



CM SOLAR

EXPERTS IN CABLING SYSTEMS
since 1979



Introduction

Comercial Electro Industrial S.A. has been developing its activity since 1979, focused on the distribution of wiring and connection systems for various sectors such as energy, telecommunications, IT, industrial automation and industrial processes. It is a preferred supplier of large companies and collaborates with its customers in looking for solutions and suitable products to satisfy their technical requirements, seeking to offer the best professional service with products from brands and manufacturers of recognised prestige and quality.

Since our activities began, we have sought to satisfy the needs of our customers with the products and manufacturers for which we are distributors, with this willingness having led us into the new markets that, throughout our existence, have been generated as a result of technological innovation, with a significant presence of our distributed products in broadband installations, FTTH, voice and data systems and industrial automation, paying attention at all times to the new needs of emerging markets and seeking to offer products of the highest quality to ensure the satisfaction of our customers.

In view of the spectacular growth in Spain of renewable energy generation, we have launched a new line of products, intended primarily for the photovoltaic plant and stand-alone facility sector, which we present in this new catalogue. CMSOLAR products comply with the most stringent specifications contained in the EN, IEC and UL standards.

The new CMSOLAR product range consists of cable systems for DC including copper, aluminium and fiber optic controls, MC4 connectors and branches, earthing systems, terminals, harnesses, etc. They all combine maximum guarantees of safety, manufacturing quality and regulatory compliance, thus bringing reliability to facilities that use them.



Conductors

1. TUV SOLAR H1Z2Z2-K



We can supply H1Z2Z2-K-type and RV, XZ or CMSOLAR IEC 60502-1-type solar conductors with the following technical characteristics:

- Nominal insulation voltage: 1,000 V AC-1,500 V DC
- Maximum insulation voltage: 1,200 V AC-1,800 V DC
- Conductor: H1Z2Z2-K copper from 1.5 to 185 mm²
RV and XZ aluminium, 25 to 630 mm²
CMSOLAR aluminium, 25 to 630 mm²
- Temperature range:
Between -40 and 120°C, cable types H1Z2Z2-K and CMSOLAR.
Between -40 and 90°C, RV and XZ types.
- Optional: CMSOLAR-type cable with protection against termites and rodents.

2. TUV SOLAR H1Z2Z2-K



3. MC4 PANEL CONNECTOR



MC4 connectors

Our MC4 solar panel connectors comply with the new 1,500V standard with UL and TUV approval, and are compatible with multi-contact 4 connectors and suitable for 2.5, 4 and 6 mm² solar cable in its 20-30 A current range and up to 10 mm² in the 30-60 A range.

4. MC4 AERIAL CONNECTOR



They are compatible with MC4 PV-KBT4/KST4 EVO2 solar connectors, guaranteeing stable connections with the resulting savings in maintenance costs, with a wide range available for both aerial and panel mounting.

The range of connectors has 3 to 4 input/output branches, which increase the usability of our CMSOLAR-series connectors.

Its common technical characteristics are as follows:

5. MC4 BIFURCATION



- Housing: LSHF black PPO+PA thermoplastic
- Flame resistance: UL94V-0
- Protection level: IP68
- Contacts: Tinned copper
- Nominal voltage: 1,500 V DC IEC 62852
- Nominal intensity: 30 A. (2.5 to 6 mm²) -60 A (10 mm²)
- Insertion force: <50 N
- Maximum test voltage: 6 KA

6. MC4 TRIFURCATION





7. CABLE/CABLE AIR FUSE

MC4 air fuses

Our range of photovoltaic connectors has AERIAL FUSES, with four types of connections at their ends: cable/cable, Cable/MC4 male, cable/MC4 female and MC4 male/female. They allow any configuration required in the wiring system of the solar plant.

The common characteristics of these fuses are as follows:

- Housing: LSHF black PPO+PA thermoplastic
- Flame resistance: UL94V-0
- Protection level: IP68
- Contacts: Tinned copper
- Nominal voltage: 1,500 V DC IEC 62852
- Nominal intensity: Fuses from 2 to 32 A. (10x85 mm gauge)
- Maximum test voltage: 6 KA



8. MC4/CABLE AIR FUSE

MC4 Harness

The range of CMSOLAR MC4 connectors is completed with a range of patch cords and factory-connectorised double and triple cable branches, which guarantee the quality of the connections and represent a significant saving in assembly time on-site.

As double and triple branches with very different cable lengths are required in large photovoltaic plants, a connection element for 4 inputs/outputs with a cable cross-section of up to 35 mm² is available for each of them, with a fusible plug-in screw that may be tightened.



9. MC4 MULTIPLE HARNESS



10. MC4 TRIFURCATION HARNESS

Bus cable

For use in plant control systems where telecommunication cables for RS-485 protocols are required; interconnection bus cables for Canbus, Modbus or Ethernet protocols are integrated into our stock. Our cables meet the technical requirements demanded by the most rigorous specifications, as do the extensive Belden range of which we are distributors.



11. S/FTP CABLE CAT 6 OUTDOOR



12. 3106BELDEN CAN BUS CABLES



**13. COMELFOP VP
MULTI-TUBE PE
SINGLE-MODE**



**14. COMELFOP PESP-DR
MULTI-TUBE PE
SINGLE-MODE**

Fiber optic cables

We have a wide range of fiber optic cables for outdoor plants with UV resistant finishes, various traction capacities and/or resistance to attacks by rodents and placental mammals (such as rabbits, hares and moles). Their common characteristics are as follows:

- Type of fibres: Single-mode OS2, and multi-mode OM1 and OM2
- No. of fibres: Single-tube or multi-tube up to 24 FO and multi-tube up to 96 FO
- Tensile strength: Between 1000 and 2500 Nw
- Type of protection: Dielectric VP (protection against rodents)
Metallic PESP (protection against placental mammals)
- Options: LSHF Cover



**15. INSULATION DRILLING
CONNECTOR
UP TO 240 mm²**

Insulation piercing connectors

Our connectors perform the branching by simultaneous piercing of the insulation on the conductor of the main power distribution line and on the secondary lines.

They are manufactured with a PA-type cutting head or AIPA cutting head nut, covering a section from 1.5 to 400 mm². Its connection elements are bimetallic.

For applications involving connections in photovoltaic plants, an accessory is available that makes it possible to extend the number of connections with sections up to 35 mm²; there is also a connector with the accessory pre-implemented with a capacity of up to 150 mm².

The common features of these connectors are:

- Maximum permitted traction force: 20 +/- 2Nm
- Force at which initial contact is established: 4 Nm
- Range of use:
 - Main line cross-section 50 mm² to 400 mm²
 - Branch line cross-section 35 mm² to 240 mm²
- Maximum test voltage: 6 KV DC
- Nominal voltage: 1500 V DC



**16. INSULATION DRILLING
CONNECTOR 4 OUTPUTS
UP TO 35 mm²**



**17. COPPER TERMINAL UP
TO 300 mm²**

Connection terminals

We distribute a wide range of terminals for conductors measuring up to 630 mm², in copper, aluminium and bimetallic versions. All of these are built according to EN50182 and EN13600 standards.



**18. BIMETALLIC TERMINAL
TIP UP TO 150 mm²**



Locations

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