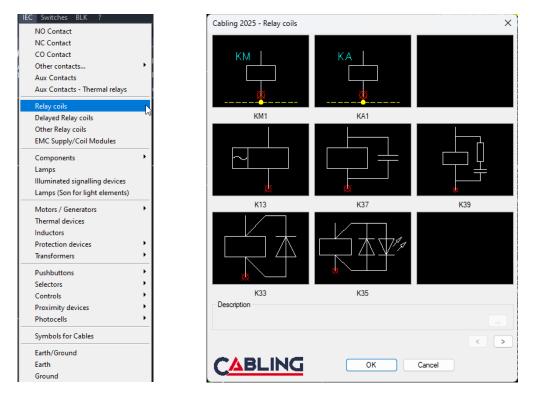


3.4 NEWS ABOUT COMPONENTS WITHOUT CODE

A component can be inserted into the diagram even without material, as a generic component. Components can be normative (IEC, JIC...) or user BLKs created by the user.

It is also possible to perform mixed insertions of coded and non-coded components. To insert a generic component:

1. from the menu by choosing one of the types and one of the symbols that are presented in the dialog box



The following dialog box opens:

abiling 2025 -	 Insert Components 								>
	Constitution data of	Elho nou Component and		insert the graphic symbol (e the drawing		Graphic symbol IEC\K1:		
		nine new component and		inserrine graphic symboli	cruie urawing		IEC \K I.	3	
New Compone									
Panel	=QG					✓ …			
Name							\sim		
Function								<u>م</u>	
						Insert	Use saved Connection	Points	
List of inserted Name	l Components Panel	Function				Code		Inser, S	h.
Supplier Supplier Code Description									
Supplier Code Description Ports and relat	ed Pins						Graphic symbols		
Supplier Code Description			ld Pin Id	Symbol Inserted Symbol			Graphic symbols		~
Supplier Code Description Ports and relat	ed Pins		ld Pin Id	Symbol inserted Symbol			Graphic symbols		~



where you have to insert the component code and its function, if any. In the lower part of the window you will find the components already inserted previously.

By pressing the 'Insert' button, you are asked for the insertion point of the component symbol and subsequently you can have two options:

• If it is the first time that the component is inserted, a dialogue box opens where you can insert and possibly save the reference points of the symbol, those where the electrical connections will arrive.

abling 2025 - Defi	ne Pins on Gra	phic Symbol IEC\	K13		
	Define the Pir	ns of the Componen	t on the Graphic Symbol inser	ted in the drav	ving.
I POLI SONO U	NA PROPOSTA	DI CABLING - MO	DIFICATELI SECONDO LE V	OSTRE NECE	SSITÀ E SALVATELI
Mod Pin value	A1		Naming prefix K		Save Pins position
	Pin	Х	Y		
	A1 A2	0	15 0		
	/ L	Ŭ	Ŭ		
Pin Attribute rotation					
0 90° () 0'		Add	Del Mod	Sequ	ence See
0.00					
				firm insertion	Cancel

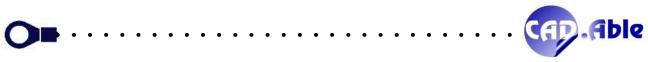
This window opens even if the checkbox 'Use saved connection points' is disabled from the main window.

• In subsequent insertions (if the 'Use saved connection points' box is active) the window below opens where you can change the values of the Pins on the graphic symbol (without changing their position).

Pins value on drawing	\times
You can change the value of the Pins for this insertion or confirm those already existing	
X1 X2	
X1 Mod	
Continue Cancel	

Symbols inserted in the IEC, JIC, VDE or Electronics libraries are already divided by symbol type:

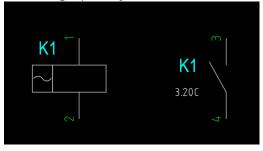
- Mother Symbol (for example a coil)
- Child Symbol (for example a coil contact)
- Neutral symbols (for example a lamp).



So when inserting a coil with a contact, first insert the coil and then, if you insert a contact, the following window opens:

Cabling 2025 - Insert Child	×
Choose a Mother from those available	
Name Panel Function	Code Sh.Seg
a sss +QG	1.21E
Supplier	
a = Mother with Supplier Code errors / alerts	Insert Child without Mother
Description	
Mother and Children Errors / Alerts	Graphic symbol
Sh.Seg Type Pin Mother without any Child Mother without Cross Indication	1.215
1.21E MOTHER A1 A2	1.21E 30
n2	
	IEC\NA1_F
	Use saved Connection Points
CARLING	OK Cancel
CABLING	OK Cancel

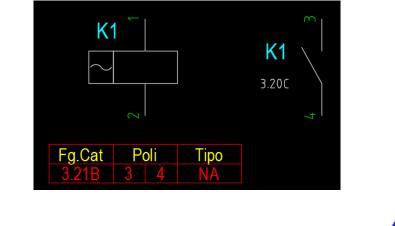
In this window you can choose the coil (mother) to which to 'hook' the contact (child) before inserting it into the electrical diagram: mother and child will have the same code. You can also change the values of the Pins on the graphic symbol for the child.



In the window there is a check of the situation of the individual mothers: for example, before inserting the child, it is reported that the mother has no Child on the diagram.

The position of the Mother in the diagram is automatically inserted: sheet (3), separator (.) and catenary (20C).

It is also possible to insert a Cross Indication near the Mother, a topic we will discuss later.

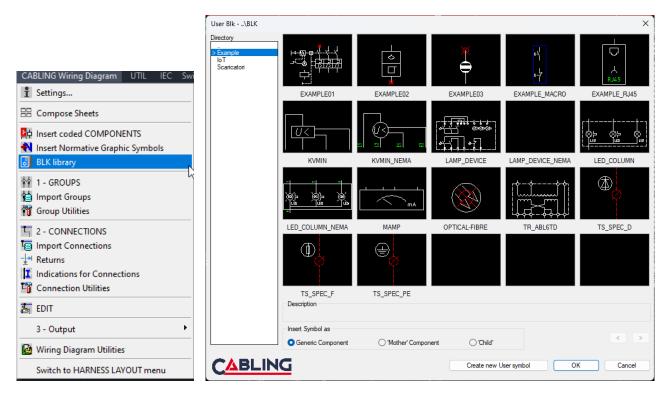




To insert a normative symbol, in addition to the dedicated IEC, JIC, VDE or Electronics menu, it is possible to recall it from CABLING Wiring Diagram \rightarrow Normative Symbol Library which calls up the following window from which to choose the category of symbol to insert.

	Cabling 2025 - Select Symbol category for Wiring Diagram	×
CABLING Wiring Diagram UTIL IEC Swit Settings Ensert coded COMPONENTS Insert Normative Graphic Symbols Issert Normative Graphic Symbols BLK library Insert Normative Graphic Symbols Import Groups Group Utilities 2 - CONNECTIONS Import Connections Returns Indications for Connections Connection Utilities EDIT 3 - Output Import	Not defined 2 pos stable selector switches 2 position selector switches w/key 2 position stable selector switches w/key 2 way. 3 position contact 3 phase transformers 3 position isolating switches 3 position selector switches 3 position selector switches 3 position selector switches 4 position selector switches w/key 4 position stable selector switches 4 position stable selector switches 5 position selector switches 5 position stable selector switches 5 position selector switc	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
Wiring Diagram Utilities		OK Cancel
Switch to HARNESS LAYOUT menu		

To insert a component with a custom graphic symbol created by the user, you must use CABLING Wiring Diagram \rightarrow BLK User Symbol Library which opens the following window:



You can choose one of the symbols available in the BLK folder or in one of the sub-folders. The chosen symbol can be inserted as a 'Generic Component', such as 'Mother' or 'Child'. A button has also been added to create a new User symbol.

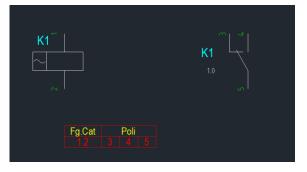


3.5 MANAGEMENT OF MOTHER & SONS COMPONENTS

In CABLING 2025, more types of components have been provided:

- Terminals/Terminal Blocks
- Connectors
- Terminals and soldering
- Unplugged Groups
- Generic components
- Mother and Children components

Mother and Children Components have been provided to allow a component to be divided into multiple graphic symbols. For example, a coil (mother) with one or more contacts (children) or an electronic board divided into multiple parts. Mother and children are considered as a single component and are identified with the same Name and belonging panel. The mother contains a PRES attribute with M, the children an attribute PRES that begins with F.



To allow you to understand where the mother and children are in the diagram, two modes have been provided, one linked to the mother and the other to the children. The mother can have a Cross Indication associated with it that reports the Sheet.Segment position of the children and their value of the Pins. For the children, the REG attribute is filled in that indicates the Sheet.Segment position of the mother.

The Cross Indications provide a window with the parameter settings:

abling 2025 - Settings of Components Cross	Indications		×
Texts of field titles			
Height 2 Color 2 Style	CBL_GROUP_TAB ~		
Text for Sh.Seg column	Fg.Cat]	
Text for Pin columns	Poli	Insert Pin column	s
Text for Type column	Tipo]	
Contacts			
Type Description			Value on Indication
FA Open FC Closed			NA ^
FS Swap			SC
FAP Power switch, open FCP Closed power (contact)			NAP NCP
FL Lamp			L
FM Module F_COIL Relay			M
FA_RE Aperto Ritardato alla Eccitazione			NA RE
		Mod	NA
Texts of tables body			
Height 2 Color 1 Style	CBL_GROUP_TAB ~	AA ⁻ I	9 1
Table characteristics			AA \
Lines color 1			L16
Options			
Texts width factor		Fo.Cel	Pol Too 4 NA 8 7 8 8 10 NAP
Distance between texts and 0,5		1.18 1 1	
	I.E.S.	Save	Cancel

ible

The Type column provides one of the values from the 'Contacts' list.

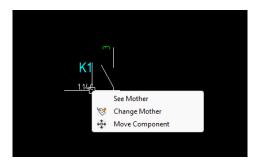
To display the window, you need to right-click on a previously inserted Cross Indication.



If you instead right-click on one of the texts, a contextual menu will be displayed to see the destination, that is, the child to which the selected text belongs.

Setting and update Connections Cross Indications Delete Connections Cross Indication See destination	Name	Pin	Cross	PD							
See destination				ation							
	Se	e destinati	on								

By right-clicking on one of the Children, a context menu will be presented to view or change the Mother.





3.6 CROSS REFERENCE

The Cross-Reference command directly opens the window below in which the mothers found in the current multisheet are listed. The list shows the name, the panel, the function, the possible material code and the position of the Sheet.Segment of the individual mothers. If a mother has errors or warnings, the letter 'a' is displayed on the corresponding line and in the 'Errors / Reports' section they are listed. It is possible to see the symbols that have a problem with the 'See' button.

With the 'Indications' button you can insert the indication of the selected mother or move it if it is already present. With the 'Update all' button all the mothers and children are updated, that is, the existing indications are updated and the Sheet.Segment of the corresponding mother is inserted in the children.

Cabling 2025 - Cross	s Reference				×
Mothers					
Name	Panel	Function		Code	Sh.Seg
a sss	+QG				1.21E
a = Mother with	Supplier Supplier C	ode			Indication
errors / alerts	Descriptio				Update all
Mother and Children		Errors / Alerts	1015		
Sh.Seg Type 1.21E MOTHER	Pin	Mother without Cross Indication	1.21E		
	A2 1 2				
1.17F Child	2				
See					See
CABLI	NG				End

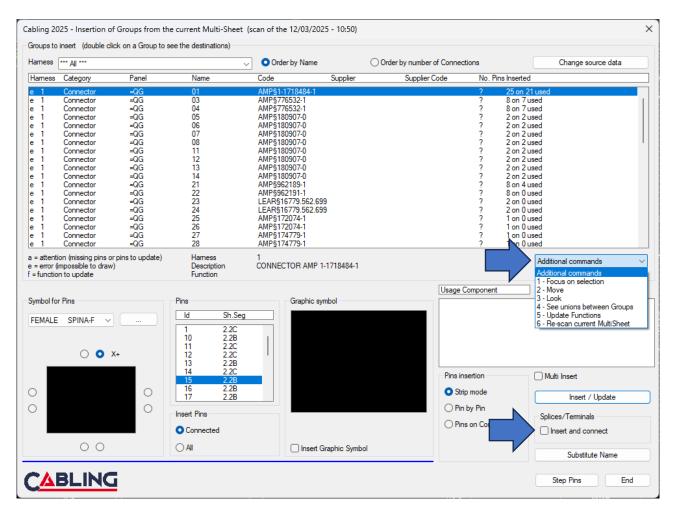
By selecting individual mothers, the Sheet.Segment information, the typology (mother or children) and the pins used are displayed in the 'Mother and Children' section. The error/warning messages are:

- More than one Mother with the same name found
- Mother without any Child
- Mother with the same name as a generic Component
- Attribute not valued
- Repeated pole
- Mother without Cross Indication
- Child/son without Mother
- Child with the same name as a generic Element



3.7 IMPORT GROUPS

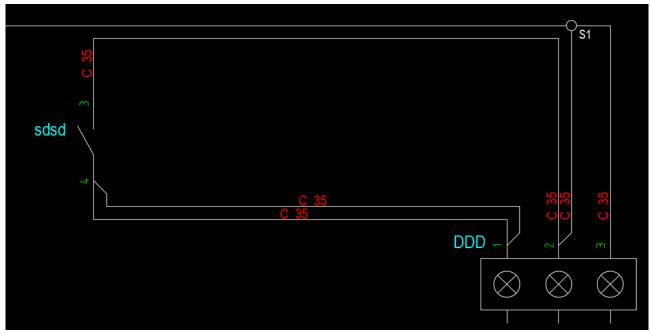
In the additional commands, '4 – View Group Unions' and '5 – Update Functions' have been added, which were previously buttons on the main window. The window has been simplified and the new 'Insert and Connect' toggle has been added for Wire Terminals and Splices.





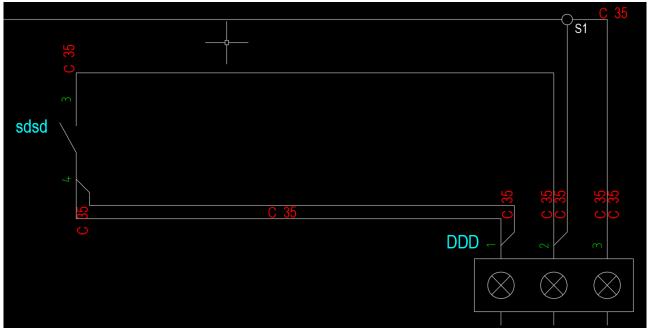
3.6 CONNECTION INDICATIONS

When creating connections in the wiring diagram, texts indicating the characteristics of the connections themselves are added by default. A control has been added that if a text 'overflows' beyond the line that must contain it, it is moved to the next one (if available) or deleted. In this way, drawing becomes even simpler and more correct, without further intervention by the designer.



This is the current result:

Previously this was the result:

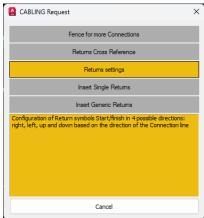




3.7 CONNECTION RETURNS CONFIGURATION



Using the 'Connection Returns' context menu option on an existing connections now opens the following menu:



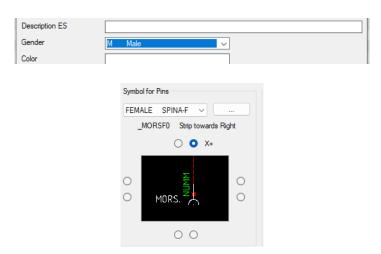
In addition to the other options, there is the one to Configure the Returns which now also includes the configuration of how to manage cross references (in the lower part of the window) and whether to enable Ramification on Cross References.

Cabling 2025 - Returns configu	iration		×
Connection returns (_SIGN* block	ks) - Automatic and ma	nual insert	
Start 0°	_SIGN_0]	<u>N</u> _B
Destination 0°	_SIGN_1]	► <mark>*</mark> *
Start 270°	_SIGN_2]	z
Destination 270°	_SIGN_3]	z
Connection returns (_SIGN* block	ks) - Manual insert		
Start 180°	_SIGN_20]	
Destination 180°	_SIGN_21]	<mark>*</mark> ***
Start 90°	_SIGN_22]	4
Destination 90°	_SIGN_23]	
Enable Ramification on Return	(only if necessary)	Separator	
Adds segment to returns Cross			~
	I.E.S.	ОК	Cancel



3.8 MAINTAIN CATEGORY _MORS* SYMBOLS

When choosing the graphic symbol of the _MORS* blocks, which can be activated with the button with the 3 dots (...) or by selecting the image, the selection window has a new checkbox: 'Use this Category'. Activating this box, even if you select a material to which you have associated a gender that has been declared Male or Female, the category in which the checkbox was activated is maintained (for example User).







4 ATTACHMENT

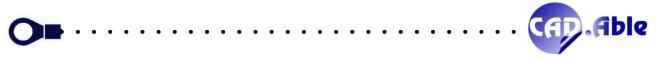
ATTACHMENT A – CABLING 4P

CABLING 4P is a standalone Windows software solution designed to optimize the CREATION and efficient MANAGEMENT of production orders in the electrical harnesses industry. The software is ideal for companies that use automatic CUT/STRIP/CRIMP machines and that seek to reduce time, errors and machine downtime in the cutting preparation process.

	Unità aggraffat	ura 2					Unità aggraffat	ura 1					
				~					~				
						Reset	Unità aggraffat	ura 3					
						Reser			\sim				
lacchine con fili assegnati Alpha 550	Cablaggio	Rev.	ID	Nome	Pin	Terminale	Colore	Sezione	Lunghezza	Terminale	Pin	Nome	Codice Filo
	Fili NON ordinati (and a											
	Hill NON Ordinau (J SU 4				Agg	iungi 👚 👚	Elimina	Ottimizza				
	Cablaggio	Rev.	ID	Nome	Pin	Terminale	Colore	Sezione	Lunghezza	Terminale	Pin	Nome	Codice Filo
	CABLAGGIO_1		4	J1	3	PPNI	R	1	300	TUI_1.5		T4	H05V-K 1x1 R
	CABLAGGIO_1		2	J1	2	PPNI	R	1	300	TUI_1.5		T2	H05V-K 1x1 R
	CABLAGGIO_1 CABLAGGIO_1		3	J1 J1	1	PPNI PPNI	R R	1	300 300	TUI_1.5 TUI_1.5	-	T3 T1	H05V-K 1x1 R H05V-K 1x1 R
									6				
	Fili ORDINATI 4 s	u 4					2	Inverti					

Main features:

Data import: direct reading of harnesses cutting tables from CAD projects created with CABLING 4D/SPAC Automazione, in addition to the possibility of importing cutting tables from EXCEL files. **Machine and applicator management**: definition of automatic machines with their technical characteristics. Management of the archives of mini applicators associated with individual machines, with matching to compatible terminals.



Nome	Marca	De	scrizione		
Alpha 550	Komax	Des	crizione Macchina	a Alpha 550	
<					>
Aggraffature Lat	0 1		Aggraffature L	ato 2	
Numero unità	1	Y	Numero unità	1	\sim
CapriFaston Lato	1		CapriFaston La	ato 2	
Numero unità (2	~	Numero unità	0	\sim
Gommini Lato 1			Gommini Lato 2	2	
Numero unità (2	~	Numero unità	0	~
Lunghezza Min (n	nm)		Lunghezza Ma:	x (mm)	
60			99000		
Sezione Min (mm2	2)		Sezione Max (r	mm2)	
0.22			60		
Dual	Alimentazione	Fili	Marcatri	ce	
⊖Si No	Numero di Fili	1	N	No Al	bbina Colori
Path File Lavoraz	ioni		43		
D:\Dxf					

Job creation and management: creation of flexible work orders, consisting of one or more harnesses and related production batches.

Intelligent assignment: automatic assignment of individual wires to the selected machines, with control of operational constraints (presence of mini applicators, wire section, etc.)

Optimization and output: job sorting functionality to minimize setup times and maximize productivity. Generation of specific outputs for SPAC Wiring, ensuring an integrated workflow.

Advantages:

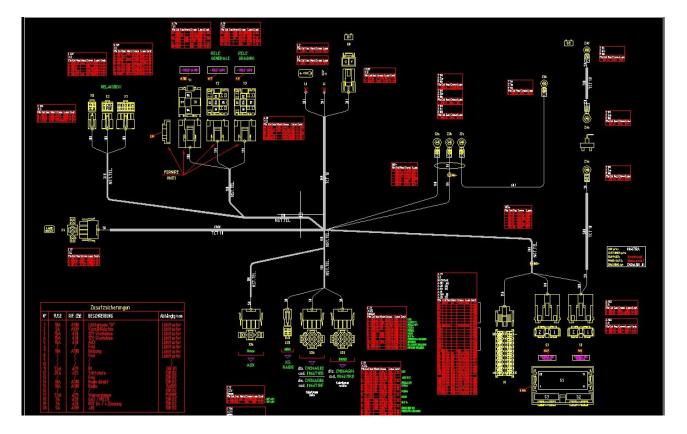
Time reduction: automates manual operations and speeds up the cutting preparation process. **Error Minimization**: constraint control and data validation to avoid setup errors and production waste.

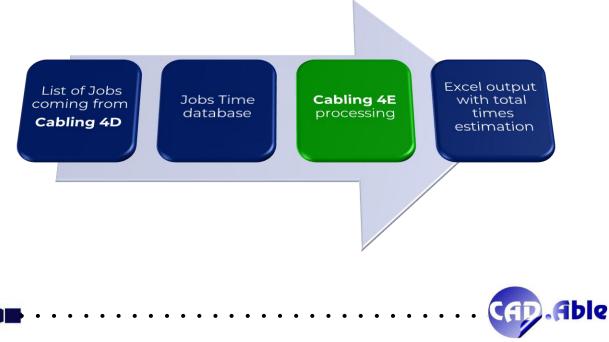
Operational Efficiency: Optimize machine utilization and reduce downtime, increasing overall productivity.

Integration: Integrates with CAD software such as CABLING 4D and SPAC Automazione. **Cost Control**: Improve material management and reduce waste.



CABLING 4E, the innovative software for estimating harnesses production times, **designed to optimize business processes**. Thanks to a fully customizable time database, every detail of the harness is analyzed and compared with predefined parameters, ensuring an accurate and timely evaluation.





Main features:

Time archive management: companies can manage their time database flexibly, adapting it to specific production needs.

Detailed analysis: every detail of the harness is evaluated based on the data in the database, allowing for precise and immediate comparison.

Excel reports: generates detailed reports in just a few moments, facilitating the creation of estimates that include not only materials, but also production and setup times.

Advantages:

Efficiency in cost estimation: with Cabling 4E, companies can obtain more accurate and competitive estimates, improving economic planning.

Reduction of preparation times: automates the calculation process, allowing you to save precious time in the estimate phase.

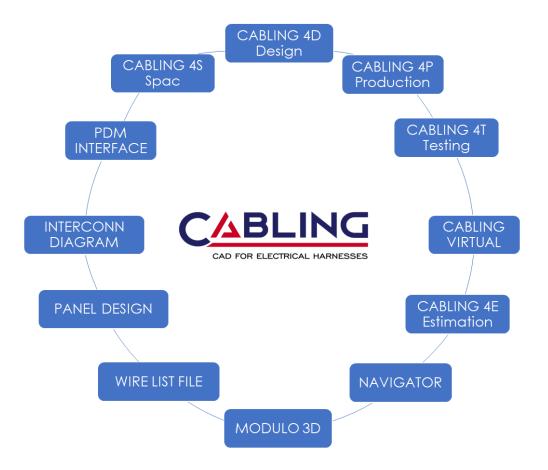
Ease of use: the intuitive interface makes the software accessible even to those with no previous experience in harnesses management.

			SHEATHS							
Category	Code	Туре	Description	Qta	Time_Machine	Tot.	Time_Manage	Tot.	Time_Manual	Tot.
Taglio			Taglio Guaine	22	2	44.00	3	66.00	4	88.00
Taglio			Taglio Guaine	6	4	24.00	3	18.00	6	36.00
			SHEATHS WIRE INSERTION							
Category	Code	Туре	Description		Time_WithTerminal		Time_WithoutTerminal	Tot.		
			INFILARE CAVO CON TERMINALI IN GUAINA lunga fino a 200 x terminale	20	1.80	36.00	1.80	36.00		
			INFILARE CAVO CON TERMINALI IN GUAINA lunga da1001 a 1500 x terminale	1	5.70	5.70	5.70	5.70		
			INFILARE CAVO CON TERMINALI IN GUAINA lunga da 201 a 600 x terminale	4	3	12.00	3	12.00		
			INFILARE CAVO CON TERMINALI IN GUAINA lunga da 601 a 1000 x terminale	4	3.90	15.60	3.90	15.60		
			CRIMPING AUTO							
Category		Туре	Description	Qta	Time_Machine	Tot.	Time_Manage	Tot.		
	0-54793-1			16	2	32.00	4	64.00		
	0-14793-3			2	2	4.00	4	8.00		
	0-282478-1			32	2	64.00	4	128.00		
			CRIMPING MANU							
Category	Code	Туре	Description	Qta	Time_Machine	Tot.	Time_Manage	Tot.		
				26	2	52.00	4	104.00		
	0-282403-1			4	2	8.00	4	16.00		
	1708331			3	2	6.00	4	12.00		
			ULTRASOUND COMPACTED							
Category		Туре	Description	Qta	Time_Crimping	Tot.	Time_Welding	Tot.		
	0-444777			12		0.00		0.00		
			LAYING							
Category		Туре	Description	Qta	Time	Tot.	TimeRemove	Tot.		
	CONNECTOR		POSIZIONARE CONNETTORE SU TAVOLA	177	5	885.00	1	177.00		
	TERMINAL		POSIZIONARE TERMINALE SU TAVOLA	3	1.08	3.24	1	3.00		





ATTACHMENT C – CABLING WORLD





ATTACHMENT D – VIDEOS

CABLING 4P

https://youtu.be/xtAvOZzpv5E https://youtu.be/Lcz12xMteyM

CABLING 4T TESTING https://youtu.be/sHW_YI4u6k8 https://youtu.be/NgAFWBJm20I

3D MODULE

https://youtu.be/lfT-aeiGNm4?feature=shared https://youtu.be/5GgEsW7UbSg?feature=shared https://youtu.be/SsOYt_28KDo?feature=shared https://youtu.be/-L7crhNBK9s?feature=shared https://youtu.be/l2Ykg27RD78?feature=shared https://youtu.be/Y6fpVnxpR8M?feature=shared

CABLING VIRTUAL https://youtu.be/hCvKWTNhSwU

NAVIGATOR https://voutu.be/GwRE5E7u5GI

WIRE LIST FILE <u>https://youtu.be/nA6tBI_xjH8</u>

PANEL DESIGN https://youtu.be/RWINWoUIEfU

SPAC TO CABLING https://youtu.be/BWDwLqGhgLU

> The specifications in this document are confidential. CAD.Able may make changes to the specifications described in this document at any time for technical or commercial reasons. The examples in this document are for illustrative purposes only.

#