

LPA CONNECTION SYSTEMS



Long Life Reliability
does not cost the earth



AIRCRAFT GROUND POWER SUPPLY
HARNESSES, CONNECTORS
& CABLE CARRIERS

www.lpa-connect.com



LPA Group has over 100 years' experience in power connection solutions for the transport sector. The company has an ethos of manufacturing products offering low life cycle costs, good maintainability and good availability of spares.

LPA's worldwide network of customers comprises major international airlines, militaries and many of the busiest airports in the world. We recognise the importance of reliable power systems in these dynamic environments and thus ensure that our products, from Crocodile Cable Carriers to power connectors, are able to surpass the demanding expectations required of them.

LPA's products are carefully designed to support the efficiency and safety of ground handling staff and equipment with the aim of reducing lifetime costs, minimising risk, improving turnaround times and enabling environmental sustainability. The cost, both financial and environmental, of running aircraft-derived power (APU/main engines) quickly accumulates. With the customers' system and LPA's Crocodiles and connectors, we offer a cost effective and sustainable aviation power solution.

Aircraft Connectors are designed and manufactured to ISO 461:2003.

LPA is a member of the British Airport Services & Equipment Association (BASEA).





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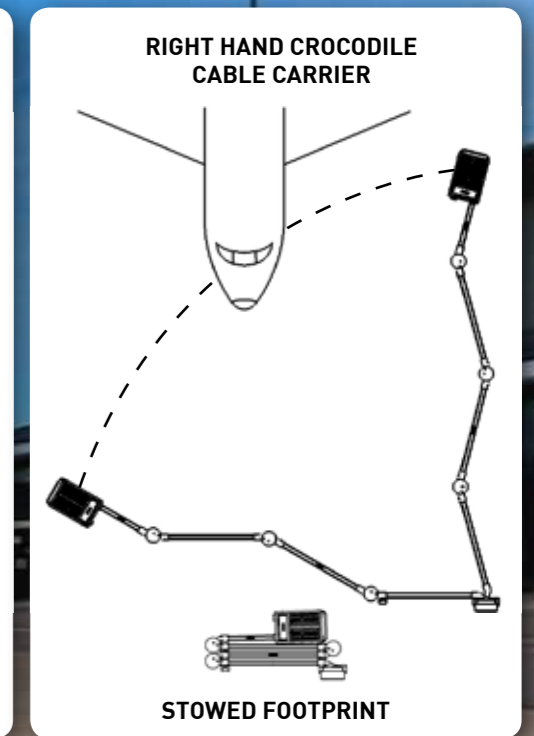
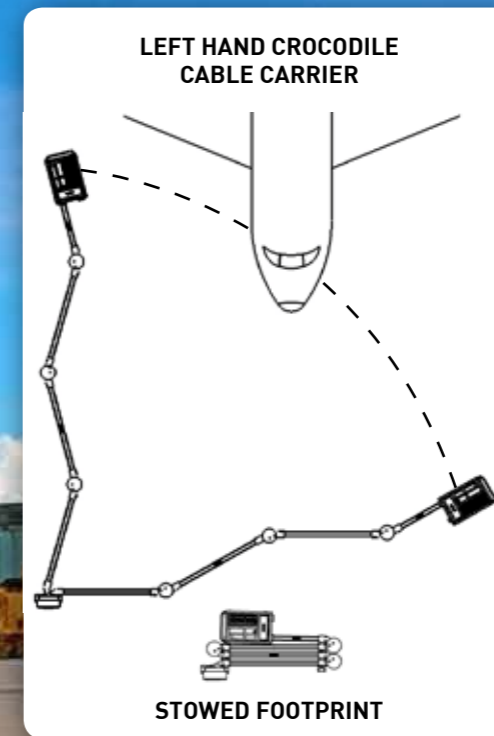


- Lightweight and easily manoeuvrable
- Compact storage envelope
- Rapid FEGP connection

Crocodile Cable Carrier
Up to 30m long and up to 4 power outlets



- Fast to deploy and 'at the plug' operation ensures APU usage is minimised, reducing financial and environmental costs
- Robust, cost effective and efficient cable delivery system from a fixed GPU to aircraft
- Available in 6 metre multiples, up to 30m
- Improved health and safety of ground handling staff due to low resistance castors
- 1, 2 or 4 power outlets



BASKET

- Can be moved easily underneath the aircraft to be close to the plug
- Configured with up to 4 power outlets and individual baskets for each cable
- Situated at an ergonomic height to reduce stretching when removing and replacing cables
- Wire mesh frame is durable yet easy to replace if damage is sustained

CONTROL BOX

- Power control switches situated next to the aircraft reducing the need to go to the fixed GPU to turn on the power
- Control box integrated within the frame to reduce the chance of damage
- Easy to replace cables from control box
- Protective cover over electronics for safety of maintenance staff

CASTORS

- Castors reduce the rolling resistance and improve the ease of handling compared to pulling cables
- Requires only a single operator to manually deploy
- Wheels and arms protect cables from damage

CABLING

- Cabling is clamped at each knuckle to ensure the cable does not come under strain during operation
- Enclosed arms ensure cables are protected from the environment
- Removable covers provide access to cabling

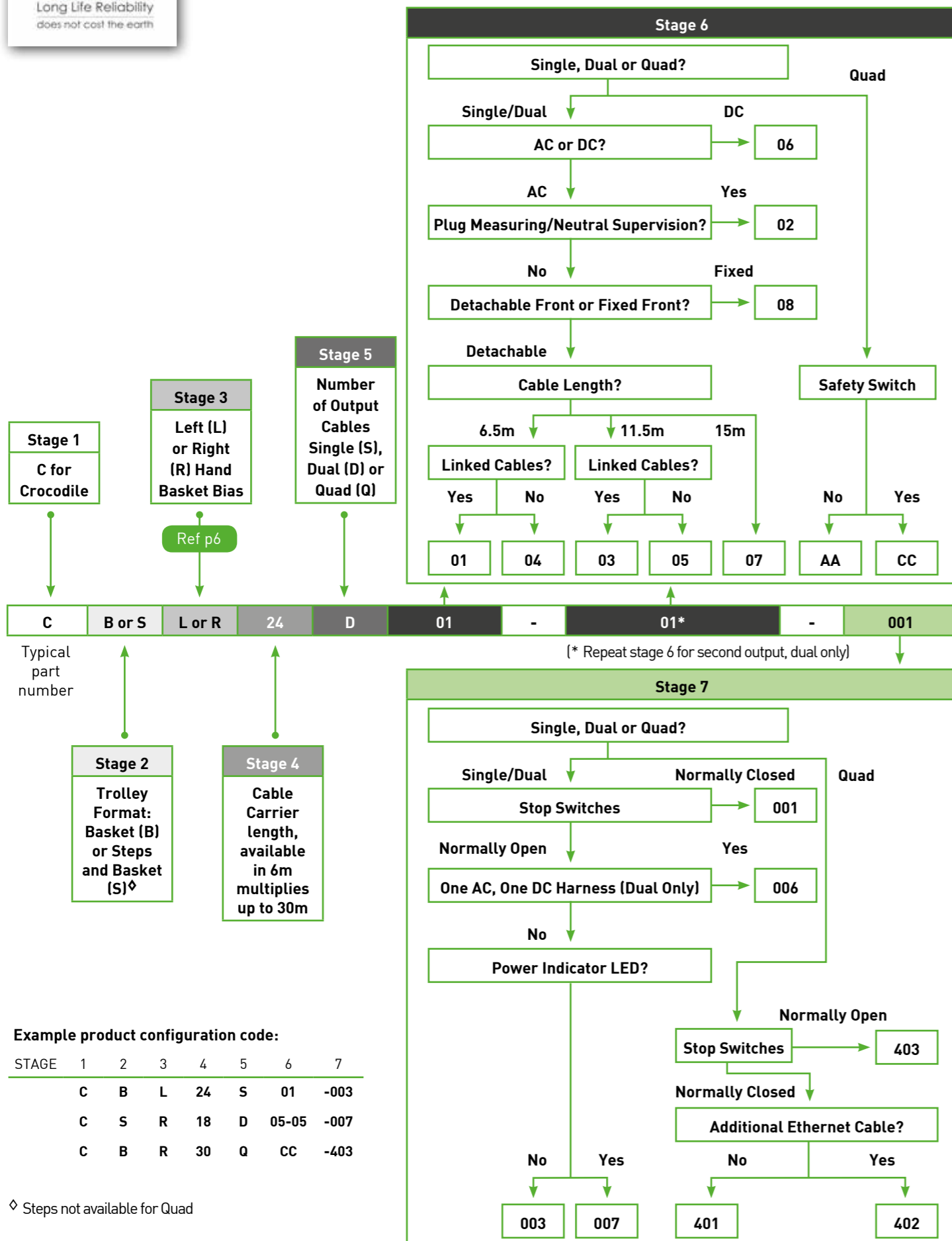
KNUCKLES

- Protective plate covers the knuckle to mitigate damage in the event of a collision from Ground Support Equipment
- Knuckles allow arms to easily manoeuvre around ground obstacles
- Cables are supported and protected by a protective sheath to reduce the wear on the cables
- Bright yellow colouring ensures optimum visibility on the apron



CROCODILE CABLE CARRIER CONFIGURATOR

ESTABLISHING A CROCODILE CABLE CARRIER PART NUMBER



Variety of AC and DC plugs and sockets

Compatible with multiple single core or composite cables

Aviation Plugs & Sockets

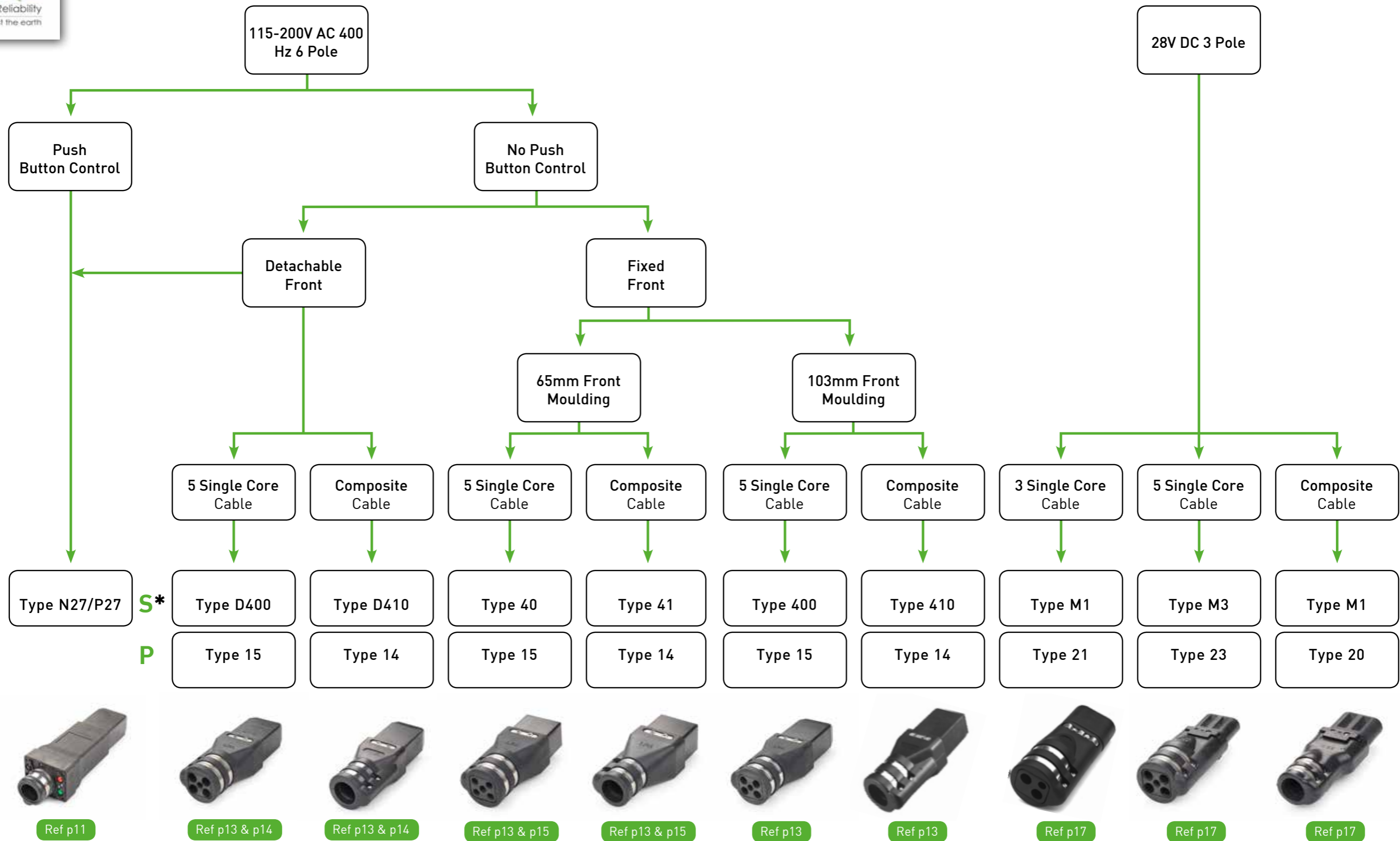
115 - 200V AC 400Hz 6 Pole & 28V DC 3 Pole.



- 400Hz connectors are available with detachable front moulding to enable rapid on site replacement of consumable parts
- Type N27 connectors are available with push button controls for engaging power and operating power coils 'at the plug'
- Durable and resilient casings ensure longevity with repeated use
- Single core and composite cable styles can be accommodated



SOCKET/PLUG SELECTOR



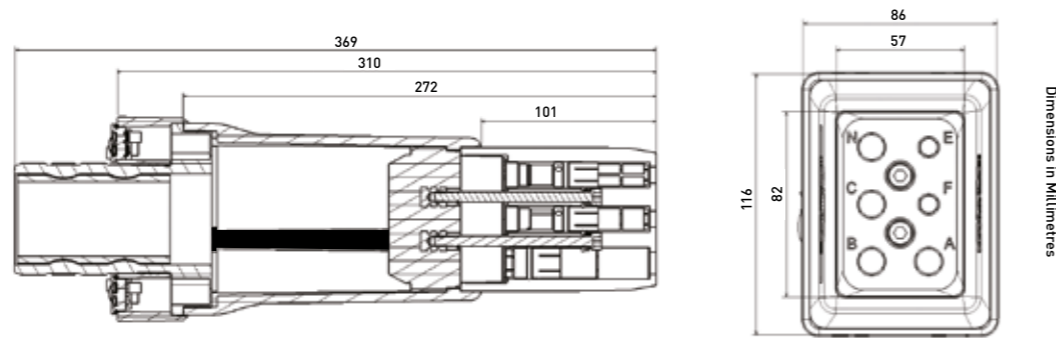
* S - Sockets (plug into the aircraft - have tubes)
P - Plugs (have pins)



TYPE N27/P27 SOCKETS

WITH PUSH BUTTON CONTROL

TYPE N27/P27 SOCKET



Dimensions in Millimetres

FEATURES:

- Socket control of power supply
- Optional socket control of cable reel
- Optional LED indicator lights (up to 4)
- Optional 90% insertion safety micro switch ensures proper engagement before power available at aircraft (part number - 43138)
- Complete with detachable front for ease of maintenance and longer product life
- Optional temperature sensors (specify P27)
- Weight: 3kg (without potting)
- Exterior material: CSPE

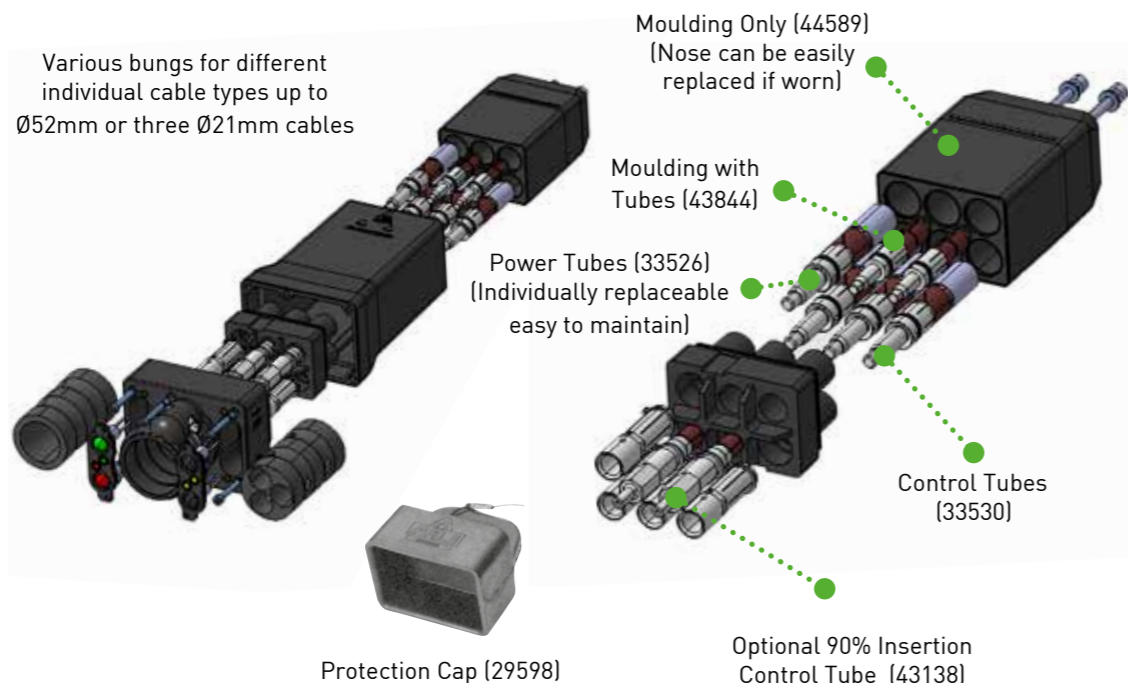
ELECTRICAL RATING:

Power Components

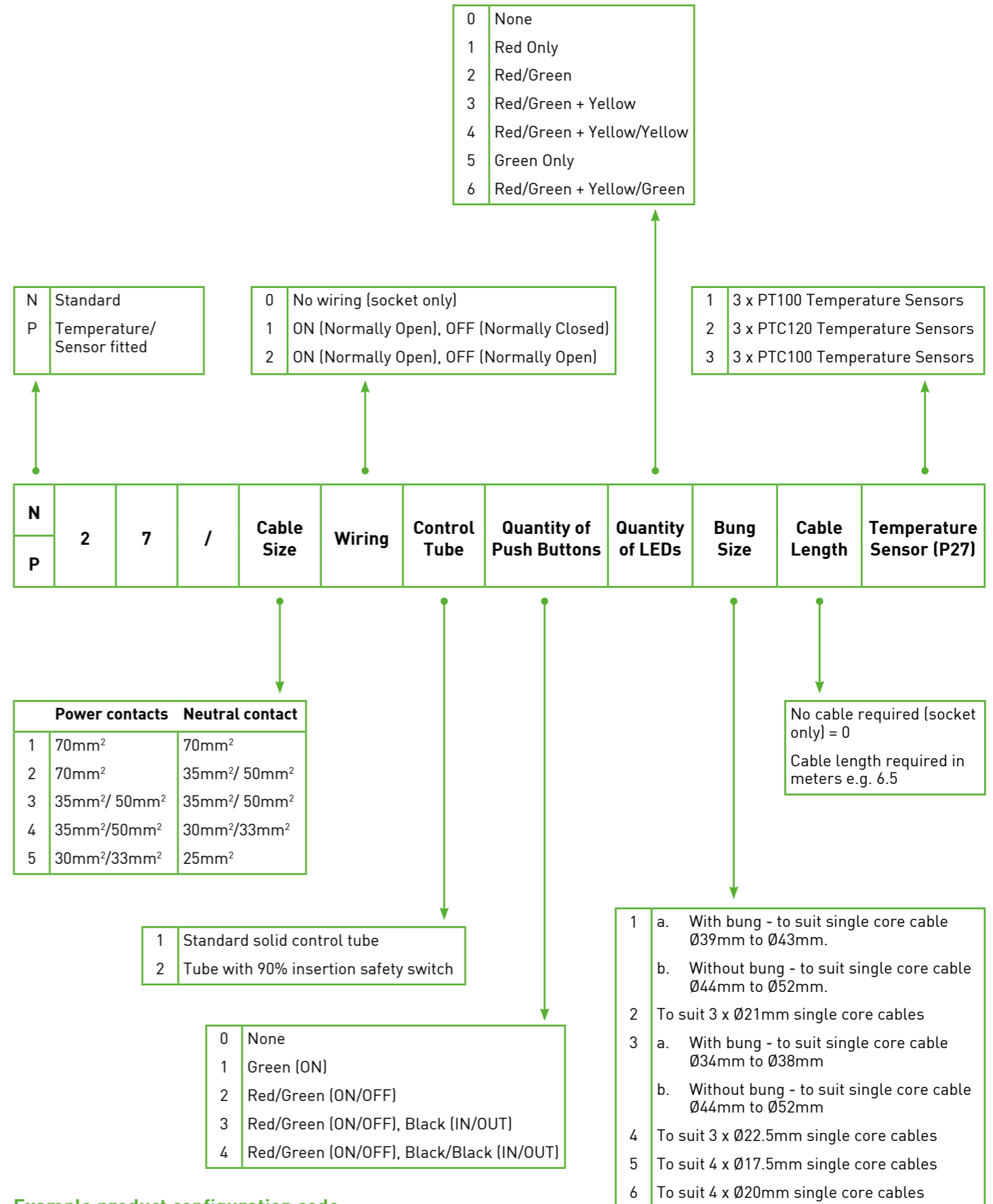
- 450 amps maximum continuous current
- 1500 amps for maximum 1 minute

Control Components

- 35 amps maximum continuous current



TYPE N27/P27 CONFIGURATOR



Example product configuration code:

N27/201441 socket only
N27/212443/20 cable harness



400Hz CONNECTORS

FEATURES:

- Rear assemblies complete with screw clips, clamping plates, nuts & bolts
- Front assemblies complete with power & control pins or tubes
- Contacts can be either crimped or soldered
- Available with protection cap (part number - 29598)
- Socket weight: 2.5-3kg. Plug weight: 1.9kg
- Exterior material: CSPE

ELECTRICAL RATING:

Power Components

- 450 amps maximum continuous current
- 1500 amps for maximum of 1 min

Control Components

- 35 amps maximum continuous current

TYPE 400 SOCKET



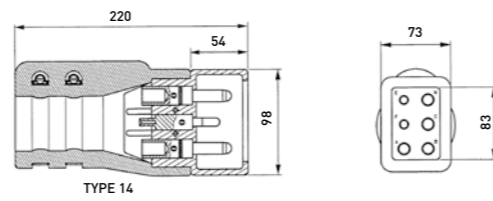
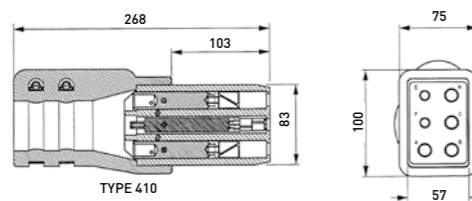
TYPE 15 PLUG



TYPE 410 SOCKET



TYPE 14 PLUG



| | Cable Size mm ² | Cable Dia mm Min/Max | Socket Order Ref | Front Half Socket | Rear Half Assembly | Power Tube | Control Tube | 5 Hole Bung | Plug Order Ref | Front Half Plug | Rear Half Assembly | Power Pin | Control Pin | 5 Hole Bung |
|---------------------------|----------------------------|----------------------|------------------|-------------------|--------------------|------------------------|--------------|-------------|----------------|-----------------|--------------------|------------------------|-------------|-------------|
| 5 SINGLE CORE CABLE TYPES | 4 X 95 | 14.5/18.0 | 400/1 | 28849 | 27589 | 27919 | 26375 | 28721 | 15/1 | 28727 | 27589 | 28377 | 26675 | 28721 |
| | 4 X 95 | 18.0/21.0 | 400/2 | 28849 | 27589 | 27919 | 26375 | 18286 | 15/2 | 28727 | 27589 | 28377 | 26675 | 18286 |
| | 4 X 70 | 14.5/18.0 | 400/3 | 27297 | 27589 | 26372 | 26375 | 28721 | 15/3 | 27299 | 27589 | 26674 | 26675 | 28721 |
| | 4 X 70 | 18.0/21.0 | 400/4 | 27297 | 27589 | 26372 | 26375 | 18286 | 15/4 | 27299 | 27589 | 26674 | 26675 | 18286 |
| | 4 X 50/35 | 11.0/14.5 | 400/5 | 28850 | 27589 | 27767 | 26375 | 27628 | 15/5 | 28726 | 27589 | 27884 | 26675 | 27628 |
| | 4 X 50/35 | 14.5/18.0 | 400/6 | 28850 | 27589 | 27767 | 26375 | 28721 | 15/6 | 28726 | 27589 | 27884 | 26675 | 28721 |
| | 4 X 50/35 | 18.0/21.0 | 400/7 | 28850 | 27589 | 27767 | 26375 | 18286 | 15/7 | 28726 | 27589 | 27884 | 26675 | 18286 |
| COMPOSITE CABLE TYPES | 4 X 95 | 44/ 52 | 410/1 | 28849 | 27592 | 27919 | 26375 | - | 14/1 | 28727 | 27592 | 28377 | 26675 | - |
| | 4 X 70 | 44/ 52 | 410/2 | 27297 | 27592 | 26372 | 26375 | - | 14/2 | 27299 | 27592 | 26674 | 26675 | - |
| | 4 X 50/35 | 34/43 | 410/3 | 28850 | 27236 | 27767 | 26375 | - | 14/3 | 28726 | 27236 | 27884 | 26675 | - |
| | 3 X 35/50 1 X 25 | 34/43 | 410/5 | 33477 | 27236 | 3 X 27767 1 X 27766 | 26375 | - | 14/5 | - | 27236 | 3 X 27884 1 X 44388 | 26675 | - |
| | 3 X 70 1 X 35/50 | 34/43 | 410/6 | 33478 | 27236 | 3 X 26372 1 X 27767 | 26375 | - | 14/6 | 44959 | 27236 | 3 X 26674 1 X 27884 | 26675 | - |
| | 4 X 70 | 34/43 | 410/7 | 27297 | 27236 | 26372 | 26375 | - | 14/7 | 27299 | 27236 | 26674 | 26675 | - |

OPTIONAL 90% INSERTION SWITCH ENSURES PROPER ENGAGEMENT BEFORE POWER AVAILABLE AT AIRCRAFT (PART NUMBER - 31441). WHEN ORDERING ADD SUFFIX /90% TO SOCKET REFERENCE (eg TYPE 400/1/90%)
FOR TECHNICAL INFORMATION, NATO STOCK NUMBERS AND CABLE CRIMPING DATA, REFER TO PAGE 22. CONTROL CABLE DIAMETER 11 - 14MM



400Hz DETACHABLE FRONT SOCKETS

FEATURES:

- Detachable front moulding facilitates rapid in situ replacement of tubes, front moulding and complete fronts
- Front moulding supplied with fixing screws
- Sockets supplied complete with screw clips, clamping plates, nuts & bolts
- Contacts can be either crimped or soldered
- Optional 90% insertion safety switch to ensure proper engagement before power available at aircraft (part number - 43138)
- Average weight: 2.6kg
- Exterior material: CSPE

ELECTRICAL RATING:

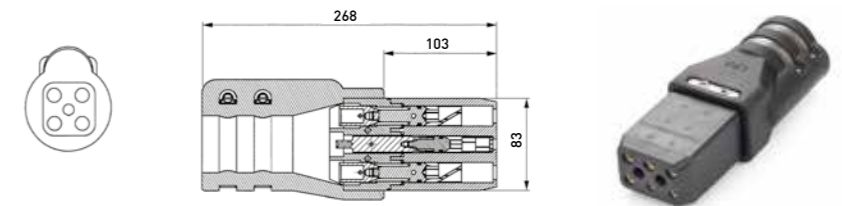
Power Components

- 450 amps maximum continuous current
- 1500 amps for maximum 1 minute

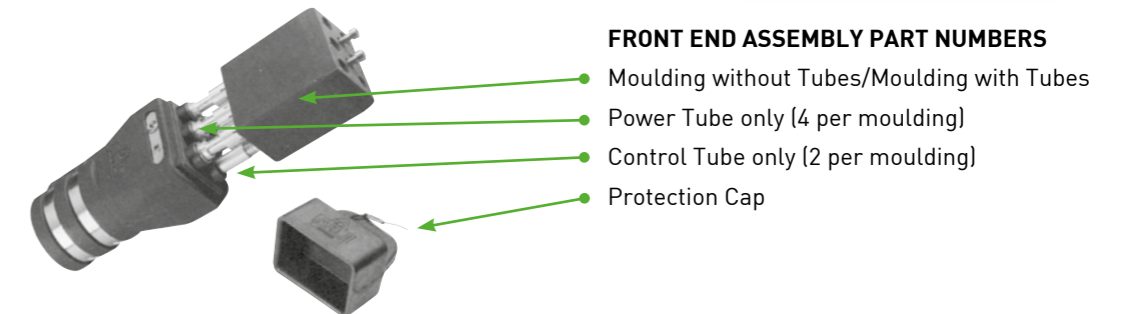
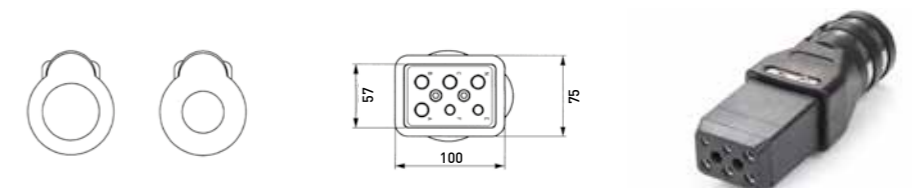
Control Components

- 35 amps maximum continuous current

TYPE D400 SOCKET



TYPE D410 SOCKET



| | Cable Size mm ² | Cable Dia mm Min/Max | Socket Order Ref | Moulding Only | Moulding with Tubes | Power Tube | Control E/F Tube | Protection Cap | 5 Hole Bung |
|---------------------------|----------------------------|----------------------|------------------|---------------|---------------------|------------|------------------|----------------|-------------|
| 5 SINGLE CORE CABLE TYPES | 4 X 95 | 14.5/18.0 | D400/1 | 33580 | 33581 | 33526 | 33530 | 29598 | 28721 |
| | 4 X 95 | 18.0/21.0 | D400/2 | 33580 | 33581 | 33526 | 33530 | 29598 | 18286 |
| | 4 X 70 | 14.5/18.0 | D400/3 | 33580 | 33581 | 33526 | 33530 | 29598 | 28721 |
| | 4 X 70 | 18.0/21.0 | D400/4 | 33580 | 33581 | 33526 | 33530 | 29598 | 18286 |
| | 4 X 50/35 | 11.0/14.5 | D400/5 | 33580 | 33581 | 33526 | 33530 | 29598 | 27628 |
| | 4 X 50/35 | 14.5/18.0 | D400/6 | 33580 | 33581 | 33526 | 33530 | 29598 | 28721 |
| | 4 X 50/35 | 18.0/21.0 | D400/7 | 33580 | 33581 | 33526 | 33530 | 29598 | 18286 |
| COMPOSITE CABLE TYPES | 4 X 95 | 44.0/52.0 | D410/1 | 33580 | 33581 | 33526 | 33530 | 29598 | - |
| | 4 X 70 | 44.0/52.0 | D410/2 | 33580 | 33581 | 33526 | 33530 | 29598 | - |
| | 4 X 50/35 | 34.0/43.0 | D410/3 | 33580 | 33581 | 33526 | 33530 | 29598 | - |
| | 3 X 35/50 1 X 25 | 34.0/43.0 | D410/5 | 33580 | 33581 | 33526 | 33530 | 29598 | - |
| | 3 X 70 1 X 35/50 | 34.0/43.0 | D410/6 | 33580 | 33581 | 33526 | 33530 | 29598 | - |
| | 4 X 70 | 34.0/43.0 | D410/7 | 33580 | 33581 | 33526 | 33530 | 29598 | - |

OPTIONAL 90% INSERTION SWITCH ENSURES PROPER ENGAGEMENT BEFORE POWER AVAILABLE AT AIRCRAFT (PART NUMBER - 31441). WHEN ORDERING ADD SUFFIX /90% TO SOCKET REFERENCE (eg TYPE D400/1/43138)
FOR TECHNICAL INFORMATION, NATO STOCK NUMBERS AND CABLE CRIMPING DATA, REFER TO PAGE 22. CONTROL CABLE DIAMETER 11 - 14MM



400Hz SHORT NOSE SOCKETS

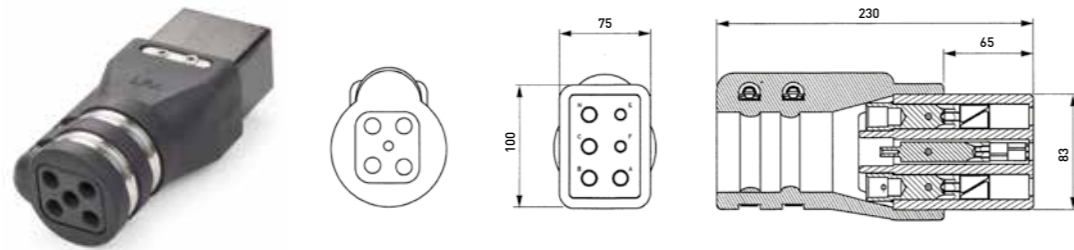
FEATURES:

- The front moulding on Type 40 & 41 Sockets is shorter (65mm) than the other connectors (103mm)
- Rear assemblies complete with screw clips, clamping plates, nuts & bolts
- Front assemblies complete with power & control tubes
- For type 40 rear assembly, specify bung reference according to cable size
- Contacts can be either crimped or soldered
- Average weight: 2.3kg
- Exterior material: CSPE

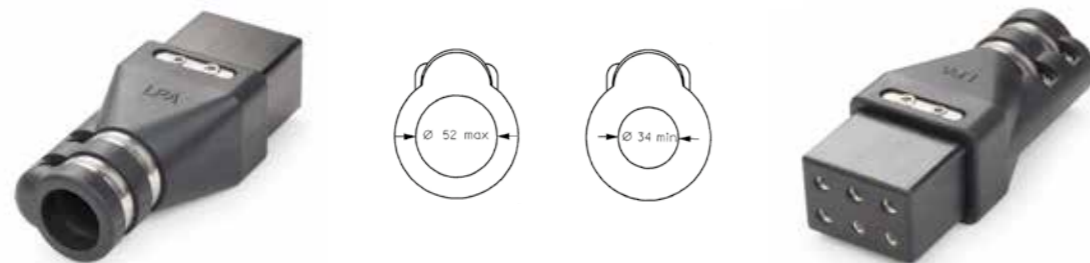
ELECTRICAL RATING:

- Power Components**
 - 450 amps, maximum continuous current
 - 1500 amps for maximum 1 minute
- Control Components**
 - 35 amps maximum continuous current

TYPE 40



TYPE 41



| | Cable Size mm ² | Cable Dia mm Min/Max | Socket Order Ref | Front Half | Rear Half | Power Tube | Control Tube | 5 Hole Bung | Socket Protection Cap |
|-------------------------------------|----------------------------|----------------------|------------------|------------|-----------|------------|--------------|-------------|-----------------------|
| 5 SINGLE CORE CABLE HARNESS - TYPES | 4 X 95 | 14.5/18.0 | 40/1 | 28845 | 27589 | 27920 | 26374 | 28721 | 29598 |
| | 4 X 95 | 18.0/21.0 | 40/2 | 28845 | 27589 | 27920 | 26374 | 18286 | 29598 |
| | 4 X 70 | 14.5/18.0 | 40/3 | 27298 | 27589 | 26373 | 26374 | 28721 | 29598 |
| | 4 X 70 | 18.0/21.0 | 40/4 | 27298 | 27589 | 26373 | 26374 | 18286 | 29598 |
| | 4 X 50 | 11.0/14.5 | 40/5 | 27418 | 27589 | 27089 | 26374 | 27628 | 29598 |
| | 4 X 50/35 | 14.5/18.0 | 40/6 | 27418 | 27589 | 27089 | 26374 | 28721 | 29598 |
| | 4 X 50/35 | 18.0/21.0 | 40/7 | 27418 | 27589 | 27089 | 26374 | 18286 | 29598 |
| COMPOSITE CABLE HARNESS - TYPES | 4 X 95 | 44.0/52.0 | 41/1 | 28845 | 27592 | 27920 | 26374 | - | 29598 |
| | 4 X 70 | 44.0/52.0 | 41/2 | 27298 | 27592 | 26373 | 26374 | - | 29598 |
| | 4 X 50/35 | 34.0/43.0 | 41/3 | 27418 | 27236 | 27089 | 26374 | - | 29598 |

FOR TECHNICAL INFORMATION, NATO STOCK NUMBERS AND CABLE CRIMPING DATA, REFER TO PAGE 22. CONTROL CABLE DIAMETER 11 - 14MM



400Hz & 28VOLT FLANGED PLUGS & SOCKETS

FEATURES:

- Cast aluminium alloy housing & lid
- Epoxy powder coated orange or black finish
- Interior manufactured to ISO 461
- Assemblies complete with power & control pins or tubes
- Lid incorporates connector retaining tongue with padlocking facility
- Weatherproof to IP54
- Single contacts can be either crimped or soldered
- Double-ended contacts must be soldered
- Exterior material: CSPE

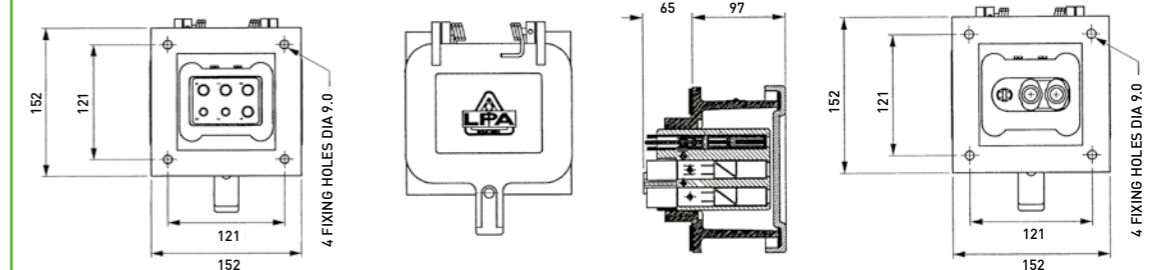
ELECTRICAL RATING:

- Power Components**
 - 450 amps maximum continuous current
 - 1500 amps for maximum 1 min
- Control Components**
 - 35 amps maximum continuous current

TYPE 19 PLUG



TYPE 16 SOCKET



Dimensions in Millimetres

TYPE 18 PLUG



TYPE 10 SOCKET



| | Cable Size mm ² | Plug Order Ref | Single End Plug Front | Single End Pin | Double End Plug Front | Double End Pin | Socket Order Ref | Single End Socket Front | Single End Tube | Double End Socket | Double End Tube |
|--------------------------|----------------------------|----------------|--------------------------|----------------|-----------------------|------------------|----------------------------|-------------------------|-----------------|-------------------|-----------------|
| 28V DC 3 POLE | 2 X 120 | 19/1 | 28710 | 28707 | - | - | 16/1 | 28682 | 28686 | - | - |
| | 2 X 95 | 19/2 | 28712 | 28708 | - | - | 16/2 | 28683 | 27920 | - | - |
| | 2 X 70 | 19/3 | 28713 | 28709 | - | - | 16/3 | 28684 | 26373 | - | - |
| | 2 X 50/35 | 19/4 | 28714 | 28710 | - | - | 16/4 | 28685 | 27089 | - | - |
| | 4 X 95/70 | 19/6 | - | - | 28717 | 28715 | 16/6 | - | - | 28704 | 21362 |
| | 4 X 50/35 | 19/8 | - | - | 28718 | 28716 | 16/8 | - | - | 28705 | 28706 |
| 115-200V AC 400HZ 6 POLE | Cable Size mm ² | Plug Order Ref | Front Half Plug Assembly | Power Pin | Control Pin | Socket Order Ref | Front Half Socket Assembly | Power Tube | Control Tube | | |
| | 4 X 95 | 18/1 | 28727 | 28377 | 26675 | 10/1 | 28845 | 27920 | 26374 | | |
| | 4 X 70 | 18/2 | 27299 | 26674 | 26675 | 10/2 | 27298 | 26373 | 26374 | | |
| | 4 X 50/35 | 18/3 | 28726 | 27884 | 26675 | 10/3 | 27418 | 27089 | 26374 | | |

ALL FLANGED PLUGS HAVE A SPLIT CONTROL PIN (PART NUMBER - 28715) AND ALL FLANGED SOCKETS HAVE A SPLIT CONTROL TUBE (PART NUMBER - 13196)
FOR TECHNICAL INFORMATION, NATO STOCK NUMBERS AND CABLE CRIMPING DATA, REFER TO PAGE 22. CONTROL CABLE DIAMETER 11 - 14MM



28VOLT DC 3 POLE CONNECTORS

FEATURES:

- Composite, or 3 or 5 single core harness entry
- Split control pins & tubes
- Square bung fitted with removable plug to accommodate control cable
- Rear assemblies complete with screw clips, clamping plates, nuts & bolts
- Front assemblies complete with power & control pins or tubes
- Single contacts can be either crimped or soldered (double contacts must be soldered)
- Average weight: Plug - 1.4kg, Socket - 1.6kg
- Exterior material: CSPE

ELECTRICAL RATING:

Power Components

- 450 amps, maximum continuous current
- 1500 amps for maximum of 1 min

Control Components

- 35 amps continuous current



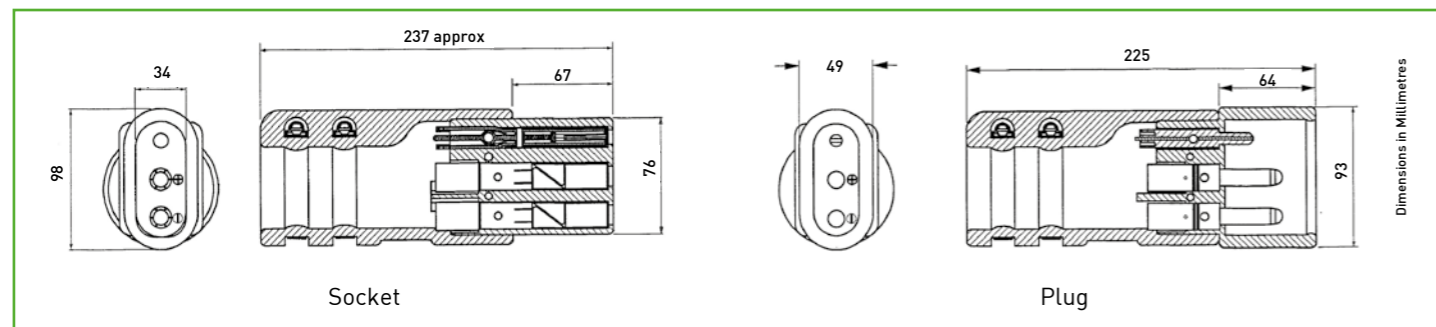
Split Control Tube
13196



Split Control Pin
29176



DC Socket
Protection Cap
29597



28VOLT DC 3 POLE CONNECTORS

| | Cable Size mm ² | Cable Dia mm Min/Max | Socket Order Ref | Single End Socket Front | Rear Half | Power Tube | 3 Hole Bung | Plug Order Ref | Single End Plug Front | Rear Half | Power Pin | 3 Hole Bung | | |
|---------------------------|----------------------------|----------------------------------|----------------------------|-------------------------|------------------|-------------------------|-------------|-------------------|-----------------------|----------------|-----------------------|-------------|------------------|-------------|
| TYPE M1 SOCKET | TYPE 20 PLUG | | | | | | | | | | | | | |
| | | COMPOSITE CABLE TYPES | 2 X 120 | 41/ 54 | M1/A | 28682 | 28703 | 28686 | - | 20/A | 28711 | 28703 | 28707 | - |
| | | | 2 X 95 | 41/ 54 | M1/B | 28683 | 28703 | 27920 | - | 20/B | 28712 | 28703 | 28708 | - |
| | | | 2 X 70 | 29/40 | M1/C | 28684 | 28701 | 26373 | - | 20/C | 28713 | 28701 | 28709 | - |
| 2 X 50/35 | 29/40 | | M1/D | 28685 | 28701 | 27089 | - | 20/D | 28714 | 28701 | 28710 | - | | |
| TYPE M1 SOCKET | TYPE 21 PLUG | | | | | | | | | | | | | |
| | | 3 SINGLE CORE CABLE TYPES | 2 X 120 | 15.5/20.0 | M1/1 | 28682 | 28723 | 28686 | 28678 | 21/1 | 28711 | 28723 | 28707 | 28678 |
| | | | 2 X 120 | 20.0/24.5 | M1/2 | 28682 | 28723 | 28686 | 28679 | 21/2 | 28711 | 28723 | 28707 | 28679 |
| | | | 2 X 120 | 24.5/29.0 | M1/3 | 28682 | 28723 | 28686 | 28680 | 21/3 | 28711 | 28723 | 28707 | 28680 |
| | | | 2 X 95 | 15.5/20.0 | M1/4 | 28683 | 28723 | 27920 | 28678 | 21/4 | 28712 | 28723 | 28708 | 28678 |
| | | | 2 X 95 | 20.0/24.5 | M1/5 | 28683 | 28723 | 27920 | 28679 | 21/5 | 28712 | 28723 | 28708 | 28679 |
| | | | 2 X 95 | 24.5/29.0 | M1/6 | 28683 | 28723 | 27920 | 28680 | 21/6 | 28712 | 28723 | 28708 | 28680 |
| | | | 2 X 70 | 11.0/15.5 | M1/7 | 28684 | 28723 | 26373 | 28677 | 21/7 | 28713 | 28723 | 28709 | 28677 |
| | | | 2 X 70 | 15.5/20.0 | M1/8 | 28684 | 28723 | 26373 | 28678 | 21/8 | 28713 | 28723 | 28709 | 28678 |
| | | | 2 X 70 | 20.0/24.5 | M1/9 | 28684 | 28723 | 26373 | 28678 | 21/9 | 28713 | 28723 | 28709 | 28678 |
| | | | 2 X 50/35 | 11.0/15.5 | M1/10 | 28685 | 28723 | 27089 | 28677 | 21/10 | 28714 | 28723 | 28710 | 28677 |
| | | | 2 X 50/35 | 15.5/20.0 | M1/11 | 28685 | 28723 | 27089 | 28678 | 21/11 | 28714 | 28723 | 28710 | 28678 |
| 2 X 50/35 | 20.0/24.5 | | M1/12 | 28685 | 28723 | 27089 | 28679 | 21/12 | 28714 | 28723 | 28710 | 28679 | | |
| TYPE M3 SOCKET | TYPE 23 PLUG | | | | | | | | | | | | | |
| | | 5 SINGLE CORE CABLE TYPES | Cable Size mm ² | Cable Dia mm Min/Max | Socket Order Ref | Double End Socket Front | Rear Half | Double Power Tube | 5 Hole Bung | Plug Order Ref | Double End Plug Front | Rear Half | Double Power Pin | 5 Hole Bung |
| | | | 4 X 70/95 | 14.5/18.0 | M3/3 | 28704 | 28723 | 21362 | 28721 | 23/3 | 28717 | 28723 | 28715 | 28721 |
| | | | 4 X 70/95 | 18.0/21.0 | M3/4 | 28704 | 28723 | 21362 | 18286 | 23/4 | 28717 | 28723 | 28715 | 18286 |
| | | | 4 X 50/35 | 11.0/14.5 | M3/5 | 28705 | 28723 | 28706 | 27628 | 23/5 | 28718 | 28723 | 28716 | 27628 |
| | | | 4 X 50/35 | 14.5/18.0 | M3/6 | 28705 | 28723 | 28706 | 28721 | 23/6 | 28718 | 28723 | 28716 | 28721 |
| 4 X 50/35 | 18.0/21.0 | | M3/7 | 28705 | 28723 | 28706 | 18286 | 23/7 | 28718 | 28723 | 28716 | 18286 | | |

FOR TECHNICAL INFORMATION, NATO STOCK NUMBERS AND CABLE CRIMPING DATA, REFER TO PAGE 22. CONTROL CABLE DIAMETER 11 - 14MM

AIRCRAFT CONTACT TEST KIT

52138



- Inspection/testing kit for 400Hz and 28V DC sockets
- Comprises; control tube test gauge, power tube test gauge, aircraft pin GO/NO GO test gauge, load cell, A/F hexagonal key, wire brush - brass, wire brush - steel and full instructions
- Supplied in hard pvc carry case

AIRCRAFT SOCKET ASSEMBLY KIT

51722



- Assembly tools for D400, D410, N27 and P27 contacts
- Comprises; LPA Contact Assembly Tools (Power and Control), torque marker pen, torque wrench and 13mm A/F socket. Electrolube contact grease, Aqua-sil waterproof grease, 5mm Allen key, Ambersil silicone spray and full instructions
- Supplied in carry case

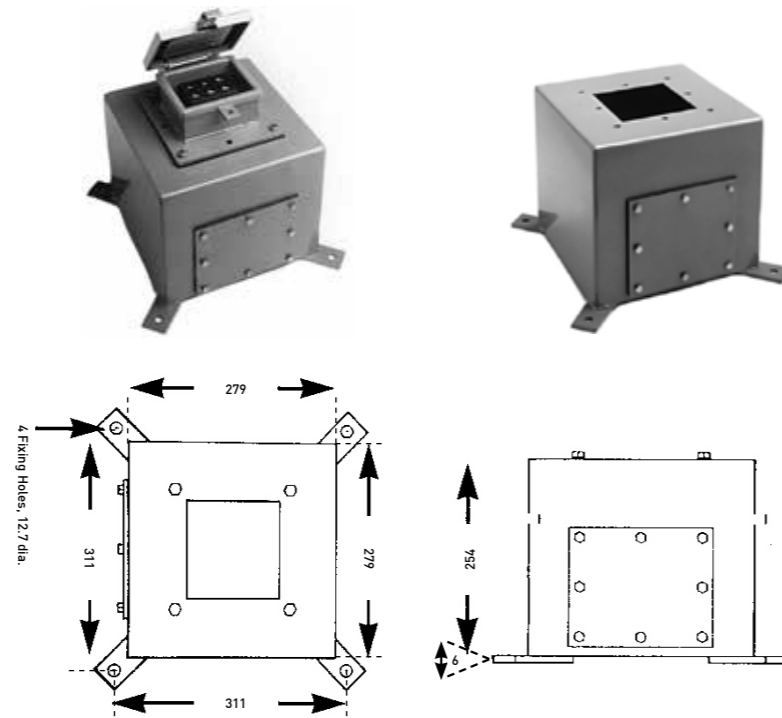


FLANGED CONNECTOR MOUNTING BOXES

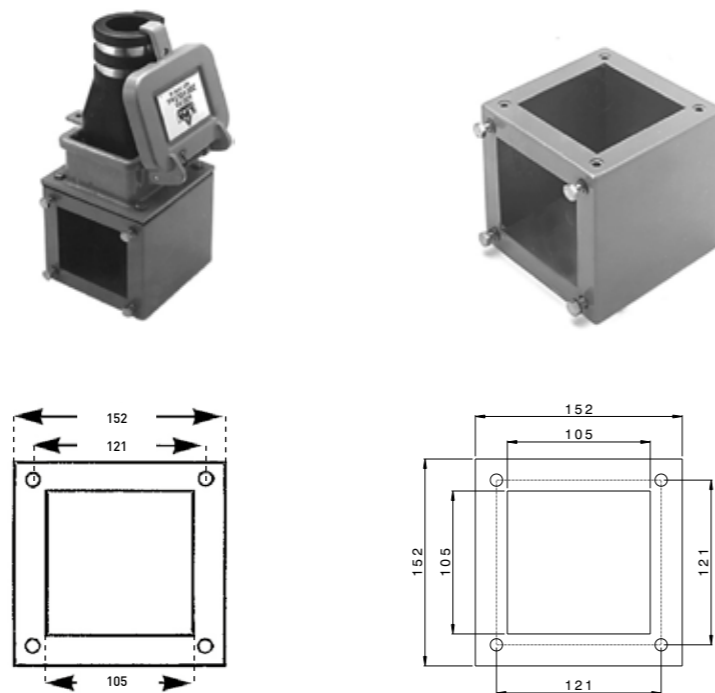
FEATURES:

- Designed for use with flanged connector Types 10, 16, 18 & 19
- Weatherproof to IP54 with flanged connector installed
- Manufactured in mild steel and zinc sprayed, with a polyester powder coated orange or black finish
- Cuboid design with side entry allows orientation to meet installation requirements
- Type 27121 gland plate accommodates most cable types and sizes
- Type 27121 supplied with flange connector fixing bolts
- Type 27012 supplied with fixing bolts and sealing gasket

TYPE 27121 SURFACE BOX



TYPE 27012 ANGLE ADAPTOR BOX



Quick assembly from standard stock items

Composite, 3 single core or 5 single core options



Cable Assemblies

Composite, 3 single core or 5 single core.



- Cable assemblies quickly manufactured to customer requirements from standard stock components
- Composite cable, or 3 or 5 single core cable harnesses
- Single core cable harnesses banded together at 500mm intervals



TYPE 11 & 12 HARNESSSES

CABLE ASSEMBLIES

TYPE 11 EXTENSION HARNESS



FEATURES:

- Cable assemblies are quickly manufactured to customer requirements from standard stock components
- Composite cable, or 3 or 5 single core cable harnesses
- Single core cable harnesses banded together at 500mm intervals

TYPE 12 POWER HARNESS



400Hz Composite Cable Harness & Socket

400Hz Single Core Cable Harness & Socket

28V DC 5 Single Core Cable Harness & Socket

LANYARD ASSEMBLY



Lanyard assembly 51844

Use of the LPA Lanyard Assembly reduces the strain on the Aircraft Socket caused by the weight of the cable. The Assembly is supplied to specific customer's requirement.

PLEASE SPECIFY WHEN ORDERING:

- Socket (which determines voltage, electrical rating and number of poles for the assembly)
- Cable length in metres - e.g. 10m
- Cable size in square millimetres - e.g. 70mm²
- Cable type - e.g. single cores or composite
- For Type 11: specify plug (with same voltage, electrical rating and poles as socket)
- For Type 12: cable power tails fitted with 10mm lugs as standard

EXAMPLES OF HOW TO COMPILE PART NUMBER:

E.g. 11 / 400 / 15 / 4 / 10

- This would be an **Extension Harness** with a **Type 400 Socket** (socket reference: 400/4) and corresponding **Type 15 Plug** (plug reference: 15/4) on **10m length cable**.

E.g. 12 / 400 / 4 / 10

- This would be a **Power Harness** with a **Type 400 Socket** (socket reference: 400/4) and **10m in length**
- **Harnesses:** if linked E & F required, add L. If neutral ruptured required, add N.



TECHNICAL INFORMATION

SPECIFICATION

Performance and dimensions of LPA Connection Systems Aviation Ground Power Supply Connectors comply with ISO 461 and to appropriate Ministry of Defence (Air) and NSN standards.

GENERAL ASSEMBLY

Tubes and Pins are retained in the rubber housing by nylon fixing pins. Front and rear housings are secured together by Glass Filled Nylon or Austenitic Stainless Steel clamp plates and Stainless Steel clamp plates and Stainless Steel nuts and bolts, facilitating disassembly and easy access to pins and tubes when attaching the cable. The connector is secured to the cable by two stainless steel screw clamps providing excellent strain relief and weatherproof seal.

A heat shrink sleeve covering the cable entry and rear housing can be supplied as an option.

FRONT AND REAR HOUSINGS

Housings are moulded or machined from Nitrile PVC or CSPE, compounds selected for their resistance to UV light, moisture, chemicals and other hazards and wear and tear associated with aircraft maintenance areas, with a temperature range of -40°C to 100°C.

POWER AND CONTROL PINS AND TUBES

Pins and Tubes are machined in copper and silver plated to improve electrical conductivity. Tubes are spring tightened to ensure good electrical contact comply with ISO 461.

CABLE TERMINATION

Power Pins and Tubes

With the exception of the Type M3 and Type 23 connectors, which must be soldered, power pins and tubes may be connected to cables by soldering or crimping. Termination Guide (Ref 29273) available on request.

CONTROL PINS AND TUBES

With the exception of the Split Design F tube on 28Volt DC connectors which must be soldered, control tubes and pins may be connected to cables by soldering or crimping. The electrical and load test approvals to BS 4G 178, ISO 461 require the use of the appropriate crimping die as shown in the product selection charts. Conductors under 2mm² will require doubling over to provide a satisfactory crimped connection.

Crimping tests have been conducted using conductor sizes shown in tables in BS638. Oversheath dimensions are for power cables to BS638, BS6004 and BS6007. Control cables are to BS6500.

Heat shrink sleeves, supplied as standard by LPA, should be fitted over the connection and cable end of all power pins and tubes.

It is recommended that, following connection but before mating front and rear assemblies together, the rear assembly is filled with RTV silicone sealant (Ambersil 1039N or ACC Silicones AS1602) to prevent any possible moisture ingress.

LPA Group plc reserves the right to modify designs and specifications so as to permit the incorporation of technical developments.

NATO STOCK NUMBERS FOR COMPONENTS

| NATO No. | Description |
|------------------|--------------------------------------|
| 5935-99-551-2589 | Socket Type 40/2 |
| 5935-99-758-1104 | Socket Type 40/4 |
| 5935-99-192-2528 | Socket Type 40/6 |
| 5935-99-785-7295 | Socket Type 40/8 |
| 5935-99-434-9740 | Socket Type 41/3 |
| 5935-99-732-2341 | Socket Type 400/3 |
| 5935-99-574-4640 | Socket Type 400/4 |
| 5935-99-574-4640 | Socket Type D400/4 |
| 5935-99-126-2607 | Socket Type 410/2 |
| 5935-99-690-6725 | Socket Type 410/3 |
| 5935-99-437-2071 | Socket Type D410/2 |
| 5935-99-203-1199 | Socket Type M1/C |
| 5935-99-770-3267 | Socket Type M1/5 |
| 5935-99-010-0617 | Socket Type M1/7 |
| 5935-99-434-9738 | Socket Type M3/3 |
| 5935-99-244-2408 | Socket Type M3/4 |
| 5935-99-608-3168 | Socket Type 10/2 |
| 5935-99-810-3422 | Plug Type 15/4 |
| 5935-99-282-4558 | Plug Type 18/2 |
| 5935-99-461-3781 | 33580 Moulding |
| 5935-99-551-0426 | 33526 Power Tube |
| 5935-99-498-8657 | Tube Sub-Assembly 33530 |
| 5935-99-867-8041 | AC Socket Cap 29598 |
| 5935-99-192-6707 | 11945 Retaining peg AC all tubes |
| 5935-99-192-6693 | 13175 Retaining Peg DC Main Tubes |
| 5935-99-192-6692 | 13176 Retaining Pin DC Control Tube |
| 5935-99-193-2920 | 13196 Control Tube DC Split Pin Type |
| 5999-99-205-4971 | 26374 Control Tube AC Sockets |
| 5999-99-117-8495 | 21362 Main Tube 70mm Cable Twin |
| 5999-99-528-3584 | 26373 Main Tube 70mm |
| 5999-99-301-2920 | 27089 Main Tube 35/50 Cable |
| 5999-99-051-8636 | 27920 Tube Assembly |

CABLE CRIMPING DATA

| Cable Size | Die No | Code | Code |
|-----------------------|--------|------|------|
| 120 mm ² | 31152 | M120 | HM |
| 95 mm ² | 31151 | L95 | HL |
| 25-70 mm ² | 30732 | K70 | HK |
| E-F | 30254 | F10 | HF |



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LPA GROUP PLC

Light & Power House,
Shire Hill, Saffron Walden,
CB11 3AQ, UK
Tel: +44 (0)1799 512800
Email: enquiries@lpa-group.com

LPA CHANNEL ELECTRIC

Bath Road, Thatcham,
Berkshire, RG18 3ST. UK
Tel: +44 (0)1635 864866
Email: enquiries@lpa-channel.com

LPA LIGHTING SYSTEMS

LPA House, Ripley Drive,
Normanton, West Yorkshire,
WF6 1QT. UK
Tel: +44 (0)1924 224100
Email: enquiries@lpa-light.com

LPA TRANSPORT +®

Light & Power House,
Shire Hill, Saffron Walden,
CB11 3AQ, UK
Tel: +44 (0)1799 512800
Email: enquiries@lpa-connect.com

LPA CONNECTION SYSTEMS

Light & Power House,
Shire Hill, Saffron Walden,
CB11 3AQ, UK
Tel: +44 (0)1799 512800
Email: sales@lpa-connect.com



FM 01660

For further information please contact:

LPA CONNECTION SYSTEMS

Light & Power House,
Shire Hill, Saffron Walden,
CB11 3AQ, UK
Tel: +44 (0)1799 512800
Email: enquiries@lpa-connect.com

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Designed & produced by Hornett's Design Ltd - Linda@hornettsdesign.co.uk