Selection guide for low voltage indoor distribution up to 500A





WWW.CABLEJOINTS.CO.UK
THORNE & DERRICK UK
TEL 0044 191 490 1547 FAX 0044 477 5371
TEL 0044 117 977 4647 FAX 0044 977 5582
WWW.THORNEANDDERRICK.CO.UK





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Introduction

Merlin Gerin's range of indoor wall mounted multiple occupancy distribution equipment provides increased safety, reliability and reduces installation time.



The MODE range provides increased safety giving operator protection to IPXXB with the door open. Improved reliability through design and rigorous testing plus the staggered outgoing phase banks increase cabling access ensuring multiple cable termination is easier, reducing costly installation time.

The MODE range is the ideal solution for providing low voltage supplies to multiple occupancy premises. Utilising 100A house service cut outs to BS 7657 for the outgoing distribution circuits whilst the incoming supply can be directly connected up to 200A to the distribution equipment busbars or via a fused incoming device for ratings up to 500A.





Overview

The flexible range includes 4 unit types providing a total of 13 distribution solutions as standard



500A 14 way sub-mains distribution board with 3xSP100A landlord supplies



200A direct connected indoor wall mounted distribution board



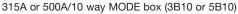
315A up to 500A fused incoming device indoor wall mounted distribution board

The flexible range includes 4 unit types providing a total of 13 distribution solutions as standard from a 200A 2 way up to a 500A 20 way. A standard unit with dual incoming and outgoing fuseway including 10 way distribution is also available. If the solution you require is not listed as standard then please contact our customer information centre on 0870 608 8 608.

The MODE range includes accessories to accommodate different termination arrangements with the option for mechanical connectors and extension boxes for the larger incoming waveform cables up to 4C 240mm².

Benefits









Safety

The operator is protected to IPXXB from live conductor with the door(s) open across the MODE range of distribution units. With the fused incoming devices over 315A IPXXB is maintained to BS EN 60529 during normal operation with the fuse handles in position. Solid plastic contact shrouds are provided as standard to cover the incoming contact once the fuse carriers have been removed. Test probe access is also provided to the upper and lower phase contacts of the incoming fused unit.

Reliability

The outgoing one piece busbar comb, manufactured from HDHC copper and electro-tin plated, limits the number of connections and potential heat spots. The busbar shrouded by a single moulded extrusion designed to mate to the majority of domestic single pole cut outs to BS 7657. The equipment range has been tested for temperature rise to ensure continued performance whilst in service and is routine tested to BS EN 60439-1 before despatch.



Ease of installation

The zinc coated steel enclosure is provided with four M8 holes punched proud of the enclosure to allow for installation to an uneven wall surface. The upper two of the M8 holes are a key way for ease of wall mounting. The IP31 ventilated enclosure is designed for indoor installation providing flexibility of installation in areas that can be accessed by the public. The enclosure has a dark admiralty grey powder paint finish to No.632 to BS 381C. The process of electrostatically applying polyester powder paint and curing in an oven ensures a durable, scratch resistant high gloss long lasting paint finish. The innovative staggered busbar design provides more than adequate cabling space for outgoing circuits. The outgoing circuit phase banks can also be removed to reduce weight during installation and also provide extra space during cabling if required.

Fast delivery

For the 13 standard solutions we are able to offer typical lead times of 15-20 working days or less, please consult at time of order placement.

200A distribution board

Standard features





Enclosure

- Zinc coated 1.6mm steel ventilated enclosure to IP31 of BS EN 60529
- Dark admiralty grey No.632 to BS 381C
- LHS standard or can be site reconfigured to a RHS mounted door, opening to a minimum of 180 degrees
- Door is secured with captive screws
- Generous labelling card affixed to door for L1, L2 and L3 outgoing circuits
- Site reversible padlocking arrangement to prevent damage to accept a 6mm diameter padlock shackle
- 4 x M8 wall fixings punched proud of the enclosure to accommodate uneven wall surfaces

Incoming cable terminals

- Common cable termination area fully screened to IPXXB with a polycarbonate termination cover
- Accepts up to 3C 120mm² on M12 captive fixings
- Adjustable incoming cable clamp from 25mm to 50mm O/D

Outgoing fused units

- Mounted to solid hard drawn high conductivity electro-tin plated busbar
- Up to 4way 200A three pole solution
- 100A rated service cutouts, ENA approved design and manufactured to BS 7657
- Accept fuse links to BS 1361 (Not supplied)
- Electro-tin plated brass bar earth and neutral iterminal rail with incoming M12 termination with 2 x M8 fine pinching screws per circuit
- Removable neutral/earth link
- External M12 earth stud to RHS of unit
- Incoming cable screen maintains operator protection to IPXXB from incoming cable terminations when door is opened
- Removable outgoing undrilled and centre popped aluminium gland plate that can be removed to facilitate cable entry via trunking if required

Accessories

- Various accessories are avialble to add to the standard catalogue offer to suit the application these include:
 - ☐ Kits for 3C or 4C incoming cables terminated with mechanical connectors
 - Adaptable gland plate to suit mating to incoming 400A heavy duty cut out type SCHD6 from Merlin Gerin or GF200 or GF400/600
 - Various gland plate options including plywood cable exit cover, drilled aluminium gland plate with plastic stuffing glands or conical rubber grommets per outgoing circuit.





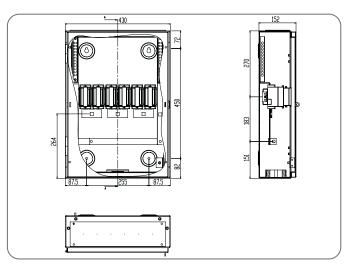


200A distribution board

Technical specification

200A rated busbar with incoming direct cable termination

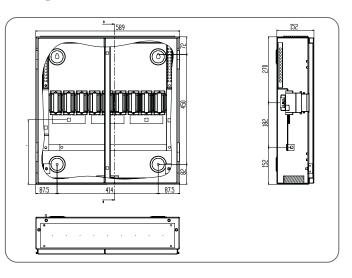




Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-2A2	200A	2	No	1	604mm	430mm	152mm	18Kg

200A rated busbar with incoming direct cable termination





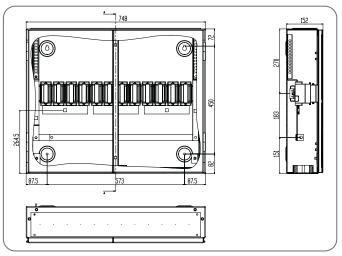
Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-2A3	200A	3	No	2	604mm	589mm	152mm	24Kg

200A distribution board

Technical specification

200A rated busbar with incoming direct cable termination





Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-2A4	200A	4	No	2	604mm	748mm	152mm	30Kg

General technical specification

200A MODE range according to IEC 60439-1	Unit	
Rated insulation voltage (Ui)	V	690
Rated operational voltage (Ue)	V	415
Rated Incoming current (le)	Α	200
Rated current of house service cut-out	Α	100
Rated conditional short-circuit current (with fuses)	kA	50
Rated frequency	Hz	50 - 60
House service cut out HRC fuselink		BS 1361
Type of earthing systems		TN-C-S / TN-S
Enclosure rating to BS EN 60259		IP 31
Operator protection (doors open) to BS EN 60529		IP XXB
Enclosure dark admiralty grey painted finish to BS 381C		No. 632
Incoming cable termination		M12
Neutral and earth incoming cable terminations		M12
Maximum size of incoming cable to busbar	mm²	3C 120
Maximum size of outgoing cable from house service cut outs	mm²	SC 35

200A distribution board

Technical schedule

This document specifies those distribution boards for use indoor at 230/400V where multiple standard domestic 100A services are required within one building.

It is not intended to define the total extent of the offer, only those catalogued in this selection guide. Should your requirements not be defined or accommodated by this specification then please contact our customer information centre on 0870 608 8 608.

Standards

In order to be accepted, the distribution boards comply with the requirements of the following standards, specifications and recommendations.

BS EN 60439-1:1999 - Specification of low voltage switchgear and control assemblies.

BS EN 60529 - Specification for degrees of protection provided by enclosures (IP codes).

BS 7657 - Specification for fuses (cut-outs), ancillary terminal blocks and interconnecting units up to 100A rating, for power supplies to buildings.

BS1361:1971 - Specification for cartridge fuses for A.C. circuits in domestic and similar premises.

IEC 60269-2-1 - Low voltage fuses

Part 2 - 1: Supplementary requirements for fuses for use by authorised persons.

ENA TS 37-2 - Substation and cable distribution boards.

ISO 9001:2000 - Quality management system.

ISO 14001:1996 - Environmental management system.



Technical

1. General

The only allowed types of distribution board will be a 2, 3 and 4 way TP&N distribution board.

2. Incoming cable

The unit shall be bottom cable entry, The unit shall be capable of accepting up to a 120mm² cable. The incoming cable shall be directly terminated to the busbars. The busbars are to be fully insulated to IPXXB in accordance with BS EN 60529, with no access to any bare live metalwork.

3. Enclosure

The enclosure shall be IP31 rated in accordance with BS EN 60529. The doors shall be open to a minimum of 180 degrees whilst also being removable. The door shall hinge from the LHS as standard with the option to re-assemble the door to hinge on the RHS for single door enclosures.

4. Outgoing cut-outs

The service cut-out shall be typically of the 100A rating. The cut-out shall be in accordance with the requirements of BS 7657. Every exit point shall have an individual fuse link to allow the de-energisation and isolation of their and only their supply. Service fuse links shall be of an ENA approved design.

315A to 500A distribution board

Standard features

Enclosure

- Zinc coated 1.6mm steel ventilated enclosure to IP31 of BS EN 60529
- Dark admiralty grey No.632 to BS 381C
- LHS standard or can be site reconfigured to a RHS mounted door, opening to a minimum of 180 degrees
- Door is removable on all units and secured with captive screws
- Generous labelling card affixed to door for L1, L2 and L3 outgoing circuits
- Site reversible padlocking hasp to accept a 6mm diameter padlock shackle
- Enclosure provides 4 x M8 (top two with key way) embossed wall fixings to accommodate uneven wall surfaces





Incoming fused unit

- IPXXB operator protection during normal service conditions
- Solid red plastic incoming contact shrouds provided to maintain protection from live conductors with incoming fuse carriers removed
- Removable engraveable circuit label
- Test probe access to top and bottom contacts whilst maintaining IPXXB
- Through-grip fuse carrier handles requires no tools to change fuselinks
- Rated current from 315A type YW4 and type YW6 for ratings up to 500A
- YW4 accepts 82mm centre and YW6 92mm centre type gU fuse links with wedge tightening contacts to IEC 60269-2-1 section VI
- Removable front bottom cross member to facilitate termination of up to 3C 300mm²
- Adjustable incoming cable clamp accepting 70mm² up to 300mm² for support of incoming cable
- Individual mouldings per phase to access four position incoming cable terminations eliminating phase core crossovers. YW4 or YW6 - M12 and M16 respectively



Outgoing fused units

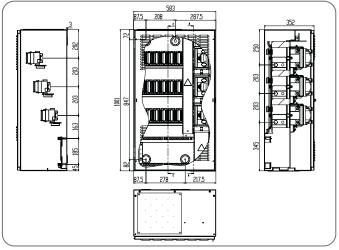
- Mounted to solid hard drawn high conductivity electro-tin plated busbar comb
- Staggered phases front to back to allow for ease of cabling
- Phase banks can be removed for ease of cabling
- Up to 20 way 500A three pole solution
- 100A rated service cut outs, EA approved design and manufactured to BS 7657
- Accept fuselinks to BS 1361 (not supplied)
- Earth and neutral bars are manufactured from electro-tin plated brass bar with 2 x M12 and also 2 x M8 fine pinching screws per terminal
- Removeable outgoing undrilled and centre popped gland plate to facilitate cable entry via trunking if required. (see accessories for further gland plate options)

315A distribution board

Technical specification

315A rated busbar with fused incoming cable termination

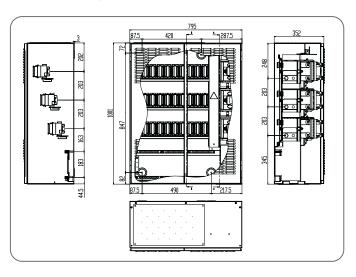




Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-3B6	315A	6	YW4	1	1001mm	583mm	352mm	61Kg

315A rated busbar with fused incoming cable termination





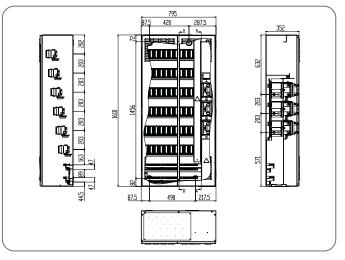
Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-3B10	315A	10	YW4	2	1001mm	795mm	352mm	90Kg

315A distribution board

Technical specification

315A rated busbar with fused incoming cable termination





Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-3B20	315A	20	YW4	2	1610mm	795mm	352mm	140Ka

General technical specification

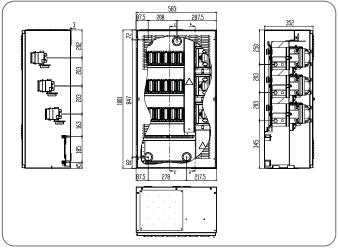
315A mode range according to IEC 60439-1	Unit	
Rated insulation voltage (Ui)	V	690
Rated operational voltage (Ue)	V	415
Rated current (le)	Α	315
Rated current of house service cut out	Α	100
Rated conditional short circuit current (with fuses)	kA	50
Rated frequency	Hz	50 - 60
YW4 HRC 82mm centre type gU wedge tightening contact fuselink		IEC 60269-2-1
House service cut out HRC fuselink		BS 1361
Type of earthing systems		TN-C-S / TN-S
Enclosure rating to BS EN 60259		IP 31
Operator protection (doors open) to BS EN 60529		IP XXB
Enclosure dark admiralty grey painted finish to BS 381C		No. 632
Incoming cable termination		M12
Neutral and earth incoming cable terminations		M12
Maximum size of incoming cable for fused shielded fuseway	mm²	3C 300
Maximum size of outgoing cable from House service cut outs	mm²	SC 35

500A distribution board

Technical specification

500A rated busbar with fused incoming cable termination

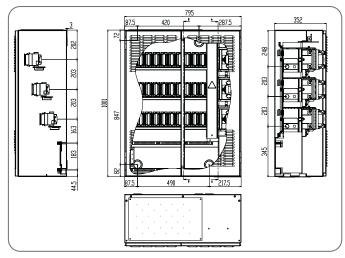




Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-5B6	500A	6	YW6	1	1001mm	583mm	352mm	61Kg

500A rated busbar with fused incoming cable termination





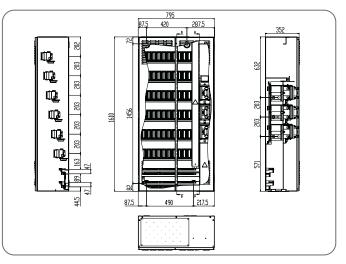
Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-5B10	500A	10	YW6	2	1001mm	795mm	352mm	84Kg

500A distribution board

Technical specification

500A rated busbar with fused incoming cable termination





Reference	Rating	TP&N ways	Incomer	Doors	Height	Width	Depth	Weight
MODE-5B20	500A	20	YW6	2	1610mm	795mm	352mm	140Kg

General technical specification

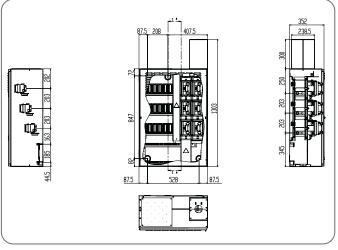
500A mode range according to IEC 60439-1	Unit	
Rated insulation voltage (Ui)	V	690
Rated operational voltage (Ue)	V	415
Rated current (le)	Α	500
Rated current of house service cut out	Α	100
Rated conditional short circuit current (with fuses)	kA	50
Rated frequency	Hz	50 - 60
YW4 HRC 82mm centre type gU wedge tightening contact fuselink		IEC 60269-2-1
House service cut out HRC fuselink		BS 1361
Type of earthing systems		TN-C-S / TN-S
Enclosure rating to BS EN 60259		IP 31
Operator protection (doors open) to BS EN 60529		IP XXB
Enclosure dark admiralty grey painted finish to BS 381C		No. 632
Incoming cable termination		M16
Neutral and earth incoming cable terminations		M12
Maximum size of incoming cable for fused shielded fuseway	mm²	3C 300
Maximum size of outgoing cable from House service cut outs	mm²	SC 35

Dual 500A distribution board

Technical specification

500A rated busbar with dual fused incoming and outgoing supply

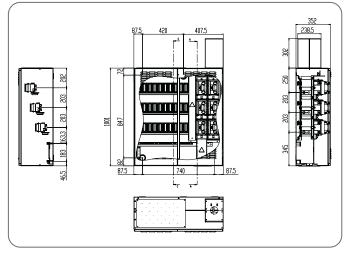




Reference	Rating	TP&N ways	Inc/Out	Doors	Height	Width	Depth	Weight
MODE-5XC6	500A	6 + (1)*	YW6/YW4	1	1303mm	703mm	352mm	81Ka

500A rated busbar with dual fused incoming and outgoing supply





Reference	Rating	TP&N ways	Inc/Out	Doors	Height	Width	Depth	Weight
MODE-5XC10	500A	10 + (1)*	YW6/YW4	2	1303mm	915mm	352mm	96Kg

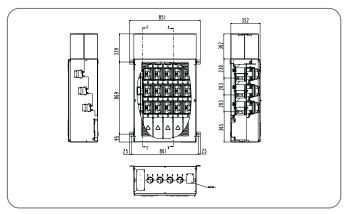
* Denotes outgoing circuit rated up to 500A to accept solid links or type gU fuselinks to IEC 60269-2-1 Sect. 5.

Dual 500A distribution board

Technical specification

500A rated fused top or bottom entry incoming with up to 4 x TP 200A and 1 x TP 100A top entry

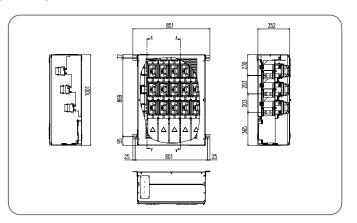




Reference	Rating	TP&N ways	Inc/Out	Doors	Height	Width	Depth	Weight
MODE-5X4D1	A 500A	4 + (1)*	YW6/YW4	1	1303mm	703mm	352mm	135Ka

500A rated fused incoming and up to 4 x TP 200A bottom entry with 1 x TP 100A top entry





Reference	Rating	TP&N ways	Inc/Out	Doors	Height	Width	Depth	Weight	
MODE-5X4D1I	B 500A	4 + (1)*	YW6/YW4	2	1001mm	915mm	352mm	126Ka	

* Denotes outgoing circuit rated up to 100A to accept fuse links to BS 1361.

315 to 500A distribution board

Technical schedule

This document specifies those distribution boards for use indoor at 230/400V where multiple standard domestic 100A services are required within one building.

It is not intended to define the total extent of the offer only those catalogued in this selection guide. Should your requirements not be defined or accomodated by this specification then please contact our customer information centre on 0870 608 8 608.

Standards

In order to be accepted, the distribution boards comply with the requirements of the following standards, specifications and recommendations.

BS EN 60439-1:1999 - Specification of low voltage switchgear and control assemblies.

BS EN 60529 - Specification for degrees of protection provided by enclosures (IP codes).

BS 7657 - Specification for fuses (cut-outs), ancillary terminal blocks and interconnecting units up to 100A rating, for power supplies to buildings.

BS 1361:1971 - Specification for cartridge fuses for A.C. circuits in domestic and similar premises.

IEC 60269-2-1 - Low voltage fuses

Part 2 - 1: Supplementary requirements for fuses for use by authorised persons.

ENA TS 37-2 - Substation and cable distribution boards.

ISO 9001:2000 - Quality management system.

ISO 14001:1996 - Environmental management system.



Technical

1. General

The only allowed types of distribution board will be a 6, 10 and 20 way board.

2. Incoming cable

The unit shall be bottom cable entry, The unit shall be capable of accepting up to a 300mm² cable. The incoming cable shall be fused before feeding the busbars. The incoming fuse ways shall be ENA approved shielded pattern type. The busbars are to be fully insulated to IPXXB in accordance with BS EN 60529, with no access to any bare live metalwork at all possible, when the fuse carriers in place.

3 Enclosure

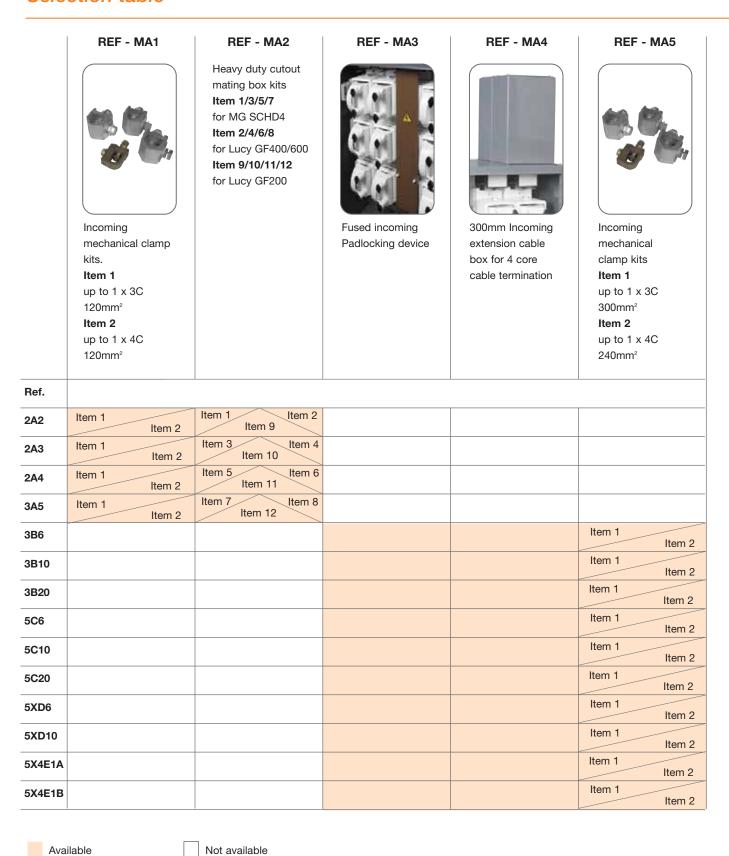
The enclosure shall be IP31 rated in accordance with BS EN 60529. The doors shall be open to a minimum of 180 degrees whilst also being removable. The door shall hinge from the LHS as standard with the option to re-assemble the door to hinge on the RHS.

4. Outgoing circuits

The service cut-out shall be typically of the 100 A rating. The cut-out shall be in accordance with the requirements of BS7657. Every exit point shall have an individual fuse link to allow the de-energisation and isolation of their and only their supply. Service fuse links shall be of an ENA approved design.

Accessories and spares

Selection table



Accessories and spares

Selection table

REF - MA6 REF - MA7 REF - MA8 REF - MA9 REF - MA10 315A/500A Fused Solid Links for Undrilled plywood Drilled aluminium Drilled aluminium fuse carriers outgoing cable gland plate with gland plate with way fuse carriers (set of three) (set of three) plastic stuffing conical plastic cover glands grommets Item 1 YW4 Item 2 YW6 Item 1 YW4 Item 2 YW6 Ref. 2A2 Item 1 Item 1 Item 1 2A3 Item 2 Item 2 Item 2 2A4 Item 3 Item 3 Item 3 3A5 Item 7 Item 8 Item 7 Item 1 Item 1 3B6 Item 4 Item 4 Item 4 Item 1 Item 1 3B10 Item 5 Item 5 Item 5 Item 1 Item 1 3B20 Item 5 Item 6 5B6 Item 4 Item 4 Item 4 Item 2 Item 2 5B10 Item 5 Item 5 Item 5 Item 2 Item 2 5B20 Item 5 Item 6 Item 2 Item 2 Item 1 Item 1 5XC6 Item 4 Item 4 Item 4 Item 2 Item 2 Item 1 Item 1 5XC10 Item 5 Item 5 Item 5 Item 2 Item 2 Item 1 Item 1 5X4D1A Item 6 Item 6 Item 7 Item 2 Item 2 5X4D1B Item 1 Item 1 Item 6 Item 6 Item 7 Item 2 Item 2

20

Available

Not available

Order form

1 of 2

200A rated busbar with incoming direct cable termination

Reference	SP ways	Price £	Qty
2A2	6	259.00	
2A3	9	301.00	
2A4	12	387.00	
3A5	15	495.00	

500A rated busbar with fused incoming cable termination

Reference	SP ways	Price £	Qty
5B6	18	1067.00	
5B10	30	1319.00	
5B20	60	1835.00	

315A rated busbar with fused incoming cable termination

Reference	SP ways	Price £	Qty
3B6	18	903.00	
3B10	30	1189.00	
3B20	60	1763.00	

500A rated busbar with dual fused incoming and outgoing supply

Reference	SP ways	Price £	Qty
5XC6	18 + (3)*	1376.00	
5XC10	18 + (3)*	1663.00	

^{*} Denotes fused outgoing circuit rated up to 500A

500A rated fused incoming including 4 x TP 200A outgoing circuits and 3 x SP 100A

Reference	SP ways	Price £	Qty
5X4D1A	12 + (3)*	2036.00	
5X4D1B	12 + (3)*	1979.00	

^{*} Denotes fused outgoing circuit rated up to 100A

Please photocopy, complete and return to:

Merlin Gerin Public Distribution Schneider Electric Limited

Cayton Low Road Eastfield Scarborough YO11 3DA United Kingdom

Tel: +44 (0) 1723 502 800 Fax: +44 (0) 1723 502 860

Email: LVswitchgearGB@gb.schneider-electric.com

End user net trade price list

- 1) This price list is effective from 1st June 2006
- 2) Prices ruling at date of despatch
- All transactions are subject to our general conditions of sale which are available upon request

Company name:	
Address:	
	Post code:
Contact:	
Position:	
Tol	
iei.	
Fax:	
Email:	
Project:	
Delivery Address (if different to above)	
	Postcode:

Order form

2 of 2

MODE range accessories and spares

Reference		Price £	Qty	Reference		Price £	Qty
MA1	Item 1	£35.00		MA9	Item 1	£28.00	
MA1	Item 2	£40.00		MA9	Item 2	£35.00	
MA2	Item 1	£20.00		MA9	Item 3	£43.00	
MA2	Item 2	£28.00		MA9	Item 4	£51.00	
MA2	Item 3	£24.00		MA9	Item 5	£99.00	
MA2	Item 4	£31.00		MA9	Item 6	£14.00	
MA2	Item 5	£27.00		MA9	Item 7	£47.00	
MA2	Item 6	£36.00		MA10	Item 1	£22.00	
MA2	Item 7	£28.00		MA10	Item 2	£24.00	
MA2	Item 8	£38.00		MA10	Item 3	£26.00	
MA2	Item 9	£28.00		MA10	Item 4	£28.00	
MA2	Item 10	£31.00		MA10	Item 5	£32.00	
MA2	Item 11	£36.00		MA10	Item 6	£44.00	
MA2	Item 12	£38.00		MA10	Item 7	£12.00	
МАЗ		£38.00		MA10	Item 8	£27.00	
MA4		£46.00					
MA5	Item 1	£40.00					
MA5	Item 2	£55.00		Additional inf	ormation		
MA6	Item 1	£59.00					
MA6	Item 2	£62.00					
MA7	Item 1	£17.33					
MA7	Item 2	£17.33					
MA8	Item 1	£6.00					
MA8	Item 2	£8.00					
MA8	Item 3	£10.00					
MA8	Item 4	£12.00					
MA8	Item 5	£14.00					
MA8	Item 6	£4.00					
MA8	Item 7	£12.00					

Please photocopy, complete and return to:

Merlin Gerin Public Distribution Schneider Electric Limited

Cayton Low Road Eastfield Scarborough YO11 3DA United Kingdom

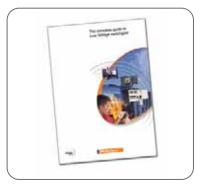
Tel: +44 (0) 1723 502 800 Fax: +44 (0) 1723 502 860

Email: LVswitchgearGB@gb.schneider-electric.com

Company name:	
Address:	
	Post code:
Contact:	
Position:	
Position:	
Position:	

The complete offer

The complete guide to low voltage switchgear



Brochure ref: MGLV5488

This brochure details the complete range of low voltage switchgear from Merlin Gerin. Products featured include the SAIF range, shielded fusegear, NS feeder pillars, the Opus range and package substations.

Shielded fusegear, fused cabinets, boards & feeder pillars up to 3200A



The market leading offer for low voltage distribution networks. Merlin Gerin manufactures LV fuse cabinets, fuse boards and feeder pillars for over 70% of the UK distribution network operators. This equipment can also form part of a total package substation solution from Merlin Gerin.

Shielded heavy duty cutout - indoor switch gear up to 630A



A fully insulated moulded heavy duty cut out providing complete segregation and high levels of operator protection. This flexible offer is ideal for a point of isolation and connection to the customers distribution equipment via the metering panel.

All of the above brochures can be downloaded by visiting our website at **www.schneider.co.uk** and clicking on downloads, electrical distribution, public distribution.

