“Sicame is a worldwide industrial group specialising in products and services relating to the distribution of electrical energy.”
Welcome

We specialise in the development and manufacture of specialised power distribution products, for both utility and commercial networks.

In Australia, we have established a strong reputation as a leading supplier of insulation piercing connectors and associated electrical equipment. Our products have been widely adopted by electrical utilities across Australia highlighting the quality and functionality of the product we have to offer. Furthermore, we are accredited to the ISO 14001 and 9001 environmental and quality standards.

In response to the increase in opportunities for our product in Solar farm applications, this catalogue seeks to illustrate the solutions we can provide for this market with specific reference to the panel string to DC Bus System.

As a proud Australian manufacturer, with in house design and testing capabilities, we have a unique set of attributes that enable us to efficiently offer solutions pieced together with components which have already been successfully adopted in both domestic and international markets.

We look forward to assisting you find your solution.

Comprising of 52 companies across 5 continents, our group supplies product used to build and maintain electrical networks all over the globe.
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Engineering and Design Capabilities

Our factory, located in Brisbane Australia is equipped with both mechanical and electrical testing laboratories which enable our Engineering team to test and design product in house without having to rely on external premises. We are accredited to ISO 14001 and 9001. Our testing capabilities include heat cycling, current cycling, dielectric and mechanical pull out.

Manufacturing Capabilities

Our 4000m² site has the capacity to handle workload of both small and large scale projects. This includes a skilled Engineering team supported by a group of dedicated Production staff. Our range of capabilities include pressure injection moulding, machining, cold forging along with assembly.
IPC Harnessed to DC Bus

IPC Harness

1

3
1. **IPC Solar Harness** Used to connect each string onto the main DC Bus. Plug & Play, pre-wired and fused.

2. **DC Bus** Used to efficiently connect the strings back to the inverter. Cable tray or strung bus installation.

3. **DC Isolation Box** Used to Disconnect the DC Bus, Surge protection and O/H to U/Ground Junction point.
The Sicame DC IPC Solar Harness system uses our insulation piercing connector technology to attach to a double insulated busbar. The IPC’s are equipped with shear head bolts which operate at a predetermined torque ensuring a reliable connection with the busbar. This harness is factory kitted to improve on site installation time and furthermore requires minimal tooling for installation.

- Sicame Insulation Piercing (IPC) Technology, with no stripping of the Insulated Busbar
- 1500VDC rated system
- Inline Fuse ratings from 4-32A
- Factory kitted and harnessed for minimal site installation time
- Plug and Play Installation
- Minimal Tooling required onsite - Standard Impact Driver
- Solar cable to EN50618:2014 and TUV2PfG 1169/08.07
- Type Tested to Australian and International standards
- Dielectric testing to 6.5kV - 300mm underwater
- Completely sealed and voltage tested underwater
- IPX8 equivalent
- In-built test point for resistance and point to point commissioning checks
- Black or Red bolts for polarity identification (+ or -)
- Pre-terminated MC4 connectors for a plug and play solution onsite
- Suitable for Copper or Aluminium stranded cable
- String leads from 4-10mm2 and harnessed to required length
- Maximum current per string - 32 Amps
IPC Solar Harness

DC IPC Solar: 6-WAY Harness

- Capable of connecting 1-6 Solar Panel strings
- Shear head bolt technology - 17mm A/F - Predetermined shear bolt torque system
- Bus Cabling from 95-500mm², double insulated

DC IPC Solar: 4-WAY Harness

- Capable of connecting 1-4 Solar Panel strings
- Shear head bolt technology - 13mm A/F - Predetermined shear bolt torque system
- Bus Cabling from 35-120mm², double insulated
DC Isolation Boxes

Sicame’s Range of customisable DC Isolation boxes are manufactured in St Malo, France within a designated and purpose built enclosure factory. The Enclosures are specifically designed to be modular and can be built to any dimensional specification and customised according to the project requirements:

- Strong mechanical resistance against shock loadings (IK 10 as per IEC 62262 standard)
- IP 54 or IP66 Protection degree (as per IEC 60529 standard)
- High resistance to heat, fire and abnormal heat (as per IEC 60695-2-10 and 11 standard - glow wire at 960°C),
- High dielectric strength
- Resistance to weathering, including UV testing, Resistance to corrosion
- 40 years manufacturing experience of closures for utility and industrial networks;
- Lightweight material - Thermoplastic or Glass Reinforced Fibre
- Double skinned walls for greater thermal performance

Factory wired, kitted and tested
- 2-Pole Pad Lockable Load Break Switches
- 2-Pole Surge Arrestor
- 1500VDC cabling
- Lockable Cabinet with custom key lock
- Cable entry/exit glands
- Ventilation glands
- Pre-wired earthleads
- Pole Mounting Brackets
AC Tracker Boxes (TCDB)

Sicame’s Range of AC Tracker Boxes (TCDB) are manufactured in St Malo, France within a designated and purpose-built enclosure factory. The enclosures are manufactured in Claved (subsidiary of Sicame) and their factory is based in Barcelona, Spain. The enclosures are called ARED cabinets which are made by thermo-compression of glass reinforced polyester enclosures, colour grey RAL 7035 and comply with IEC 62208 standards. These are High Performance Industrial Polyester Cabinets which are designed to protect electrical equipment in extreme harsh and demanding environments. The ARED cabinets have a set range of cabinets with different dimensions to be suitable for any project requirements.

- Strong mechanical resistance against shock loadings (IK 10 as per IEC 62262 standard);
- IP66 Protection degree (as per IEC 60529 standard);
- High resistance to heat, fire and abnormal heat (as per IEC 60695-2-10 and 11 standard - glow wire at 960°C), High dielectric strength;
- Resistance to weathering, including UV testing, Resistance to corrosion;
- 40 years manufacturing experience of closures for utility and industrial networks;
- Solid door rotating on two invisible hinges, opening angles > 90°
- Lightweight material - Glass Reinforced Fibre;

Factory wired, kitted and tested:
- 4-Pole Isolators
- 4-Pole and 1-Pole MCBs
- 400V AC cabling
- Lockable Cabinet with custom key lock
- 4-pole Comb Busbar rated at 500V
- Cable entry/exit glands
- IP54 Ventilation glands
- Pre-wired eartheads
- Pole Mounting Brackets
Above Ground Strung Bus System

Stringing the DC bus overhead on the tracker structures allows for faster and more cost effective installation practices.

- Used with double insulated CCT conductor
- 95-300mm² conductor range
- Up to 4 off parallel DC busses (+&-) can be strung per structure
- Modular designed system
- Reduces installation time and project capital
- Increases current capacity of the DC bus by reducing the de-rating factors applied (compared to cable tray or underground)
### ML20 Range

The ‘ML20’ range of mechanical terminations are manufactured from a single piece hot forging thereby ensuring a waterproof connection. The range of connectors utilise the Hepworth shear head technology in the form of direct acting clamping bolts.

<table>
<thead>
<tr>
<th>Connector Reference</th>
<th>Stranded Core C.S.A (mm²)</th>
<th>Screw Pack 1 (Assembled)</th>
<th>Connector Reference</th>
<th>Screw Pack 2 (Assembled)</th>
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<tr>
<td></td>
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<td>Min</td>
<td>Max</td>
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</tbody>
</table>

Material: Aluminium Alloy (Electro-Tinned)

Test Specification: BS EN 61238-1 : 2003 - Compression & Mechanical Connectors for power cables for rated voltages up to 36kV.
Safety Gear

■ Operating Sticks

We also offer a range of CATU safety products to assist with installing and maintaining solar farms sites. Operating sticks manufactured to IEC-61235 IEC-60855. The range consists of sectional, fixed, telescopic and shot-gun.

■ Gloves

CATU insulating gloves for protection whilst working on live electrical cable. Class 00 through class 4 are available.

■ Detectors

Testing equipment to determine where electricity is present.

■ Portable Earthing Devices

All portable earths are manufactured to IEC-61230. Sicame customises earths to all customers requirements.
Safety Gear

Arc Flash protection

Arc Flash kits available from 4 cal to 100 cal IEC61482-2 NFPA 70E.

Mats

High quality dielectric rubber insulating mats from class 0 to class 4 CEI61111.

Tooling

Extensive range of insulated tools manufactured to IEC-60900.

Rescue kits

LV Rescue kits are supplied in accordance to Australian and state standards.
or contact your nearest Sicame office at Sicame.com