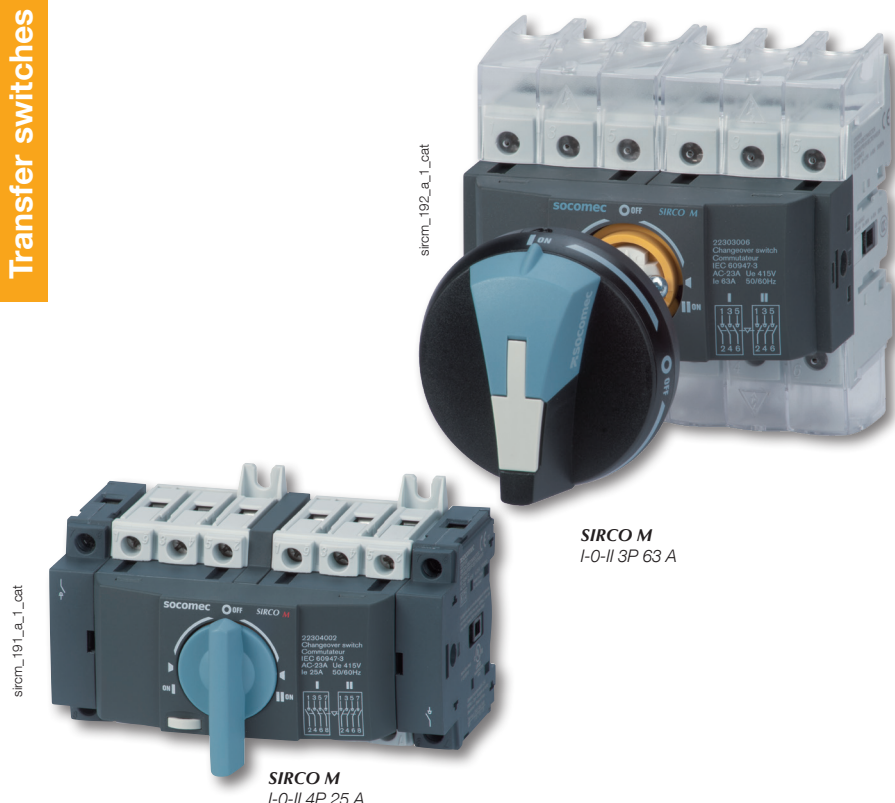


# SIRCO M

## Manually operated Transfer Switching Equipment

25 to 125 A



### The solution for

- > Healthcare buildings
- > Manufacturing



### Strong points

- > Secure breaking
- > Modular product
- > On-load switching

### Conformity to standards

- > IEC 60947-3



### Function

**SIRCO M** transfer switches are modular, 3 or 4 pole, manually operated transfer switches with positive break indication.

They make and break under load conditions and provide safety isolation for any low voltage circuits. They are also suitable for other applications such as source inversion (e.g. to change the direction of a motor) or grounding.

### Advantages

#### Secure breaking

SIRCO M feature contact point technology and double breaking per phase, which allows for optimal and safe operation of LV electrical circuits.

#### Modular product

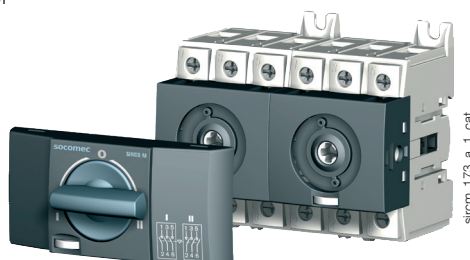
Due to its modular format, SIRCO M can be mounted on a DIN rail, back-plate or modular panel.

#### On-load switching

The SIRCO M transfer switch is made up of two mechanically interlocked switches and tested according to criteria specified in IEC 60947-3. Thanks to its AC-23 characteristic, it can switch under load.

### What you need to know

- The SIRCO M changeover has 2 methods of operation:
  - **direct front** operation
  - **external front** operation
- The SIRCO M changeover is available in **3 or 4 poles** from **25 to 125 A**. It can be combined with type M pre-break and signalling auxiliary contacts.



## References

| Rating (A) /<br>Frame size | No. of poles | Switch body      | Direct handle                                       | External handle<br>with 1-pos.<br>padlocking                            | External handle<br>with 3-pos.<br>padlocking | Shaft for<br>external front<br>operation<br>handle                                                 | Auxiliary<br>contact                                                                            | Terminal<br>shroud                                                             | Bridging kit                                                                   |                                                    |                            |                                        |                                                                                |
|----------------------------|--------------|------------------|-----------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------|----------------------------|----------------------------------------|--------------------------------------------------------------------------------|
| 25 A/M1                    | 3 P          | 2230 <b>3002</b> | Blue<br>2239 <b>5012</b><br>Red<br>2239 <b>5013</b> | S000 type I -<br>O - II<br>Black IP65<br>1463 <b>5113<sup>(1)</sup></b> |                                              | S000 / S00 type<br>150 mm<br>1407 <b>0515</b>                                                      | Type M<br>1 contact<br>NO + NC<br>2299 <b>0001</b><br><br>1 contact<br>2 NC<br>2299 <b>0011</b> | 1 P<br>2294 <b>1005<sup>(2)</sup></b><br>3 P<br>2294 <b>3005<sup>(2)</sup></b> | 3 P<br>2299 <b>3005</b><br>4 P<br>2299 <b>4005</b>                             |                                                    |                            |                                        |                                                                                |
|                            | 4 P          | 2230 <b>4002</b> |                                                     |                                                                         |                                              |                                                                                                    |                                                                                                 |                                                                                |                                                                                | 200 mm<br>1407 <b>0520</b>                         |                            |                                        |                                                                                |
| 40 A/M1                    | 3 P          | 2230 <b>3004</b> |                                                     |                                                                         |                                              | S01 type<br>I - O - II<br>Black IP65<br>1403 <b>2813</b>                                           |                                                                                                 |                                                                                |                                                                                |                                                    | 320 mm<br>1407 <b>0532</b> | S01 type<br>200 mm<br>1404 <b>0520</b> | 1 P<br>2294 <b>1009<sup>(2)</sup></b><br>3 P<br>2294 <b>3009<sup>(2)</sup></b> |
|                            | 4 P          | 2230 <b>4004</b> |                                                     |                                                                         |                                              |                                                                                                    |                                                                                                 |                                                                                |                                                                                |                                                    |                            |                                        |                                                                                |
| 63 A/M2                    | 3 P          | 2230 <b>3006</b> |                                                     | S01 type<br>I - O - II<br>Black IP65<br>1403 <b>2113<sup>(1)</sup></b>  |                                              | 320 mm<br>1404 <b>0532</b>                                                                         |                                                                                                 | 1 contact<br>2 NC<br>2299 <b>0011</b>                                          | 1 P<br>2294 <b>1009<sup>(2)</sup></b><br>3 P<br>2294 <b>3009<sup>(2)</sup></b> | 3 P<br>2299 <b>3009</b><br>4 P<br>2299 <b>4009</b> |                            |                                        |                                                                                |
|                            | 4 P          | 2230 <b>4006</b> |                                                     |                                                                         |                                              |                                                                                                    |                                                                                                 |                                                                                |                                                                                |                                                    |                            |                                        |                                                                                |
| 80 A/M2                    | 3 P          | 2230 <b>3008</b> |                                                     | S01 type<br>I - O - II<br>Black IP65<br>1403 <b>2113<sup>(1)</sup></b>  |                                              | 320 mm<br>1404 <b>0532</b>                                                                         |                                                                                                 | 1 contact<br>2 NC<br>2299 <b>0011</b>                                          | 1 P<br>2294 <b>1009<sup>(2)</sup></b><br>3 P<br>2294 <b>3009<sup>(2)</sup></b> | 3 P<br>2299 <b>3009</b><br>4 P<br>2299 <b>4009</b> |                            |                                        |                                                                                |
|                            | 4 P          | 2230 <b>4008</b> |                                                     |                                                                         |                                              |                                                                                                    |                                                                                                 |                                                                                |                                                                                |                                                    |                            |                                        |                                                                                |
| 100 A/M3                   | 3 P          | 2230 <b>3010</b> | Blue<br>2239 <b>5022</b><br>Red<br>2239 <b>5023</b> | S00 type<br>I - O - II<br>Black IP65<br>1473 <b>0113</b>                |                                              | S00 type<br>150 mm<br>1409 <b>0615</b><br>200 mm<br>1409 <b>0620</b><br>320 mm<br>1409 <b>0632</b> |                                                                                                 | 1 P<br>2294 <b>1011<sup>(2)</sup></b><br>3 P<br>2294 <b>3016<sup>(2)</sup></b> |                                                                                |                                                    |                            |                                        |                                                                                |
|                            | 4 P          | 2230 <b>4010</b> |                                                     |                                                                         |                                              |                                                                                                    |                                                                                                 |                                                                                |                                                                                |                                                    |                            |                                        |                                                                                |
| 125 A/M3                   | 3 P          | 2230 <b>3011</b> |                                                     |                                                                         |                                              |                                                                                                    |                                                                                                 |                                                                                |                                                                                |                                                    |                            |                                        |                                                                                |
|                            | 4 P          | 2230 <b>4011</b> |                                                     |                                                                         |                                              |                                                                                                    |                                                                                                 |                                                                                |                                                                                |                                                    |                            |                                        |                                                                                |

(1) Defeatable handle. (2) 3 poles: for top and bottom protection, order 2x 3 P terminal shrouds. For a 4-pole device: order 2 x 3 P terminal shrouds + 2 x 1 P terminal shrouds.

## Accessories

See "SIRCO M load break switches".

## Characteristics according to IEC 60947-3

| Thermal current $I_{th}$ (40 °C)               | 25 A | 40 A | 63 A | 80 A | 100 A | 125 A |
|------------------------------------------------|------|------|------|------|-------|-------|
| Frame size                                     | M1   | M1   | M2   | M2   | M3    | M3    |
| Rated insulation voltage $U_i$ (V)             | 800  | 800  | 800  | 800  | 800   | 800   |
| Rated impulse withstand voltage $U_{imp}$ (kV) | 8    | 8    | 8    | 8    | 8     | 8     |

### Rated operational currents $I_e$ (A)

| Rated voltage | Utilisation category | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> |
|---------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 415 VAC       | AC-20 A / AC-20 B    | 25/25              | 40/40              | 63/63              | 80/80              | 100/100            | 125/125            |
| 415 VAC       | AC-21 A / AC-21 B    | 25/25              | 40/40              | 63/63              | 80/80              | 100/100            | 125/125            |
| 415 VAC       | AC-22 A / AC-22 B    | 25/25              | 40/40              | 63/63              | 80/80              | 100/100            | 125/125            |
| 415 VAC       | AC-23 A / AC-23 B    | 25/25              | 40/40              | 63/63              | 80/80              | 100/100            | 125/125            |

### Operational power in AC-23 (kW)

|                                                                        |      |    |      |      |    |      |
|------------------------------------------------------------------------|------|----|------|------|----|------|
| At 400 VAC without pre-break aux. contact in AC-23 (kW) <sup>(2)</sup> | 11.3 | 18 | 28.4 | 35.5 | 45 | 56.3 |
|------------------------------------------------------------------------|------|----|------|------|----|------|

### Rated conditional short-circuit current with gG DIN fuse

|                                                            |    |    |    |    |     |     |
|------------------------------------------------------------|----|----|----|----|-----|-----|
| Prospective short-circuit current (kA rms.) <sup>(3)</sup> | 50 | 50 | 50 | 50 | 50  | 25  |
| Associated fuse rating (A) <sup>(3)</sup>                  | 25 | 40 | 63 | 80 | 100 | 125 |

### Rated conditional short-circuit current with any brand of circuit breaker that ensures tripping in less than 0.3s <sup>(4)</sup>

|                                                           |     |     |      |      |   |   |
|-----------------------------------------------------------|-----|-----|------|------|---|---|
| Rated short-term withstand current 0.3s $I_{sc}$ (kA rms) | 2.3 | 2.3 | 2.74 | 2.74 | 5 | 5 |
|-----------------------------------------------------------|-----|-----|------|------|---|---|

### Short-circuit operation (switch only)

|                                                          |      |      |     |     |      |      |
|----------------------------------------------------------|------|------|-----|-----|------|------|
| Rated short-time withstand current $I_{sw}$ 1s (kA rms)  | 1.26 | 1.26 | 1.5 | 1.5 | 2.75 | 2.75 |
| Rated short-circuit breaking capacity $I_{cm}$ (peak kA) | 1.8  | 1.8  | 2.1 | 2.1 | 3.9  | 3.9  |

### Connection

|                                                   |         |         |            |            |         |         |
|---------------------------------------------------|---------|---------|------------|------------|---------|---------|
| Min. connection cross-section (mm <sup>2</sup> )  | 1.5     | 1.5     | 2.5        | 2.5        | 10      | 10      |
| Maximum Cu cable cross-section (mm <sup>2</sup> ) | 16      | 16      | 35         | 35         | 70      | 70      |
| Min./max. tightening torque (Nm)                  | 2 / 2.2 | 2 / 2.2 | 3.5 / 3.85 | 3.5 / 3.85 | 4 / 4.4 | 4 / 4.4 |

### Mechanical characteristics

|                                         |       |       |       |       |       |      |
|-----------------------------------------|-------|-------|-------|-------|-------|------|
| Durability (number of operating cycles) | 10000 | 10000 | 10000 | 10000 | 10000 | 8000 |
| Weight of a 3-pole device (kg)          | 0.41  | 0.41  | 0.58  | 0.58  | 1.1   | 1.1  |
| Weight of a 4-pole device (kg)          | 0.51  | 0.51  | 0.75  | 0.75  | 1.46  | 1.46 |

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

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

(3) For a rated operational voltage  $U_e = 400$  VAC.

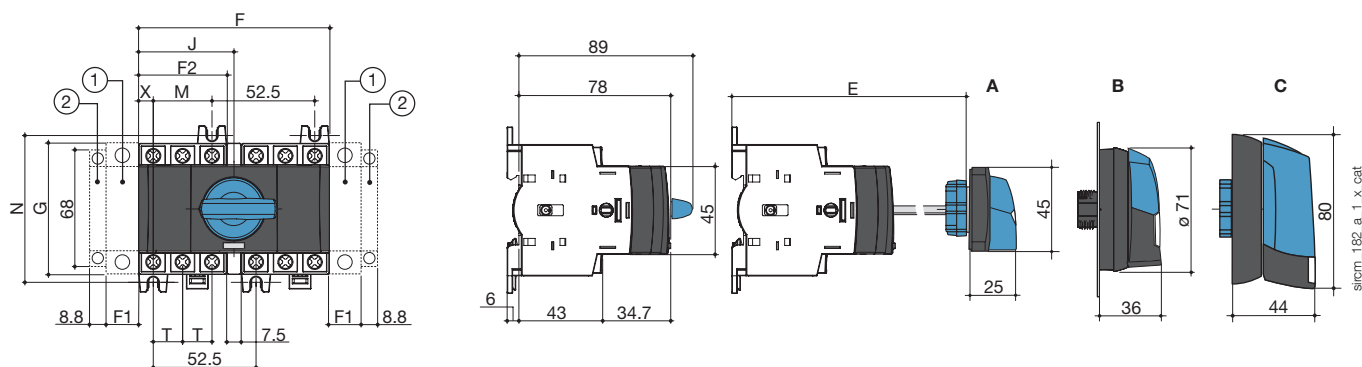
(4) Value for coordination with any circuit breaker that ensures tripping in less than 0.3s. For coordination with specific circuit-breaker parts, higher short-circuit current values are available. Please contact us.

## Dimensions

### 25 to 80 A / M1 to M2

Direct front operation for 3/4 pole transfer switch

External front operation for 3/4 pole transfer switch



1. Location for: 1 main pole or 1 auxiliary contact (see Accessories pages).

2. Location for 1 auxiliary contact only.

Note: the maximum number of additional modules is 4.

A. S000 handle.

B. S00 handle.

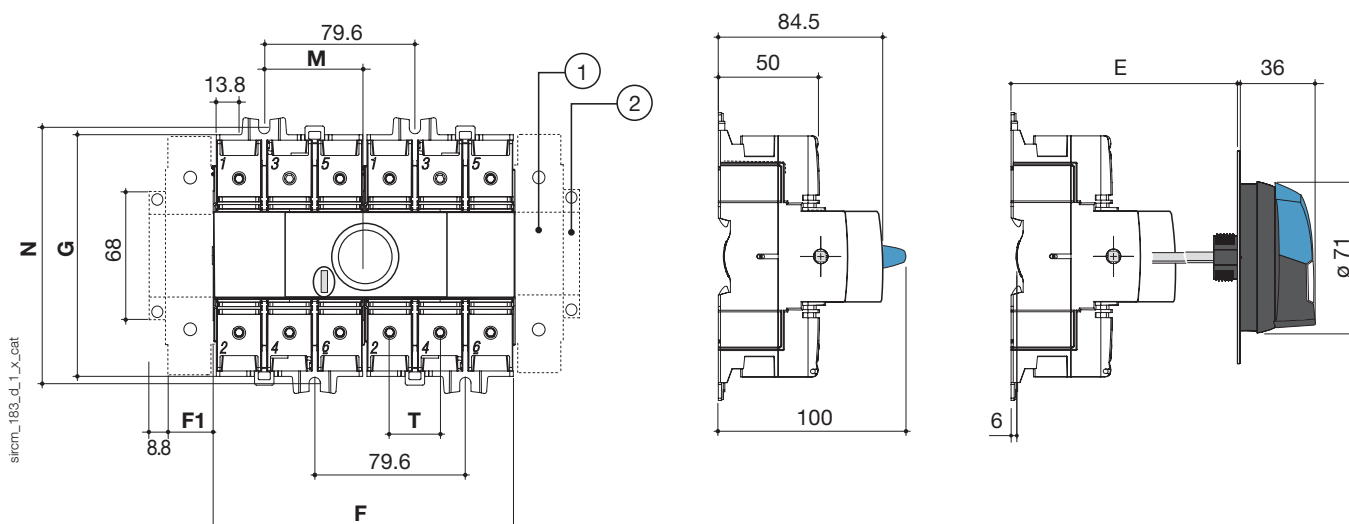
C. S01 handle.

| Rating (A) | Frame size | Overall dimensions |       | Case |      |      |    |       | Mounting accessory |    | Connection |      |
|------------|------------|--------------------|-------|------|------|------|----|-------|--------------------|----|------------|------|
|            |            | E min              | E max | F    | F1   | F2   | G  | J     | M                  | N  | T          | X    |
| 25 ... 40  | M1         | 105                | 372   | 97.5 | 15   | 45   | 68 | 48.75 | 30                 | 75 | 15         | 7.5  |
| 63 ... 80  | M2         | 105                | 372   | 105  | 17.5 | 52.5 | 76 | 52.5  | 35                 | 85 | 17.5       | 8.75 |

### 100 to 125 A / M3

Direct front operation for 3/4 pole transfer switch

External front operation for 3/4 pole transfer switch



1. Location for: 1 main pole or 1 auxiliary contact (see Accessories pages).

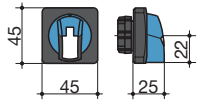
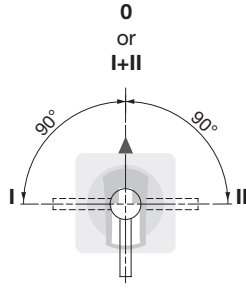
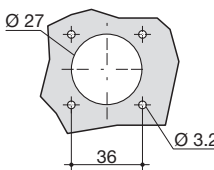
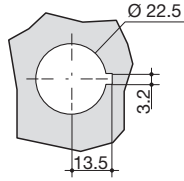
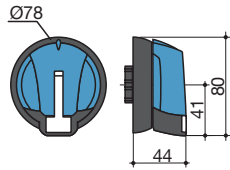
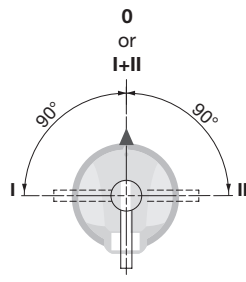
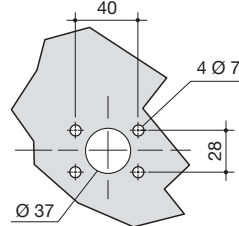
2. Location for 1 auxiliary contact only.

Note: the maximum number of additional modules is 4.

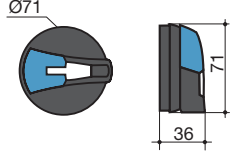
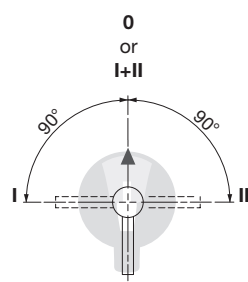
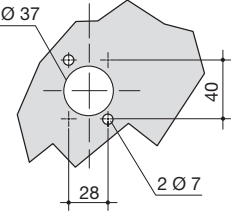
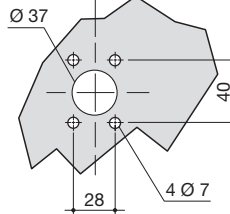
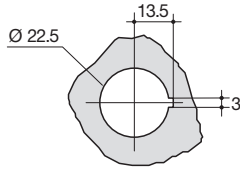
| Rating (A)  | Frame size | Overall dimensions |       | Case |    |       | Mounting accessory |       | Connection |
|-------------|------------|--------------------|-------|------|----|-------|--------------------|-------|------------|
|             |            | E min              | E max | F    | F1 | G     | M                  | N     | T          |
| 100 ... 125 | M3         | 105                | 372   | 159  | 26 | 124.5 | 52.8               | 131.5 | 26         |

## Dimensions for external handles

25 to 80 A / M1 to M2

| Handle type                                                                                                                                                 | Front operation<br>Direction of operation                                          | Door drilling                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>S000 type</b><br>Transfer switches<br>I-0-II and I - I+II - II<br><br>  |   | <div>With 4 fixing screws</div>  <div>With fixing nut</div>  |
| <b>S01 type</b><br>Transfer switches<br>I-0-II and I - I+II - II<br><br> |  | <div>IP65 with 4 fixing screws</div>                                                                                                          |

25 to 125 A / M1 to M3

| Handle type                                                                                                                                                 | Front operation<br>Direction of operation                                           | Door drilling                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>S00 type</b><br>Transfer switches<br>I-0-II and I - I+II - II<br><br> |  | <div>IP55 with 2 fixing clips</div>  <div>IP65 with 4 fixing screws</div>  <div>With fixing nut</div>  |