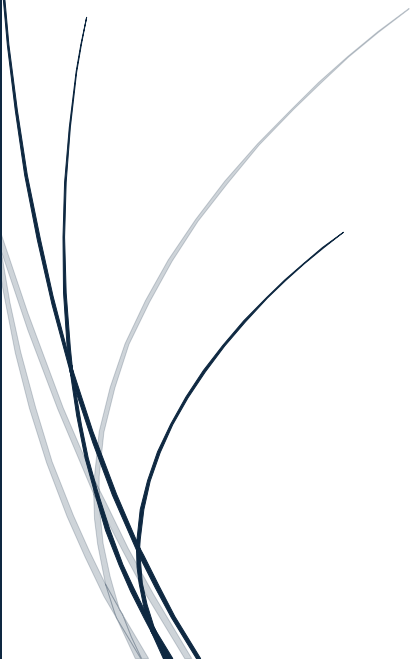




# Catalogue 2025/2026

Assembly – Production – Distribution

*English version*



## Wiring specifications

Cable types	Standard pitch (mm)	Common color	Connector types	Stripping length (mm)	Crimp contact types	Tinning	Heat shrink sheath (mm)
AWG\12	5,08	Brown	Screw plug, crimp connector	8	Fork (plug), Ring (wire)	Yes	9,5
AWG\14	5,08	Red	Screw plug, crimp connector	7	Fork (plug), Ring (wire)	Not	9,5
AWG\16	5,08	Orange	Screw plug, crimp connector	6	Ring (thread)	Yes	6,4
AWG\18	5,08	Yellow	Crimp connector	5	Ring (thread)	Not	6,4
AWG\20	2,54	Green	Crimp connector	4	Ring (thread)	Yes	4,8
AWG\22	2,54	Blue	Crimp connector	3	Ring (thread)	Not	4,8
AWG\24	2,54	Violet	Crimp connector	2	Ring (thread)	Yes	3,2
AWG\26	2,54	Gray	Crimp connector	1,5	Ring (thread)	Not	3,2
AWG\28	1,27	White	Crimp connector	1	Ring (thread)	Yes	1,6

AWG	Color	Best stripping	Marking	Marking height	Length (from to) mm
14	White	10-12 mm	On head	5-7 mm	100 mm - 3 mt
16	Red	8-10 mm	On tail	6-8 mm	100 mm - 3 mt
18	Black	6-8 mm	On head	4-6 mm	100 mm - 3 mt
20	Blue	5-6 mm	On head	5-7 mm	100 mm - 3 mt
22	Green	5-4 mm	On tail	3-5 mm	100 mm - 3 mt
24	Brown	3-4 mm	On head	4-6 mm	100 mm - 3 mt
26	Gray	2-3 mm	On head	2-4 mm	100 mm - 3 mt

Crimp specifications for cables can vary depending on the needs of the application and the types of connectors used. However, some of the common crimps that can be applied to cables include:

- **Crimping:** a common method of connecting electrical cables to connectors. A crimping tool is used to compress the connector onto the cable, creating a secure connection



- **Solder crimping:** a method involving the use of solder to connect cable conductors to a connector. It is commonly used for thinner cable and in electronic applications

- **Pressure crimping:** a method involving the use of mechanical pressure to connect the cable to the connector without soldering or crimping. It is often used in industrial applications

- **Screw-clamp crimping:** a form of mechanical connection in which the cable is connected to the connector using a screw and clamp. It is often used in domestic electrical wiring applications

- **Spring clamp crimping:** a method that uses a spring clamp to connect the cable to the connector. It is often used in fast wiring applications

- **Compression crimping:** a method involving the use of mechanical compression to connect the cable to the connector. It is used in applications where a strong connection is required

Crimp specifications may include connector size, crimp pressure or force, solder type (if applicable), and other considerations specific to the type of connection and intended use. The choice of crimping will depend on the design of the cable and the requirements of the application in which the cable will be used.

### Cable and integrated circuit wiring

A cable and integrated circuit harness is used to connect an electronic board or printed circuit board (PCB) to another device or component. These cables are designed to carry electrical signals or power from one board or circuit to another part of an electrical system. The following is some important information about wiring with PLC/UL and integrated circuit cables.

Welding point	Description
Pads	Metal area on the integrated circuit board (PCB) for soldering components
Through	Holes on the PCB through which components are inserted and soldered to the backside
SMD Pads	Surface solder pads on PCB for SMD components
Terminals	Terminal points or pins on connectors or components to be soldered
Jumpers	Temporary connections between solder points to make modifications on the circuit board
Cables	Soldering wires directly to a connection point
Connectors	Soldering connectors to specific areas of a PCB



The selection of the correct PLC/UL cable wiring on integrated circuit depends on the specific requirements of the project and the design of the electronic system. It is important to consider factors such as board spacing, signal frequency, type of connectors, and more when selecting and installing PLC/UL cable over integrated circuit wiring to ensure reliable system operation.

Cable types: cables for integrated circuit wiring harnesses can vary in type, size and technical specifications depending on the needs of the application. Some common types include:

- **Flat ribbon cables:** these cables are flat and wide and often used in applications where a connection is needed between an electronic board and a display or other device
- **Flexible cables:** these cables are flexible and can be bent or positioned differently to fit the installation. They are often used in mobile applications or where flexibility is required
- **Coaxial cables:** these cables are used to carry high-frequency signals, such as those used in RF (radio frequency) or video applications
- **Multilayer cables:** these cables include multiple conductors within the same cable and can carry multiple signals or power at the same time

Wiring harnesses made with PLC/UL cables on integrated circuits have specific connectors at their ends, designed to be connected to electronic boards or components. Connectors can vary widely in size, type, and pin count, depending on the application.

✓ Common applications

Consumer electronics Telecommunications

Industrial automation

Automotive electronics

Medical devices

More

## Wiring cable/micro-switches

Temperature-controlled solder paste soldering is used in a variety of applications, especially in the assembly of electronic boards, SMD components, and other circuits. Temperature control is essential to achieve firm and reliable connections without damaging components.

The ability to solder tin onto a micro-switch depends on the design and construction of the micro-switch itself. Most micro-switches (toggle switches) are designed to allow tin soldering of wires or conductors directly to the terminals of the micro-switch.

Here are some common micro-switch models on which tin soldering can be performed:

- a. Micro toggle switches (SPDTs):** these are the most common micro-switches and usually have terminals or pins to which wires can be soldered
- b. Push-button micro-switches:** these micro-switches also have terminals to which wires can be soldered
- c. Slide micro-switches:** used in applications such as printers and scanners, they often have terminals suitable for soldering to tin
- d. Roller or paddle micro-switches:** these micro-switches have terminals or pins for soldering, and are often used in sensing applications

It is important to note that tin soldering must be done carefully and following the specifications provided by the micro-switch manufacturer. In addition, applicable regulations and best soldering practices must be considered to ensure a safe and reliable connection. Before soldering, always consult the datasheet or the micro-switch manufacturer's instructions for solder compatibility.

Micro-switch manufacturer	Common models for tin soldering of crimped cables
Omron	V-15 Series, D2MC Series, SS Series, D3V Series, etc...
Honeywell	BZ Series, V7 Series, DT Series, HDLS Series, etc...
Cherry	D4 Series, E51 Series, DB Series, etc...
C&K	8120 Series, 8121 Series, 8125 Series, etc...
Panasonic	AZ Series, AEV Series, AZV Series, etc...
TE	V3 Series, V4 Series, V5 Series, etc...
E-Switch	TL3300 Series, TL3360 Series, TL3400 Series, etc...
NKK Switches	MB2000 Series, MB2400 Series, MB2401 Series, etc...

**Note:** These are just a few of the manufacturers of micro-switches known for their ability to tin-solder crimped cables. The compatibility with tin soldering plus also vary within a specific series or model of micro-switches, so it is important to check the technical specifications of the exact model and follow the manufacturer's directions.

## **Painting options**

For each soldering point, a protective paint can be applied to the surface of the electronic boards, avoiding the components. Storage in an environment suitable for the specifications of the boards.

### **Painting process catalog for solder points and electronic boards**

#### **1. Surface preparation**

- Cleaning of solder points to remove flux residue, grease, and oxidation
- Light sanding to improve primer and paint adhesion

#### **2. Electronic boards**

- Cleaning of electronic boards to remove flux residue, dust, and contaminants
- Visual inspection for surface damage or defects

#### **3. Primer application**

- Soldering points: application of anticorrosive primer on soldering points, drying of primer at controlled temperature
- Electronic boards: application of primer suitable for electronic boards, if necessary, drying of primer at controlled temperature

#### **4. Painting**

- Welding points: application of corrosion protection paint on welding points, use of appropriate method such as spraying, dipping or brushing, drying of paint at controlled temperature

#### **5. Electronic boards**

- Applying protective paint to the surface of electronic boards, avoiding components, drying the paint at a controlled temperature

#### **6. Quality control**

- Weld points: visual inspection of painted weld points for uniformity and complete coverage, corrosion resistance test if necessary



## **Packaging and storage**

**Solder points:** packaging of solder points in a protected manner to prevent damage to paint

Storage in a dry and controlled environment Electronic boards: packaging of electronic boards in anti-static or anti-moisture containers, if necessary. Storage in environment suitable for board specifications

This catalog provides a general overview of the paint process for solder points and integrated circuits. Actual specifications may vary depending on project requirements, materials used, and applicable regulations. It is important to follow best painting practices and manufacturer's instructions to ensure high quality results and durability.

## Tables of test specifications and packaging

These test and packaging specifications are important to ensure the quality and durability of painted solder points and painted electronic boards.

Keep in mind that exact specifications may vary based on project requirements, materials used, and applicable regulations. It is essential to follow the manufacturer's instructions and best practices in painting, testing, and packaging for reliable results.

Description	Welding points	Electronic boards
Corrosion resistance test	Verification of corrosion resistance using salt spray test or other standard methodologies	Verification of corrosion resistance on the surface of painted boards
Paint adhesion test	Verification of paint adhesion to weld spots using standard adhesion testing	Verification of paint adhesion on the surface of electronic boards
Paint adhesion test	Verification of paint adhesion to weld spots using standard adhesion tests	Verification of paint adhesion on the surface of electronic boards
Electrical insulation test	Measurement of electrical insulation between painted weld spots	Verification of electrical insulation between electronic components and paint
Visual and dimensional inspection	Visual inspection to confirm uniformity and complete coverage - Measurement of the size of painted solder joints	Visual inspection to confirm the quality of the paint and the absence of defects
Functionality test (if applicable)	Verification of function of components connected to painted solder joints	Verification of functionality of electronic components after painting
Packaging	Packaging in protective containers or bags to prevent paint damage - Clear labeling with product information	Packing in anti-static or anti-moisture containers, if necessary - Clear labeling with information about the electronic board
Storage	Storage in a dry and controlled environment to avoid paint damage	Storage in an environment suitable for electronic board specifications



**Kit essentials: blister packs, name plates, add-ons (screws, springs, nuts)**

Additional component	Description	Main use
Spring	Compression or extension springs that can be used for cable management	To maintain order and cable management
Nuts	Nuts of different sizes and types, used to secure components	To ensure the stability of components
Screws	Screws of different sizes and types, used in conjunction with nuts to secure components	To connect components securely
Clamps	Clamps or clips that can be used for cable management	For cable management
Heat shrink tubing	Heat shrink tubing used to insulate and protect electrical connections or splices from moisture and corrosion	For protecting electrical connections
Labels	Self-adhesive labels or markers used for identifying and labeling cables	For identification and tracking of cables
Cable ties	Plastic or metal cable ties used for binding and securing cables	For cable management and securing cables to supports

In addition, the use of RFID and QRcode technology from application to products is possible.



## **ADDITIONAL SERVICES**

For protection of electrical connections For identification and traceability of cables For cable management and attachment of cables to supports.

- It is possible to have the company certified for specific customer processes, making the necessary documentation and actively collaborating in process/product audits
- You can schedule production in various ways: e-mail, calls on Teams (or any other platform), live streaming meetings, etc...
- Audits, meetings and production scheduling calls can also be conducted in English, with prior notice, as well as meetings on the topic of quality and safety in the company
- You can make detailed quality reports and bilingual (ITA/ENG) PowerPoint presentations on process/product details and project them in skip/streaming

## **ENVIRONMENTAL SUSTAINABILITY INITIATIVES**

zavi has always been actively concerned with the environment, first by certifying itself ISO14001:2015 in 2015, the year the Ltd. was founded, and now with various environmental initiatives:

- Environmental Analysis
- Conflict Mineral Policy
- Ecovadis initiative
- Carbon management In addition, blue-collar and office staff carry out separate waste collection, avoiding polluting the environment (paper, plastic and glass). Risk analysis has led the company to acquire suppliers who are very environmentally conscious, operating in "conflict-free" environments and in compliance with industry standards.



## **WORKERS' HEALTH AND SAFETY**

Work ethics, from the non-exploitation of child labor to the safeguarding of human rights in general are important times for zavi srl, which deploys many resources to these issues. Workers' health and safety is guaranteed throughout the entire production perimeter, with areas used for loading/unloading goods, warehouse and separate production lines through the help of RLS and training schools.

The facility performs rapid prototyping of electrical, electronic, mechanical, and electromechanical designs through its network of suppliers, guaranteeing quality of service and quick turnaround. Prototyping activity is followed throughout its approval cycle and may be subject to variations during construction, subject to prior notice.



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