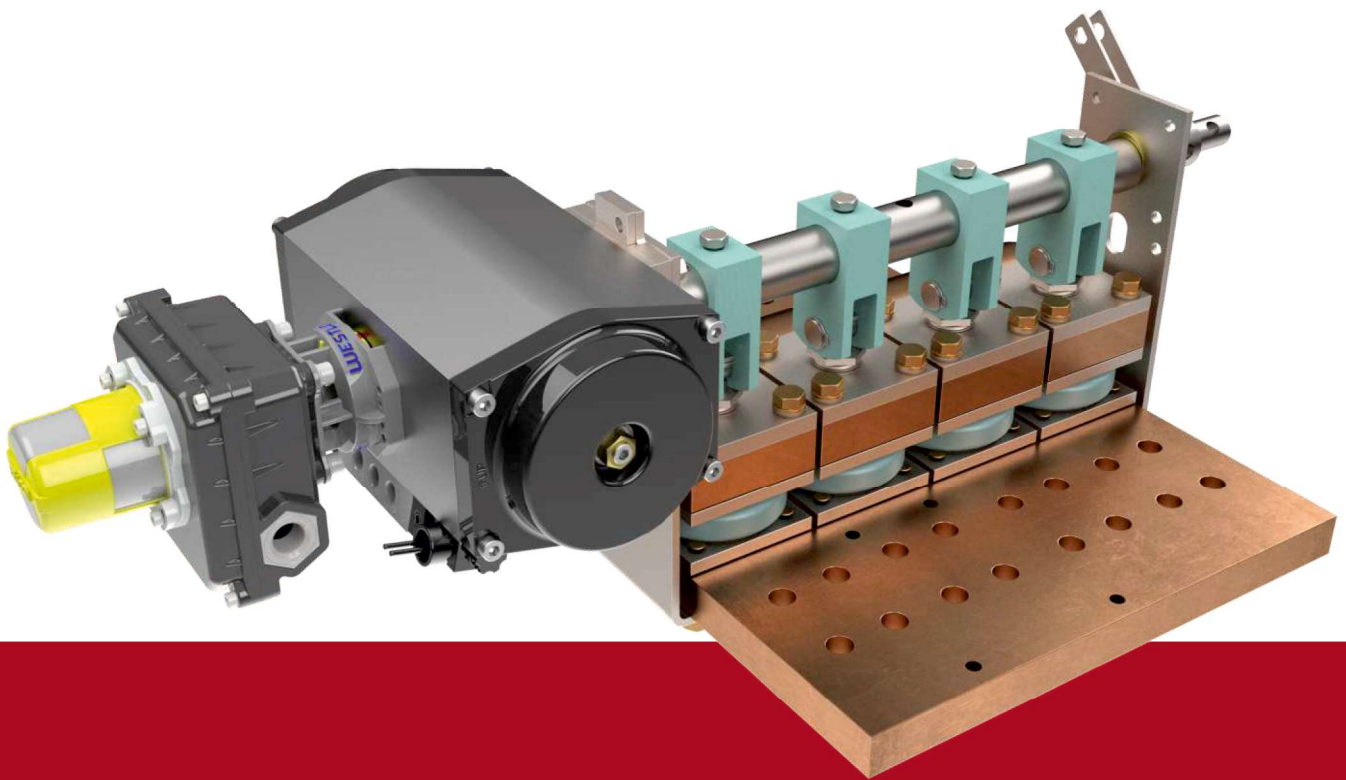




# **G CORNER**

Design & Engineering Solutions



# **G CORNER ENGINEERING SOLUTIONS**

part of  international



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# DC CIRCUIT PROTECTION EQUIPMENT

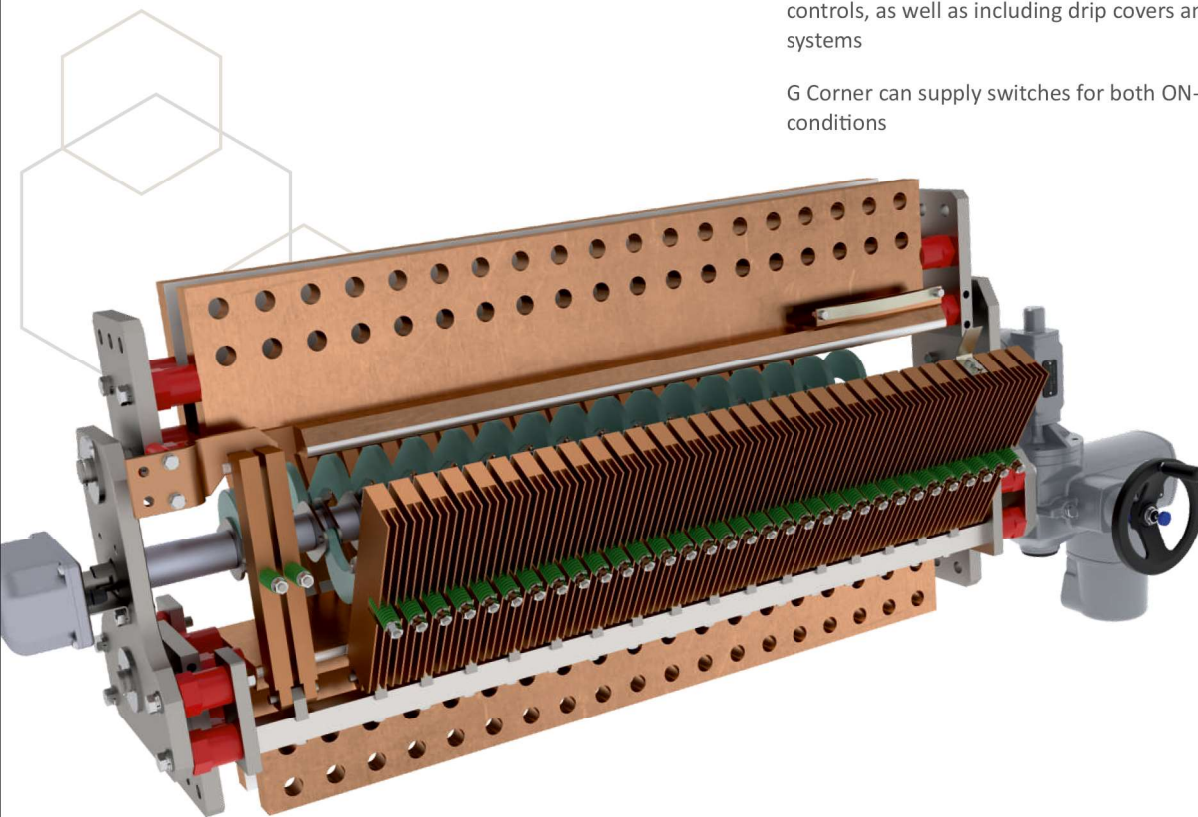
G Corner has been involved in the supply of high current DC switches for nearly 30 years and we can supply equipment for plants operating from 10kA up to 360 kA.

Our switches are predominantly of a vacuum contact design which gives a safe, reliable and long-term performance in harsh copper tank house environments.

The switches can be custom designed to meet the individual needs of any busbar system

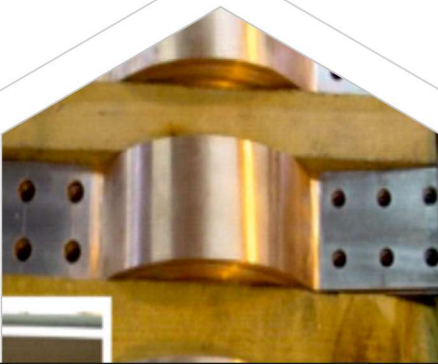
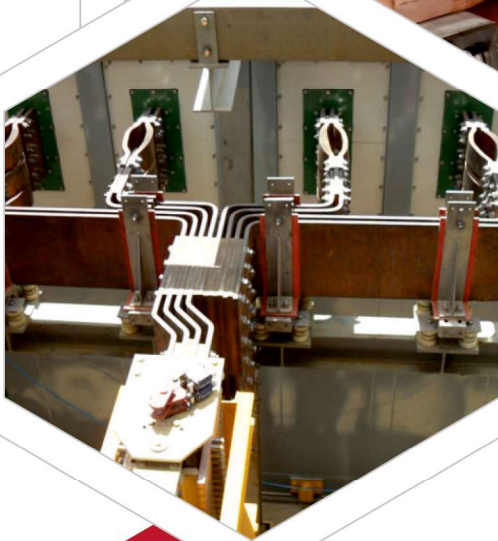
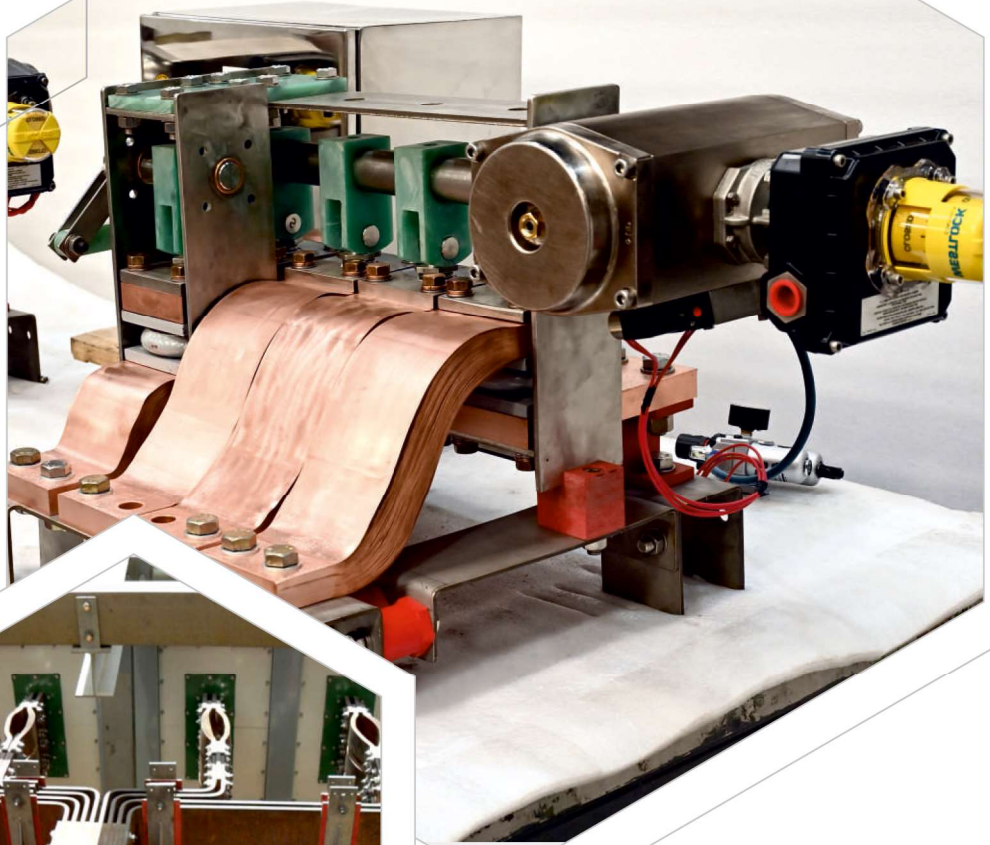
The switches can either have manual, electronic or pneumatic controls, as well as including drip covers and current monitoring systems

G Corner can supply switches for both ON-load or NO-load breaking conditions





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## Introduction

G Corner Electrical Systems offer a range of leading quality high current switches and disconnectors.

Our high current products are designed for increased safety, reliability and longer life than the competition.

Our current line of encapsulated contacts provide superior performance in the harsh environments of electrolytic cell applications and metals refining.

Available in either fixed or portable models, for cell or cell bank isolations and SXEW shorting, every switch is custom designed to accommodate specific customer needs.

High Current Switches fall into two main categories:

### 1. DC Isolator / Disconnect Switches

DC isolators provide a visible isolation gap in an electrical circuit when opened. They are actuated under NO-LOAD conditions. Disconnectors lack a mechanism for suppression of an electric arc, which occurs when conductors carrying high currents are electrically interrupted. Thus, they are off-load devices, intended to be opened only after current has been interrupted by some other control device. This means the power to the circuit is turned off before the switch is closed (make) or opened (break).

### 2. DC Breaker / Shorting Switches

DC Breakers are designed to be closed (make) or opened (break) under ON-LOAD condition. This means that the power to the circuit can remain on when the switch is actuated. It protects the circuit from overload conditions, opening if too much current flows through the circuit or takes the current around a device in the circuit without affecting the power flowing through the rest of the circuit.







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# DCBD (20kA-70kA) 2000Vdc

## Product Features

- ▶ Robust off-load disconnecter
- ▶ Self supporting design
- ▶ Connect to aluminium or copper busbars
- ▶ Large visible isolation gap
- ▶ Silver contacts for low voltage drop even in harsh environments
- ▶ High deformability tolerance
- ▶ Low maintenance
- ▶ Manufactured to BS EN IEC 60947-3:2021

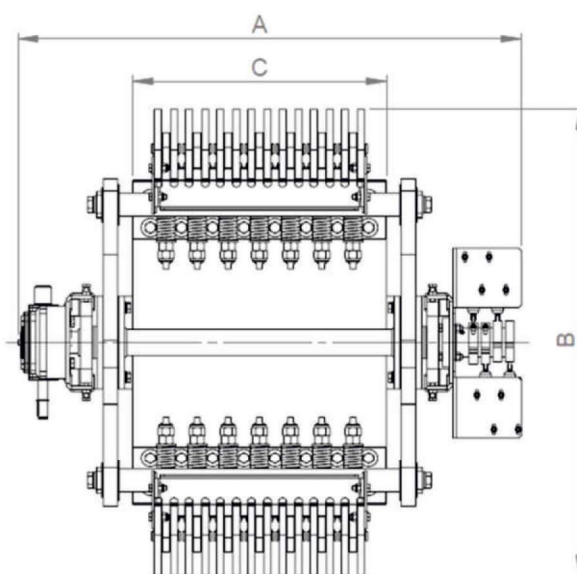
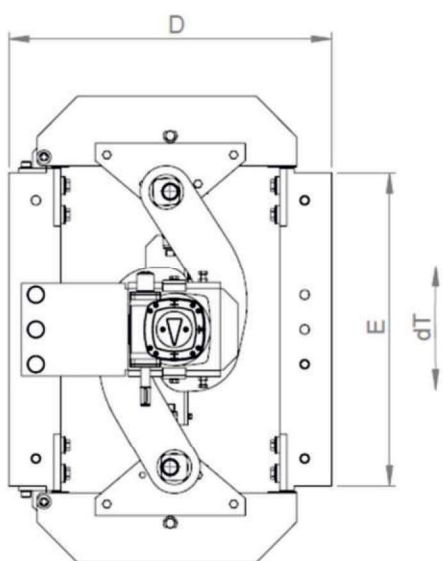
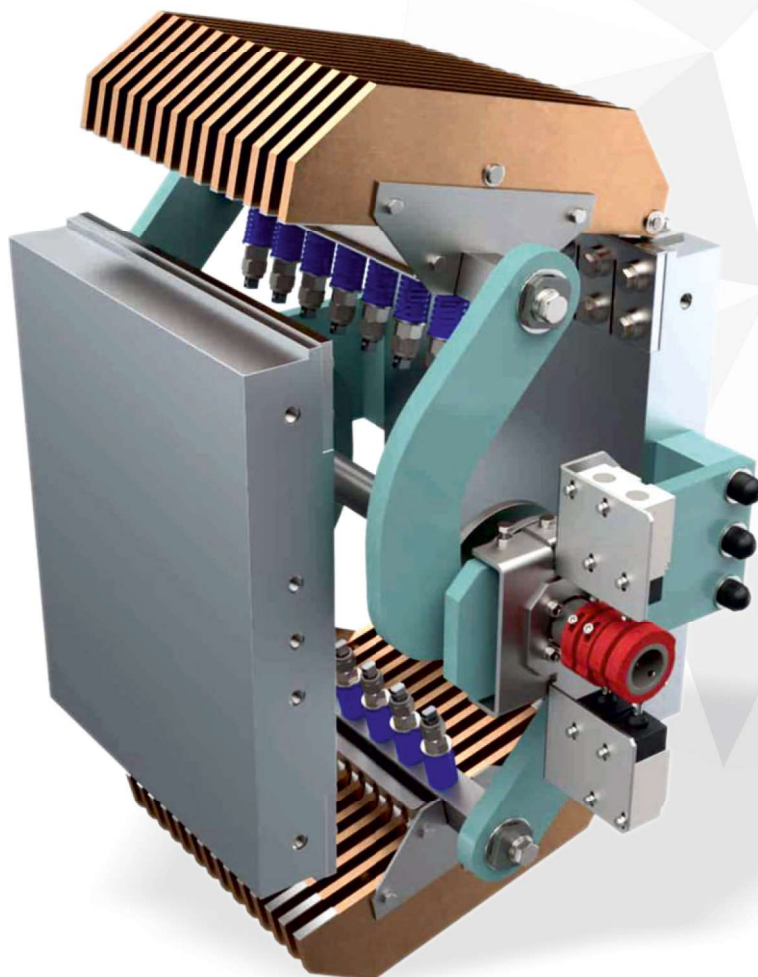
## Optional Features

- ▶ Environmental protection IEC 60947-3, levels 1-4.
- ▶ Sacrificial contact for residual current
- ▶ Electrical or pneumatic actuation
- ▶ Remote control operation
- ▶ Accessories: Blocking magnets, key lock and padlocking, terminal box, control box, mechanical operations counter, torque limiter, emergency manual handle, RTD temperature monitoring.

**Typical applications:** Circuit isolation and maintenance, circuit reconfiguration SPST/DPST.

DCBD   (Single)					
RATED CURRENT (kA)	A	B	C	D	E
20	712	889	278	560	545
30	820	889	386	560	545
40	928	889	494	560	545
50	1036	889	602	560	545
60	1144	889	710	560	545
70	1252	899	818	560	545
*For alternative current ratings please enquire to G CORNER.					

# ENGINEERING SOLUTIONS



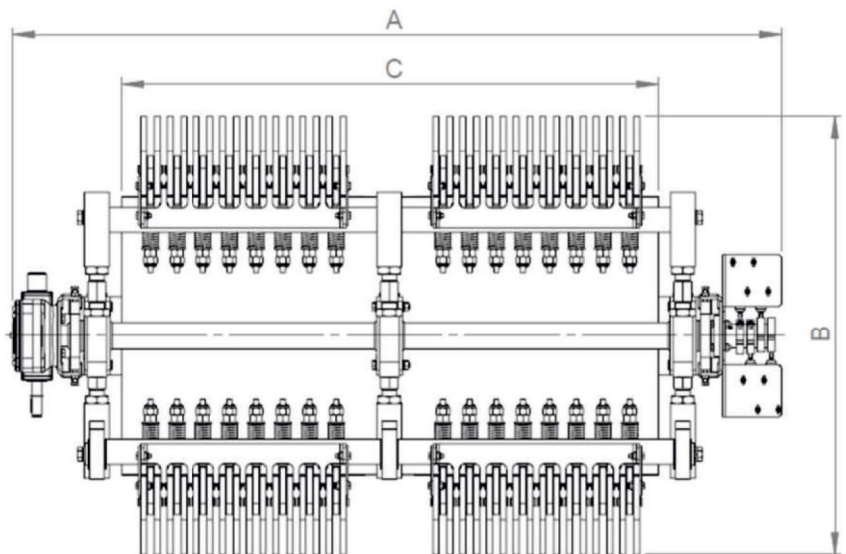
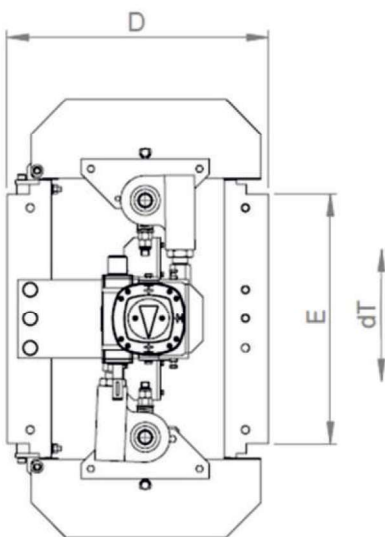
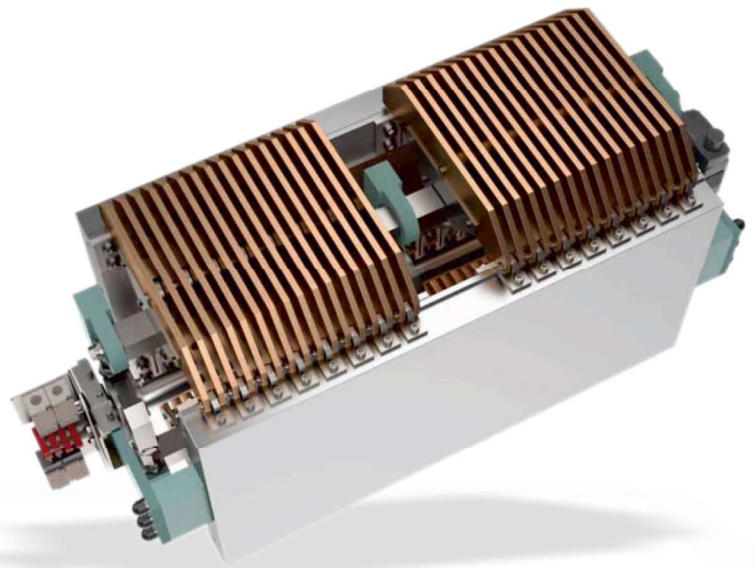


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# DCBD (Double) (80kA-160kA) / 2000Vdc

DCBD   (Double)					
RATED CURRENT (kA)	A	B	C	D	E
80	1522	889	1088	560	545
90	1630	889	1196	560	545
100	1738	889	1304	560	545
120	1954	889	1520	560	545
140	2170	889	1736	560	545
160	2386	899	1952	560	545

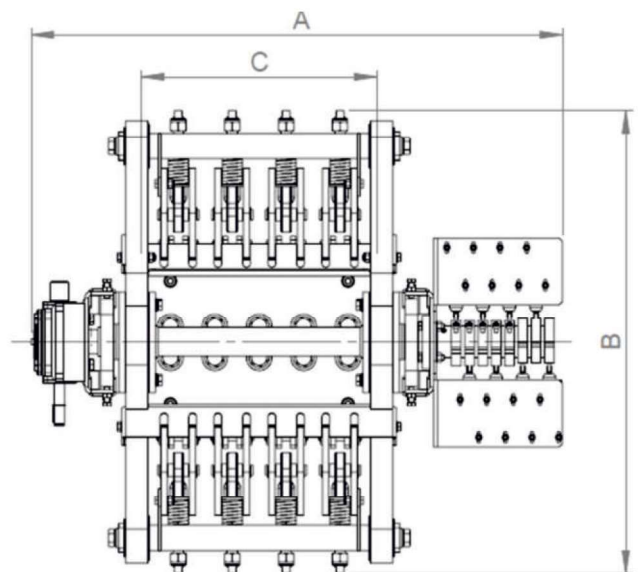
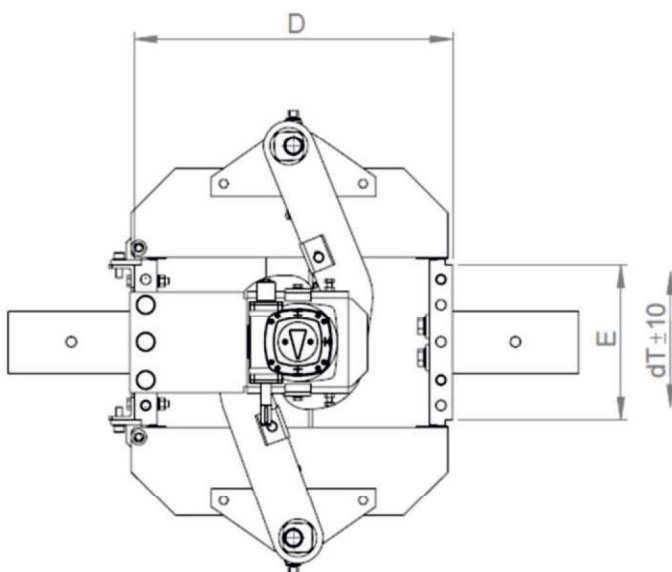
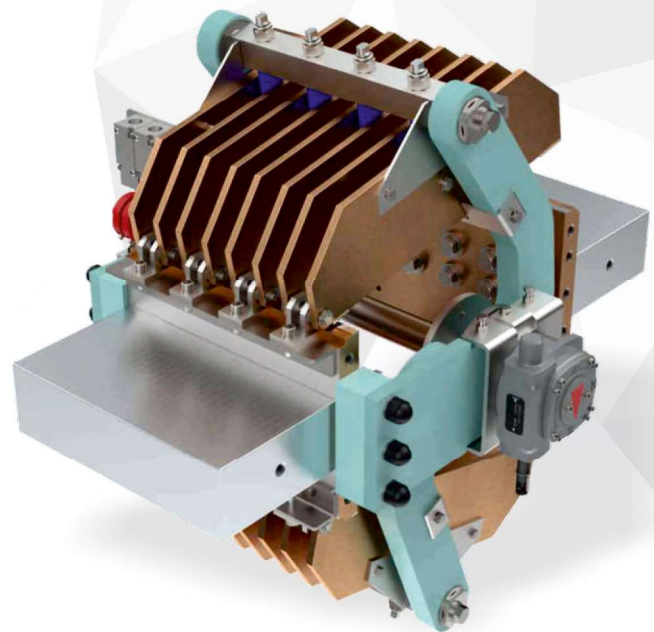
\*For alternative current ratings please enquire to G CORNER.



## DCBD (Compact) (20kA-50kA) / 2000Vdc

DCBD   (Compact)					
RATED CURRENT (kA)	A	B	C	D	E
20	669	731	285	502	245
25	754	731	370	502	245
35	924	731	540	502	245
45	1009	731	625	502	245
50	1094	731	710	502	245

\*For alternative current ratings please enquire to G CORNER.







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# DCMR

## (12kA-60kA) / 1500Vdc

### Product Features

- ▶ Ideal for retrofit applications
- ▶ Compact design
- ▶ Cost effective design
- ▶ Unique spring load adjusting process
- ▶ Horizontal or vertical mounting to busbars
- ▶ Low voltage drop
- ▶ Manufactured to BS EN IEC 60947-3:2021

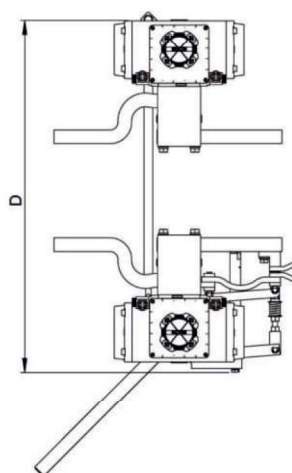
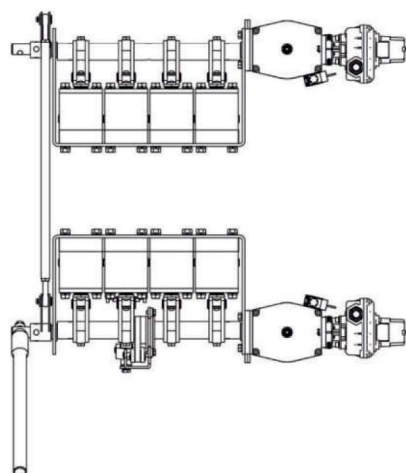
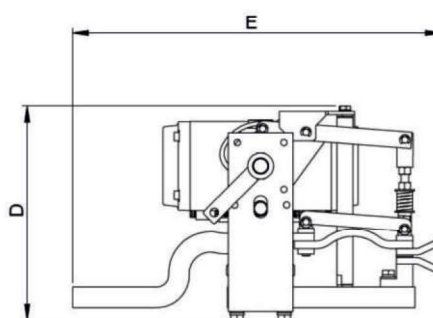
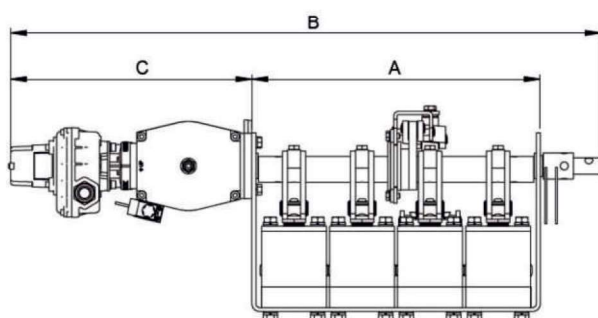
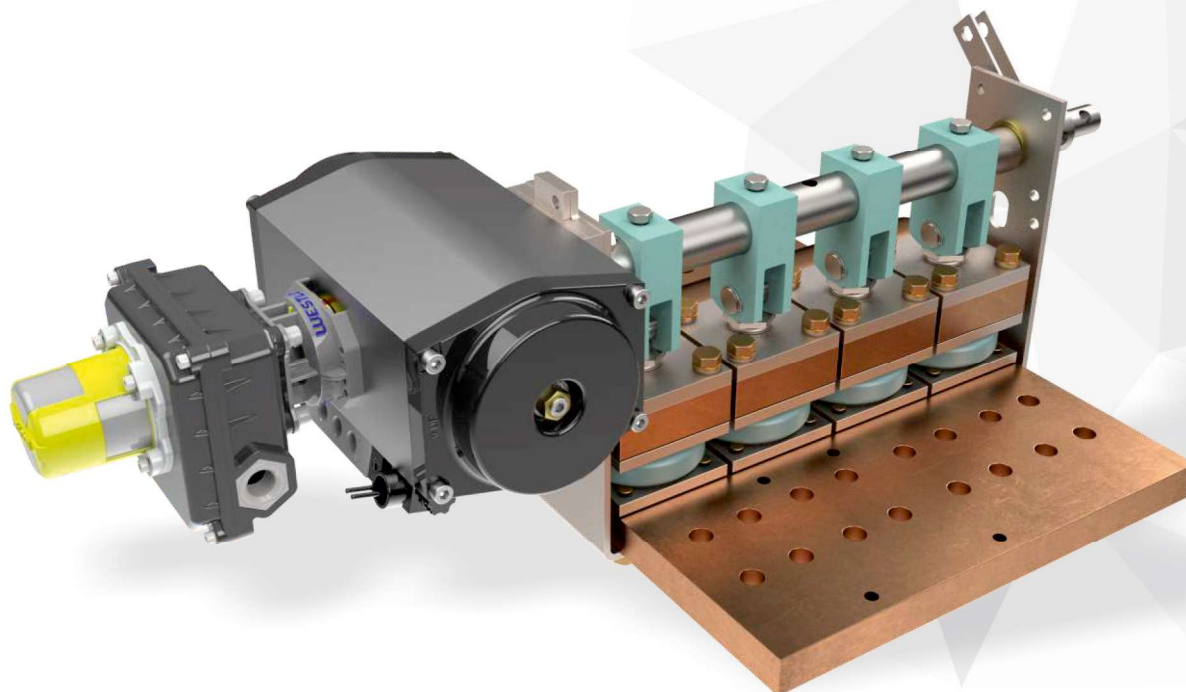
### Optional Features

- ▶ Environmental protection IEC 60947-3, levels 1-4
- ▶ Sacrificial contact/s
- ▶ On-Load and off-load operation available
- ▶ Pneumatic or electrical actuation
- ▶ Remote operation
- ▶ Accessories: Operational counter, padlocking, manual interlocking, RTD temperature monitoring, position indicators, limit switches
- ▶ Drip cover

**Typical applications:** Electrolytic cell shorting, transfer switching, polarity reversing, portable matrix jumper.

DCMR   Ratings and Dimensions					
RATED CURRENT (kA)	A	B	C	D	E
12	230	703	375	330	568
18	340	808	375	330	568
24	445	913	375	330	568
30	550	1018	375	330	568
**36	340	808	375	*TBC	568
**48	445	913	375	*TBC	568
**60	550	1018	375	*TBC	568
<p>*Customer to confirm. **Represents Back – Back configuration for increased current ratings. ***For alternative current ratings please enquire to G CORNER.</p>					

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# DCML (12kA-60kA) / 1500Vdc

## Product Features

- ▶ Patent pending design
- ▶ Unique adjustable drive system
- ▶ Air or vacuum insulated modules
- ▶ Horizontal or vertical mounting to busbars
- ▶ Low maintenance
- ▶ Manufactured to BS EN IEC 60947-3:2021

## Optional Features

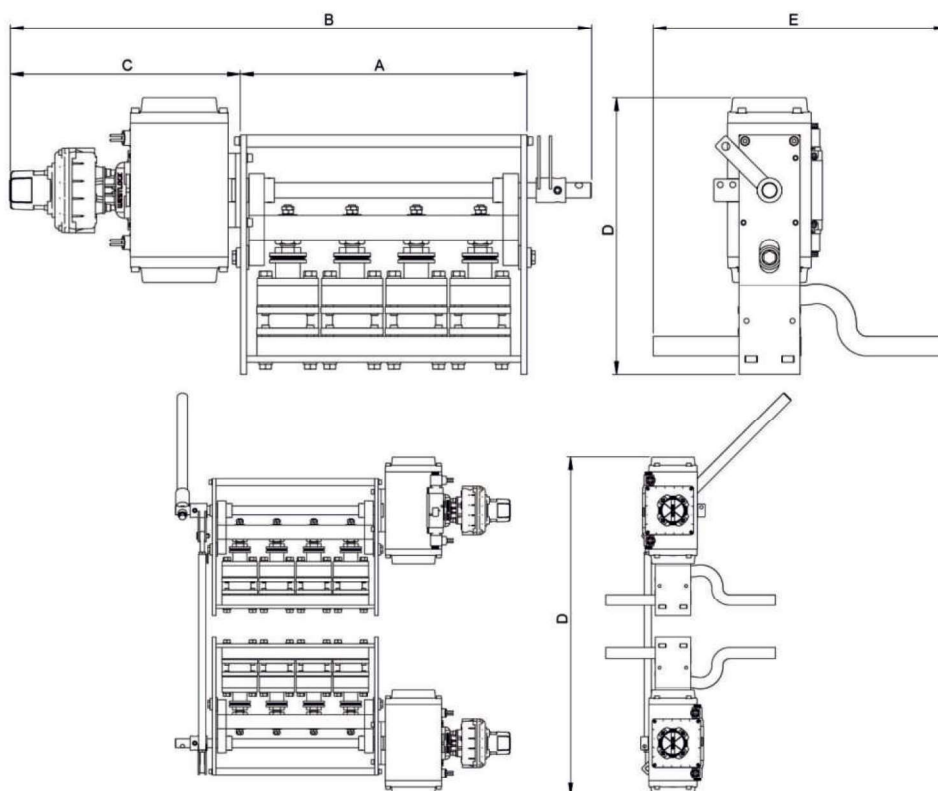
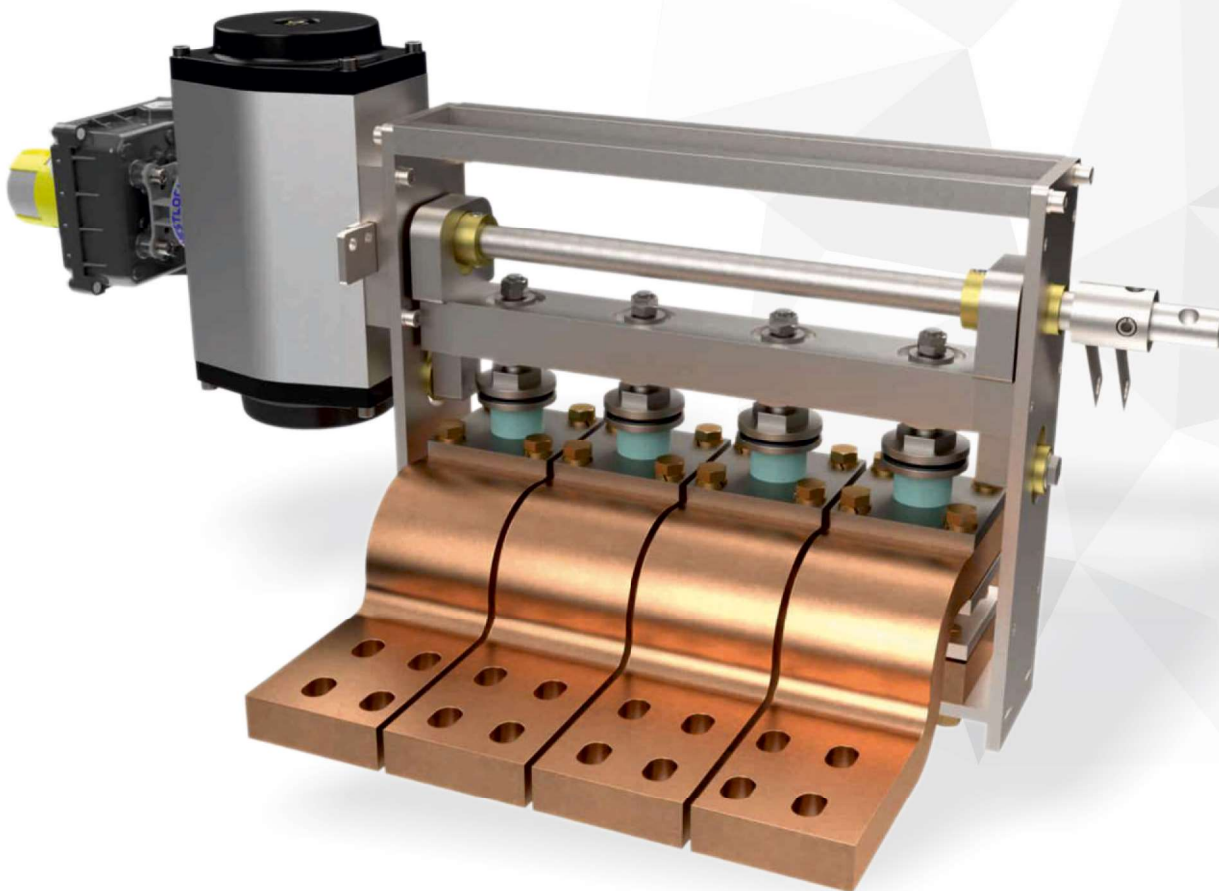
- ▶ Environmental protection IEC 60947-3, levels 1-4
- ▶ Sacrificial contact/s
- ▶ On-load and off-load operation available
- ▶ Pneumatic or electrical actuation
- ▶ Remote operation
- ▶ Accessories: Operational counter, padlocking, manual interlocking, RTD temperature monitoring, position indicators, limit switches, drip cover
- ▶ Increased voltage ratings available

**Typical applications:** Electrolytic cell shorting, transfer switching, polarity reversing, portable matrix jumper.

DCML   Ratings and Dimensions					
RATED CURRENT (kA)	A	B	C	D	E
12	260	740	375	450	480
18	365	845	375	450	480
24	470	950	375	450	480
30	575	1,055	375	450	480
**36	365	845	375	*TBC	480
**48	470	950	375	*TBC	480
**60	575	1,055	375	*TBC	480
<p>*Customer to confirm. **Represents Back – Back configuration for increased current ratings. ***For alternative current ratings please enquire to G CORNER.</p>					



# ENGINEERING SOLUTIONS





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# DCFD (10kA-90kA) / 1500Vdc

## Product Features

- ▶ Compact self supporting design
- ▶ Connect to aluminium or copper busbars
- ▶ Visible isolation gap
- ▶ Silver contacts for low voltage drop even in harsh environments
- ▶ Very high deformability tolerance
- ▶ Low maintenance
- ▶ Manufactured to BS EN IEC 60947-3:2021

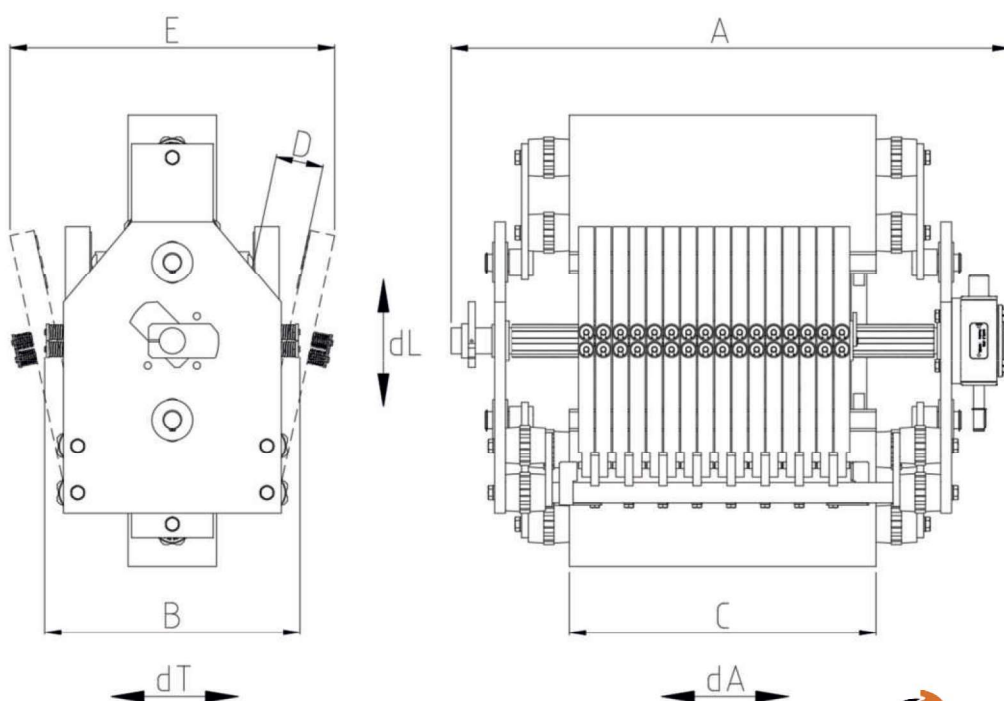
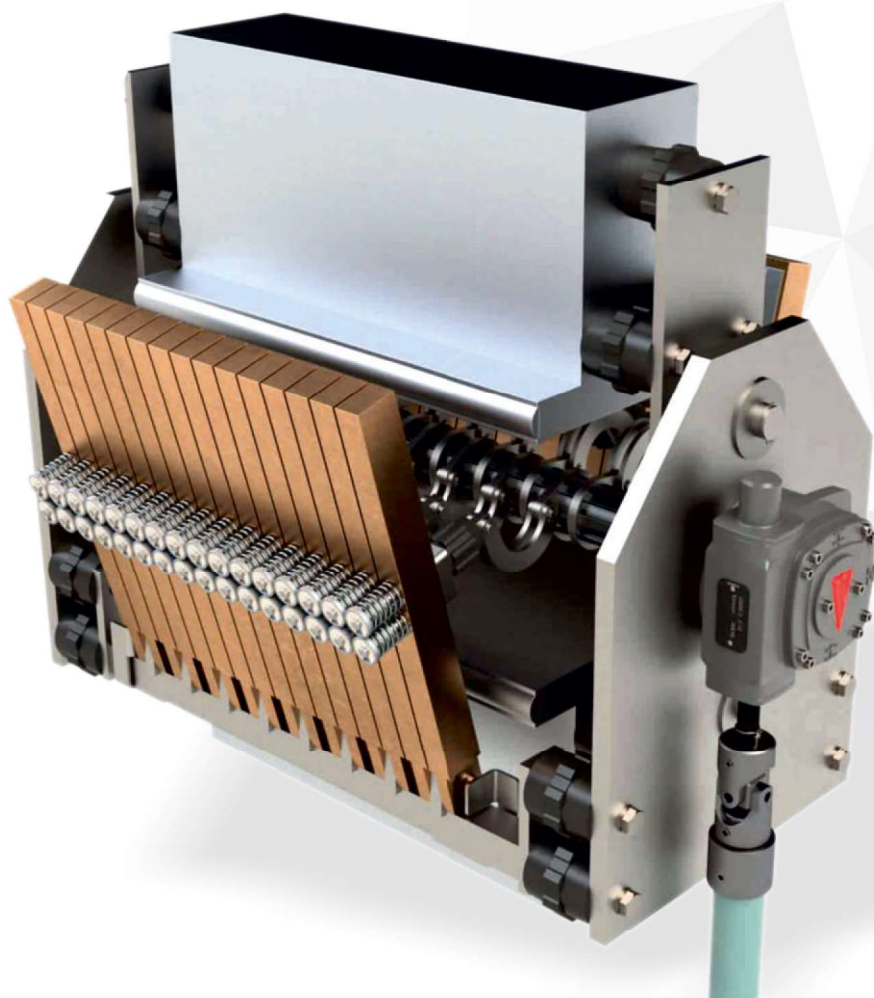
## Optional Features

- ▶ Environmental Protection IEC 60947-3, levels 1-4.
- ▶ Sacrificial contact for residual current
- ▶ Electrical or pneumatic actuation
- ▶ Remote control operation
- ▶ Accessories: Blocking magnets, key lock and padlocking, terminal box, control box, mechanical operations counter, torque limiter, emergency manual handle, RTD temperature monitoring.

**Typical applications:** Circuit isolation and maintenance, circuit reconfiguration SPST/DPST.

DCFD   Ratings and Dimensions					
RATED CURRENT (kA)	A	B	C	D	E
10	520	375	150	70	480
20	620	375	250	70	480
30	720	375	350	70	480
40	820	375	450	70	480
50	920	375	550	70	480
60	1020	375	650	70	480
70	1170	375	800	70	480
80	1270	375	900	70	480
90	1370	375	1000	70	480
*For alternative current ratings please enquire to G CORNER.					
STANDARD DEFORMABILITY dA – 10mm   dT – 40mm   dL – 15mm					

# ENGINEERING SOLUTIONS







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# DCMS

## (12kA-60kA) / 1500Vdc

### Product Features

- ▶ Encapsulated contacts for harsh environments
- ▶ Fast switching
- ▶ Excellent contact synchronisation
- ▶ No pneumatic requirements
- ▶ Low maintenance
- ▶ Sealed solenoid housing for harsh environments
- ▶ Remote operation as standard
- ▶ Bi-stable operation as standard

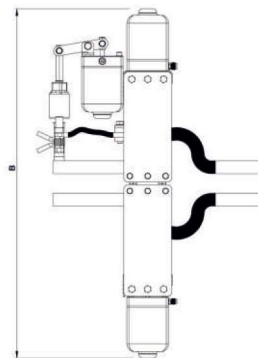
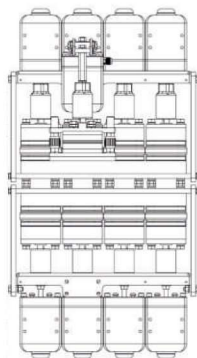
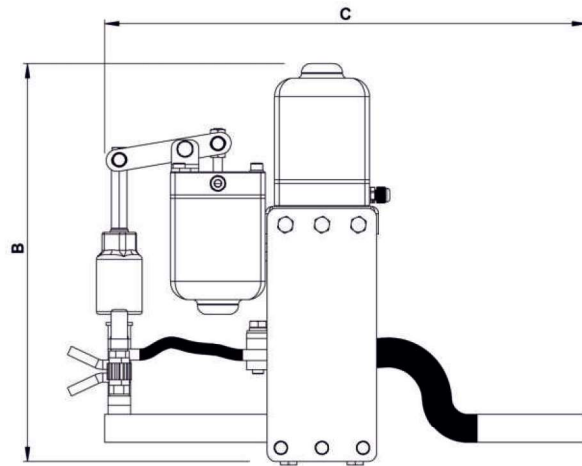
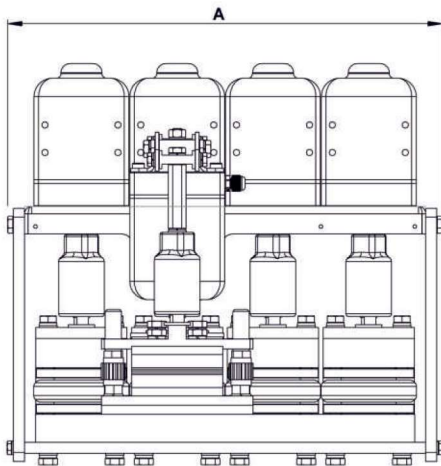
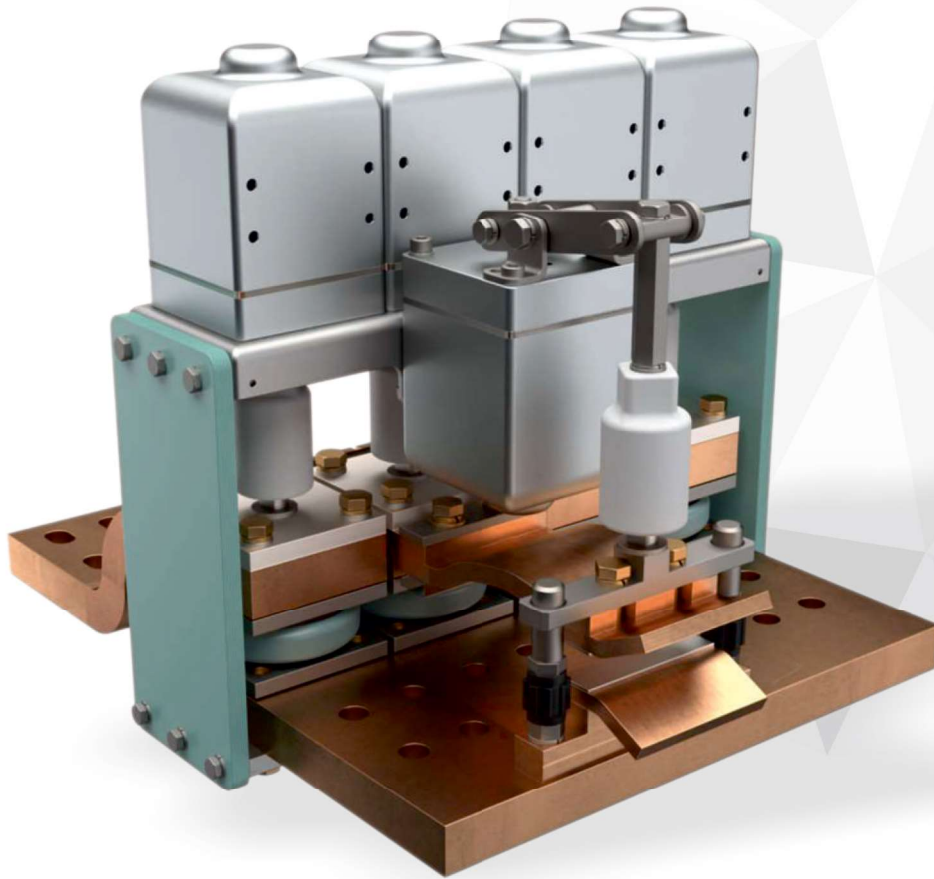
### Optional Features

- ▶ Sequenced opening and/or closing of contacts
- ▶ Coordinated switching between discrete switches
- ▶ Pre contacts to increase lifetime of primary contacts
- ▶ Mono-stable operation (electrically held closed)
- ▶ Sacrificial contact/s
- ▶ Increased voltage ratings available
- ▶ Back-to-back or side-by-side layouts available to suit application

**Typical applications:** Circuit isolation and maintenance, circuit reconfiguration SPST/DPST.

DCMS   Ratings and Dimensions			
RATED CURRENT (kA)	A	B	C
12	260	440	530
18	365	440	530
24	470	440	530
30	575	440	530
**36	365	880*	530
**48	470	880*	530
**60	575	880*	530
<p>*Customer to confirm. **Represents Back – Back configuration for increased current ratings. ***For alternative current ratings please enquire to G CORNER.</p>			

# ENGINEERING SOLUTIONS





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# MANUFACTURING, PACKAGING DELIVERY AND INSTALLATION

## Manufacturing

Once initial layout drawings are approved and the operating specification agreed, G corner would then produce all the detailed drawings of the busbar system at our manufacturing site in India.

## Delivery to site

The completed busbar systems are preassembled into modular form and containerised for delivery to site. Full and detailed packing and shipping lists are prepared to identify the contents of each container modular form, this helps when unloading containers in remote installations.

## Installation Commissioning & Supervision

Full installation handbooks are prepared to help guide the installation team through the installation process and G Corner personnel can be on hand for Installation supervision and final commissioning.

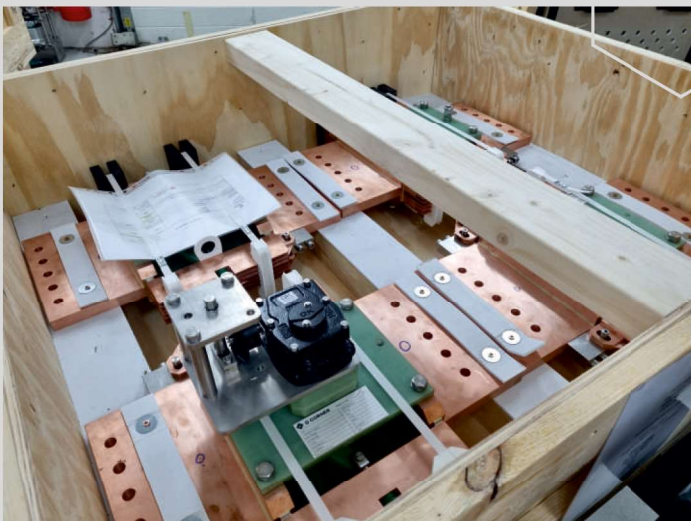
## Training & Maintenance

Training can also be offered by G Corner personnel to ensure that the busbar system can be maintained properly. It is vital that the busbar system is checked periodically for any hotspots and these are addressed as soon as possible.

## Quality Control & Packaging

G Corner operates strict, high quality control standards throughout all stages of manufacturing. Adhering to our internationally recognised quality management system (QMS) standards (ISO 9001), continuous improvement of quality is demonstrated to benefit all clients. For more information on G Corner's ISO Certifications, contact us or check out our website.

It is vital for all packaging to be delivered damage-free and arrive on site in perfect condition. G Corner provide thorough packaging specifications with all orders giving our customer peace of mind when using our services. All orders are bespoke and vary in sizes from a small box to scores of full container shipments delivered worldwide.





# ENGINEERING SOLUTIONS

## DESIGN SOLUTION

