

CATALOG

OT(M) Disconnectors 1600..4000 A, DC-20

High performance, compact solution



- **Reliable in all conditions**
- **Easy to install**
- **Safety and protection**

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Disconnectors 1600 to 4000 Amperes for DC-20 applications

High performance, compact solution

ABB offers disconnectors suitable for diverse DC-20 applications such as energy storage systems (ESS), large disconnectors for inverters onboard marine vehicles and in photovoltaic installations.

Innovations like energy storage increase interest and consumers, which combined with more competition, make them more attractive. For example, marine electric propulsion systems and commercial marine energy storage solutions are rapidly increasing. In these applications large amounts of energy are needed, either stored or distributed, and disconnectors are needed to perform safe maintenance on these systems.



Reliable in extreme conditions

OT disconnectors are suitable for demanding conditions and are virtually maintenance-free across their entire lifespan

- Up to 1500 Vdc
- Utilization category DC-20B
- High DC-short circuit ratings, despite their compact size
- 1600 A up to 4000 A applications
- Coordination with fuses and circuit breakers



Easy to install

Easy and cost-efficient installation, maintenance, and use, through modular design and smaller dimensions.

- 2- and 4- pole versions
- 3 different connection types
- Common accessories with other ABB switches



Safety and protection

The disconnectors come equipped with a comprehensive range of inbuilt safety features. The handles can be padlocked to prevent unwanted operation.



Technical data

Disconnecter ratings, IEC

OT(M)1600_-135

Disconnecter types		OT1600E02-135 OTM1600E2M230V-135		OT1600E04-135, OT1600E22-135 OTM1600E4M230V-135		OT1600E04-135		OT1600E22-135	
	Number of poles		2		4		4		4
	Number of circuits		1		2		1		1
	Connection type		1		2		3		3
	DC-20B rating, 1500 V	A	1600		1600		2500		2500
	AC-20B rating, 1000 V	A	1600		1600		2500		2500
Rated short-time withstand current, I _{cw} 0.3 s	Support distance 150 mm (with busbars)	kA	50		50		65		65
	Support distance 400 mm (with cables)	kA	36		36		50		50
Max. Let-through Peak Current when protected with Fuses or Circuit Breaker	Support distance 150 mm (with busbars)	kA	110		110 (*120)		140		176
	Support distance 400 mm (with cables)	kA	76		76		105		105
Max. Let-through Energy when protected with Fuses or Circuit Breaker	Support distance 150 mm (with busbars)	MA ² s	88		88 (*154)		210		339
	Support distance 400 mm (with cables)	MA ² s	43		43		115		115

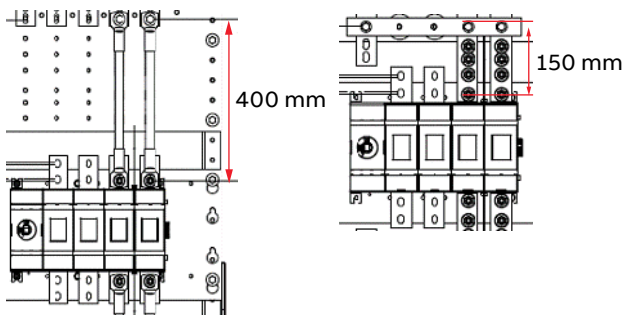
*) Busbars supported on both sides of the switch contact terminals

OT(M)2500_-135

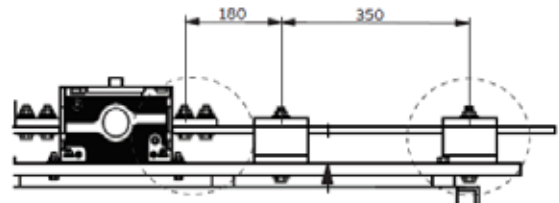
Disconnecter types		OT2500E02-135 OTM2500E2M230V-135		OT2500E04-135, OT2500E22-135 OTM2500E4M230V-135		OT2500E04-135, OT2500E22-135 OTM2500E4M230V-135	
	Number of poles		2		4		4
	Number of circuits		1		2		1
	Connection type		1		2		3
	DC-20B rating, 1500 V	A	2500		2500		4000
	AC-20B rating, 1000 V	A	2500		2500		4000
Rated short-time withstand current, I _{cw} 0.3 s	Support distance 180 mm (with busbars)	kA	80		80		100
Max. Let-through Peak Current when protected with Fuses or Circuit Breaker	Support distance 180 mm (with busbars)	kA	176		176		220
Max. Let-through Energy when protected with Fuses or Circuit Breaker	Support distance 180 mm (with busbars)	MA ² s	363		363		616

Busbar support distances

OT(M)1600E_-135



OT(M)2500E_-135



Technical data

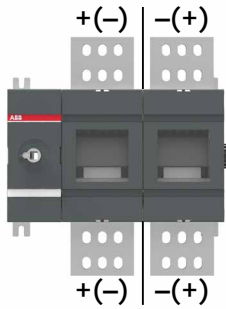
Connection types

Single Circuit

Connection type 1

OT1600...2500E02-135

OTM1600...2500E2M230V-135



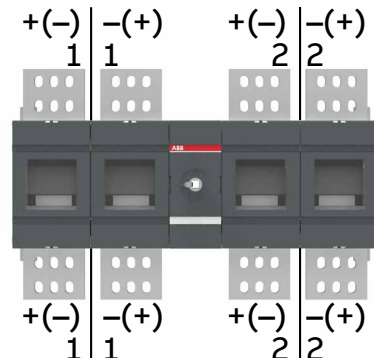
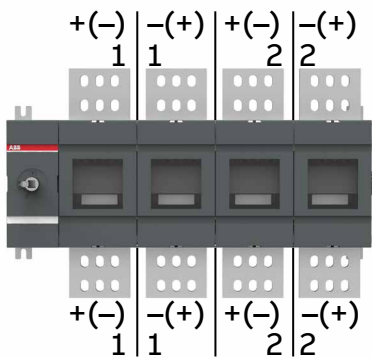
Double Circuit

Connection type 2

OT1600...2500E04-135

OT1600...2500E22-135

OTM1600...2500E4M230V-135



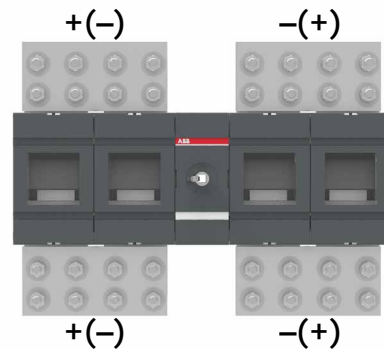
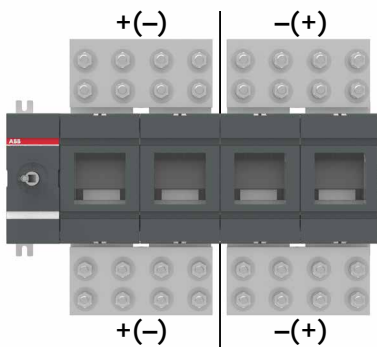
Single Circuit

Connection type 3

OT1600...2500E04-135

OT1600...2500E22-135

OTM1600...2500E4M230V-135



Ordering information, IEC

OT(M)_{-135 -Series 1600...4000A



OT1600E02-135

ABB offers manual and remote operated disconnectors suitable for diverse DC-20 applications such as energy storage systems (ESS), large disconnectors for inverters onboard marine vehicles and in photovoltaic installations.

Voltage [V DC]	Rated operational current [A]	Number of circuits	Circuit ¹⁾	Number of poles	Single package	Order code
	DC-20B				Type	
Manual operated without handle and shaft						
1500	1600	1	1	2	OT1600E02-135	1SCA159244R1001
1500	1600	2	2	4	OT1600E04-135	1SCA159250R1001
1500	2500	1	3	4	OT1600E04-135	1SCA159250R1001
1500	1600	2	2	4	OT1600E22-135	1SCA159247R1001
1500	2500	1	3	4	OT1600E22-135	1SCA159247R1001
1500	2500	1	1	2	OT2500E02-135	1SCA160392R1001
1500	2500	2	2	4	OT2500E04-135	1SCA160395R1001
1500	4000	1	3	4	OT2500E04-135	1SCA160395R1001
1500	2500	2	2	4	OT2500E22-135	1SCA160398R1001
1500	4000	1	3	4	OT2500E22-135	1SCA160398R1001
Manual operated with direct mounted handle						
1500	1600	1	1	2	OT1600E02K-135	1SCA159245R1001
1500	1600	2	2	4	OT1600E04K-135	1SCA159251R1001
1500	2500	1	3	4	OT1600E04K-135	1SCA159251R1001
1500	1600	2	2	4	OT1600E22K-135	1SCA159248R1001
1500	2500	1	3	4	OT1600E22K-135	1SCA159248R1001
1500	2500	1	1	2	OT2500E02K-135	1SCA160393R1001
1500	2500	2	2	4	OT2500E04K-135	1SCA160396R1001
1500	4000	1	3	4	OT2500E04K-135	1SCA160396R1001
1500	2500	2	2	4	OT2500E22K-135	1SCA160399R1001
1500	4000	1	3	4	OT2500E22K-135	1SCA160399R1001
Motor operated, mechanism at the end of the switch						
1500	1600	1	1	2	OTM1600E2M230V-135	1SCA162142R1001
1500	1600	2	2	4	OTM1600E4M230V-135	1SCA162702R1001
1500	2500	1	1	2	OTM2500E2M230V-135	1SCA162703R1001
1500	2500	2	2	4	OTM2500E4M230V-135	1SCA162704R1001
1500	4000	1	3	4	OTM2500E4M230V-135	1SCA162704R1001

¹⁾ Circuit connection 3 – connection bar kit OTKIT2500B11 available as separate accessory – installation mandatory. Please see circuit connections in page 9.

You can find the accessories starting from page 9 and dimensional drawings starting from page 12.

Ordering information

Accessories



OTDCKIT1250B11

Parallel connection bar kit

Used for connection type 3. Connection bar kit available as a separate accessory.

Suitable for switches	Product type	Order number	Pcs/ Pack	Weight/ unit kg
OT1600E04, OT1600E22	OTDCKIT1250B11	1SCA143479R1001	2	1.12
OT2500E04, OT2500E22, OTM2500E4M230V-135	OTKIT2500B11	1SCA160501R1001	4	11



OXP12X250

Shafts for pistol handles

Shaft length mm	Mounting depth mm	Type	Order number	Weight/ unit kg
250	221...350	OXP12X250	1SCA022325R6980	0.28
280	251...380	OXP12X280	1SCA022137R5140	0.30
325	296...425	OXP12X325	1SCA022042R5810	0.36
395	366...495	OXP12X395	1SCA022042R5990	0.43
465	436...565	OXP12X465	1SCA022042R6020	0.51
535	506...635	OXP12X535	1SCA022042R6110	0.59



OA1G10

Auxiliary contacts

Contact numbering according to EN50013. The ordering numbers are for one piece. Delivery batch 10 pcs. Mounting under the mechanism cover max. 4 test indication contacts + 6 test contacts and 2 early operation test contacts can be mounted. The test contacts work as standard auxiliary contacts.

Suitable for disconnecter	Function	Type	Order number	Weight/ unit kg
	1NO	OA1G10	1SCA022353R4970	0.03
OT(M)1600...2500E_-135	1NC	OA3G01	1SCA022456R7410	0.03

Ordering information

Accessories



OTS1600G1S

Terminal shrouds

Single pole, snap-on mounting IP3X shrouds in grey color.

Suitable for disconnector	Size	Type	Order number	Units/ type pcs	Weight/ unit kg
OT(M)1600E_-135	Short	OTS1600G1S	1SCA102667R1001	1	0.12
	Long	OTS1600G1L	1SCA106134R1001	1	0.20
	Short	OTS1600G1S/4	1SCA022871R9860	4	0.50
	Long	OTS1600G1L/4	1SCA022871R9780	4	0.80
OT(M)2500E_-135	Short	OTS2500G1S	1SCA108810R1001	1	0.16
	Long	OTS2500G1L	1SCA108816R1001	1	0.26
	Short	OTS2500G1S/4	1SCA107271R1001	4	0.70
	Long	OTS2500G1L/4	1SCA107262R1001	4	1.30



OTB1600/6

Phase separators

Grey plastic phase barrier for increasing the clearance between the phases without using terminal shrouds.

Suitable for disconnector	Type	Order number	Units/ type pcs	Weight/ unit kg
OT(M)1600...2500E_-135	OTB1600/6	1SCA102667R1001	6	0.50



OZXB3/1

Terminal clamp sets for Al- and Cu-cables

Suitable for disconnector	Cable cross section mm ²	Type	Order number	Units/ type pcs	Weight/ unit kg
OT(M)1600...2500E_-135	95...185	OZXB3/1	1SCA022136R8100	1	0.13
	2x(95...185)	OZXB4/1	1SCA022194R0890	1	0.60
	120...300	OZXB5/1	1SCA022194R1010	1	0.80
	2x(120...300)	OZXB6/1	1SCA022194R1270	1	1.00
	120...240	OZXB7L/1	1SCA022194R1600	1	0.39

Ordering information

Accessories

Mechanical and electrical interlock kit



OTZT4A

The disconnecter can be mechanically interlocked in the OFF-position using padlocks. The diameter of the lock bail can be max. 8 mm. By installing a coil inside the mechanical interlocking unit, the disconnecter can be electrically interlocked in OFF-position or in both ON and OFF-position. The electrical interlock works using the "closed circuit principle": when the control voltage is not applied to the coil, the disconnecter with type-A mechanical interlock cannot be operated to ON-position, and with type-L mechanical interlock the disconnecter cannot be operated to ON- or OFF-position.

Suitable for disconnecter	Mechanical interlock function	Type	Order number	Units/type pcs	Weight/unit kg
OT1600E_, OT2500E_	OFF	OTZT4A	1SCA106526R1001	1	1.15
	ON and OFF	OTZT4L	1SCA106531R1001	1	1.15



PDAL2/230AC50HZ

Suitable for mechanical interlock	Coil operational voltage	Type	Order number	Units/type pcs	Weight/unit kg
OTZT_	24 VDC	PDAL2/24DC	1SCA106542R1001	1	0.15
	48 VDC	PDAL2/48DC	1SCA107103R1001	1	0.15
	110 VDC	PDAL2/110DC	1SCA107105R1001	1	0.15
	220 VDC	PDAL2/220DC	1SCA112503R1001	1	0.15
	120 VAC / 60Hz	PDAL2/120AC60HZ	1SCA111353R1001	1	0.15
	230 VAC / 50Hz	PDAL2/230AC50HZ	1SCA107102R1001	1	0.15
	240 VAC / 50Hz	PDAL2/240AC60HZ	1SCA111356R1001	1	0.15

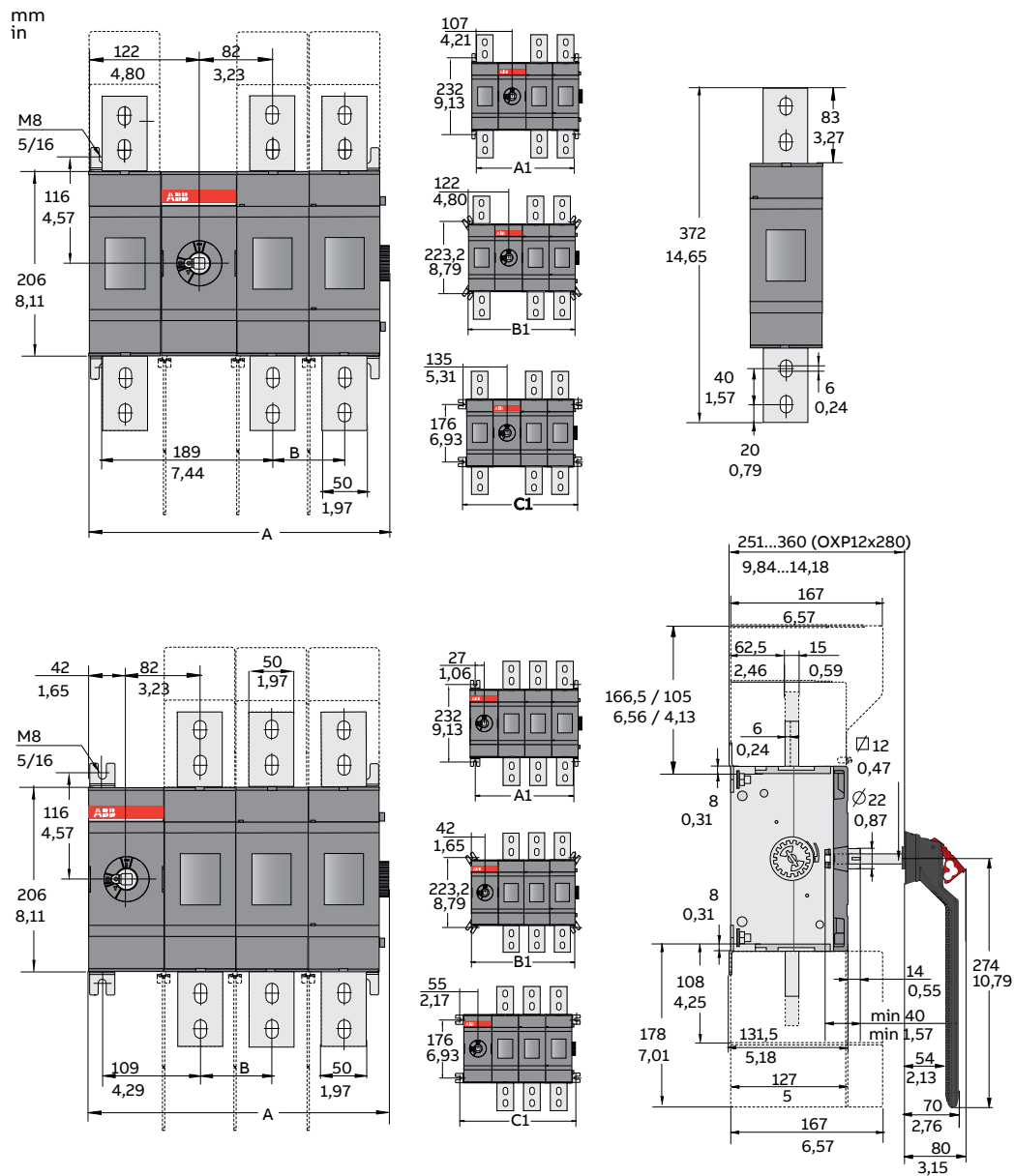
Technical data for the coil

Operating voltage	$U = 0.8 \dots 1.1 \times U_n$
Operating ambient temperature	-40°C ... +65°C
Power consumption	DC 9 VA
	AC 6.5 W

Dimension drawings

Manual disconnectors

Front operated disconnectors OT1600, base mounting, IEC



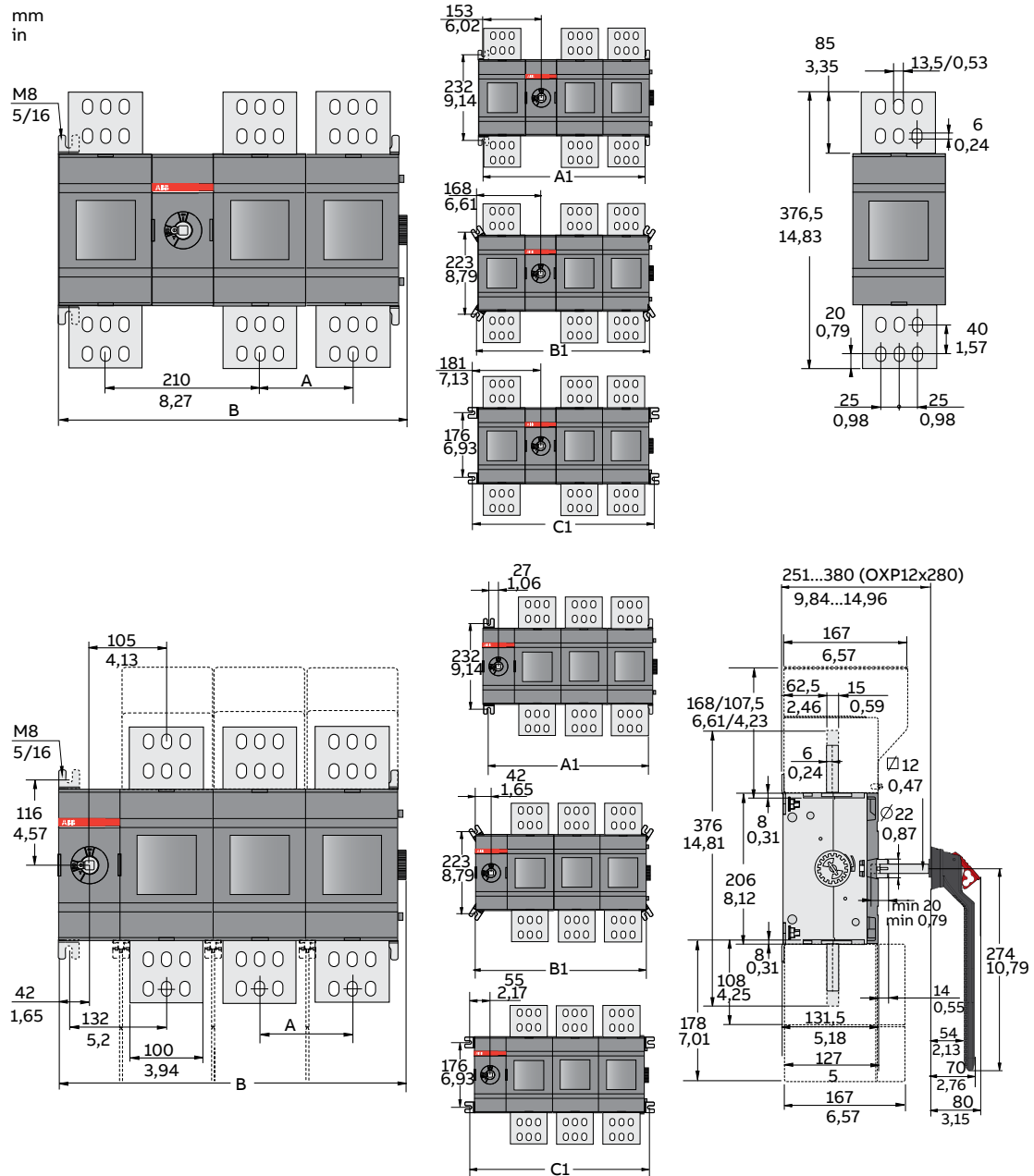
OT1600E_-135

mm/in	02	04	22
A	254.50/10.02	414.50/16.32	414.50/16.32
B	80/3.15	80/3.15	80/3.15
A1	214/8.43	374/14.72	374/14.72
B1	244/9.61	404/15.91	404/15.91
C1	270/10.63	430/16.93	430/16.93

Dimension drawings

Manual disconnectors

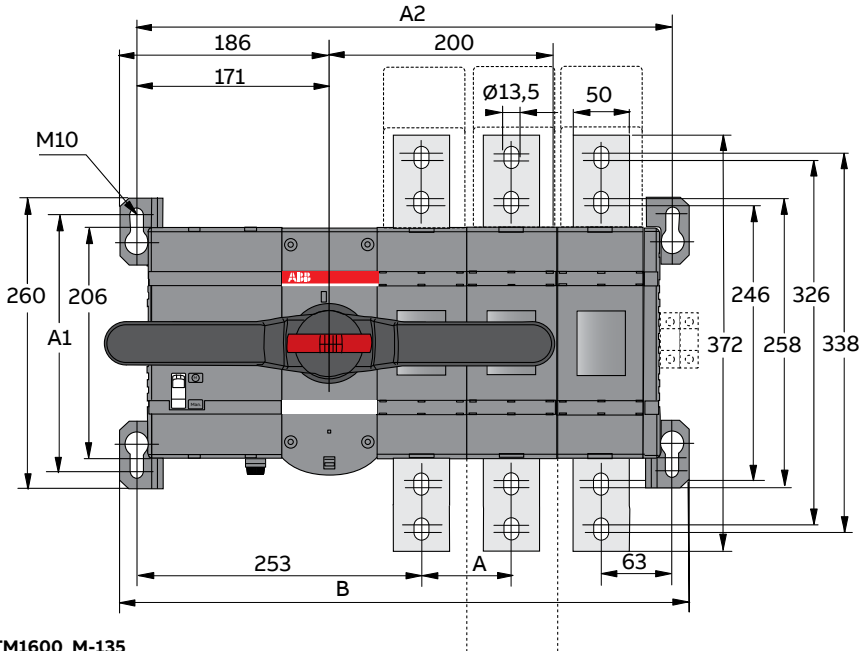
Front operated disconnectors OT2500, base mounting, IEC



OT2500E_-135

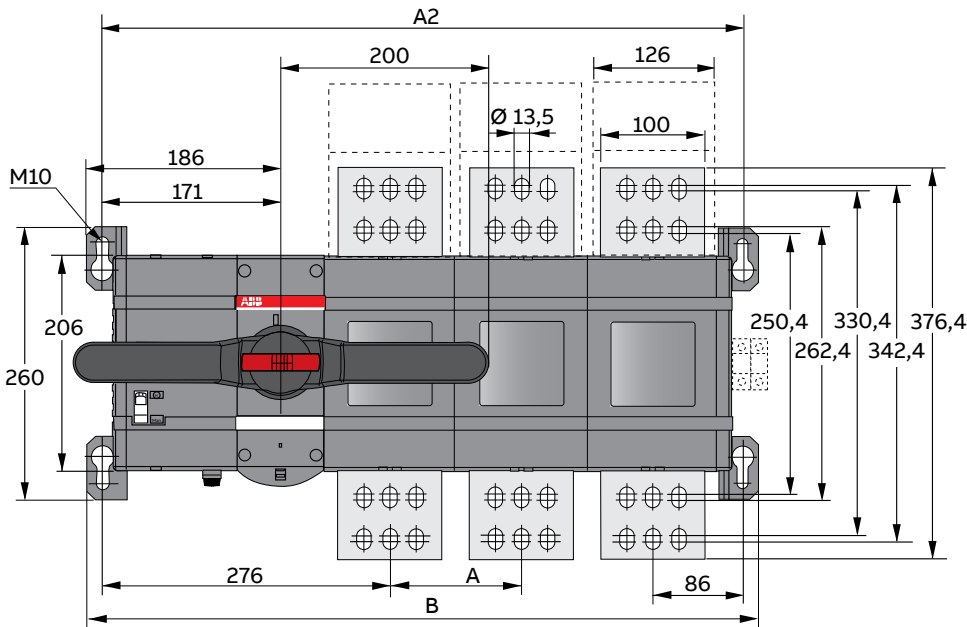
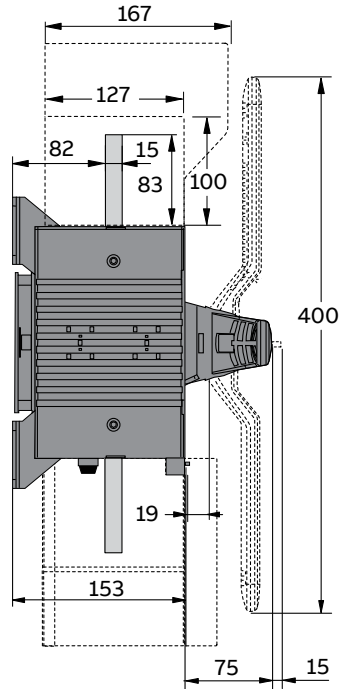
mm/in	02	04	22
A	126/4.96	126/4.96	126/4.96
B	346.5/13.64	598.5/23.56	598.5/23.56
A1	306/12.05	558/21.97	558/21.97
B1	336/13.23	588/23.15	588/23.15
C1	362/14.25	614/24.17	614/24.17

OTM1600-2500E_-135



OTM1600_M-135

	E2	E4
A	80	80
A1	230	230
A2	396,5	556,5
B	426,5	586,5



OTM2500_M-135

	E2	E4
A	126	126
A1	230	230
A2	488,5	740,5
B	518,5	770,5

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