



Ground Power Equipment



RED BOX
AVIATION

About Red Box Aviation

The Red Box Aviation GPU range is designed and manufactured by the LPA Group.

We offer a wide range of aircraft ground power equipment; from aircraft start, continuous and combination units, to cable harnesses and connectors.

Designed for use in both civil and military markets, LPA delivers bespoke power solutions to its customers. With a global network of distributors, we provide comprehensive local support and after-sales care to our international customers across all ground support equipment and solutions.

To find out more visit www.redboxaviation.com

Who are LPA Group?

LPA Group design and manufacture power connection solutions for the aviation industry and are based in the UK.

With over 70 years of experience in the aviation market, the acquisition of Red Box Aviation is key to our commitment to provide a comprehensive range of high quality and reliable ground power equipment to our customers.

LPA supports a range of customers including major UK and international airports, OEMs, specialist aviation suppliers, and the military. We understand the importance of reliable ground power equipment and are committed to the development and innovation of both the Red Box and LPA product range.

LPA has EN 9100, ISO 9001, ISO 14001 certification and many of our products are NATO codified.

To find out more visit www.lpa-group.com

Providing Ground Support Equipment



Ground Power Equipment

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LPA 28VDC Connectors and Cable Harnesses

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Start Units

Our comprehensive range of start units are designed to cover every possible start requirement.



The Red Box start units offer 12V, 24V, 26V and 28V starts using either gel lead acid or lithium batteries.



RB75A 1700A

| Unit | Max Amps | Starting Amps | Capacity | Voltage | Max Voltage | Size (cm) | Wweight (kg) | Operating Temp. | Case | Voltage Indication | Auxiliary Protection | Aircraft Cable | Charger | Protection |
|-------------------------------|----------|---------------|-------------------------|---------|-------------|------------------------|--------------|-----------------|-----------------|--------------------|----------------------|-------------------------------|--|--------------------------|
| PORTABLE START UNITS | | | | | | | | | | | | | | |
| RB12 12V | 2600 | 1600 | 32 amp hrs @ 10 Hr rate | 12VDC | 13VDC | L 35 X W 9 X H 23 | 16 | -40°C to +60°C | Stainless Steel | Digital to IP65 | Circuit Breaker 20A | 2m heavy duty, NATO connector | 4 amp Electronic fixed input charger. Charge time, less than 2 hours from 50% | Reverse polarity warning |
| RB25A 24V | 1300 | 800 | 16 amp hrs @ 10 Hr rate | 24VDC | 26VDC | L 35 X W 9 X H 23 | 16 | -40°C to +60°C | Stainless Steel | Digital to IP65 | Circuit Breaker 20A | 2m heavy duty, NATO connector | 2.5 Amp Electronic fixed AC input charger. Charging time less than 2 hours fom 50% | Reverse polarity warning |
| RB75A 24V | 2600 | 1700 | 38 amp hrs @ 10 Hr rate | 24VDC | 26VDC | L 45 X W 10 X H 38 | 29 | -40°C to +60°C | Stainless Steel | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 8 A Electronic universal AC input. Charging time less than 2 hours from 50% | Reverse polarity warning |
| RB75A TWIN 24V | 5200 | 3500 | 76 amp hrs @10 Hr rate | 24VDC | 26VDC | 2 X L 45 X W 10 X H 38 | 58 | -40°C to +60°C | Stainless Steel | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 2 X 8 A Electronic universal AC input. Charging time less than 2 hours from 50% | Reverse polarity warning |
| RB80A 26V | 2600 | 1700 | 38 amp hrs @ 10 Hr rate | 26VDC | 28VDC | L 45 x W 10 x H 38 | 31 | -40°C to +60°C | Stainless Steel | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 8A Electronic universal AC input. Charging time less than 2 hours from 50% | Reverse polarity warning |
| RB85A 28V | 2600 | 1700 | 38 amp hrs @ 10 Hr rate | 28VDC | 30VDC | L 50 X W 10 X H 38 | 33 | -40°C to +60°C | Stainless Steel | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 8 A Electronic universal AC input. Charging time less than 3 hours from 50% | Reverse polarity warning |
| RB85A TWIN 28V | 5200 | 3500 | 76 amp hrs @ 10 Hr rate | 28VDC | 30VDC | 2 X L 50 X W 10 X H 38 | 66 | -40°C to +60°C | Stainless Steel | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 2 X 8 A Electronic universal AC input. Charging time less than 3 hours from 50% | Reverse polarity warning |
| PORTABLE LITHIUM UNITS | | | | | | | | | | | | | | |
| RBL2500 | 2500 | 800 | 16 amp hrs @ 10 Hr rate | 28VDC | 30VDC | L 35 X W 10 X H 38 | 7.2 | -30°C to +60°C | Aluminium | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 4 A Electronic universal AC input | Reverse polarity warning |
| RBL4000 | 4000 | 1500 | 28 amp hrs @ 10 Hr rate | 28VDC | 30VDC | L 35 X W 10 X H 38 | 11.6 | -30°C to +60°C | Aluminium | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 4 A Electronic universal AC input | Reverse polarity warning |
| RBL4000 TWIN | 8000 | 3000 | 56 amp hrs @ 10 Hr rate | 28VDC | 30VDC | 2 x L 35 X W 10 X H 38 | 23.2 | -30°C to +60°C | Aluminium | Digital to IP65 | Circuit Breaker 40A | 2m heavy duty, NATO connector | 2 x 4 A Electronic universal AC input | Reverse polarity warning |

| Unit | Max Amps | Starting Amps | Capacity | Voltage | Max Voltage | Size (cm) | Weight (kg) | Operating Temp. | Case | Voltage Indication | Auxiliary Protection | Aircraft Cable | Charger | Protection | Towbar | Handlebar and Castors |
|------------------------|----------|---------------|-------------------------|---------|-------------|--------------------|-------------|-----------------|-------------------|--------------------|----------------------|-------------------------------|---|--------------------------|----------------------|-----------------------|
| START CART UNIT | | | | | | | | | | | | | | | | |
| TC400/6 | 7800 | 5000 | 114 amp @10 Hr rate | 24VDC | 26VDC | L 78 X W 35 X H 30 | 135 | -40°C to +60°C | Zinc Coated Steel | Digital to IP65 | Circuit Breaker 70A | 3m heavy duty, NATO connector | 50A Electronic 110/230v. Charging time less than 2 hours from 50% | Reverse polarity warning | 50mm ball (optional) | Optional |
| TC400/8 | 10400 | 7000 | 152 amp @10 Hr rate | 24VDC | 26VDC | L 78 X W 35 X H 30 | 165 | -40°C to +60°C | Zinc Coated Steel | Digital to IP65 | Circuit Breaker 70A | 3m heavy duty, NATO connector | 50A Electronic 110/230v. Charging time less than 2 hours from 50% | Reverse polarity warning | 50mm ball (optional) | Optional |
| TC400/28 | 5200 | 3500 | 115 amp hrs @10 Hr rate | 28VDC | 30.3VDC | L 78 X W 54 X H 30 | 140 | -40°C to +60°C | Zinc Coated Steel | Digital to IP65 | Circuit Breaker 70A | 3m heavy duty, NATO connector | 50A Electronic 110/230v. Charging time less than 2 hours from 50% | Reverse polarity warning | 50mm ball (optional) | Optional |

| Unit | Max Amps | Starting Amps | Capacity 24/28V | Capacity 12/14V | Voltage | Max Voltage | Size (cm) | Weight (kg) | Operating Temp. | Case | Voltage Indication | Auxiliary Protection | Auxiliary Input | Aircraft Cable | Charger | Protection |
|---------------------------------|-----------|---------------|------------------------|-------------------------|----------|-------------|--------------------|-------------|-----------------|-----------------|--------------------|----------------------|-----------------|----------------|--|--------------------------|
| DUAL-VOLTAGE START UNITS | | | | | | | | | | | | | | | | |
| RB40 12/24 | 1600/3200 | 800/1600 | 16 amp hrs @10 Hr rate | 34 Amp Hrs @ 10 Hr rate | 12/24VDC | 13/26VDC | L 40 X W 23 X H 21 | 23 | -40°C to +60°C | Stainless Steel | Digital IP65 | Circuit Breaker 20A | 29VDC | 2m heavy duty | 2 x 4 amp universal AC input. Charging time less than 4 hours from 50% | Reverse polarity warning |

Continuous Power Battery Units

Our continuous battery units are designed to provide uninterrupted power to aircraft when mains power isn't available, or when a silent power supply is required.



TC400/28C



TC400/28QU

| Unit | Max Amps | Starting Amps | Capacity | Run Time | Voltage | Max Voltage | Size (cm) | Weight (KG) | Operating Temp | Case | Voltage Indication | Auxiliary Protection | Aircraft Cable | Charger | Optional Extras |
|------------|----------|---------------|-------------------------|---|---------|-------------|-----------------------|-------------|----------------|-------------------|--------------------|----------------------|------------------------------|---|----------------------------|
| TC400/28C | 5200 | 3500 | 136 amp hrs @10 Hr rate | 110 amps for 1 hour, 55 amps for 2 hours, 27 amps for 3 hours | 28VDC | 30.3VDC | L 78 X W 35 X H 30 | 140 | -40°C to +60°C | Zinc Coated Steel | Digital to IP64 | Circuit Breaker 40A | 3m heavy duty with connector | 50A Electronic 110/230V. Charging time less than 4 hours from 50% (larger chargers available) | Longer cables |
| TC400/28TW | 10400 | 7000 | 240 amp hrs @10 Hr rate | 164 amps for 1 hour, 95 amps for 2 hours, 66 amps for 3 hours | 28VDC | 30.3VDC | L 200 X W 108 X H 150 | 400 | -40°C to +60°C | Zinc Coated Steel | Digital to IP65 | Circuit Breaker 40A | 3m heavy duty with connector | 50A Electronic 110/230V. Charging time less than 4 hours from 50% (larger chargers available) | Cable horns, longer cables |
| TC400/28TR | 15600 | 10400 | 360 amp hrs @10 Hr rate | 245 amps for 1 hour, 140 amps for 2 hours, 100 amps for 3 hours | 28VDC | 30.3VDC | L 200 X W 108 X H 150 | 500 | -40°C to +60°C | Zinc Coated Steel | Digital to IP65 | Circuit Breaker 40A | 3m heavy duty with connector | 50A Electronic 110/230V. Charging time less than 3 hours from 50% (larger chargers available) | Cable horns, longer cables |
| TC400/28QU | 20800 | 14000 | 520 amp hrs @10 Hr rate | 325 amps for 1 hour, 188 amps for 2 hours, 132 amps for 3 hours | 28VDC | 30.3VDC | L 200 X W 108 X H 150 | 600 | -40°C to +60°C | Zinc Coated Steel | Digital to IP65 | Circuit Breaker 40A | 3m heavy duty with connector | 50A Electronic 110/230V. Charging time less than 4 hours from 50% (larger chargers available) | Cable horns, longer cables |

Continuous Power

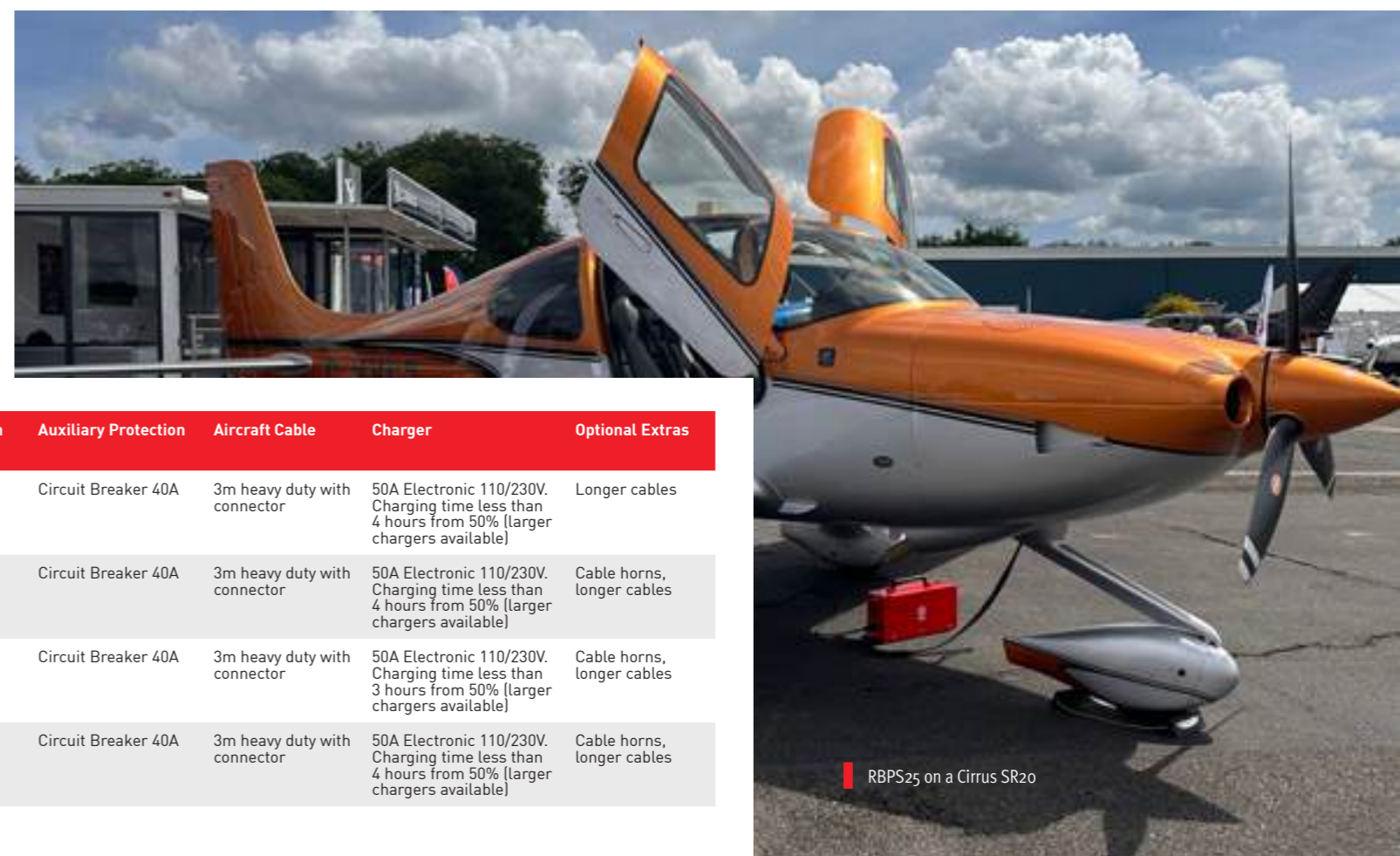
Our continuous power supplies offer clean 14V and 28VDC power, up to 600 Amps.

From hand portable to mobile units we offer a solution to all DC aircraft requirements.



RBSC100

| Unit | Output Current | Output Voltage | Output Ripple | Input Frequency | AC Input Supply | Phase | Power Factor Correction | Input Rating | Dims Body (cm) | Weight (kg) | LED Voltmeter/ Ammeter Display |
|---------|----------------|----------------|---------------|-----------------|-----------------|-------|-------------------------|--------------|--------------------|-------------|--------------------------------|
| RBPS25 | 25 amps | 14/28VDC | <150 mV | 47-63 Hz | 104V-264V | 1Ø | Included | 775 VA | L 13 x W 46 x H 22 | 5 | YES |
| RBPS50 | 50 amps | 14/28VDC | <150 mV | 47-63 Hz | 104V-264V | 1Ø | Included | 1550 VA | L 13 x W 46 x H 22 | 6.5 | YES |
| RBSC100 | 100 amps | 14/28VDC | <150 mV | 47-63 Hz | 95V-264V | 1Ø | Included | 3000 VA | L 45 x W 20 x H 23 | 9 | YES |
| RBSC200 | 200 amps | 14/28VDC | <150 mV | 47-63 Hz | 95V-264V | 1Ø | Included | 6000 VA | L 51 X W 22 X H 36 | 16 | YES |
| RBSC300 | 300 amps | 28VDC | <250 mV | 45-65 Hz | 200V-460V | 3Ø | Included | 10500 VA | L 91 X W 80 X H 61 | 70 | YES |
| RBSC600 | 600 amps | 28VDC | <250 mV | 45-65 Hz | 200V-460V | 3Ø | Included | 21600 VA | L 91 X W 80 X H 77 | 90 | YES |



RBPS25 on a Cirrus SR20

Combination Start and Continuous

Combining the quality and functionality of both our start and continuous units into a single, easy-to-maneuvre unit.



TC3000/100-6



TC3000/300-6

→ Visit www.redboxaviation.com or call us on +44 (0)1799 512800 for more information on our hybrid units

| Unit | Max Amps | Starting Amps | Capacity | Starting Voltage | Max Start Voltage | Continuous Voltage | Continuous Power | AC Input | Size (cm) | Weight (kg) | Operating Temperature | Case | Voltage Indication | Performance Monitoring | Aircraft Cable | Charger | Handle Bar & Castors Or Towbar |
|--------------|----------|---------------|-------------------------|------------------|-------------------|--------------------|------------------|--------------|---------------------|-------------|-----------------------|-------------------|--------------------|------------------------|----------------|--|--------------------------------|
| TC3000/100-4 | 5200 | 3500 | 76 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 100 amps | 95v-270V 1Ø | L 84 X W 63 X H 56 | 115 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 100A Electronic inbuilt. Charging time less than 60min from 50% | Optional |
| TC3000/100-6 | 7800 | 5200 | 114 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 100 amps | 95v-270V 1Ø | L 103 X W 63 X H 56 | 139 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 100A Electronic inbuilt. Charging time less than 30min from 50% | Optional |
| TC3000/200-4 | 5200 | 3500 | 76 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 200 amps | 95v-270V 1Ø | L 103 X W 63 X H 56 | 145 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 100A Electronic inbuilt. Charging time less than 60min from 50% | Handle Bar and Castors |
| TC3000/200-6 | 7800 | 5200 | 114 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 200 amps | 95v-270V 1Ø | L 103 X W 63 X H 56 | 175 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 100A Electronic inbuilt. Charging time less than 30min from 50% | Handle Bar and Castors |
| TC3000/300-4 | 5200 | 3500 | 76 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 300 amps | 200V-460V 3Ø | L 130 X W 63 X H 56 | 135 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 300A Electronic inbuilt. Charging time less than 30min from 50% | Handle Bar and Castors |
| TC3000/300-6 | 7800 | 5200 | 114 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 300 amps | 200V-460V 3Ø | L 130 X W 63 X H 56 | 160 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 300A Electronic inbuilt. Charging time less than 1 hour from 50% | Handle Bar and Castors |
| TC3000/300-8 | 10400 | 7000 | 152 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 300 amps | 200V-460V 3Ø | L 130 X W 63 X H 56 | 185 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 300A Electronic inbuilt. Charging time less than 1 hour from 50% | Handle Bar and Castors |
| TC3000/600-6 | 7800 | 5200 | 114 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 600 amps | 200V-460V 3Ø | L 130 X W 63 X H 80 | 235 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 600A Electronic inbuilt. Charging time less than 30min from 50% | Handle Bar and Castors |
| TC3000/600-8 | 10400 | 7000 | 152 amp hrs @10 Hr rate | 24VDC | 26VDC | 28VDC | 600 amps | 200V-460V 3Ø | L 130 X W 63 X H 80 | 235 | -40°C to +60°C | Zinc Coated Steel | LED display | LED display | 3m heavy duty | 600A Electronic inbuilt. Charging time less than 30min from 50% | Handle Bar and Castors |



P28 Connector (28VDC)

The P28 connector comes with fixed electrical contacts, providing a cost-effective connection system to power aircraft. Suitable for a wide range of composite, 3 or 5 core cable types.

Key features:

- Easy connection to cable
- Low maintenance
- IP66 & IP67 rated (no filler required)
- Suitable for a wide range of composite and single core cables
- External components manufactured from impact, abrasion and chemically resistant thermal stable polymers
- Exterior handle / stain relief system
- High conductivity silver-plated copper contacts

Technical information:

Power components

- Nominal voltage: 28VDC
- Current carrying capacity: 450 A (power), 35 A (control)
- Current overload: 1500 A for 1 minute (power)
- High voltage test: 4000 V
- Operating temperature: -25°C to +90°C (includes temperature rise)
- Applicable standards: ISO 4611, ISO 461-2, VG 96966 and MIL-C-7974 D
- Overall weight: 1.2kg

P28 Socket



Type 20/21/23 Plug



Cable Harnesses

Bespoke assemblies and cable harnesses to meet customer requirements.

Key features:

- Composite cable, 3 single core or 5 single core cable options
- 28VDC supply
- Quick assembly using standard stock items
- Cable lengths in meters, from 5 to 30M and in 5M increments
- Low maintenance and impact resistant
- Ideal for cable retrievers and reelers

Extension Harness (EH)
28VDC Single Core Extension Harness with P28



Power Harness (PH)
28VDC 5 Single Core Cable Harness & P28



28VDC Flanged Plug & Socket

Easy connection to cable & low maintenance.

Key features:

- Protected flange mounted 28VDC connectors
- Cast aluminium alloy housing and lid
- Epoxy powder coated black finish
- Exterior material: CSPE
- Interior manufactured to ISO 461
- IP54 rated
- Crimped or soldered contacts
- Mounting boxes available

Technical information:

Power components

- 450 A maximum continuous current
- 1500 A for maximum 1 min control components
- 35 A maximum continuous current
- All flanged plugs have a split control pin (part number – 29176) and all flanged sockets have a split control tube (part number – 13196)

Type 19 Plug
28VDC 3 pole Plug



Type 16 Socket
28VDC 3 pole Socket



Cable Harness Storage Stand (PCR100)

Designed for use in the hanger or on the airport apron, the PCR100 prevents damage to the cable and can hold up to 100kg per side.

Key features:

- Suits multicore and composite cables
- Holds 100kg per side (maximum)
- Bright yellow finish and fitted with high visibility reflective tape





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EN 9100: FM 759856



ISO 9001: FM 01660

ISO 14001: EMS 758363