Safety enclosures

Normal atmospheres

steel enclosure from 50 to 1600 A

The solution for

- Iron and steel industry
- Cement plants
- Paper mills
- Sawmills
- Hydraulic power packs
- Automotive
- Mining

Strong points

- Operator safety
- Quick and easy implementation
- Operating continuity
- Inductive load breaking (AC23)

Compliance with standards

- IEC 60364
- IEC 60947-3
- IEC 60204-1
- IEC 61439-2

Specific requirements

- SOCOMEC can offer you customised solutons to meet your specific requirements. Contact your Socomec office for further information.

Function

Safety enclosures equipped with SOCOMEC switches provide emergency breaking, breaking for mechanical maintenance and safety isolation in the vicinity of any low voltage final circuit.

Advantages

Operator safety

- 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.

Quick and easy implementation

The space available within the enclosure and the dimension of the closing plates facilitate connection.

Durability

The product is designed for harsh industrial environments with mechanical risks or non-explosive dust risks.

Operating continuity

- Local disconnection: only the targeted machine is switched off, the rest of the installation can continue operating.
- Reduced costs related to production downtime.

Inductive load breaking (AC23)

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

General characteristics

Enclosure

The robustness of the safety enclosure is ensured by its 2 mm thick sheet steel construction. Corrosion protection is provided by a 70 µm thick polyester powder coating (RAL 7035 ≤ 160 A, RAL 7032 and 9001 for other sizes). The door is hinge-mounted (120° opening) and is secured with a key lock (8 mm square key). The enclosure has an IP65 degree of protection for sizes ≤ 160 A and IP55 for other sizes.

Switching device

Safety enclosures are equipped with visible break SOCOMEC load break switches. They make and break under load and provide safety isolation for any low voltage electric circuit. Separation of the contacts is visible through the triplex window, located on the enclosure door, providing guaranteed isolation to the operator. A mechanical indicator, linked directly to the operation of the contacts, is also provided to give clear position indication.


coff_435_a

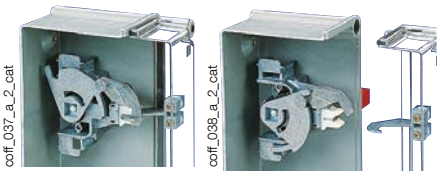
Operating handle

The safety enclosure is equipped with an unpainted metal operating handle which is used for both normal and emergency cut-off operations. The handle can be locked with up to 3 padlocks with a diameter of between 4 and 8 mm.

As an alternative to the standard metallic handle, a red plastic handle with a metal padlocking lever (≤ 160 A), or a red metallic handle, can be factory fitted on request.

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.


coff_037_a_2_cat

coff_038_a_2_cat

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.

Auxiliary control

A removable plate, located below the enclosure's operating handle, is supplied for the installation of auxiliary controls.

Several wiring combinations are available as pre-installed or customer-fit options for enclosures ≤ 160A; for ratings ≥ 200A please contact us.

Connections

Two removable (top and bottom) gland plates facilitate cable entry and connections.

Cables connect directly onto switch power terminals for enclosures ≤ 160A; for ≥ 200A incoming cables connect to descending copper bars.

Miscellaneous

A reversible grounding point enables the termination of earth connections inside and/or outside of the enclosure.

All active parts are covered to avoid direct contact.

Safety enclosures

Normal atmospheres

steel enclosure from 50 to 1600 A

References

Safety enclosure with bottom/bottom connection(1), side operation(2)

coff_435_a

Rating (A)	Motor power output (kW) (3)		No. of poles	Bottom/Bottom
	400 V	690 V		Reference
50 A	25	-	3 P	3273 **3005**
			4 P	3273 **4005**
			6 P	3273 **6005**
80 A	30	8	3 P	3273 **3008**
			4 P	3273 **4008**
			6 P	3273 **6008**
125 A	55	75	3 P	3273 **3012**
			4 P	3273 **4012**
			6 P	3V71 **6012**
160 A	75	75	3 P	3273 **3016**
			4 P	3273 **4016**
200 A	100	75	3 P	Consult us
			4 P	
			6 P	
400 A	220	75	3 P	
			4 P	
500 A	220	75	3 P	
			4 P	
630 A	355	90	3 P	
			4 P	
800 A	355	110	3 P	
			4 P	
1250 A	560	185	3 P	
			4 P	
1600 A	560	185	3 P	
			4 P	

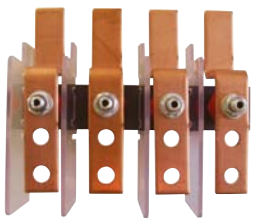
(1) For top/bottom connection please contact us.
(2) For front operation please contact us.
(3) Without pre-break option.

Accessories

Terminal connection kit for 125 and 160 A enclosures

Use

Power terminal connection kit for 125 and 160 A safety enclosures. Allows you to connect up to 2 x 35 mm² cables or 1 x 70 mm² cable per pole. Supplied with terminal separation screens and cables for connection to the switch (for onsite installation).



acces_319_a_1_cat

Designation	No. poles	Customer fit	Factory fitted(1)
		Reference	Reference
Enclosure terminal block	3 P	3290 **1015**	3290 **1016**
Enclosure terminal block	4 P	Contact us	Contact us

(1) Specify the reference of the enclosure to be fitted.

socomec Innovative Power Solutions

Accessories (continued)

Auxiliary contacts

Use

For pre-breaking and signalling of positions 0 and I of the load break switch.

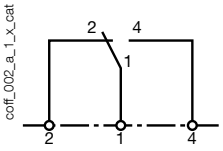
Mounting

- On the double-locking system.
- Possibility of factory mounting within the enclosure (please provide enclosure reference when ordering).

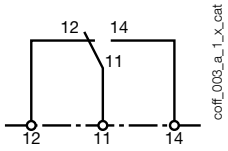
Description	Rating (A)	Customer fit (1) Reference	Factory fitted (1) Reference
2 AC for pre-break and signalling O and I	50 … 1600	2999 **0012**	2999 **1012**
2 AC low level for pre-break and signalling O and I	50 … 1600	2999 **0112**	-
2 AC for pre-break and signalling O and I, wired	50 … 160	3290 **6003**	3290 **6103**
2 AC low level for pre-break and signalling O and I, wired	50 … 160	3290 **6113**	3290 **6013**
2 AC for pre-break and signalling O and I, wired	200 … 1600	3290 **6002**	3290 **6102**

(1) Mounting not compatible with a command and control interface.

1st NO/NC AC for pre-break



2nd NO/NC AC for pre-break



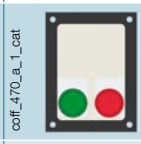
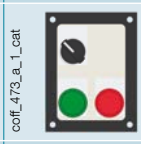
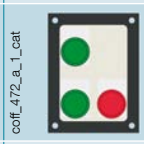
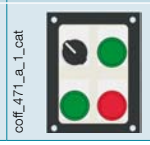
Auxiliary control interface from 50 to 160 A

Use

For machine control.

Mounting

- Pushbuttons are wired to terminal block, with 2 onsite connection points. 2 NO/NC auxiliary contacts for pre-break are provided with one utilised in all control options; the 2nd contact is not pre-wired and is available for use.
- The removable interface plate is mounted on the right side of the enclosure below the operating handle.
- Factory installation or customer fit options are available.

Control diagrams (1)	Auxiliary control (2)	Button allocation	Customer fit (3)	Factory fitted (3)(4)
Start/Stop	2 pushbuttons, 22 mm Ø (1 green/1 red): Identification labels “Start” and “Stop”		3290 **2110**	3290 **2111**
Start/Stop and Local/Remote	2 pushbuttons, 22 mm Ø (1 green/1 red): Identification labels “Start” and “Stop” 1 selector with 2 positions: Identification label “Local-Remote”		3290 **2112**	3290 **2113**
Forward/Reverse	3 pushbuttons, 22 mm Ø (2 green/1 red): Identification labels “Start”, “Stop” and “Reverse”		3290 **2114**	3290 **2115**
Forward/Reverse and Local/Remote	3 pushbuttons, 22 mm Ø (2 green/1 red): Identification labels “Start”, “Stop” and “Reverse” 1 selector with 2 positions: Identification label “Local-Remote”		3290 **2116** (5)	3290 **2117** (5)

(1) See “Command diagrams” page 745.
(2) Labels are identified in English and French languages.
(3) Mounting not compatible with an auxiliary.
(4) Specify the reference of the enclosure to be fitted.
(5) The mounting of a latch locking mechanism is not compatible with this control/command interface with 50 and 80 A ratings.

Accessories (continued)

Traffolyte labels

Use

Personalise your enclosure. Information to be provided at time of order when factory fit option is requested.

Examples of label types	Customer fit	Factory fitted (1)
Set of 10 embossed labels, size 80 x 30 mm with black lettering on a white background. Text according to your requirements. Mounted with plastic rivets.	Contact us	Contact us
Pushbutton label, white lettering on a red background	Contact us	Contact us
Pushbutton label, black lettering on a white background	Contact us	Contact us
Pushbutton label, white lettering on a black background	Contact us	Contact us

(1) Specify the reference of the enclosure to be fitted.

coff_215_a

Key handle interlocking system

Use

When enabled, the lock prevents handle operation.

Type of lock	Reference
Ronis EL11AP	4409 **8511**
Serv Trayvou NXOP10	4409 **8601**

Assembly kit for lock EL11AP (lock not included)	Customer fit (1)	Factory fitted (1)(2)
Rating (A)	**Reference**	**Reference**
50 … 160	3290 **7007**	3290 **7008**
> 160	3290 **7005**	3290 **7006**

Assembly kit for lock NXOP10 (lock not included)	Customer fit (1)	Factory fitted (1)(2)
Rating (A)	**Reference**	**Reference**
50 … 160	3290 **7009**	3290 **7008**
> 160	3290 **7015**	3290 **7006**

(1) Mounting not compatible with a control/command interface. Please contact us for more details.
(2) Specify the reference of the enclosure to be fitted.

coff_205_c_1_cat

Post mounting

Use

For mounting the safety enclosure to a round or square post.

Rating (A)	Reference
50 … 80	3290 **7252**
125 … 160	3290 **7254**
> 160	Contact us

coff_463_a_1_cat

Enclosure canopy

Use

To protect your enclosure against extreme weather.

Rating (A)	Reference
50 … 80	3290 **7212**
125 … 160	3290 **7214**
> 160 A	Contact us

coff_464_a_1_cat

socomec
Innovative Power Solutions

Operating handle

Use

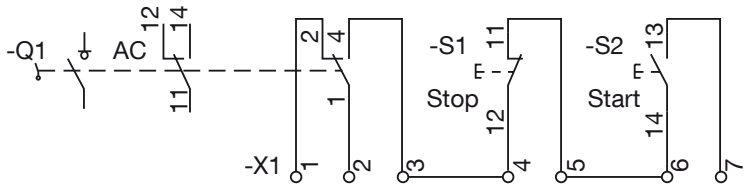
For switch operation. Factory assembly only.

Rating (A)	Type of handle	Reference(1)
50 ... 160	S type handle, red with metal padlocking lever	3261 **0090**
50 ... 160	Red steel handle	3261 **0092**
200 ... 500	Red steel handle	3211 **0500**
630 ... 1600	Red steel handle	3211 **1250**

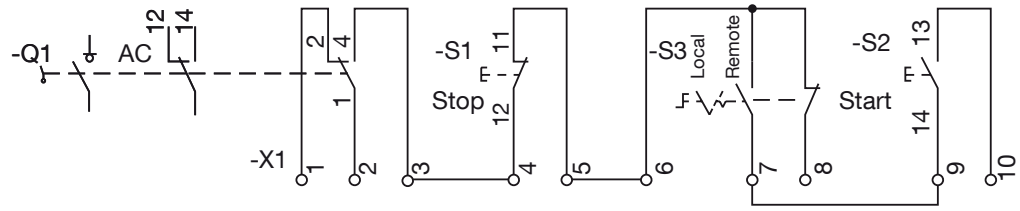
(1) Specify the reference of the enclosure to be fitted.

Control diagrams

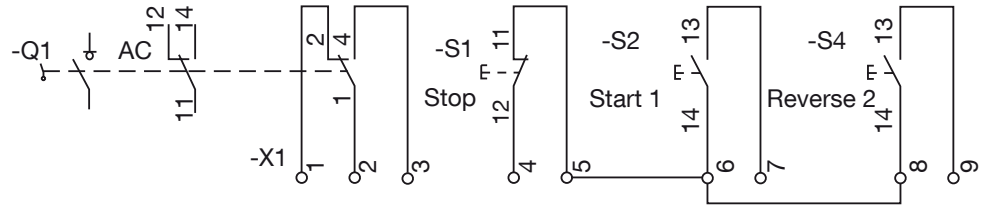
Start/Stop



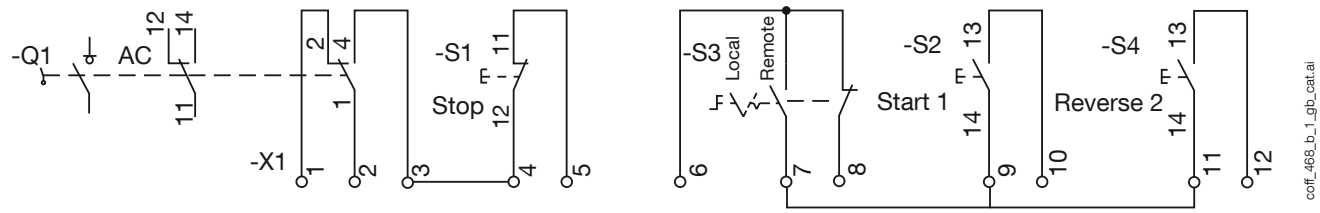
Start/Stop and Local/Remote



Forward/Reverse



Forward/Reverse and Local/Remote



Safety enclosures

Normal atmospheres

steel enclosure from 50 to 1600 A

Characteristics

Characteristics according to IEC 60947-3

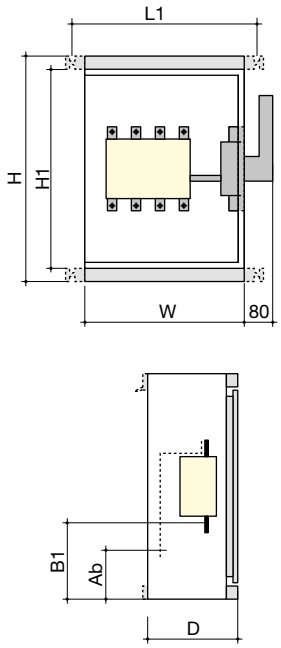
Rating (A)		50 A	80 A	125 A	160 A	200 A	400 A	500 A	630 A	800 A	1250 A	1600 A
Rated operating current I_e (A)												
Rated voltage	**Utilisation category**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
400 VAC	AC-21A	50	80	125	160	200	400	500	630	800	1250	1600
400 VAC	AC-22A	50	63	125	160	200	400	400	630	800	1250	1250
400 VAC	AC-23A	32	40	125	125	200	400	400	630	630	1000	1000
690 VAC	AC-21A	40	63	125	160	160	400	400	630	800	1000	1250
690 VAC	AC-22A	25	63	80	100	100	200	200	315	315	400	400
690 VAC	AC-23A	-	10	80	80	80	80	80	100	125	200	200
Motor power output (kW)												
At 400 VAC without pre-break AC		22	30	55	75	90	220	220	355	355	560	650
At 690 VAC without pre-break AC		-	8	75	75	75	75	75	90	110	160	180
At 400 VAC with pre-break AC		22	37	55	75	90	220	250	355	450	650	850
At 690 VAC with pre-break AC		37	55	110	132	132	390	390	580	780	1100	1300

Characteristics according to IEC 61439-1

Rating (A)	50 A	80 A	125 A	160 A	200 A	400 A	500 A	630 A	800 A	1250 A	1600 A
Operating current max, I_e (A) 400V	50	80	125	160	200	400	500	630	800	1250	1600
Operating current max, I_e (A) 690V	50	80	125	160	200	400	500	630	800	1250	1600
Mechanical specifications											
Connection											
Minimum copper cable cross-section (mm^2)	6	16	10	10	70	185	240	2 x 150	2 x 185	-	-
Maximum copper cable cross-section (mm^2)	16	35	70	70	95	240	240	2 x 300	3 x 300	4 x 185	6 x 240
Min./max. tightening torque (Nm)	2	2	4/4.4	4/4.4	8.3/13	20/26	20/26	20/26	20/26	20/26	40/45

Dimensions

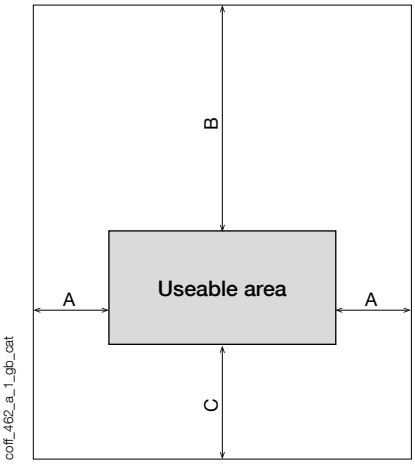
50 to 1600 A



coff_117_e_1_gb_cat

Rating (A)	No. poles	H x W x D (mm)	Mounting H1 (mm)	Mounting L1 (mm)	Connection Ab (mm)	Connection B1 (mm)	Weight (kg)
50	3 P	310 x 215 x 150	258	263	-	168	9
	4 P	310 x 215 x 150	258	263	-	168	9.5
	6 P	300 x 400 x 200	252	448	-	160	10
80	3 P	310 x 215 x 150	258	263	-	168	9
	4 P	310 x 215 x 150	258	263	-	168	9.5
	6 P	300 x 400 x 200	252	448	-	140	10
125	3 P	400 x 275 x 165	348	323	-	200	17
	4 P	400 x 300 x 165	348	348	-	200	18
	6 P	400 x 400 x 200	460	448	240	275	21
160	3 P	400 x 275 x 165	348	323	-	200	17
	4 P	400 x 300 x 165	348	348	-	200	18
200	3 P	400 x 300 x 200	352	348	180	220	21
	4 P	500 x 400 x 200	452	448	250	295	22
	6 P	600 x 500 x 200	552	548	300	345	27
400	3 P	700 x 400 x 250	652	448	345	405	35
	4 P	700 x 400 x 250	652	448	345	405	35
500	3 P	700 x 400 x 250	652	448	340	400	39
	4 P	700 x 400 x 250	652	448	340	400	39
630	3 P	900 x 500 x 300	852	548	455	540	55
	4 P	900 x 500 x 300	852	548	455	540	55
800	3 P	900 x 500 x 300	852	548	445	530	85
	4 P	900 x 500 x 300	852	548	445	530	85
1250	3 P	1200 x 600 x 400	1152	640	670	770	90
	4 P	1200 x 700 x 400	1152	740	670	770	100
1600	3 P	1200 x 600 x 400	1152	640	650	790	100
	4 P	1200 x 700 x 400	1152	740	650	790	110

Closing plate



coff_462_a_1_gb_cat

Rating (A)	A (mm)	B (mm)	C (mm)
50 ... 80	20	60	30
125 ... 160	20	60	30

The useable area can be drilled for gland installation.