

SIRCO VM

32 to 250 A

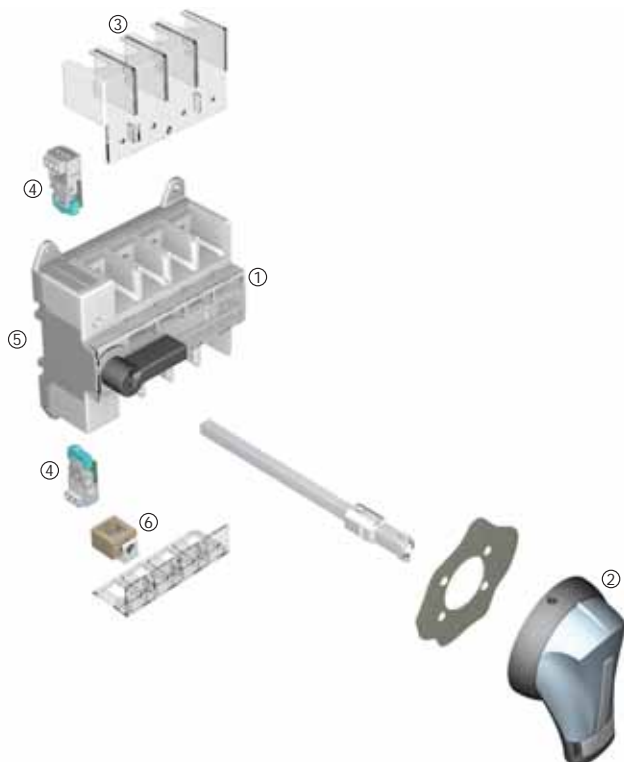
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sirco_288_a_1_caf



sirco_303_a_1_x_caf

Functions

SIRCO VM are manually operated modular multipolar load break switches. They break on and off under load and provide safety isolation for any low voltage electric circuit.

Conformity to standards

- IEC 60947-3
- EN 60947-3
- VDE 0660 Part 107 (1992)
- NBN EN 60947-3
- BS EN 60947-3

Approvals and certifications⁽¹⁾

- BBJ Poland (attestation of verification)
- Lloyd's Register of Shipping
- CEBEC (Belgium)
- LOVAG/ASEFA
- KEMA
- CCA
- GOST (Russia)
- PSA E03.15.605.G
- RENAULT EB03.15.613

(1) In progress for certain ratings.

General characteristics

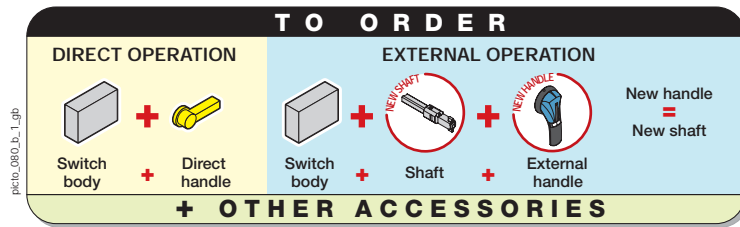
- Fully visible breaking
- Visible double breaking
- DIN rail, back plate or modular panel mounting with 45 mm front cut-out
- Device and accessories IP20.

Available on request

- SIRCO VM with right or left external side operation: please consult us.

Overview (for further details, please see the installation instructions supplied with each device).

1. Direct front operation
2. External front operation
3. IP2 terminal covers for SIRCO VM2 160 to 250 A
4. Blocks of pre-break and signalling auxiliary contacts
5. Back plate or DIN rail mounting
6. Tunnel terminal accessories with IP2 shroud for SIRCO VM2 of 160 to 250 A (supplied on SIRCO VM1 of 63 to 125 A)



References



Switches	VM0 32 A	VM0 40 A	VM1 63 A	VM1 80 A
Switch body for front operation				
No. of poles	References	References	References	References
3 pole	2500 3003	2500 3004	2500 3006	2500 3008
3 pole + switched neutral	2500 4003	2500 4004		
4 pole			2500 4006	2500 4008
6 pole			2501 6006	2501 6008
8 pole			2501 8006	2501 8008
Accessories				
Direct operation handle				
Black 3 / 3 + switched neutral / 4 pole		2599 4012	2599 4012	2599 5012
Red 3 / 3 + switched neutral / 4 pole		2599 4013	2599 4013	2599 5013
Black 6 / 8 pole			4439 5012	4439 5012
Door interlocked external front operation				
Black S Type IP55		1411 2111*	1411 2111*	1411 2111*
Black S Type IP65		1413 2111	1413 2111	1413 2111
Red/yellow S Type IP65		1414 2111	1414 2111	1414 2111
Shaft extensions for external operation (for dimensions, see "Accessories" pages)				
200 mm S Type		1401 0520	1401 0520	1402 0820*
320 mm S Type		1401 0532*	1401 0532*	1402 0832
Auxiliary contact				
1 AC NO / NC changeover A-type		3999 0001	3999 0001	2599 0001 ⁽¹⁾
2 AC NO / NC changeover A-type		3999 0002	3999 0002	
1 AC NO U-type		3999 0701	3999 0701	
1 AC NC U-type		3999 0702	3999 0702	
Door mounting kit⁽²⁾				
For device with black handle	3 / 4 pole		2599 0010	2599 0010
For device with red handle	3 / 4 pole		2599 0011	2599 0011

* Standard

(1) For 2 AC, use 2 x 2599 0001.

(2) This kit allows a 3/4-pole SIRCO VM1 (front operation switch body) to be transformed into a device mounted directly inside a door or a panel with padlockable external operation.

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References





Accessories

Characteristics

Dimensions

References

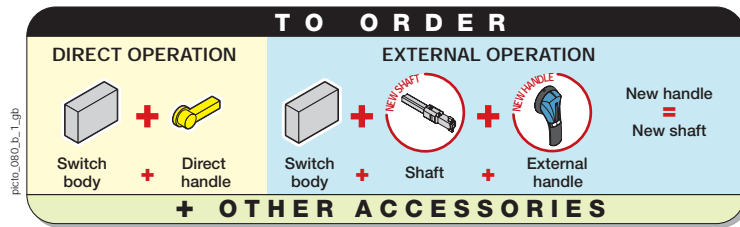


Switches		VM1 100 A	VM1 125 A	VM2 160 A	VM2 200 A	VM2 250 A
Switch body for front operation						
No. of poles		References	References	References	References	References
3 pole		2500 3010	2500 3011	2500 3016	2500 3020	2500 3025
4 pole		2500 4010	2500 4011	2500 4016	2500 4020	2500 4025
6 pole		2501 6010	2501 6011			
8 pole		2501 8010	2501 8011			
Accessories						
Direct operation handle						
Black	3 / 4 pole		2599 5012	2599 5012	2599 5022	2599 5022
Red	3 / 4 pole		2599 5013	2599 5013	2599 5023	2599 5023
Black	6 / 8 pole		4439 5012	4439 5012		
Door interlocked external front operation						
Black	S Type	IP55		1411 2111*	1411 2111*	1411 2111*
Black	S Type	IP65		1413 2111	1413 2111	1413 2111
Red / yellow	S Type	IP65		1414 2111	1414 2111	1414 2111
Shaft extensions for external operation (for dimensions, see "Accessories" pages)						
200 mm	S Type		1402 0820*	1402 0820*	1402 0820*	1402 0820*
320 mm	S Type		1402 0832	1402 0832	1402 0832	1402 0832
Auxiliary contact						
1 AC	NO/NC changeover	A-type	2599 0001 ⁽¹⁾	2599 0001 ⁽¹⁾	2599 0001 ⁽¹⁾	2599 0001 ⁽¹⁾
Door mounting kit⁽²⁾						
	For device with black handle	3 / 4 pole	2599 0010	2599 0010		
	For device with red handle	3 / 4 pole	2599 0011	2599 0011		
Terminal shrouds (1 set)						
3/4 pole		top / bottom		2594 4020	2594 4020	2594 4020
Cage terminals with cover						
3 pole		top / bottom		2593 3020	2593 3020	2593 3020
4 pole		top / bottom		2593 4020	2593 4020	2593 4020

* Standard

(1) For 2 AC, use 2 x 2599 0001.

(2) This kit allows a 3/4-pole SIRCO VM1 (front operation switch body) to be transformed into a device mounted directly inside a door or a panel with padlockable external operation.



Accessories

Direct operation handle



SIRCO VM0 handle.



SIRCO VM1 and VM2 handle.

References

3 and 4 pole

Rating (A)	Handle colour	References
VM0 32 ... VM0 40	Black	2599 4012
VM0 32 ... VM0 40	Red	2599 4013
VM1 63 ... VM1 125	Black	2599 5012
VM1 63 ... VM1 125	Red	2599 5013
VM2 160 ... VM2 250	Black	2599 5022
VM2 160 ... VM2 250	Red	2599 5023

6 and 8 pole

Rating (A)	Handle colour	Reference
VM1 63 ... VM1 125	Black	4439 5012

Door interlocked external front operation



S1 type handle

Use

The door interlocked external operation includes one padlockable handle, an escutcheon and must be combined with a shaft extension.

References

Rating (A)	Handle type	Handle colour	External IP ⁽¹⁾	References
VM0 32 ... VM2 250	S1 ⁽²⁾	Black	IP55	1411 2111*
VM0 32 ... VM2 250	S1 ⁽²⁾	Black	IP65	1413 2111
VM0 32 ... VM2 250	S1 ⁽²⁾	Red / Yellow	IP65	1414 2111

* Standard

(1) IP: protection rating according to IEC 60529 standard.

(2) Defeatable.

S-type handle adapter



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Use

Enables new S type handles to be mounted using old fixing holes for replacement or retrofit applications.

Dimension

Adds 12 mm to the depth.

References

Handle colour	External IP ⁽¹⁾	Pack qty	References
Black	IP65	10	1493 0000

(1) IP: protection rating according to IEC 60529 standard.

Alternative S-type handle cover colours



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Use

For single lever handles type S1, S2 and S3.
Other colours: please consult us.

References

Handle colour	Pack qty	References
Light grey	50	1401 0001
Dark grey	50	1401 0011

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Shaft extensions for external operation



Use

Standard length external operation:

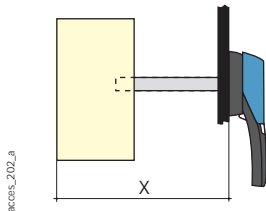
- 200 mm
- 320 mm
- 400 mm

Other lengths: please consult us.

References

Rating (A)	Handle type	Dimension X (mm)	Shaft length (mm)	References
VM0 32 ... VM0 40	S	100 ... 245	200	1401 0520
VM0 32 ... VM0 40	S	100 ... 365	320	1401 0532*
VM1 63 ... VM2 250	S	96 ... 260	200	1402 0820*
VM1 63 ... VM2 250	S	96 ... 380	320	1402 0832
VM1 63 ... VM2 250	S	96 ... 460	400	1402 0840

* Standard



Bottom distribution block

Use

Easy connection of several equipotential conductors, installed downstream of the SIRCO VM.

Dimensions

See page C.80, "Distribution blocks".

References

Rating (A)	No. of poles	No of feeders per section (mm ²)	References
VM2 160 ... VM2 250	3	10x16 + 2x35 + 3xM6	5413 3020
VM2 160 ... VM2 250	4	10x16 + 2x35 + 3xM6	5413 4020



Accessories

Auxiliary contacts



Use

Pre-breaking and signalling of positions 0 and I:

- 1 to 2 NO/NC auxiliary contacts
- 1 to 4 NO or NC contacts.

Characteristics

Changeover type NO/NC AC:
 • low level from 1 mA and 5 V
 • standard up to 5 A and 250 V.

Connection to control circuit:

- by 6.35 mm fast-on terminal for ratings 32 to 40 A (NO/NC AC).
- by screw up to 2 x 1.5 mm² per terminal for ratings 63 to 250 A.

References

NO/NC changeover contact

Rating (A)	No. of AC	Type	References
VM0 32 ... VM0 40	1	A	3999 0001
VM0 32 ... VM0 40	2	A	3999 0002
VM1 63 ... VM2 250	1	A	2599 0001 ⁽¹⁾

(1) For 2 AC, use 2 x 2599 0001.

NO contact for external operation

Rating (A)	No. of AC	Type	Reference
VM0 32 ... VM0 40	1	U	3999 0701

NC contact for external operation

Rating (A)	No. of AC	Type	Reference
VM0 32 ... VM0 40	1	U	3999 0702

Terminal shrouds



Use

Top or bottom protection against direct contact with the lugs or connection parts.

Reference

Rating (A)	No. of poles	Position	Reference
VM2 160 ... VM2 250	3 / 4	top / bottom	2594 4020

Door mounted kit for external front operation

Use

Transformation of a 3/4 pole direct front operation SIRCO VM into a device mounted directly inside a door or a panel with an external padlockable handle.

References

Rating (A)	No. of poles	Handle colour	References
VM1 63 ... VM1 125	3 / 4	black	2599 0010
VM1 63 ... VM1 125	3 / 4	red	2599 0011

Cage terminals with cover



Use

Direct connection of cables without terminal lugs and top or bottom protection against direct contact with the terminals.

Characteristics:

- capacity 10 to 95 mm² for rigid or 70 mm² for flexible
- mounting on top or bottom terminals.

References

Rating (A)	No. of poles	Position	References
VM2 160 ... VM2 250	3	top / bottom	2593 3020
VM2 160 ... VM2 250	4	top / bottom	2593 4020

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Characteristics (according to IEC 60947-3)

	VM0 32 A	VM0 40 A	VM1 63 A	VM1 80 A	VM1 100 A	VM1 125 A	VM2 160 A	VM2 200 A	VM2 250 A
Thermal current I_{th} (40°C)									
Rated insulation voltage U_i (V)	800	800	800	800	800	800	800	800	800
Rated impulse withstand voltage U_{imp} (kV)	8	8	8	8	8	8	8	8	8

Rated operational currents I_e (A)

Rated voltage	Load duty category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
400 VAC	AC-21 A / AC-21 B	32/32	40/40	63/63	80/80	100/100	125/125	160/160	200/200	200/250
	AC-22 A / AC-22 B	32/32	40/40	63/63	80/80	100/100	125/125	160/160	200/200	200/200
	AC-23 A / AC-23 B	32/32	40/40	63/63	63/63	63/63	63/63	160/160	200/200	200/200
500 VAC	AC-21 A / AC-21 B	32/32	40/40	63/63	80/80	100/100	125/125	160/160	200/200	200/200
	AC-22 A / AC-22 B	32/32	40/40	63/63	80/80	100/100	100/100	160/160	200/200	200/200
	AC-23 A / AC-23 B	32/32	40/40	50/50	50/50	50/50	50/50	160/160	200/200	200/200
690 VAC ⁽²⁾	AC-20 A / AC-20 B	32/32	40/40	63/63	80/80	100/100	125/125	160/160	200/200	200/250
	AC-21 A / AC-21 B	32/32	40/40	63/63	80/80	80/80	80/80	160/160	200/200	200/200
	AC-22 A / AC-22 B	32/32	40/40	40/40	40/40	40/40	40/40	160/160	160/160	160/160
	AC-23 A / AC-23 B	32/32	40/40	25/25	25/25	25/25	25/25	63/80	63/80	63/80
220 VDC	DC-20 A / DC-20 B	32/32	40/40	63/63	80/80	100/100	125/125	160/160	200/200	200/250
	DC-21 A / DC-21 B	32/32	32/32	63 ⁽³⁾ /63 ⁽³⁾	80 ⁽³⁾ /80 ⁽³⁾	100 ⁽³⁾ /100 ⁽³⁾	125 ⁽³⁾ /125 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾	200 ⁽³⁾ /200 ⁽³⁾	200 ⁽³⁾ /200 ⁽³⁾
	DC-22 A / DC-22 B	-/-	-/-	63 ⁽³⁾ /63 ⁽³⁾	80 ⁽³⁾ /80 ⁽³⁾	100 ⁽³⁾ /100 ⁽³⁾	100 ⁽³⁾ /100 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾	200 ⁽³⁾ /200 ⁽³⁾	200 ⁽³⁾ /200 ⁽³⁾
	DC-23 A / DC-23 B	-/-	-/-	63 ⁽³⁾ /63 ⁽³⁾	63 ⁽³⁾ /63 ⁽³⁾	63 ⁽³⁾ /63 ⁽³⁾	63 ⁽³⁾ /63 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾
440 VDC	DC-20 A / DC-20 B	32/32	40/40	63 ⁽³⁾ /63 ⁽³⁾	80 ⁽³⁾ /80 ⁽³⁾	100 ⁽³⁾ /100 ⁽³⁾	125 ⁽³⁾ /125 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾	200 ⁽³⁾ /200 ⁽³⁾	200 ⁽³⁾ /250 ⁽³⁾
	DC-21 A / DC-21 B	-/-	-/-	40 ⁽³⁾ /40 ⁽³⁾	40 ⁽³⁾ /40 ⁽³⁾	40 ⁽³⁾ /40 ⁽³⁾	40 ⁽³⁾ /40 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾	160 ⁽³⁾ /160 ⁽³⁾
	DC-22 A / DC-22 B	-/-	-/-	32 ⁽³⁾ /32 ⁽³⁾	32 ⁽³⁾ /32 ⁽³⁾	32 ⁽³⁾ /32 ⁽³⁾	32 ⁽³⁾ /32 ⁽³⁾	100 ⁽³⁾ /100 ⁽³⁾	100 ⁽³⁾ /100 ⁽³⁾	100 ⁽³⁾ /100 ⁽³⁾
	DC-23 A / DC-23 B	-/-	-/-	32 ⁽³⁾ /32 ⁽³⁾	32 ⁽³⁾ /32 ⁽³⁾	32 ⁽³⁾ /32 ⁽³⁾	32 ⁽³⁾ /32 ⁽³⁾	63 ⁽³⁾ /63 ⁽³⁾	63 ⁽³⁾ /63 ⁽³⁾	63 ⁽³⁾ /63 ⁽³⁾

Operational power (kW)⁽¹⁾⁽⁴⁾

At 400 VAC without pre-break AC in AC-23	15/15	18.5/18.5	30/30	30/30	30/30	30/30	30/30	80/80	100/100	100/100
At 500 VAC without pre-break AC in AC-23	18.5/18.5	25/25	33/33	33/33	33/33	33/33	33/33	110/110	140/140	
At 690 VAC without pre-break AC in AC-23	25/25	33/33	22/22	22/22	22/22	22/22	22/22	55/75	55/75	55/75
At 400 VAC with pre-break AC	15/15	18.5/18.5	30/30	40/40	51/51	63/63	80/80	100/100	100/100	
At 500 VAC with pre-break AC	18.5/18.5	25/25	40/40	55/55	63/63	63/63	63/63	110/110	140/140	
At 690 VAC with pre-break AC	25/25	33/33	33/33	33/33	33/33	33/33	33/33	150/150	150/150	150/150

Reactive power (kvar)⁽⁴⁾

At 400 VAC	15	18	28	37	45	55	75	90	90
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Fuse protected short-circuit withstand (kA rms prospective)⁽⁵⁾

Prospective short-circuit current (kA rms)	100	25	100	100	100	50	50	50	50
Associated fuse rating (A)	32	40	63	80	100	125	160	160	160

Overload capacity

Rated short-time withstand current 1 s. I_{ow} (kA rms)	1.3	1.3	2.5	2.5	2.5	2.5	4	4	4
Short-circuit making capacity (kA peak) ⁽⁵⁾	5.5	5.5	12	12	12	12	16	16	16

Connection

Minimum Cu cable section (mm ²)	2.5	2.5	4	4	4	4	10	10	10
Maximum rigid Cu cable section (mm ²)	16	16	50	50	50	50	95	95	95
Min. tightening torque (Nm)	2	2	6	6	6	6	9	9	9
Maximum Cu busbar width (mm)							20	20	20

Mechanical characteristics

Endurance (number of operating cycles)	20 000	20 000	20 000	20 000	20 000	20 000	10 000	10 000	10 000
Weight of 3 p switch (kg)	0.4	0.4	0.6/0.8	0.6/0.8	0.7/0.9	0.7/0.9	0.9/1.1	0.9/1.1	0.9
Weight of 4 p switch (kg)	0.4	0.4	0.7/0.9	0.7/0.9	0.8/1	0.8/1	1/1.2	1/1.2	1

(1) A/B: Category with index A = frequent operation - Category with index B = infrequent operation.

(2) With terminal shrouds or phase barrier.

(3) 4-pole device with 2 pole in series by polarity.

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

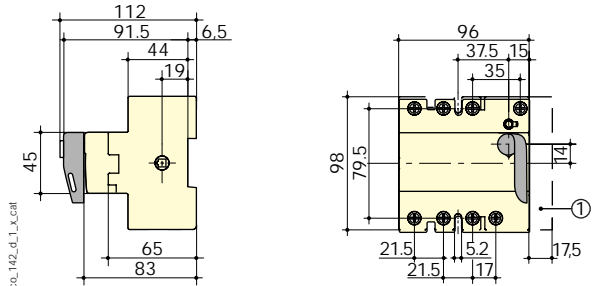
(5) For a rated operating voltage $U_e = 400$ VAC.



Dimensions

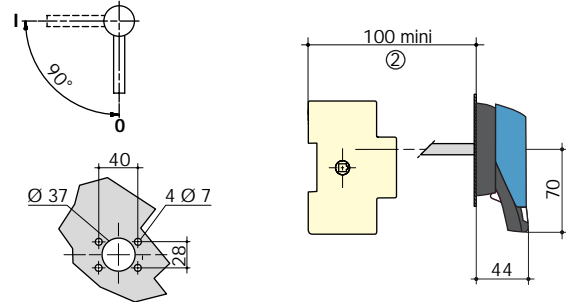
• SIRCO VM0 32 to 40 A

Direct front operation



1. Auxiliary contact.

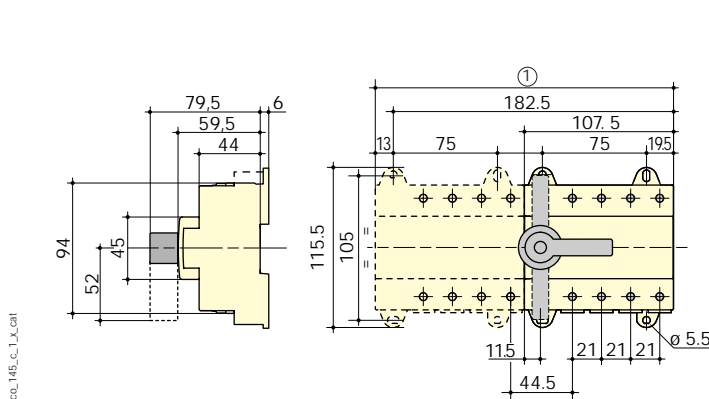
External front operation



2. With 1 U type AC: 130 mm.
With 2 U type AC: 155 mm.

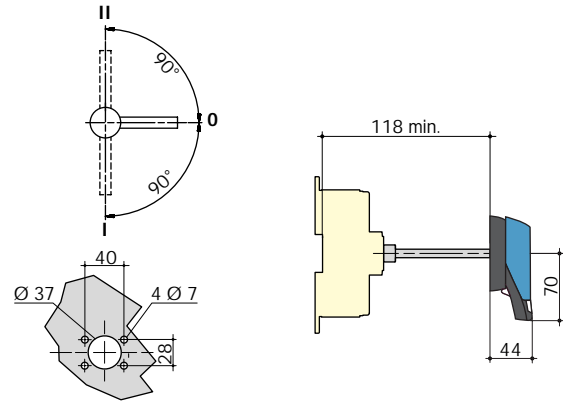
• SIRCO VM1 63 to 125 A

Direct front operation



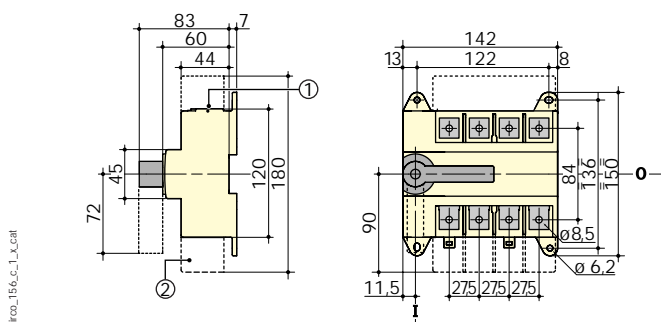
1. 12 modules: 17.5 mm.

External front operation



• SIRCO VM2 160 to 250 A

Direct front operation



1. Additional cage terminals with terminal shrouds top or bottom (accessories).

2. Additional terminal shrouds (accessories).

External front operation

