Safety enclosures

Explosive atmosphere (ATEX)

steel enclosures from 50 to 630 A



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Function

SOCOMEC **ATEX enclosures** incorporate three or four pole manually operated SIDER (ND) load break switches which make and break on-load, providing emergency breaking and maintenance isolation for any low voltage electrical circuit which is in **an area where there is a risk of explosion** due to dust.

Advantages

Operator safety

- Visible contacts, mechanical flag indicator and positive break indication.
- Double locking system prevents the opening of the enclosure door with the switch in its ON position and the closing of the switch when the door is open.
- Triple locking of the handle in the OFF position.
- Protects operators against accidental start-up of machines
- Ease of operation without risk of error for unqualified operators.
- Maximum security for all types of simple mechanical and electrical maintenance operations.

Inductive load breaking (AC23)

ATEX enclosures are designed for use with inductive loads and are able to make and break on-load (AC23).

Robust design

Product has been specifically designed for industrial environments with the risk of explosion due to dust (galvanised steel, thickness 2 mm, triplex glass, S type handle with metal padlocking lever…)

IP65 degree of protection

Protection degree of ATEX enclosures is IP65.

The solution for

- Steel works
- Cement works
- Mining industries



Strong points

- Operator safety
- Inductive load breaking (AC23)
- Robust design
- IP65 degree of protection

Conformity to standards

- Directive 2014/34/UE
- IEC 60204-1
- IEC 61439-2
- IEC 60947-3
- IEC 60364
- NF C 15-100

Other regulations

- Decree 29.07.92: Machine safety
- Decree n° 88-1056 from 14.11.88: protection of workers
- Decree n°96-1010 from 19.11.96
- Decree 11.01.93: machine compliance

Specific requests

- SOCOMEC can offer customised solutions to meet your specific requirements. Please contact your Socomec office for further information.

General characteristics

Breaking device

- All safety enclosures are equipped with load break switches that provide visible, reliable indication of the contacts open position.
- SIDER for 50 A, 80 A and 630 A ratings
- SIDER ND 80 A (6 P) to 400 A ratings
- They make and break under load conditions and provide safety isolation for any low voltage circuit. They are factory fitted with a mechanical flag indicator which provides guaranteed position indication of the contacts.

Enclosure

- Enclosures are made of a 2 mm thick galvanised steel. They are welded and deburred.
- The anti-corrosion protection is achieved using an epoxy polyester powder which polymerises in the oven at 180°. Paint coating is 60 µm minimum and colour is metallic grey.
- The door is mounted on invisible hinges and is locked using an 8 mm square key.
- Wall mounting is achieved using 4 fixing lugs (factory mounted).

ATEX environment:

- Group of devices: II
- Category: 2
- Type of atmosphere
- Protection level (EPL) Db
- Temperature class: T6 85°C
- Temperature range:
  < 80 A: -20°C to +50°C
  > 80 A: -20°C to +40°C
- IP65 degree of protection

Visible breaking

- The contacts are visible through a triplex window, located on the enclosure door. This enables the operator to confirm the position of the contacts either during a preventative maintenance check or before an operation.

Double locking

- Double locking prevents the opening of the enclosure door with the switch in its closed position and the closing of the switch when the door is open; with the use of a tool, authorised personnel can bypass this system when the door is open for maintenance purposes.
- The locking system comprises a single guard moulded from zamak (aluminium alloy) with a simple and robust mechanism driven directly by the handle's operating shaft.

Operating handle

- ATEX enclosures are provided with a red S type operation handle. It is made of an insulating material and includes a metal padlocking lever. The handle can be locked in the OFF position using three padlocks.

Connection

- ATEX enclosures are designed for bottom cable entry and exit.
- Enclosures are fitted with a top roof and bottom closing plate.
- Connection is achieved by running cables to the top terminals for 50 and 80 A ratings. For higher ratings, the top set of terminals are brought down to the bottom of the enclosure with copper bars for easy connection of the incoming cables.

Miscellaneous

- Two earthing bars for connection are available in the enclosure.
- Protection screen for live parts.

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References



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Photo of an enclosure fitted with options and accessories.
Standard models shown here with red insulating handle and without control interface.
Please consult us for the addition of accessories such as buttons or indicators.

Rating (A)	No. of poles	Bottom/Bottom connection Reference
50	3 P	3V41 **3005**
50	4 P	3V41 **4005**
80	3 P	3V41 **3008**
80	4 P	3V41 **4008**
80	6 P	3V41 **6008**
125	3 P	3V51 **3012**
125	4 P	3V51 **4012**
160	6 P	3V51 **6020**
200	3 P	3V51 **3020**
200	4 P	3V51 **4020**
400	3 P	3V51 **3040**
400	4 P	3V51 **4040**
630	3 P	3V51 **3063**
630	4 P	3V51 **4063**

Accessories

ATEX cable gland

Black polyamide

Diameter (mm)	Min. cable diameter (mm)	Max. cable diameter (mm)	Cable gland Reference	Locknut Reference
12	4	7	3240 **1012**	3240 **3012**
16	5.5	10	3240 **1017**	3240 **3016**
20	5.5	13	3240 **1020**	3240 **3020**
25	8	17	3240 **1025**	3240 **3025**
32	12	21	3240 **1032**	3240 **3032**
40	17	28	3240 **1040**	3240 **3040**
50	22	35	3240 **1050**	3240 **3050**



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Brass

Diameter (mm)	Min. cable diameter (mm)	Max. cable diameter (mm)	Cable gland Reference	Locknut Reference
12	4	6.5	3240 **2012**	3240 **4012**
16	5.5	10	3240 **2016**	3240 **4016**
20	7.5	13	3240 **2020**	3240 **4020**
25	11.5	18	3240 **2025**	3240 **4025**
32	17.5	24.5	3240 **2032**	3240 **4032**
40	24	32	3240 **2040**	3240 **4040**



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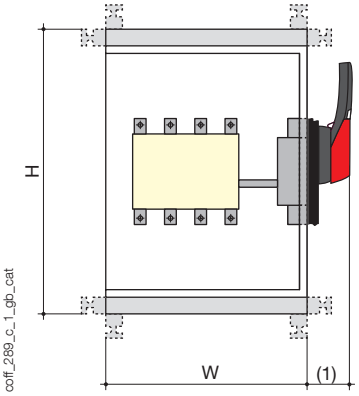
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Characteristics

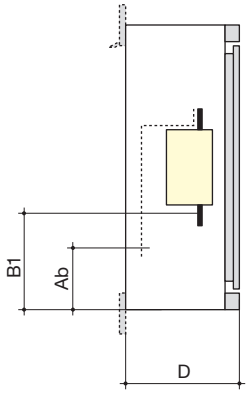
Rating (A)		50 A	80 A	80 A	125 A	160 A	200 A	400 A	630 A
Rated operational currents I_e (A)									
Rated voltage	**Utilisation category**	**3/4 P**	**3/4 P**	**6 P**	**3/4 P**	**6 P**	**3/4 P**	**3/4 P**	**3/4 P**
415 VAC	AC-21 A/B	50/50	63/63	-/80	125/125	-/160	200/200	/315	-/500
415 VAC	AC-22 A/B	50/50	63/63	-/80	125/125	-/160	200/200	/315	-/500
415 VAC	AC-23 A/B	25/25	40/40	-/80	125/125	-/160	200/200	/315	-/-
Motor power output (kW)									
400/500 VAC without pre-break AC(1)		11/-	18.5/15	40/-	60/-	80/-	100/-	160/-	270/-
400/500 VAC with pre-break AC(1)		25/-	30/25	40/-	60/-	80/-	100/-	160/-	-/-

(1) The power values is given for information only, the current values vary from one manufacturer to another.

Dimensions



(1)50 … 400 A: 45 mm
630 A: 61 mm



Rating (A)	No. of poles	H x W x D (mm)	Cross-section (mm^2)	Bottom/Bottom connection		Weight (kg)
				Ab (mm)	B1 (mm)	
50	3/4 P	350 x 225 x 150	16	288	198	8.2
80	3/4 P	350 x 225 x 150	35	288	198	8.4
80	6 P	500 x 425 x 200	35	288	198	25
125	3/4 P	500 x 425 x 200	120	225	-	15
160	6 P	500 x 425 x 200	120	242	275	25
200	3/4 P	500 x 425 x 200	120	242	275	21.5
400	3/4 P	700 x 500 x 250	2 x 150	340	385	34.5
630	3/4 P	700 x 500 x 300	2 x 300	262	313	47