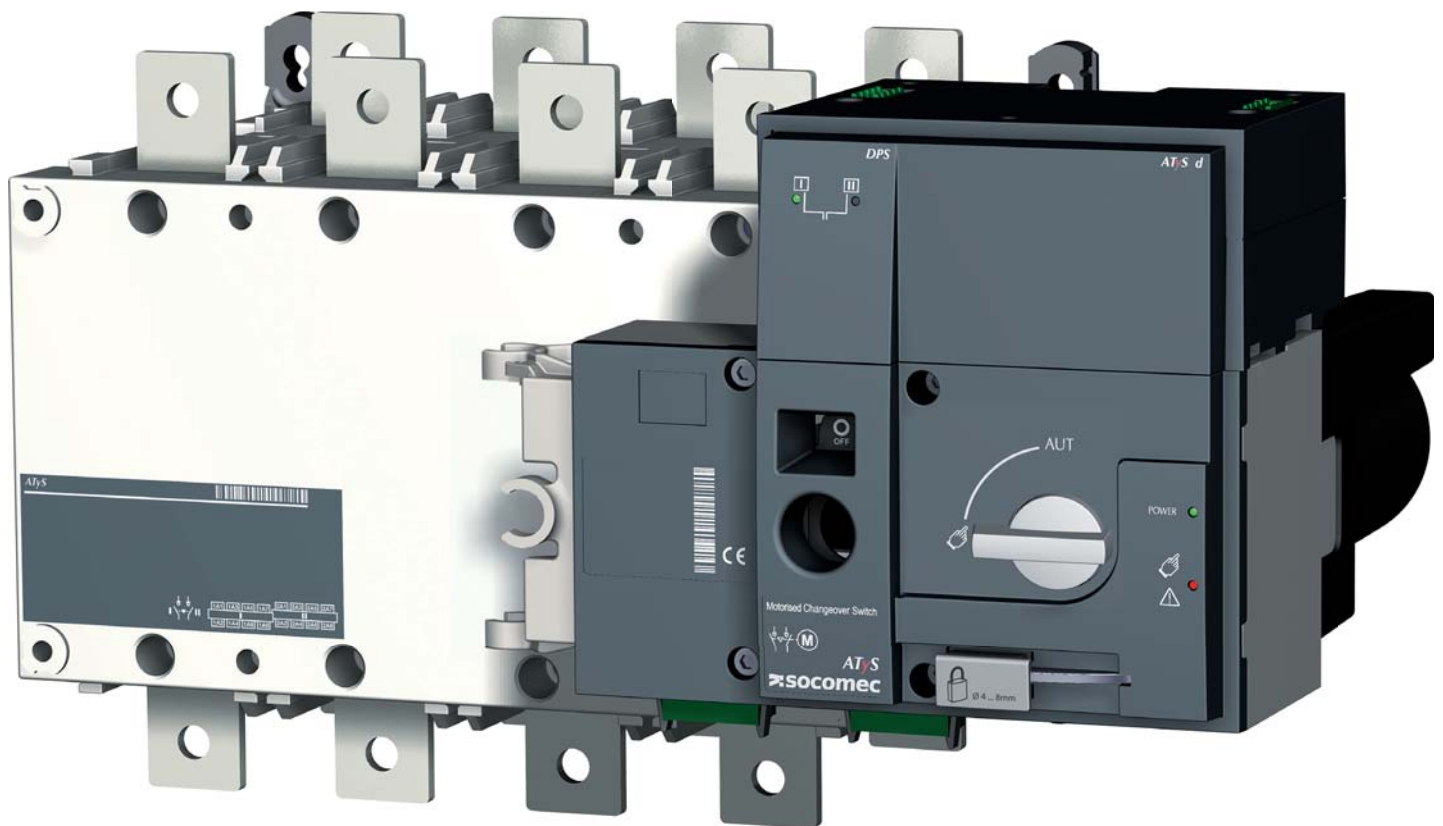


INSTRUCTION  
MANUAL

**ATyS *d***

Remote Transfer Switching Equipment

EN



[www.socomec.com](http://www.socomec.com)

To download, brochures, catalogues and technical manuals:



This manual is available for download in French, English, German, Italian, Spanish, Dutch, Portuguese, Russian, Polish, Turkish and Chinese.

# INDEX

|                                                               |           |
|---------------------------------------------------------------|-----------|
| <b>1. GENERAL SAFETY INSTRUCTIONS</b>                         | <b>6</b>  |
| <b>2. INTRODUCTION</b>                                        | <b>7</b>  |
| <b>3. THE ATYS FAMILY PRODUCT RANGE</b>                       | <b>8</b>  |
| 3.1. THE ATYS RANGE KEY FEATURES                              | 8         |
| <b>4. QUICK START</b>                                         | <b>10</b> |
| 4.1. QUICK START ATYS D FRAME B3 TO B5 (125A TO 630A)         | 10        |
| 4.1. QUICK START ATYS D FRAME B6 TO B8 (800A TO 3200A)        | 12        |
| <b>5. GENERAL OVERVIEW</b>                                    | <b>14</b> |
| 5.1. PRODUCT INTRODUCTION                                     | 14        |
| 5.2. PRODUCT IDENTIFICATION                                   | 15        |
| 5.3. ENVIRONMENTAL                                            | 16        |
| 5.3.1. IP RATING                                              | 16        |
| 5.3.2. OPERATING CONDITIONS                                   | 16        |
| 5.3.3. STORAGE CONDITIONS                                     | 16        |
| 5.3.4. VOLUME AND SHIPPING WEIGHTS BY REFERENCE ATYS D        | 17        |
| 5.3.5. CE MARKING                                             | 18        |
| 5.3.6. LEAD FREE PROCESS                                      | 18        |
| 5.3.7. WEEE                                                   | 18        |
| 5.3.8. EMC STANDARD                                           | 18        |
| 5.4. ATYS D ACCESSORIES AVAILABLE                             | 19        |
| 5.4.1. INSTALLATION                                           | 20        |
| 5.5. PRODUCT DIMENSIONS                                       | 20        |
| 5.5.1. DIMENSIONS: FRAME B3 TO B5 (125A TO 630A)              | 20        |
| 5.5.2. DIMENSIONS: FRAME B6 & B7 (800A TO 1600A)              | 21        |
| 5.5.3. DIMENSIONS: FRAME B8 (2000A TO 3200A)                  | 22        |
| 5.6. MOUNTING ORIENTATION                                     | 23        |
| 5.7. ASSEMBLY OF CUSTOMER MOUNTED ACCESSORIES                 | 23        |
| 5.7.1. BRIDGING BAR INSTALLATION                              | 23        |
| 5.7.2. COPPER BAR CONNECTION KITS (2000A TO 3200A : FRAME B8) | 24        |
| 5.7.3. INCOMING COPPER BAR CONNECTION KIT ASSEMBLY            | 25        |
| 5.7.4. OUTGOING BRIDGE CONNECTION ASSEMBLY                    | 25        |
| 5.7.5. TERMINAL SHROUDS                                       | 26        |
| 5.7.6. TERMINAL SCREENS                                       | 26        |
| 5.7.7. EXTERNAL POWER SUPPLY (400VAC - 230VAC)                | 27        |
| 5.7.8. RAISED MOUNTING SPACERS                                | 27        |
| 5.7.9. PADLOCKING KEY INTERLOCKS                              | 28        |
| 5.7.10. ADDITIONAL AUXILIARY CONTACTS                         | 28        |

|                                                                 |           |
|-----------------------------------------------------------------|-----------|
| <b>6. CONNECTIONS</b>                                           | <b>29</b> |
| 6.1. POWER CIRCUITS                                             | 29        |
| 6.1.1. CABLE OR BAR CONNECTIONS                                 | 29        |
| 6.1.2. POWER CONNECTION TERMINALS                               | 29        |
| 6.1.3. POWER CONNECTION CROSS-SECTION                           | 29        |
| 6.2. CONTROL CIRCUITS                                           | 30        |
| 6.2.1. TYPICAL ATYS D WIRING                                    | 30        |
| 6.2.2. ATYS D INPUT AND OUTPUT CONTACTS                         | 31        |
| 6.2.3. ATYS D RTSE + ATS CONTROLLERS TYPE ATYS C30 AND ATYS C40 | 32        |
| <b>7. ATYS D OPERATING MODES</b>                                | <b>33</b> |
| 7.1. MANUAL OPERATION                                           | 34        |
| 7.1.1. EMERGENCY MANUAL OPERATION                               | 34        |
| 7.1.2. PADLOCKING                                               | 34        |
| 7.2. ELECTRICAL OPERATION                                       | 35        |
| 7.2.1. POWER SUPPLY                                             | 35        |
| 7.2.2. FIXED INPUTS                                             | 35        |
| 7.2.3. FIXED OUTPUTS - DRY CONTACTS                             | 37        |
| <b>8. CHARACTERISTICS</b>                                       | <b>39</b> |
| <b>9. PREVENTIVE MAINTENANCE</b>                                | <b>42</b> |
| <b>10. TROUBLE SHOOTING GUIDE</b>                               | <b>42</b> |
| <b>11. ACCESSORIES</b>                                          | <b>43</b> |
| 11.1. TERMINAL SHROUDS                                          | 43        |
| 11.2. TERMINAL SCREENS                                          | 43        |
| 11.3. BRIDGING BARS                                             | 43        |
| 11.4. COPPER BAR CONNECTION KITS                                | 44        |
| 11.5. SOLID NEUTRAL                                             | 44        |
| 11.6. AUTOTRANSFORMER 400/230 VAC                               | 44        |
| 11.7. DC POWER SUPPLY                                           | 45        |
| 11.8. VOLTAGE RELAY                                             | 45        |
| 11.9. DOOR PROTECTIVE SURROUND                                  | 45        |
| 11.10. AUXILIARY CONTACTS (ADDITIONAL)                          | 45        |
| 11.11. MOUNTING SPACERS                                         | 45        |
| 11.12. 3 POSITION PADLOCKING (I - 0 - II)                       | 46        |
| 11.13. RONIS KEY INTERLOCKING SYSTEM                            | 46        |
| 11.14. REMOTE INTERFACE                                         | 46        |
| 11.15. CONNECTION CABLE FOR REMOTE INTERFACE                    | 46        |
| 11.16. AUTO/MANUAL KEY SELECTOR                                 | 46        |
| <b>12. SPARE PARTS</b>                                          | <b>47</b> |

12.1. ELECTRONIC MODULE .....47

12.2. MOTORISATION MODULE.....47

12.3. POWER SECTION .....47

13. ATYS FAMILY: ORDERING INFORMATION .....48

# 1. GENERAL SAFETY INSTRUCTIONS

- This manual provides instructions on safety, connections and operation of the ATyS d motorised changeover switch manufactured by SOCOMEC.
- Whether the ATyS d is sold as a loose product, as a spare, as an enclosed solution or as any other configuration, this device must always be installed and commissioned by qualified and experienced personnel, in line with the manufacturers recommendations, following good engineering practices and after having read and understood the details in the latest release of the relative product instruction manual.
- Maintenance on the product and any other associated equipment including but not limited to servicing operations must be performed by adequately trained and qualified personnel.
- Each product is shipped with a label or other form of marking including rating and other important specific product information. One must also refer to and respect markings on the product prior to installation and commissioning for values and limits specific to that product.
- Using the product outside the intended scope, outside SOCOMEC recommendations or outside the specified ratings and limits can cause personal injury and/or damage to equipment.
- This instruction manual must be made accessible so as to be easily available to anyone who may need to read it in relation with the ATyS d.
- The ATyS d meets the European Directives governing this type of product and includes CE marking on each product.
- No covers on the ATyS d should be opened (with or without voltage) as there may still be dangerous voltages inside the product such as those from external circuits.
- **Do not handle any control or power cables connected to the ATyS d when voltage may be present on the product directly through the mains or indirectly through external circuits.**
- Voltages associated with this product may cause injury, electric shock, burns or death. Prior to carry out any maintenance or other work on live parts or other parts in the vicinity of exposed live parts, ensure that the switch including all control and associated circuits are de-energized.

|                                                                                                   |                                                                                                    |                                                                                                      |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|  <b>DANGER</b> |  <b>WARNING</b> |  <b>CAUTION</b> |
| <b>RISK:</b><br>Electric shock, burns, death                                                      | <b>RISK:</b><br>Possible personal injury                                                           | <b>RISK:</b><br>Equipment damage                                                                     |

- As a minimum the ATyS d comply with the following international standards:
  - IEC 60947-6-1
  - GB 14048-11
  - EN 60947-6-1
  - VDE 0660-107
  - BS EN 60947-6-1
  - NBN EN 60947-6-1
  - IEC 60947-3
  - IS 13947-3
  - EN 60947-3
  - NBN EN 60947-3
  - BS EN 60947-3

The information provided in this instruction manual is subject to change without notice, remains for general information only and is non-contractual.

## 2. INTRODUCTION

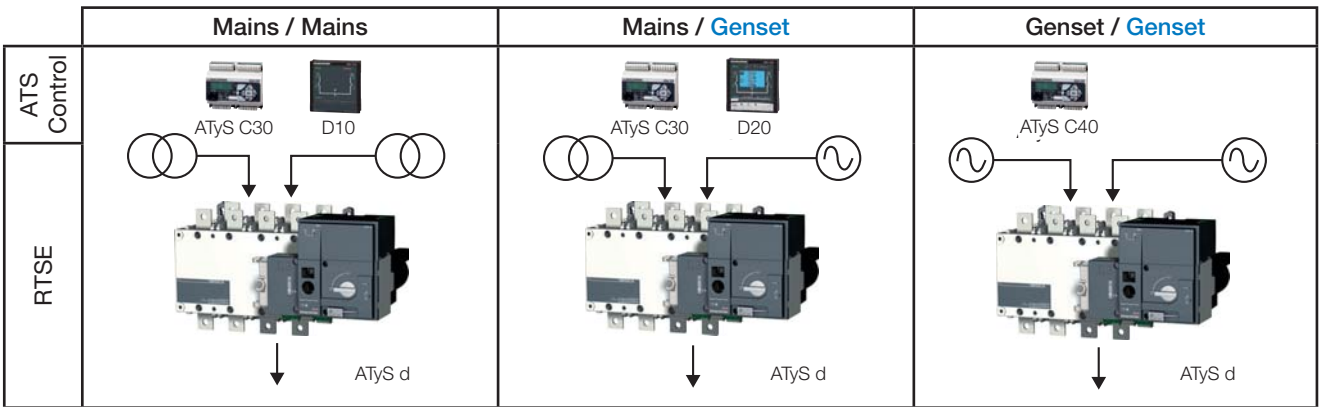
ATyS d “remotely operated transfer switching equipment” (RTSE) is designed for use in power systems for the safe transfer of a load supply between a normal and an alternate source. The changeover is done in open transition and with minimum supply interruption during transfer ensuring full compliance with IEC 60947-6-1, GB 14048-11 and other international TSE standards as listed.

The ATyS d is a full load break (switch type) derived transfer switching equipment where the main components are proven technology devices also fulfilling requirements in IEC 60947-3 standards.

As a Class PC RTSE, the ATyS d is capable of “making and withstanding short circuit currents” assigned to IEC 60947-3 utilization categories of up to AC23A, GB 14048-11, IEC 60947-6-1 and equivalent standards with utilization categories of to AC33B.

### ATyS d motorised source changeover switches ensure:

- Power Control and Safety between a normal and an alternate source.
- A complete product delivered as a fully assembled and tested solution.
- Intuitive HMI for emergency / local operation.
- Integrated and robust switch disconnection.
- Window with clearly visible position indication I – 0 – II .
- An inherent failsafe mechanical interlock.
- Stable positions (I – 0 – II) non affected by typical vibration and shocks.
- Constant pressure on the contacts non effected by network voltage.
- Energy Efficient with virtually no consumption whilst on the normal, alternate or off positions.
- Quick, easy and safe dual “on-load” emergency manual operation.  
(Manual operation is functional with and without the motorization in place).
- Extremely rugged, error free and built in padlocking facility.
- Straight forward installation with effective ergonomics.
- Minimal downtime with the possibility to perform easy maintenance.
- Simple and secure motorization controls interface.
- Integrated switch position auxiliary contacts.
- An active “product availability” status feedback.
- Ample accessories to suit specific requirements.
- Compatibility with virtually any make of ATS, AMF, Genset controller.  
(Typically an ATyS C30 / C40 ATS Controller and driven through volt free contacts)
- Power supply continuity for most applications.



### 3. THE ATyS FAMILY PRODUCT RANGE

The ATyS d has been engineered by the SOCOMEC centre of excellence in France who boasts it's very own in-house 100MVA instantaneous power test lab accredited by COFRAC and working in partnership with: KEMA, CEBEC, UL, CSA, ASTA, Lloyd's Register of Shipping, Bureau Veritas, BBJ-SEP, EZU, GOST-R... and others.

SOCOMEC has been manufacturing power control and safety products since 1922. The first generation SOCOMEC "motorised changeover switches" were introduced in 1990 and today the ATyS brand has become trusted by major players in the power industry worldwide.

The ATyS Family includes a complete range of remotely operated transfer switch equipment (RTSE) as well as automatic fully integrated products and solutions (ATSE). Selecting the right ATyS will depend on the application as well as the nature of installation in which the ATyS will be installed.

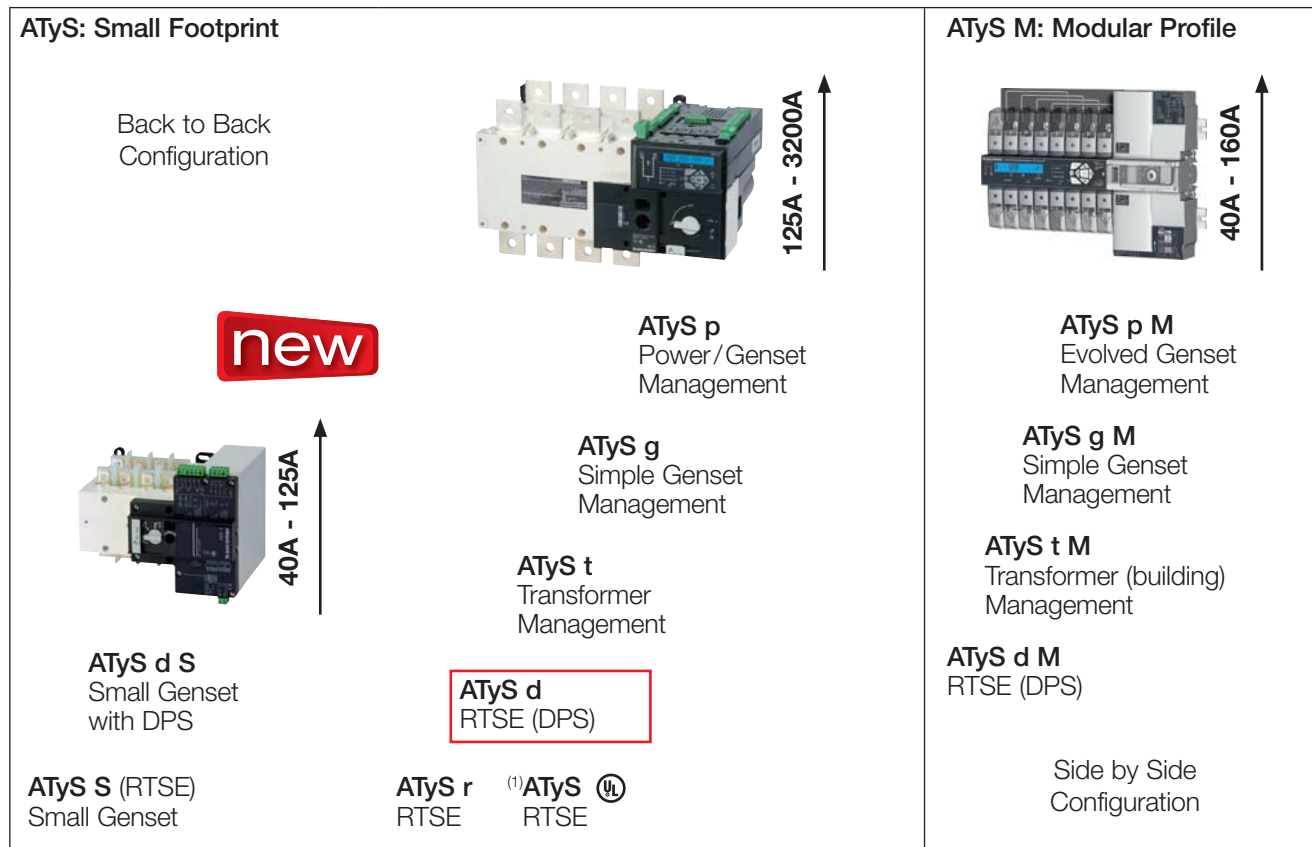
This instruction manual includes details and instructions specific to the "ATyS d" RTSE only. For all other ATyS family of products please refer to the specific instruction manual related to that product.

(Available for download on [www.socomec.com](http://www.socomec.com))

**An overview of the complete ATyS range is presented below:**

*(The encircled device is the product detailed in this instruction manual).*

**Just the right ATyS for your application...**



<sup>(1)</sup> The UL version of ATyS r is available from 100 - 400A

#### 3.1. The ATyS Range Key Features

Selecting the right ATyS will depend on the application, the functionality required as well as the nature of the installation in which the ATyS will be installed. Below is an outline product selection chart listing the key features of each product to help to select the right ATyS for your needs.

| IEC 60947-6-1                                                         | ATyS <i>S</i> | ATyS <i>Sd</i> | ATyS <i>r</i>                                                                           | ATyS <i>d</i> | ATyS <i>t</i> | ATyS <i>g</i> | ATyS <i>p</i> |
|-----------------------------------------------------------------------|---------------|----------------|-----------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| UL 1008                                                               |               |                | ATyS  |               |               |               |               |
| Motorised Changeover with control driven by dry contacts              | •             | •              | •                                                                                       | •             | •             | •             | •             |
| Manual Emergency Operation with external handle                       | •             | •              | •                                                                                       | •             | •             | •             | •             |
| Wide band AC control voltage supply                                   | •             | •              | •                                                                                       | •             | •             | •             | •             |
| Wide band DC control voltage supply                                   | •             |                |                                                                                         |               |               |               |               |
| Watchdog relay to ensure product availability                         |               |                | •                                                                                       | •             | •             | •             | •             |
| Ratings from 40 – 125A as indicated or 125A - 3200A for •             | 40 – 125A     | 40 – 125A      | UL 100 – 400A                                                                           | •             | •             | •             | •             |
| Override controls and force switch to zero (off) position             |               |                | •                                                                                       | •             | •             | •             | •             |
| Integrated position auxiliary contacts (I - O - II)                   | •             | •              | •                                                                                       | •             | •             | •             | •             |
| Source availability LED display                                       |               |                |                                                                                         | •             | •             | •             | •             |
| Remote Display module RJ45 connection for D10                         |               |                |                                                                                         | •             | •             | •             |               |
| Integrated Dual power supply                                          |               | •              |                                                                                         | •             | •             | •             | •             |
| Network - Network Applications                                        | •             | •              | •                                                                                       | •             | •             |               | •             |
| Network - Genset Applications                                         | •             | •              | •                                                                                       | •             |               | •             | •             |
| Genset - Genset Applications                                          | •             | •              | •                                                                                       | •             |               |               |               |
| Pre-defined fixed I/O                                                 |               |                | • 5/1                                                                                   | • 5/1         | • 9/2         | • 11/3        | • 5/2         |
| Programmable I/O                                                      |               |                |                                                                                         |               |               |               | • 6/1         |
| Additional programmable I/O modules (Optional up to 4 modules)        |               |                |                                                                                         |               |               |               | • 8/8         |
| Remotely operated Transfer Switching Equipment (RTSE Class PC)        | •             | •              | •                                                                                       | •             |               |               |               |
| Automatic Transfer Switching Equipment (ATSE Class PC)                |               |                |                                                                                         |               | •             | •             | •             |
| Remote + Manual Control                                               | •             | •              | •                                                                                       | •             |               |               |               |
| Auto + Remote + Manual Control                                        |               |                |                                                                                         |               | •             | •             |               |
| Auto + Remote + Local + Manual Control                                |               |                |                                                                                         |               |               |               | •             |
| Auto-configuration of voltage and frequency levels                    |               |                |                                                                                         |               | •             | •             | •             |
| Switch Position LED display                                           |               |                |                                                                                         |               | •             | •             | •             |
| Security Sealing Cover                                                |               |                |                                                                                         |               | •             | •             |               |
| Configuration through potentiometers and dip switches                 |               |                |                                                                                         |               | •             | •             |               |
| Test on load functionality                                            |               |                |                                                                                         |               |               | •             | •             |
| Test off load functionality                                           |               |                |                                                                                         |               |               | •             | •             |
| Programmable configuration with keypad and LCD display                |               |                |                                                                                         |               |               |               | •             |
| Metering & Measurement: kW; kVar; kVA + kWh; kVarh; kVAh              |               |                |                                                                                         |               |               |               | •             |
| Communication RS485 + Ethernet + Ethernet gateway (Optional)          |               |                |                                                                                         |               |               |               | •             |
| Webserver Access through optional Ethernet module (Optional)          |               |                |                                                                                         |               |               |               | •             |
| Easy Configuration software (Through Ethernet/Modbus)                 |               |                |                                                                                         |               |               |               | •             |
| Remote Terminal Unit RJ45 connection for D20                          |               |                |                                                                                         |               |               |               | •             |
| Data Logger for Event Recording with RTC (Through Ethernet/Modbus)    |               |                |                                                                                         |               |               |               | •             |
| Programmable Engine Exerciser functionality (Through Ethernet/Modbus) |               |                |                                                                                         |               |               |               | •             |
| Multi level password access                                           |               |                |                                                                                         |               |               |               | •             |
| Load Shedding function                                                |               |                |                                                                                         |               |               |               | •             |
| Capacity Management functionality                                     |               |                |                                                                                         |               |               |               | •             |
| Peak shaving functionality                                            |               |                |                                                                                         |               |               |               | •             |
| 4 - 20mA communication module (Optional)                              |               |                |                                                                                         |               |               |               | •             |
| KWh Pulsed output module (Optional)                                   |               |                |                                                                                         |               |               |               | •             |
| Counters KWh, permutation...                                          |               |                |                                                                                         |               |               |               | •             |
| LCD display for programming, metering, timers and counters            |               |                |                                                                                         |               |               |               | •             |
| Possibility to add optional functionality                             |               |                |                                                                                         |               |               |               | •             |

# 4. QUICK START

## 4.1. Quick Start ATyS d Frame B3 to B5 (125A to 630A)

**socomec**  
Innovative Power Solutions

QUICK START EN 125A - 630A

# ATyS d

Motorised Source Changeover Switch

### Preliminary operations

Check the following upon delivery and after removal of the packaging:

- Packaging and contents are in good condition.
- The product reference corresponds to the order.
- Contents should include:  
Qty 1 x ATyS d  
Qty 1 x Emergency handle and fixing clip  
Quick Start instruction sheet

### Warning

⚠ Risk of electrocution, burns or injury to persons and / or damage to equipment.

This Quick Start is intended for personnel trained in the installation and commissioning of this product. For further details refer to the product instruction manual available on the SOCOMECE website.

- This product must always be installed and commissioned by qualified and approved personnel.
- Maintenance and servicing operations should be performed by trained and authorised personnel.
- Do not handle any control or power cables connected to the product when voltage may be, or may become present on the product, directly through the mains or indirectly through external circuits.
- Always use an appropriate voltage detection device to confirm the absence of voltage.
- Ensure that no metal objects are allowed to fall in the cabinet (risk of electrical arcing).

Failure to observe good engineering practises as well as to follow these safety instructions may expose the user and others to serious injury or death.

⚠ Risk of damaging the device

- In case the product is dropped or damaged in any way it is recommended to replace the complete product.

### Accessories

- Bridging bars and connection kits.
- Control voltage transformer (400Vac -> 230Vac).
- DC power supply (12/24Vdc -> 230Vac).
- Mounting spacers to raise the product x 10mm.
- Phase barriers.
- Terminal shrouds.
- Terminal screens.
- Auxiliary contacts (Additional).
- Padlocking in 3 positions (I - O - II).
- Lockout accessories (RONIS - EL 11 AP).
- Door escutcheon frame.
- Control relay ATyS C30 + D10 or D20.
- Control relay ATyS C40.
- ATyS D10 Interface (remote display).

For further details refer to the product instruction manual under chapter "Spares and Accessories"

www.socomec.com

To download, brochures, catalogues and technical manuals:



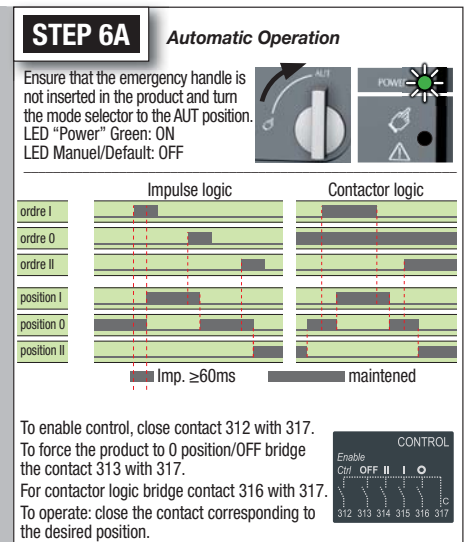
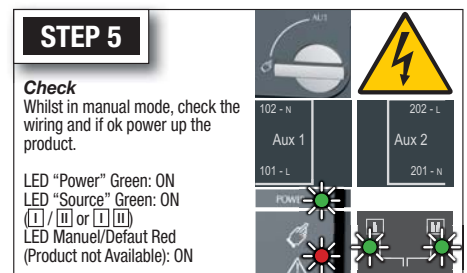
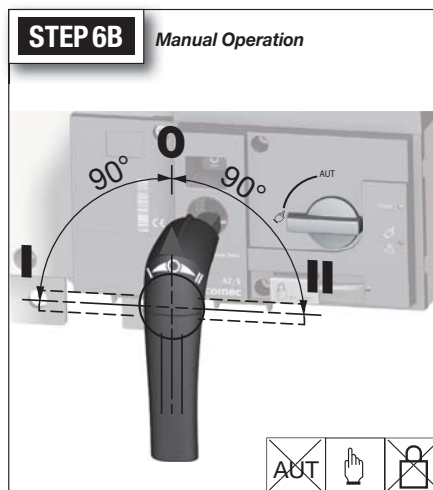
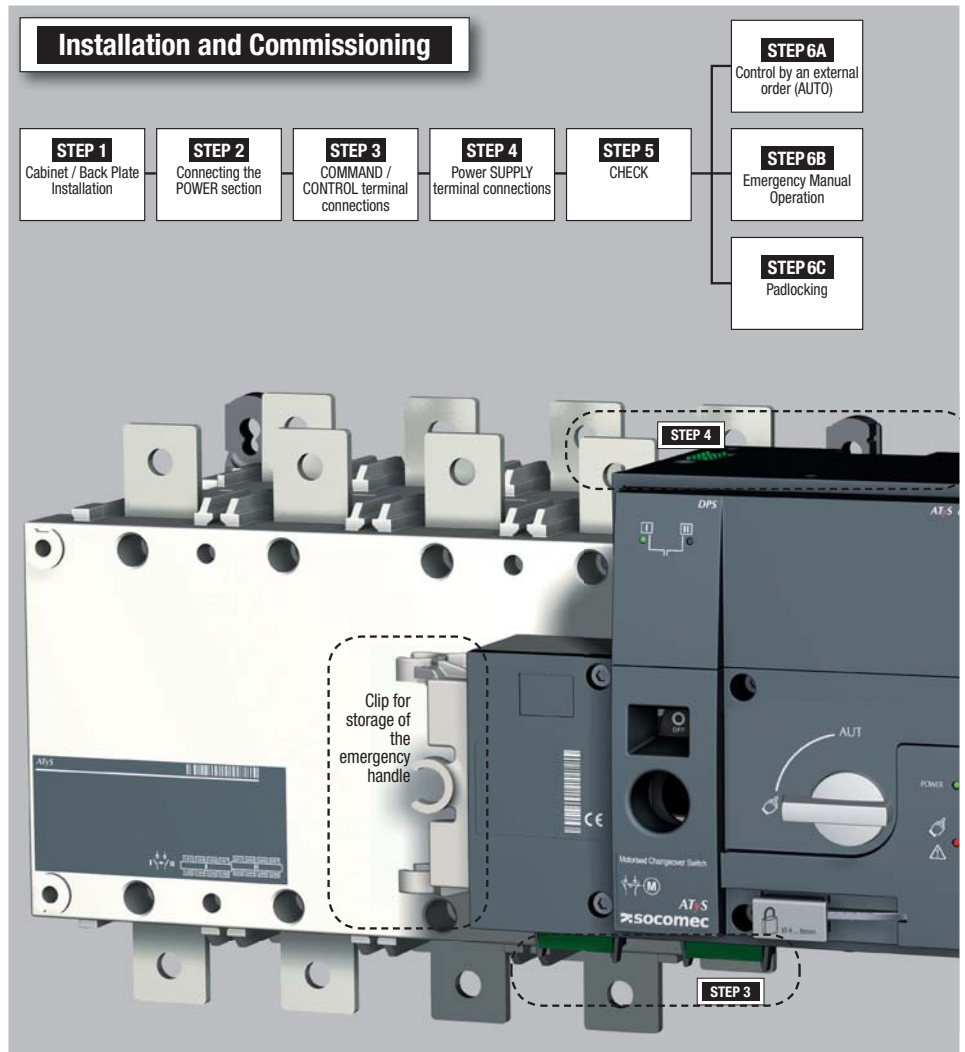
Printing informations: 1 color Black. White paper 90g/m².  
Printing size: 420x297. Final size 210x297. This page visible first.



541 988 C - 02/14 - EN

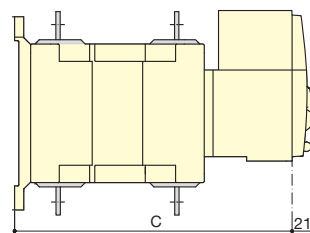
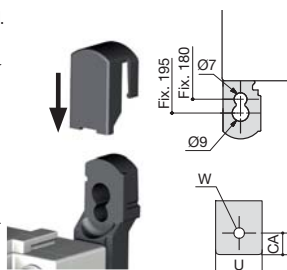


Non contractual document.  
Subject to change without notice.



## Installation

|                    |           |  |           |
|--------------------|-----------|--|-----------|
| <p>Recommended</p> | <p>Ok</p> |  | <p>Ok</p> |
|--------------------|-----------|--|-----------|

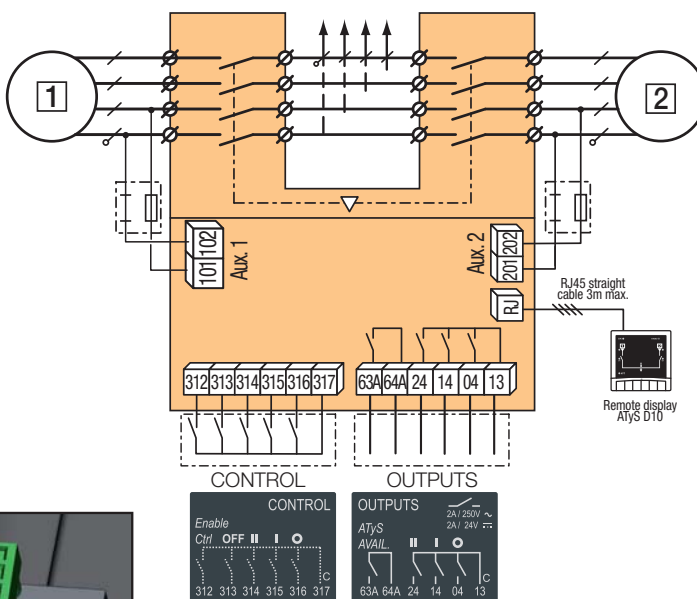
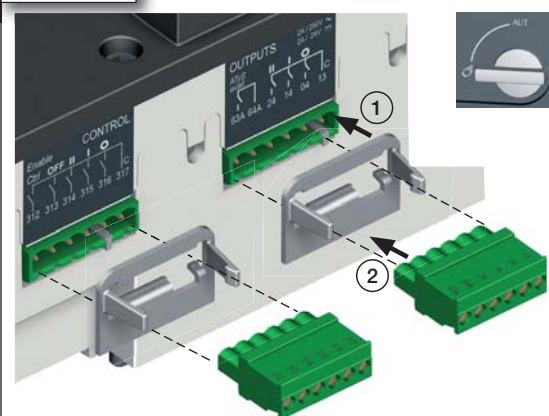


|     | 125 A |     | 160 A |     | 200 A |     | 250 A |     | 315 A |     | 400 A |     | 500 A |     | 630 A |     |
|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
|     | 3 P   | 4 P | 3 P   | 4 P | 3 P   | 4 P | 3 P   | 4 P | 3 P   | 4 P | 3 P   | 4 P | 3 P   | 4 P | 3 P   | 4 P |
| J 1 | 34    | 34  | 34    | 34  | 34    | 34  | 35    | 35  | 35    | 35  | 35    | 35  | 34    | 34  | 34    | 34  |
| M   | 120   | 150 | 120   | 150 | 120   | 150 | 160   | 210 | 160   | 210 | 160   | 210 | 210   | 210 | 210   | 270 |
| T   | 36    | 36  | 36    | 36  | 36    | 36  | 50    | 50  | 50    | 50  | 50    | 50  | 65    | 65  | 65    | 65  |
| C   | 244   | 244 | 244   | 244 | 244   | 244 | 244   | 244 | 244   | 244 | 244   | 244 | 320   | 320 | 320   | 320 |
| U   | 20    | 20  | 20    | 20  | 20    | 20  | 25    | 25  | 35    | 35  | 35    | 35  | 32    | 32  | 45    | 45  |
| W   | 9     | 9   | 9     | 9   | 9     | 9   | 11    | 11  | 11    | 11  | 11    | 11  | 13    | 13  | 13    | 13  |
| CA  | 10    | 10  | 10    | 10  | 10    | 10  | 15    | 15  | 15    | 15  | 15    | 15  | 20    | 20  | 20    | 20  |

### Power Terminal Connections

|                                       | FRAME B3 |       |       | FRAME B4 |       |       | FRAME B5 |        |
|---------------------------------------|----------|-------|-------|----------|-------|-------|----------|--------|
|                                       | 125 A    | 160 A | 200 A | 250 A    | 315 A | 400 A | 500 A    | 630 A  |
| Minimum cable section Cu (mm²) at lth | 50       | 70    | 95    | 120      | 185   | 240   | 2x150    | 2x185  |
| Minimum cable section Cu (mm²) at lth | -        | -     | -     | -        | -     | -     | 2x30x5   | 2x40x5 |
| Maximum cable section Cu (mm²)        | 50       | 95    | 150   | 150      | 240   | 240   | 2x300    | 2x300  |
| Maximum Cu busbar width (mm)          | 20       | 20    | 32    | 32       | 32    | 32    | 50       | 50     |
| Type of screw                         | M8       | M8    | M8    | M10      | M10   | M10   | M12      | M12    |
| Recommended tightening torque (N.m)   | 8.3      | 8.3   | 8.3   | 20       | 20    | 20    | 20       | 20     |
| Maximum tightening torque (N.m)       | 13       | 13    | 13    | 26       | 26    | 26    | 26       | 26     |

**CONTROL / COMMAND Terminals** - Ensure that the product is in Manual Mode.



### Dual Power Supply Terminals



Connect the product with a cable of section of 1,5 to 2,5 mm<sup>2</sup>.  
Screw M3 - Tightening torque: min.: 0.5 Nm - max.: 0.6 Nm

## 4.1. Quick Start ATyS d Frame B6 to B8 (800A to 3200A)

**socomec**  
Innovative Power Solutions

**QUICK START EN 800A - 3200A**

# ATyS d

Motorised Source Changeover Switch

### Preliminary operations

Check the following upon delivery and after removal of the packaging:

- Packaging and contents are in good condition.
- The product reference corresponds to the order.
- Contents should include:  
Qty 1 x ATyS d  
Qty 1 x Emergency handle and fixing clip  
Quick Start instruction sheet

### Warning

⚠ Risk of electrocution, burns or injury to persons and / or damage to equipment.

This Quick Start is intended for personnel trained in the installation and commissioning of this product. For further details refer to the product instruction manual available on the SOCMEC website.

- This product must always be installed and commissioned by qualified and approved personnel.
- Maintenance and servicing operations should be performed by trained and authorised personnel.
- Do not handle any control or power cables connected to the product when voltage may be, or may become present on the product, directly through the mains or indirectly through external circuits.
- Always use an appropriate voltage detection device to confirm the absence of voltage.
- Ensure that no metal objects are allowed to fall in the cabinet (risk of electrical arcing).

Failure to observe good engineering practises as well as to follow these safety instructions may expose the user and others to serious injury or death.

⚠ Risk of damaging the device

- In case the product is dropped or damaged in any way it is recommended to replace the complete product.

### Accessories

- Bridging bars and connection kits.
- Control voltage transformer (400Vac -> 230Vac).
- DC power supply (12/24Vdc -> 230Vac).
- Mounting spacers to raise the product x 10mm.
- Phase barriers.
- Terminal shrouds.
- Terminal screens.
- Auxiliary contacts (Additional).
- Padlocking in 3 positions (I - 0 - II).
- Lockout accessories (RONIS - EL 11 AP).
- Door escutcheon frame.
- Control relay ATyS C30 + D10 or D20.
- Control relay ATyS C40.
- ATyS D10 Interface (remote display).

For further details refer to the product instruction manual under chapter "Spares and Accessories"

www.socomec.com

To download, brochures, catalogues and technical manuals:



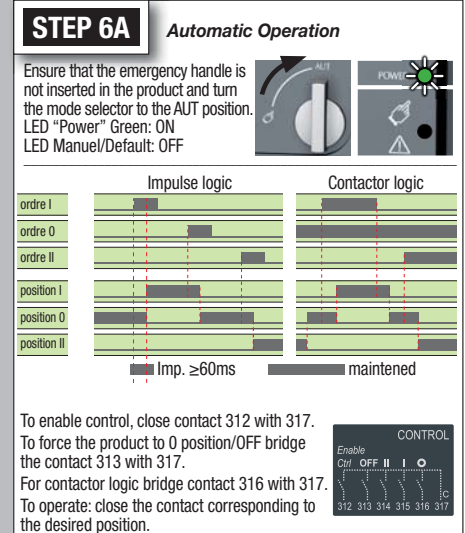
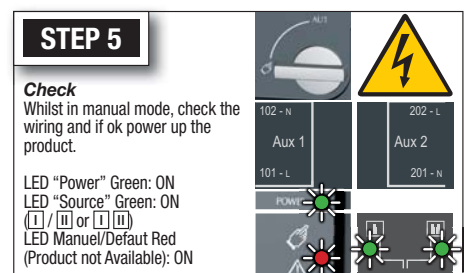
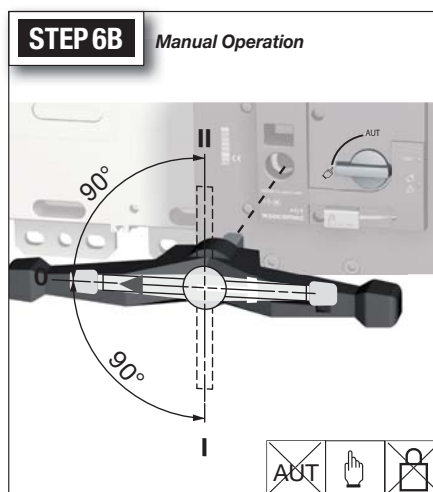
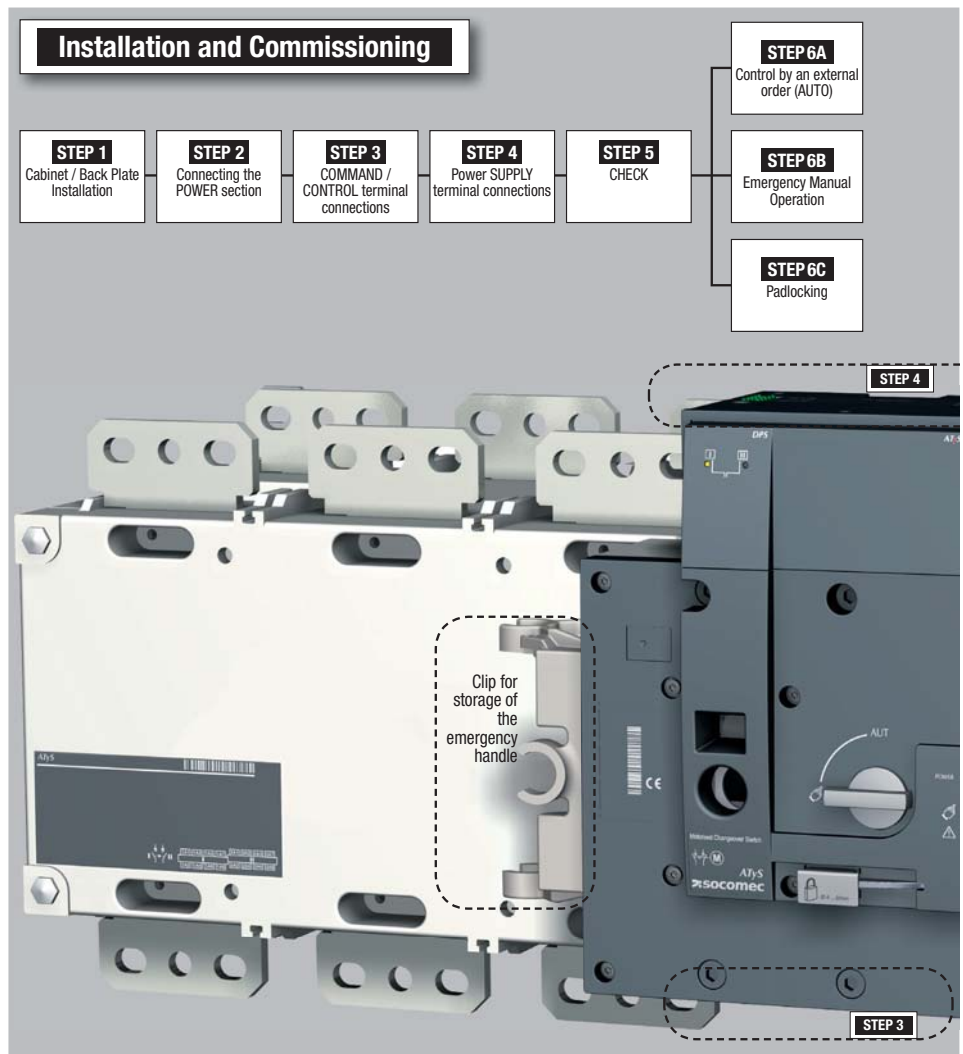
Printing informations: 1 color Black. White paper 90g/m².  
Printing size: 420x297. Final size 210x297. This page visible first.



541 989 D - 02/14 - EN



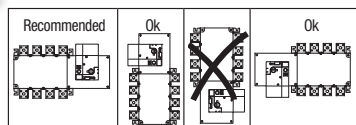
Non contractual document.  
Subject to change without notice.



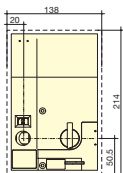
## STEP 1

### Installation

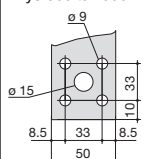
Attention:  
Ensure that the  
product is installed on  
a flat rigid surface.  
Orientation:



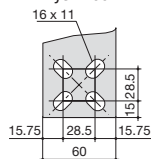
Door cut-out for  
front panel.



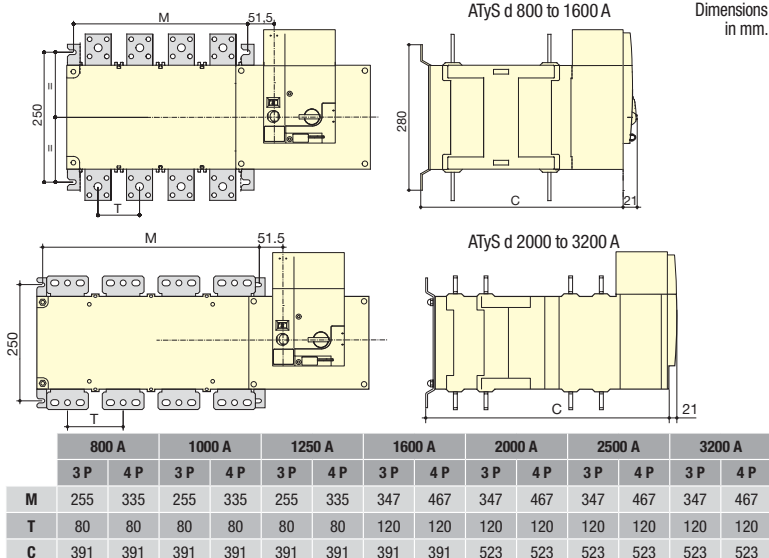
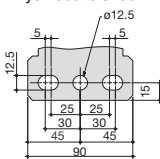
ATyS 800 to 1000 A



ATyS 1250 A



ATyS 1600 to 3200 A



Dimensions  
in mm.

## STEP 2

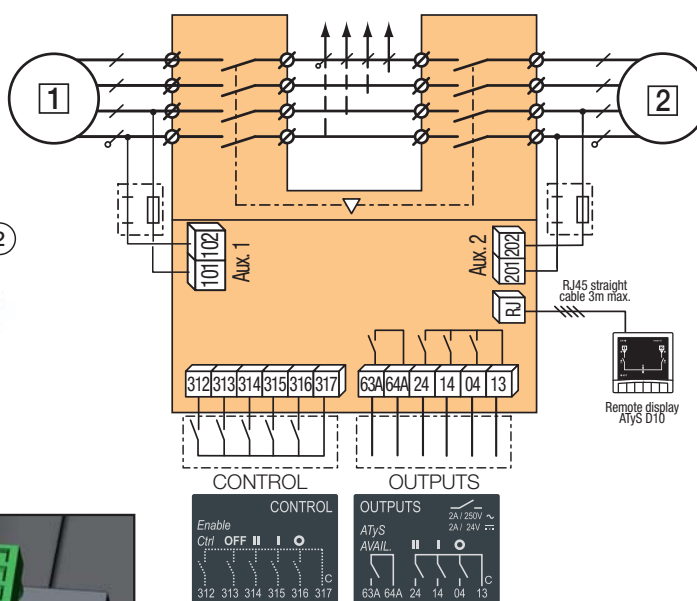
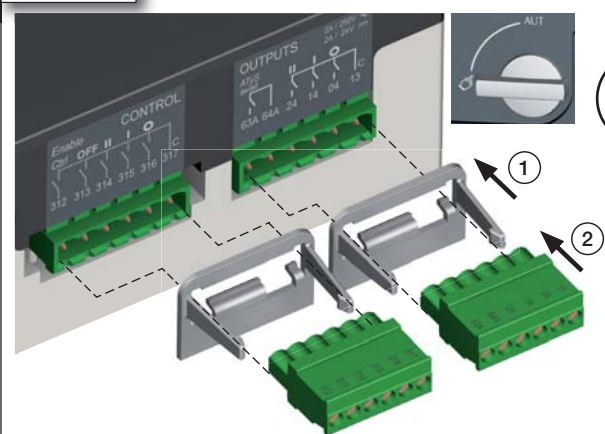
### Power Terminal Connections

To be connected using terminal lugs, rigid or flexible busbars.

|                                          | FRAME B6 |        |        | FRAME B7 | FRAME B8 |         |          |
|------------------------------------------|----------|--------|--------|----------|----------|---------|----------|
|                                          | 800 A    | 1000 A | 1250 A | 1600 A   | 2000 A   | 2500 A  | 3200 A   |
| Minimum cable section<br>Cu (mm²) at lth | 2x240    | -      | -      | -        | -        | -       | -        |
| Minimum cable section<br>Cu (mm²) at lth | 2x50x5   | 2x60x5 | 2x80x5 | 2x100x5  | 3x100x5  | 4x100x5 | 3x100x10 |
| Maximum cable section<br>Cu (mm²)        | 2x300    | 4x185  | 4x185  | 6x185    | -        | -       | -        |
| Maximum Cu busbar<br>width (mm)          | 63       | 63     | 63     | 100      | 100      | 100     | 100      |
| Type of screw                            | M8       | M8     | M10    | M12      | M12      | M12     | M12      |
| Recommended tighten-<br>ing torque (N.m) | 20       | 20     | 20     | 40       | 40       | 40      | 40       |
| Maximum tightening<br>torque (N.m)       | 26       | 26     | 26     | 45       | 45       | 45      | 45       |

## STEP 3

**CONTROL / COMMAND Terminals** - Ensure that the product is in Manual Mode.



## STEP 4

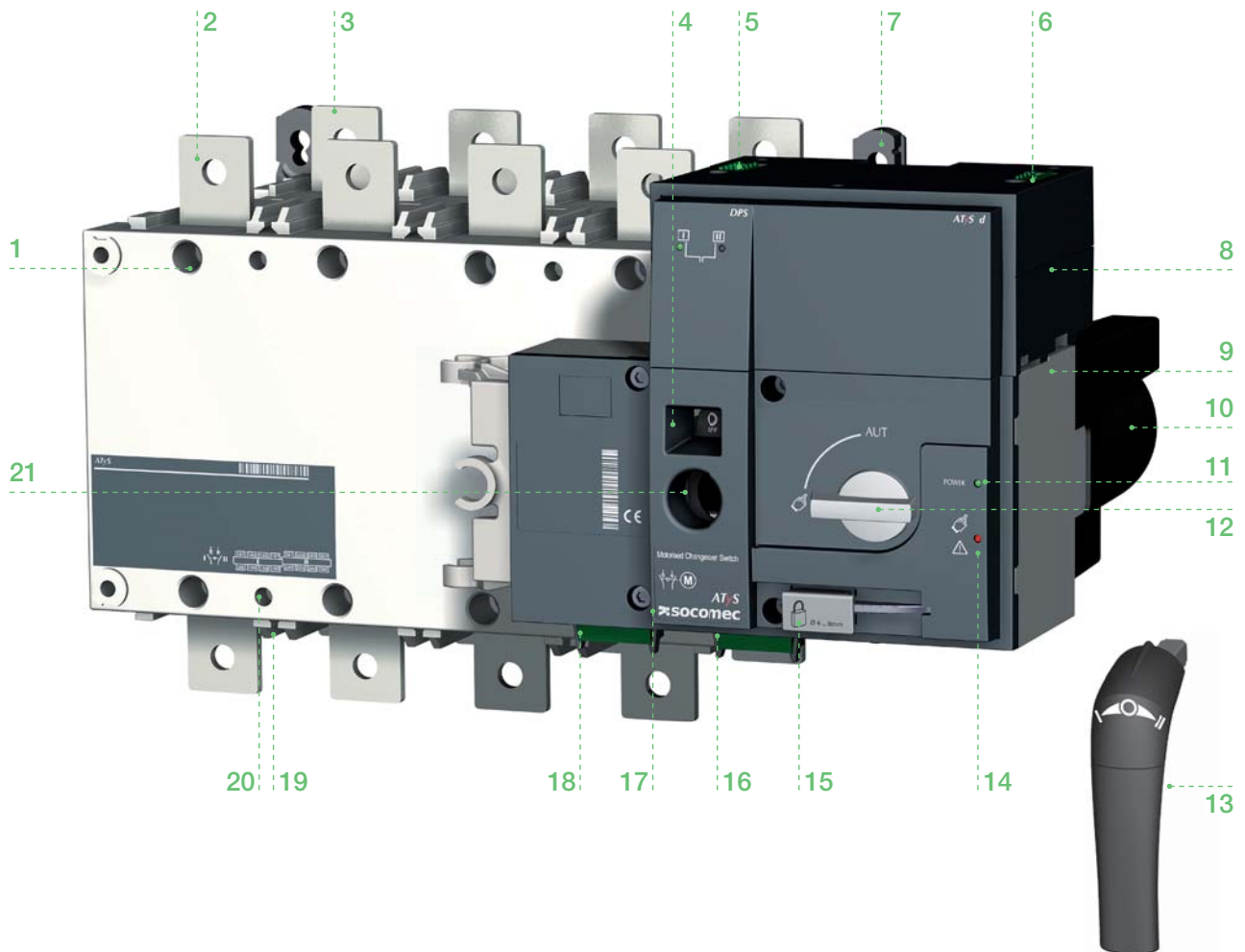
### Dual Power Supply Terminals



Connect the product with a cable of section of 1.5 to 2.5 mm².  
Screw M3 - Tightening torque: min.: 0.5 Nm - max.: 0.6 Nm

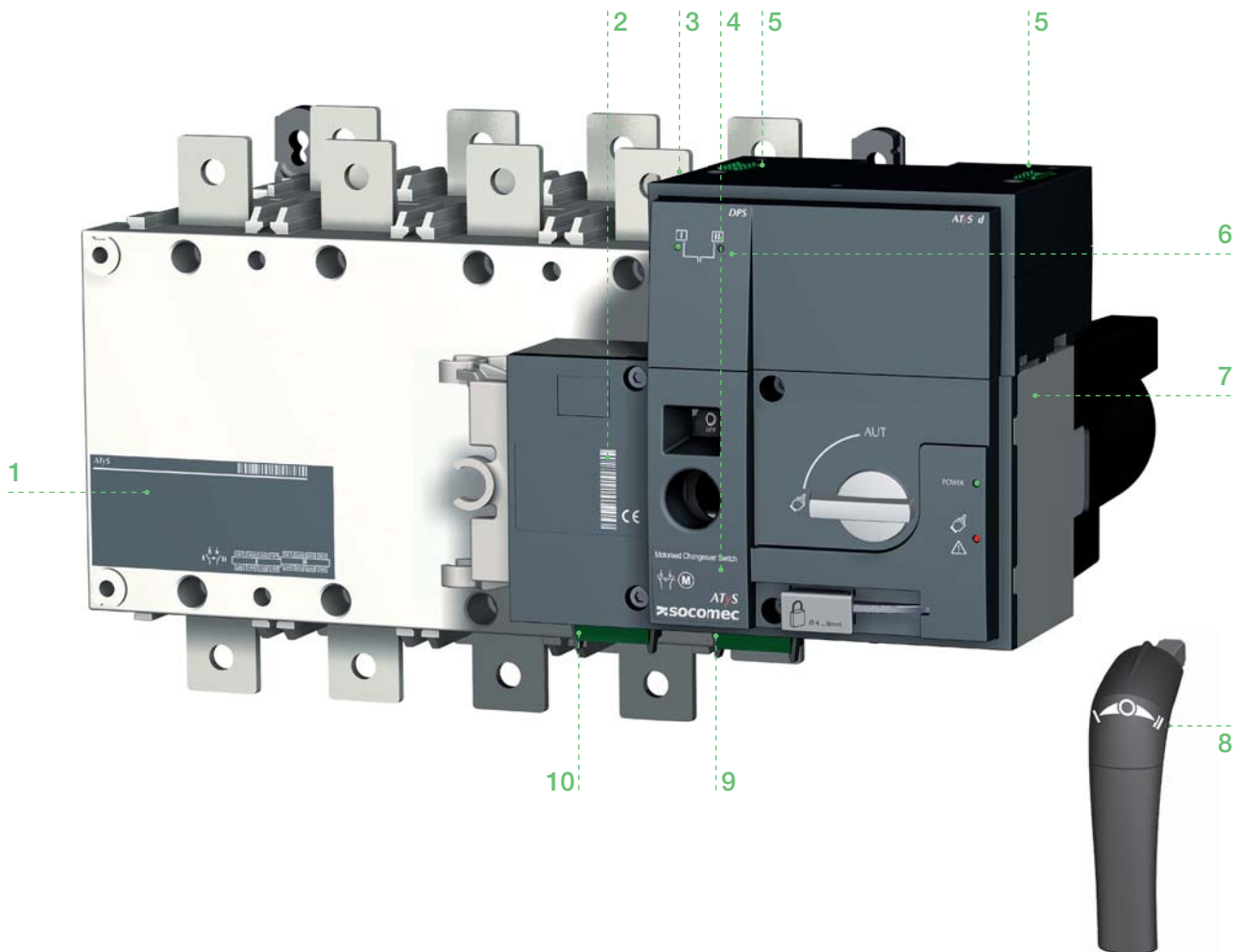
## 5. GENERAL OVERVIEW

### 5.1. Product introduction



1. Power Section : Changeover switch assembly with inherent mechanical interlock
2. Front : Switch number 1 terminals (3 or 4 pole)
3. Back : Switch number 2 terminals (3 or 4 pole)
4. Switch position indication window : I (On) – O (Off) – II (On)
5. Auxiliary power supply 1 : 230Vac (208 – 277Vac  $\pm$  20%)
6. Auxiliary power supply 2 : 230Vac (208 – 277Vac  $\pm$  20%)
7. Back-plate mounting ATyS d fixing lugs
8. Dual power supply Module
9. Motorized Control Unit
10. Motor housing
11. Green LED Indication : Power
12. Auto / Manual mode selector switch
13. Emergency manual operation “Direct Handle”
14. Red LED Indication : Product Unavailable / Manual Mode / Fault Condition
15. Padlocking facility (Up to 3 padlocks of dia. 4 – 8mm)
16. Output contacts x 4 (Position indication I-O-II and product availability outputs)
17. Facility for locking all controls in the zero position using a RONIS EL11AP Lock
18. Input contacts x 5 :-  
 Position order I-O-II  
 Remote control enable  
 Override controls and force to Off position
19. Sliders for Terminal Shields
20. Fixing holes for terminal Shields
21. Emergency manual operation shaft location (Accessible only in manual mode)

## 5.2. Product identification



1. Main changeover switch identification label:  
Electrical characteristics  
Applicable standards and  
Terminal incoming and outgoing wiring details.
2. Complete ATyS d product serial number, barcode and CE marking.
3. Switch 1 (Front) and Switch 2 (back) identification labels
4. ATyS d product current rating and reference number label
5. Auxiliary power supply contacts identification label
6. Auxiliary power supply available LED'S
7. Motor barcode and serial number
8. Emergency manual operation direction of rotation indication
9. Output contacts identification label.
10. Input contacts identification label.

## 5.3. Environmental

The ATyS d product meets the following environmental requirements:

### 5.3.1. IP Rating



- IP2X against direct contact for the ATyS d motorization control unit.
- IP2X against direct contact for the power section with the connections in place and when including suitable, correctly installed incoming and outgoing terminal shields.
- IP 0 for the bare power section without terminal shields in place.

### 5.3.2. Operating Conditions

#### 5.3.2.1. Temperature



- From -20 to +40°C without derating
- From -20 to +70°C when applying a Kt derating correction factor

| Kt: Correction Factor | Temperature    |
|-----------------------|----------------|
| 0.9                   | 40 °C to 50 °C |
| 0.8                   | 50 °C to 60 °C |
| 0.7                   | 60 °C to 70 °C |

\* Simplified derating method:  $I_{thu} \leq I_{th} \times K_f$

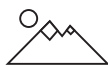
\* A more precise calculation may be done for specific applications. Should this be required please contact SOCOMEC.

#### 5.3.2.2. Hygrometry



- 80% humidity without condensation at 55°C
- 95% humidity without condensation at 40°C

#### 5.3.2.3. Altitude



- Up to 2000m in altitude without derating
- For higher altitude the Ka correction factors below apply

| Ka: Correction Factor | 2000 m < A ≤ 3000 m | 3000 m < A ≤ 4000 m |
|-----------------------|---------------------|---------------------|
| Ue                    | 0.95                | 0.8                 |
| Ie                    | 0.85                | 0.85                |

### 5.3.3. Storage Conditions



#### 5.3.3.1. Temperature



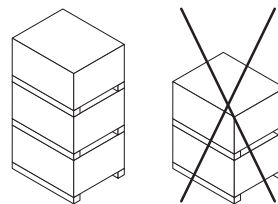
- From -40 to +70°C

### 5.3.3.2. Storage duration period

- Maximum storage up to a period of 12 months
- (Recommendation: To be stored in dry, non corrosive and non saline atmospheric conditions)

### 5.3.3.3. Storage position

≤ 630 A: a maximum of 3 boxes may be stocked vertically  
 ≥ 800 A: a maximum of 1 box may be stocked vertically



### 5.3.4. Volume and shipping weights by reference ATyS d

| Frame Size | Rating | N° of Poles | Reference Number   | Weight (kg) |       | Volume (cm) inc Packing |
|------------|--------|-------------|--------------------|-------------|-------|-------------------------|
|            |        |             |                    | Net         | Gross |                         |
| B3         | 125A   | 3           | 95 33 <b>3 012</b> | 6,3         | 9,6   | 360x480x370             |
|            |        | 4           | 95 33 <b>4 012</b> | 7,5         | 10,8  | 360x480x370             |
|            | 160A   | 3           | 95 33 <b>3 016</b> | 6,3         | 9,6   | 360x480x370             |
|            |        | 4           | 95 33 <b>4 016</b> | 7,5         | 10,8  | 360x480x370             |
|            | 200A   | 3           | 95 33 <b>3 020</b> | 6,3         | 9,6   | 360x480x370             |
|            |        | 4           | 95 33 <b>4 020</b> | 7,5         | 10,8  | 360x480x370             |
| B4         | 250A   | 3           | 95 33 <b>3 025</b> | 7,2         | 10,5  | 360x480x370             |
|            |        | 4           | 95 33 <b>4 025</b> | 8,0         | 11,3  | 360x480x370             |
|            | 315A   | 3           | 95 33 <b>3 031</b> | 7,3         | 10,6  | 360x480x370             |
|            |        | 4           | 95 33 <b>4 031</b> | 8,4         | 11,7  | 360x480x370             |
|            | 400A   | 3           | 95 33 <b>3 040</b> | 7,3         | 10,6  | 360x480x370             |
|            |        | 4           | 95 33 <b>4 040</b> | 8,4         | 11,7  | 360x480x370             |
| B5         | 500A   | 3           | 95 33 <b>3 050</b> | 12,0        | 15,3  | 536x378x427             |
|            |        | 4           | 95 33 <b>4 050</b> | 13,9        | 17,2  | 536x378x427             |
|            | 630A   | 3           | 95 33 <b>3 063</b> | 12,5        | 15,8  | 536x378x427             |
|            |        | 4           | 95 33 <b>4 063</b> | 14,6        | 17,9  | 536x378x427             |
| B6         | 800A   | 3           | 95 33 <b>3 080</b> | 28,5        | 44,5  | 730x800x600             |
|            |        | 4           | 95 33 <b>4 080</b> | 32,8        | 48,8  | 730x800x600             |
|            | 1000A  | 3           | 95 33 <b>3 100</b> | 29,0        | 45,0  | 730x800x600             |
|            |        | 4           | 95 33 <b>4 100</b> | 33,5        | 49,5  | 730x800x600             |
|            | 1250A  | 3           | 95 33 <b>3 120</b> | 29,5        | 45,5  | 730x800x600             |
|            |        | 4           | 95 33 <b>4 120</b> | 34,2        | 50,2  | 730x800x600             |
| B7         | 1600A  | 3           | 95 33 <b>3 160</b> | 33,7        | 49,7  | 730x800x600             |
|            |        | 4           | 95 33 <b>4 160</b> | 40,0        | 56,0  | 730x800x600             |
| B8         | 2000A  | 3           | 95 33 <b>3 200</b> | 51,3        | 67,3  | 730x800x600             |
|            |        | 4           | 95 33 <b>4 200</b> | 62,2        | 78,2  | 730x800x600             |
|            | 2500A  | 3           | 95 33 <b>3 250</b> | 51,3        | 67,3  | 730x800x600             |
|            |        | 4           | 95 33 <b>4 250</b> | 62,2        | 78,2  | 730x800x600             |
|            | 3200A  | 3           | 95 33 <b>3 320</b> | 61,6        | 77,6  | 730x800x600             |
|            |        | 4           | 95 33 <b>4 320</b> | 75,9        | 91,9  | 730x800x600             |

### 5.3.5. CE marking

The ATyS d complies the with the European directive for:

- The Electromagnetic compatibility no. 2004/108/CE dated 15th of December 2004.
- Low voltage directive no. 2006/95/CE dated 12th of December 2006.



### 5.3.6. Lead free process

- The ATyS d complies with the European directive for RoHS.



### 5.3.7. WEEE

The ATyS d is built in accordance with 2002/96/CE directive:



### 5.3.8. EMC standard

The ATyS d is designed and built in accordance with IEC 60947-1 standards

(Products intended to be installed in an «Industrial, Commercial and/or Residential Environment» therefore respecting both Class A as well as Class B EMC requirements).

| Description           | Std (IEC) | Requirement (criteria)           |
|-----------------------|-----------|----------------------------------|
| Conducted             | CISPR 11  | Class B                          |
| Radiated              | CISPR 11  | Class B                          |
| ESD contact           | 61000-4-2 | 4KV (B)                          |
| ESD air               | 61000-4-2 | 8KV (B)                          |
| Electromagnetic field | 61000-4-3 | 10V/m (A)                        |
| RF Conducted          | 61000-4-6 | 10V (A)                          |
| Burst                 | 61000-4-4 | 2KV (B) power<br>1KV (B) control |
| Surge differential    | 61000-4-5 | 1KV (B)                          |
| Surge Common          | 61000-4-5 | 2KV (B)                          |

## 5.4. ATyS d ACCESSORIES AVAILABLE

### BRIDGING BARS

To connect switch I & II load terminals together.

### TERMINAL SHROUDS (125 TO 630 A)

Incoming and outgoing protection against direct contact with the connection terminals or parts. Cannot be mounted in the rear position at the same time as the voltage sensing and power outlet kit or the bridging bars.

Can be mounted top or bottom, in front or in rear position.

### TERMINAL SCREENS

Incoming and outgoing protection against direct contact with the connection terminals or parts.

### DOOR ESCUTCHEON PLATE

An accessory to be fixed onto a cabinet door to frame the controller part of flush mounted ATyS p transfer switches.

### DC POWER SUPPLY (DC -> AC)

Allows a standard 230Vac ATyS d to be supplied through a 12/24Vdc Aux Power supply. Available for ratings up to 1600A

### SUPPLEMENTARY AUXILIARY CONTACT (AC)

Pre-breaking and signaling of positions I and II: 1 additional auxiliary contact NO / NC auxiliary contact in each position. Included as standard for ratings from 2000 to 3200A. For Low level AC: please consult SOCOMEC.

### KEY LOCK AUTO / MANUAL SELECTOR SWITCH

The ATyS d mode selector switch is delivered with a rotary handle as standard. This can be replaced with a key lock. Download key lock assembly instructions for details. Ref. 9599 1007.

### RONIS KEY PADLOCKING ACCESSORIES

Locking of the electrical and manual operation by means of a RONIS EL11AP lock. Possibility of locking in all positions, if the "Padlocking in the 3 positions" option is ordered.

Not compatible with flush mounting.

### PADLOCKING IN 3 POSITIONS

Allows locking of the operation in the 3 positions I, 0 and II. (Factory fitted accessory)

### CONTROL VOLTAGE TRANSFORMER

Allows a standard 230 V AC device to be supplied with 400 VAC.

### MOUNTING SPACERS (125 TO 630 A)

Raises the device's terminals 10 mm away from the backplate or frame

### REMOTE INTERFACES D10

Remote Display: Allows source supply state and switch positions to be displayed remotely. (LED display)

Typically door mounted or  $\leq 3\text{m}$  away from the ATyS.

### COMMUNICATION CABLE

RJ 45 communication cable (3m long) for use with the D10 remote display/controller or Ethernet modules.

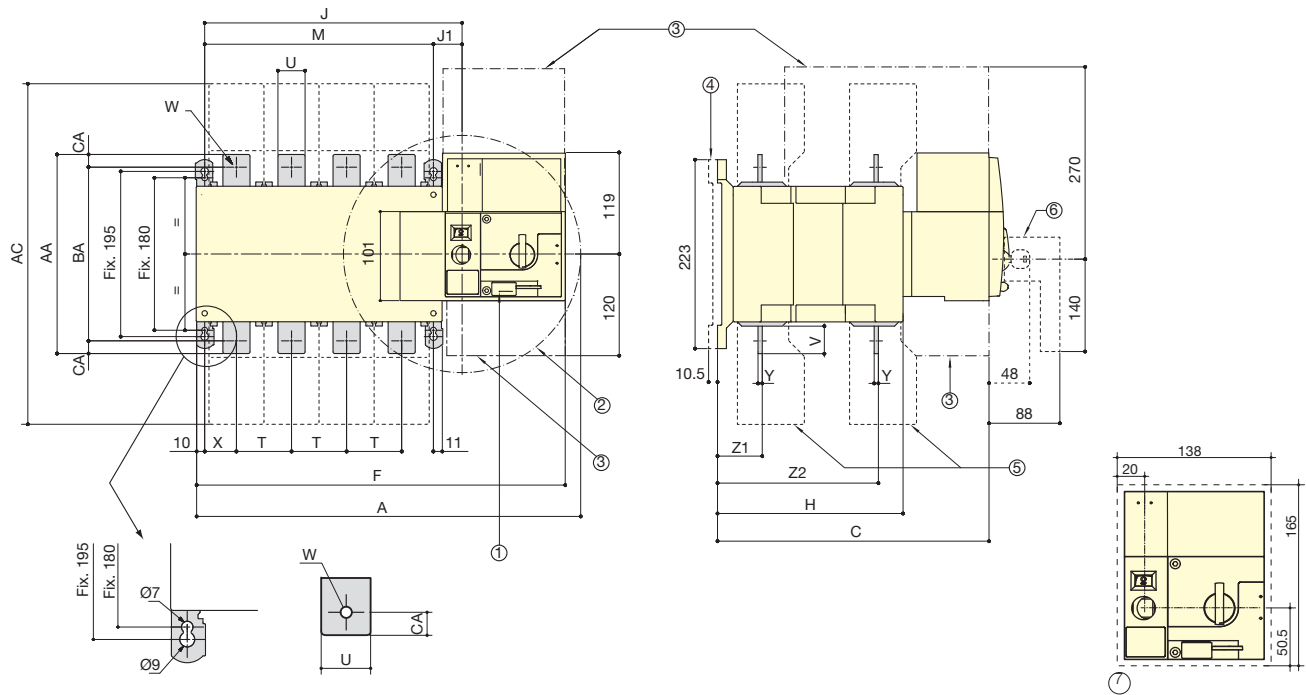
### Others:

Refer to the end of this instruction manual or the latest SOCOMEC product catalogue. (Downloadable from [www.socomec.com](http://www.socomec.com))

## 5.4.1. INSTALLATION

## 5.5. Product dimensions

### 5.5.1. Dimensions: Frame B3 to B5 (125A to 630A)



1. Padlocking Facility: Locking bracket for up to 3 padlocks of dia. 4 – 8mm
2. Emergency manual operation: Maximum operating radius with an operating angle of 2x 90°
3. Connection and disconnection area
4. Mounting stand off with spacer accessory
5. Phase Barriers
6. Emergency removable handle
7. Flush mounting cutout dimensions for front door



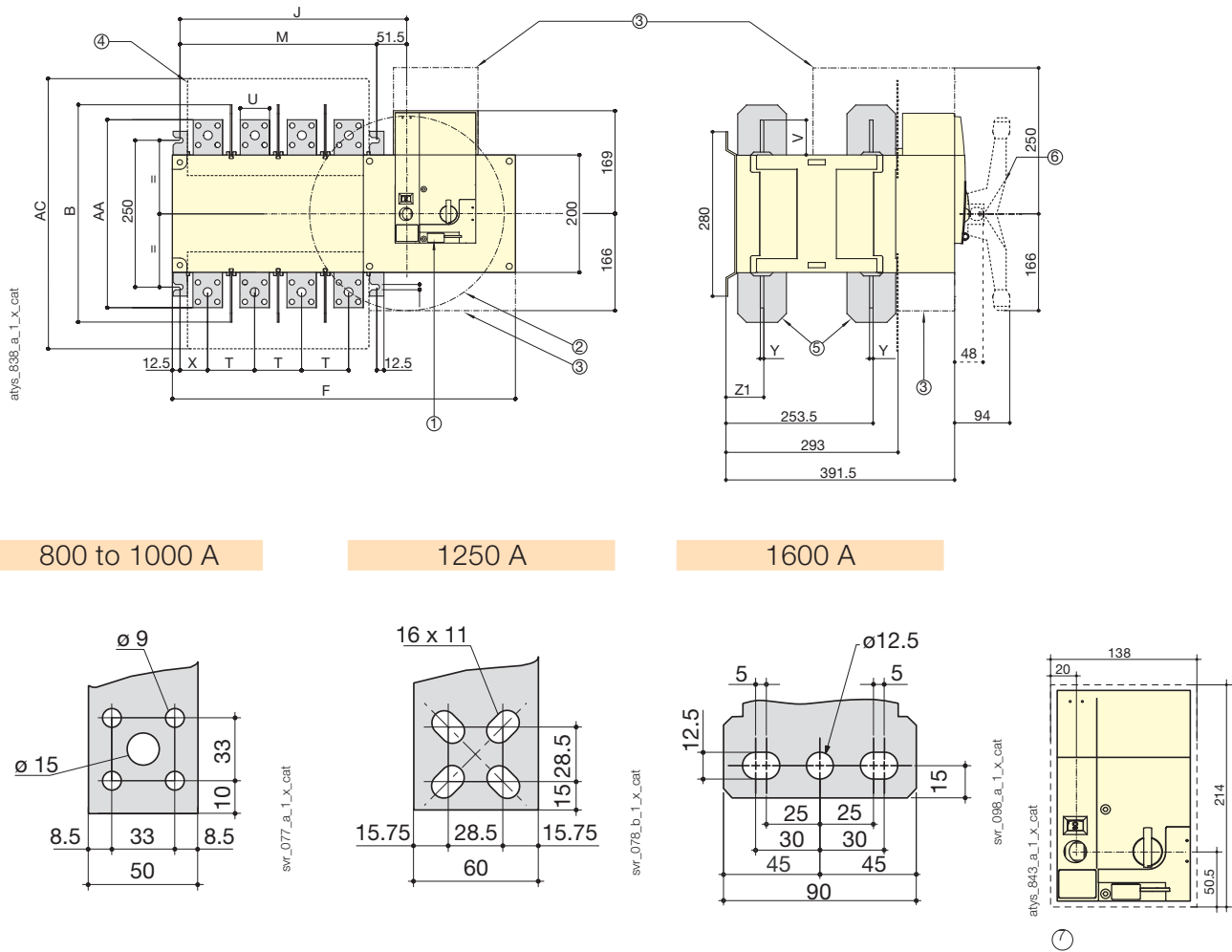
### CAUTION

To consider the space required for manual operation and wiring.  
(When using the ATyS d emergency handle: note 2).

| Rating (A) | Overall dimensions |       |     | Terminal shrouds | Body  |       |       |     |       |       | Switch mounting |       | Connection |    |    |    |      |       |       |      |       |     |     |    |    |
|------------|--------------------|-------|-----|------------------|-------|-------|-------|-----|-------|-------|-----------------|-------|------------|----|----|----|------|-------|-------|------|-------|-----|-----|----|----|
|            | A 3p.              | A 4p. | C   |                  | AC    | F 3p. | F 4p. | H   | J 3p. | J 4p. | J1              | M 3p. | M 4p.      | T  | U  | V  | W    | X 3p. | X 4p. | Y    | Z1    | Z1  | AA  | BA | CA |
| 125        | 304                | 334   | 244 | 233              | 286.5 | 317   | 151   | 154 | 184   | 34    | 120             | 150   | 36         | 20 | 25 | 9  | 28   | 22    | 3.5   | 38   | 134   | 135 | 115 | 10 |    |
| 160        | 304                | 334   | 244 | 233              | 286.5 | 317   | 151   | 154 | 184   | 34    | 120             | 150   | 36         | 20 | 25 | 9  | 28   | 22    | 3.5   | 38   | 134   | 135 | 115 | 10 |    |
| 200        | 304                | 334   | 244 | 233              | 286.5 | 317   | 151   | 154 | 184   | 34    | 120             | 150   | 36         | 20 | 25 | 9  | 28   | 22    | 3.5   | 38   | 134   | 135 | 115 | 10 |    |
| 250        | 345                | 395   | 244 | 288              | 328   | 378   | 152   | 195 | 245   | 35    | 160             | 210   | 50         | 25 | 30 | 11 | 33   | 33    | 3.5   | 39.5 | 133.5 | 160 | 130 | 15 |    |
| 315        | 345                | 395   | 244 | 288              | 328   | 378   | 152   | 195 | 245   | 35    | 160             | 210   | 50         | 25 | 30 | 11 | 33   | 33    | 3.5   | 39.5 | 133.5 | 160 | 130 | 15 |    |
| 400        | 345                | 395   | 244 | 288              | 328   | 378   | 152   | 195 | 245   | 35    | 160             | 210   | 50         | 35 | 35 | 11 | 33   | 33    | 3.5   | 39.5 | 133.5 | 170 | 140 | 15 |    |
| 500        | 394                | 454   | 321 | 402              | 377   | 437   | 221   | 244 | 304   | 34    | 210             | 270   | 65         | 45 | 50 | 13 | 42.5 | 37.5  | 5     | 53   | 190   | 260 | 220 | 20 |    |
| 630        | 394                | 454   | 321 | 402              | 377   | 437   | 221   | 244 | 304   | 34    | 210             | 270   | 65         | 45 | 50 | 13 | 42.5 | 37.5  | 5     | 53   | 190   | 260 | 220 | 20 |    |

All dimensions in mm

## 5.5.2. Dimensions: Frame B6 & B7 (800A to 1600A)



1. Padlocking Facility: Locking bracket for up to 3 padlocks of dia. 4 – 8mm
2. Emergency manual operation: Maximum operating radius with an operating angle of 2x 90°
3. Connection and disconnection area
4. Mounting stand off with spacer accessory
5. Phase Barriers
6. Emergency removable handle
7. Flush mounting cutout dimensions for front door



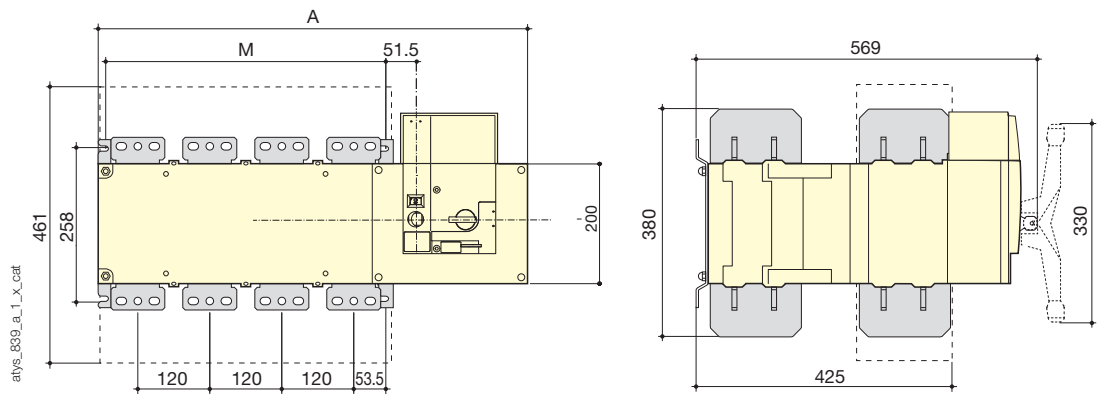
**CAUTION**

To consider the space required for manual operation and wiring.  
(When using the ATyS d emergency handle: note 2).

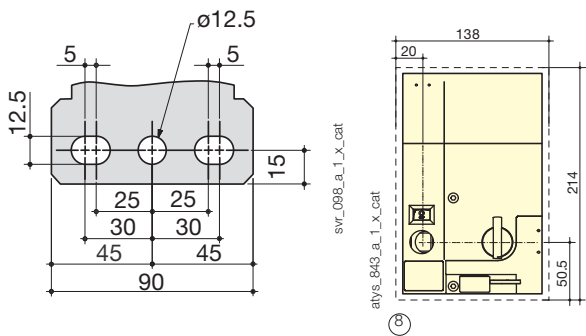
| Rating (A) | Overall dimensions |     | Body  |       |       |       | Switch mounting |       | Connection |    |      |      |   |      |     |  |
|------------|--------------------|-----|-------|-------|-------|-------|-----------------|-------|------------|----|------|------|---|------|-----|--|
|            | B                  | AC  | F 3p. | F 4p. | J 3p. | J 4p. | M 3p.           | M 4p. | T          | U  | V    | X    | Y | Z1   | AA  |  |
| 800        | 370                | 461 | 504   | 584   | 307   | 387   | 255             | 335   | 80         | 50 | 60.5 | 47.5 | 7 | 66.5 | 321 |  |
| 1000       | 370                | 461 | 504   | 584   | 307   | 387   | 255             | 335   | 80         | 50 | 60.5 | 47.5 | 7 | 66.5 | 321 |  |
| 1250       | 370                | 461 | 504   | 584   | 307   | 387   | 255             | 335   | 80         | 60 | 65   | 47.5 | 7 | 66.5 | 330 |  |
| 1600       | 380                | 531 | 596   | 716   | 399   | 519   | 347             | 467   | 120        | 90 | 44   | 53   | 8 | 67.5 | 288 |  |

All dimensions in mm

5.5.3. Dimensions: Frame B8 (2000A to 3200A)



2000 to 3200 A



1. Padlocking Facility: Locking bracket for up to 3 padlocks of dia. 4 – 8mm
2. Emergency manual operation: Maximum operating radius with an operating angle of 2x 90°
3. Connection and disconnection area
4. Mounting stand off with spacer accessory
5. Phase Barriers
6. Emergency removable handle
7. Frame B8, (Dual frame) factory fitted power terminal connections
8. Flush mounting cutout dimensions for front door



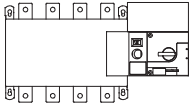
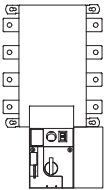
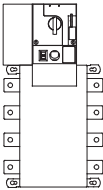
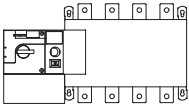
**CAUTION**

To consider the space required for manual operation and wiring.  
(When using the ATyS p emergency handle: note 2).

| Rating (A)    | Overall dimensions |       | Switch mounting |       |
|---------------|--------------------|-------|-----------------|-------|
|               | A 3p.              | A 4p. | M 3p.           | M 4p. |
| 2000 ... 3200 | 596                | 716   | 347             | 467   |

All dimensions in mm

5.6. Mounting orientation

|               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|---------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|               |  |  |  |  |
| 125A to 630A  | Recommended                                                                       | OK                                                                                | Not Allowed                                                                        | Ok                                                                                  |
| 800A to 3200A | Recommended                                                                       | Not Allowed                                                                       | OK                                                                                 | Ok                                                                                  |

**CAUTION**

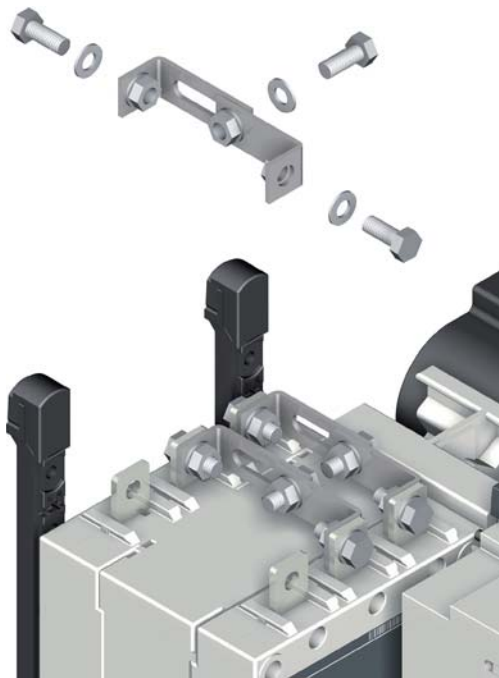
Always install the product on a flat and rigid surface.

5.7. Assembly of customer mounted accessories

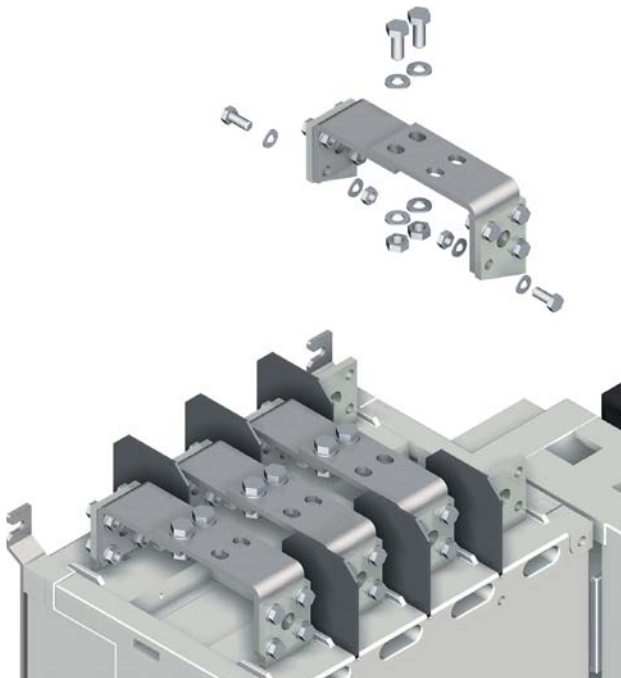
|                                                                                                 |                                                                                                                 |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|  <b>DANGER</b> | Never handle any customer mounted accessories while there may be the risk of voltage being or becoming present. |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

5.7.1. Bridging bar installation

125A to 630A



800A to 1600A



**It is possible to mount the bridging bars on either side of the switch**

Recommended tightening torque:

M6: 4,5 N.m  
M8: 8,3 N.m  
M10: 20 N.m  
M12: 40 N.m

Maximum tightening torque:

M6: 5,4 N.m  
M8: 13 N.m  
M10: 26 N.m  
M12: 45 N.m

## 5.7.2. Copper bar connection kits (2000A to 3200A : Frame B8)



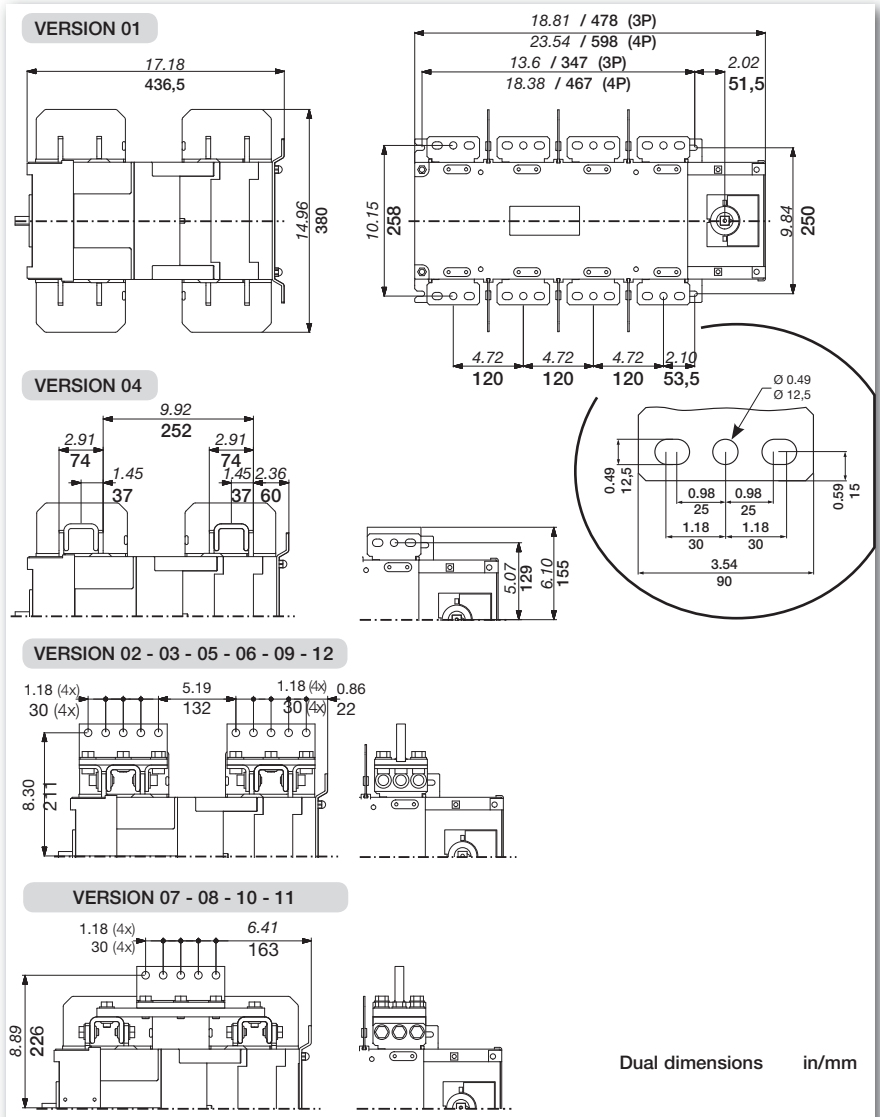
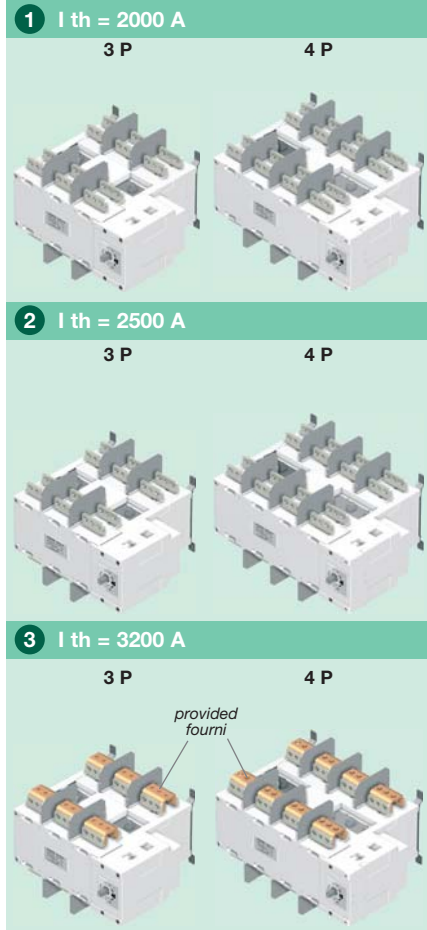
Conditions of use of these products may lead to a derating.



SOCOMECC "Application guide"



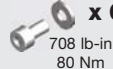
[www.socomec.com](http://www.socomec.com)



Data for Bolts, Nuts and Washers for Busbar Connections.



TO BE SUPPLIED BY OTHERS

| Connection reference numbers and contents:                                                                                                                                                                                 |                                                                                                                                                                                                                            |                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>x 1</b><br><i>included with 3200A product as standard</i><br><b>2619 1200</b>                                                    | <br><b>x 6</b><br><b>2699 1200</b>                                                                                                      | <br><b>x 1</b><br><br><b>x 6</b><br><b>2629 1200</b> |
| <br><b>x 2</b><br><br><b>x 6</b><br><b>2639 1200</b> | <br><b>x 1</b><br><br><b>x 6</b><br><b>4109 0250</b> | <br><b>x 1</b><br><br><b>x 6</b><br><b>4109 0320</b> |

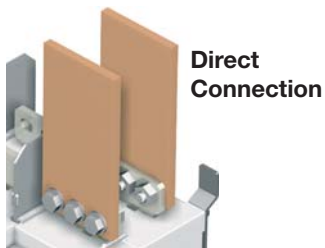
| VERSION | H M12-35 6.8 - 6 x   | 12 x | 6 x  |
|---------|----------------------|------|------|
| 01      | H M12-35 6.8 - 6 x   | 12 x | 6 x  |
| 02      | H M12-55 6.8 - 3 x   | 6 x  | 3 x  |
| 03      | H M12-55 6.8 - 5 x   | 10 x | 5 x  |
| 04      | A H M12-35 6.8 - 3 x | 3 x  | -    |
|         | B H M12-45 6.8 - 3 x | 3 x  | -    |
| 05      | H M12-65 6.8 - 3 x   | 6 x  | 3 x  |
| 06      | H M12-65 6.8 - 5 x   | 10 x | 5 x  |
| 07      | H M12-55 6.8 - 3 x   | 6 x  | 3 x  |
| 08      | H M12-55 6.8 - 5 x   | 10 x | 5 x  |
| 09      | H M12-55 6.8 - 10 x  | 20 x | 10 x |
| 10      | H M12-65 6.8 - 3 x   | 6 x  | 3 x  |
| 11      | H M12-65 6.8 - 5 x   | 10 x | 5 x  |
| 12      | H M12-65 6.8 - 10 x  | 20 x | 10 x |

**Note:** Reference numbers and quantity given above and below are for one connection and per pole.  
For a full set multiply the quantity indicated by the number of poles (3 or 4 pole) and then multiply by 2 (N° of switches)

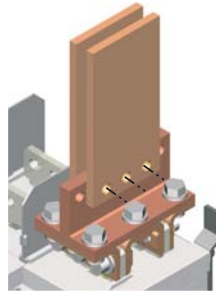
### 5.7.3. Incoming copper bar connection kit assembly

2000A – 2500A (Minimum Cu bar section for lth 2000A 3x100x5mm; and for lth 2500A 4x100x5mm)

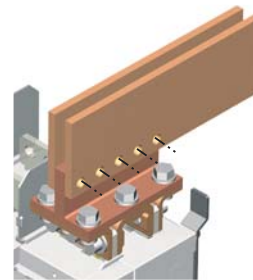
VERSION 01



VERSION 02



VERSION 03

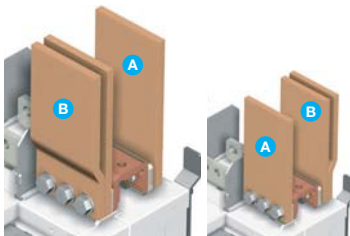


#### V2 & V3

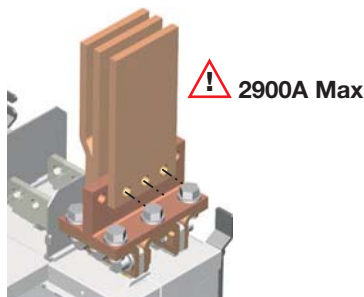
Kit :  
2619 1200 x 1  
2629 1200 x 1  
2639 1200 x 1

3200A (Minimum Cu bar section 3x100x10mm)

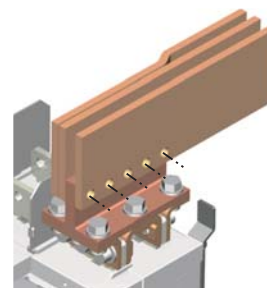
VERSION 04



VERSION 05



VERSION 06



Connection bar 2619 1200 included with 3200A

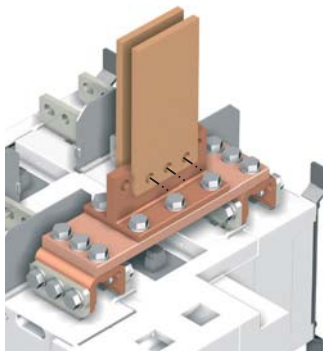
#### V5 & V6

Kit :  
2629 1200 x 1  
2639 1200 x 1

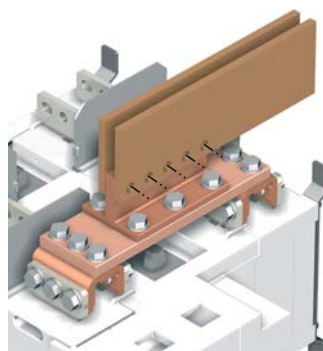
### 5.7.4. Outgoing bridge connection assembly

2000A – 2500A (Minimum Cu bar section for lth 2000A 3x100x5mm; for lth 2500A 4x100x5mm)

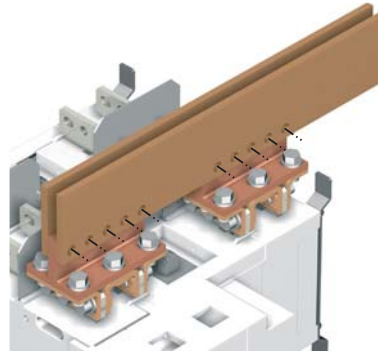
VERSION 07



VERSION 08



VERSION 09



#### V7 & V8

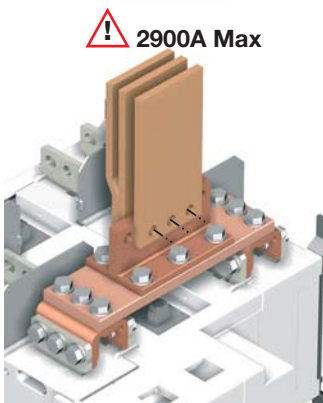
Kit :  
2619 1200 x 2  
2699 1200 x 2  
2629 1200 x 1  
4109 0250 x 1

#### V9

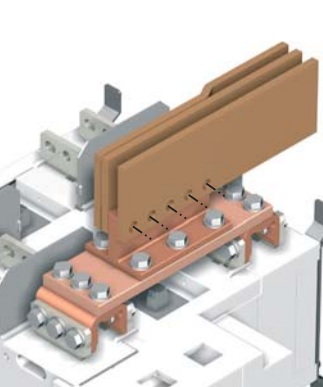
Kit :  
2619 1200 x 2  
2629 1200 x 2  
2639 1200 x 2

3200A (Minimum Cu bar section 3x100x10mm)

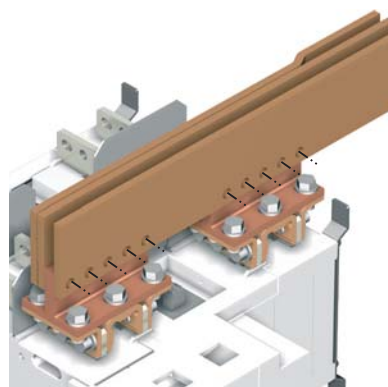
VERSION 10



VERSION 11



VERSION 12



Connection bar 2619 1200 included with 3200A

#### V10 & V11

Kit :  
2629 1200 x 1  
4109 0320 x 1

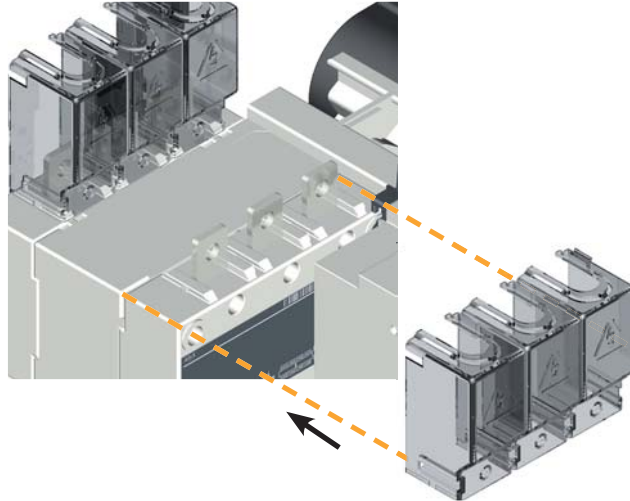
#### V12

Kit :  
2629 1200 x 2  
2639 1200 x 2

### 5.7.5. Terminal shrouds

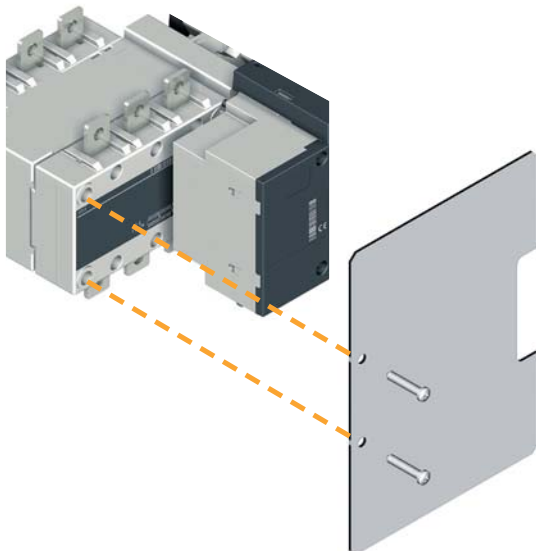
Available from 125A to 630A  
Frame B3 to Frame B5:

- Upstream, downstream, front or rear mounting.
- When fitted with bridging bars only the front terminal shrouds are to be installed.

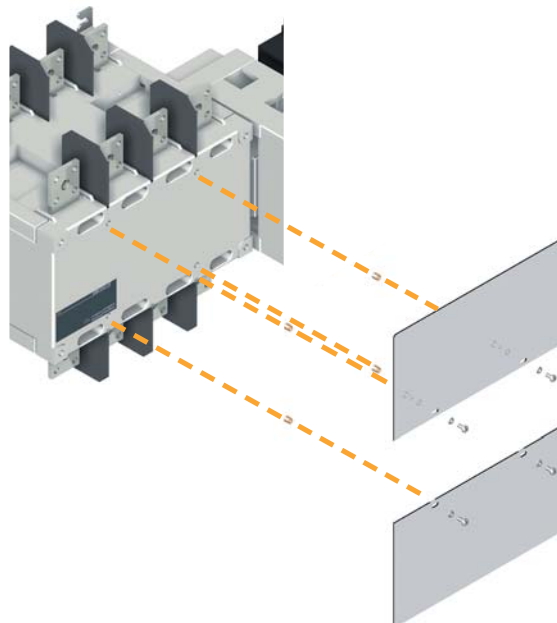


### 5.7.6. Terminal screens

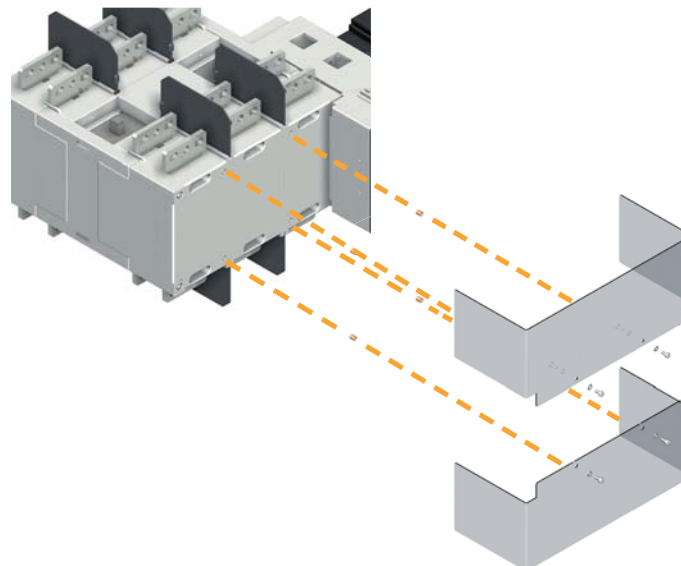
125A to 630A



500A to 1600A

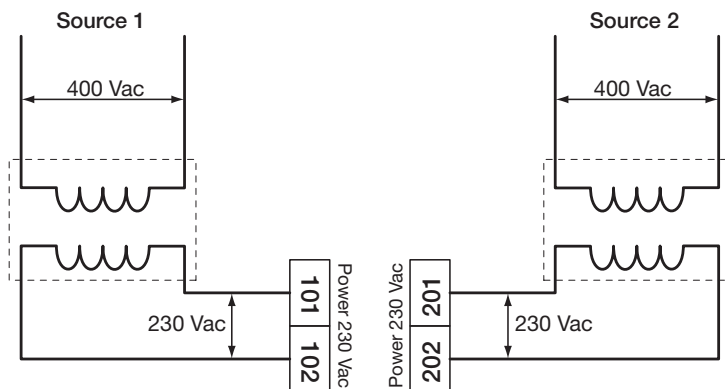


2000A to 3200A



### 5.7.7. External Power supply (400VAC - 230VAC)

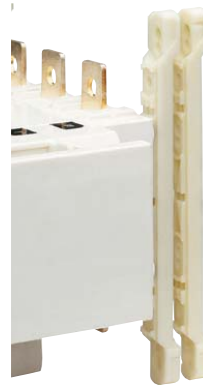
Power Transformer intended for 400VAC, Phase to Phase voltage applications that do not provide the availability of a neutral conductor. Transformer data: 400VAC – 230VAC: 200VA.  
In this case the ATyS d will require 2 transformers to be connected as shown below.



### 5.7.8. Raised mounting spacers

Available for 125A to 630A ratings only  
Frames B3, B4 and B5

1 set including 2 spacers raises the device's terminals 10mm away from the bottom of the enclosure or frame on which the device is mounted. These may also be used to replace the original mounting spacers.

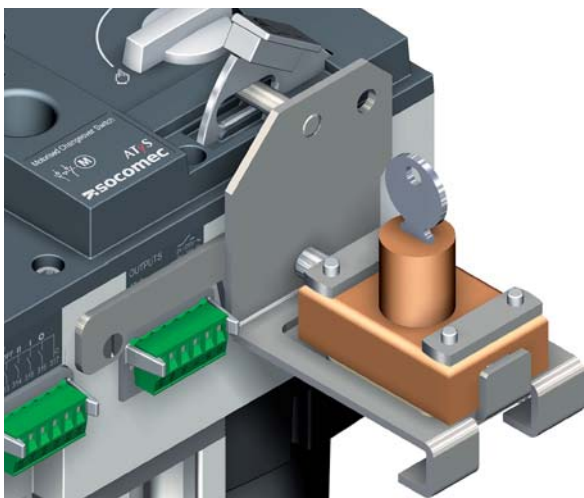


### 5.7.9. Padlocking key interlocks

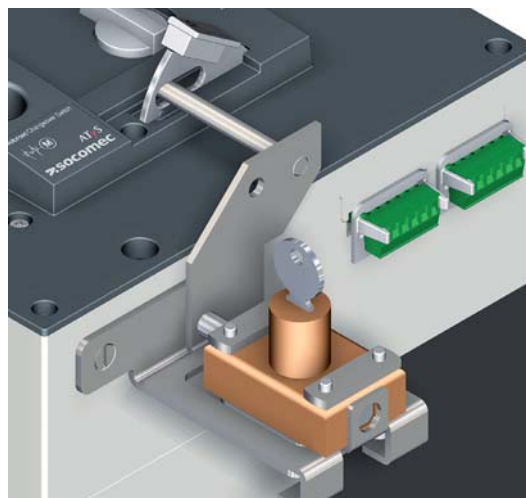
Intended for locking the electrical control and the backup control in position 0 using a RONIS EL11AP lock. As standard, key locking is in the 0 position.

Optionally and when including the option “padlocking in 3 positions” key locking will be in positions I, 0 or II

**125A to 630A**



**800A to 3200A**

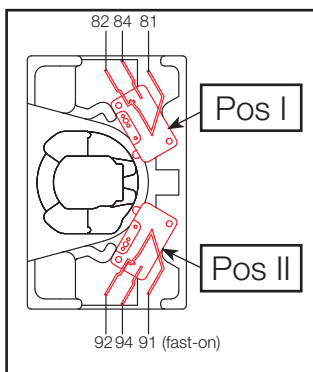
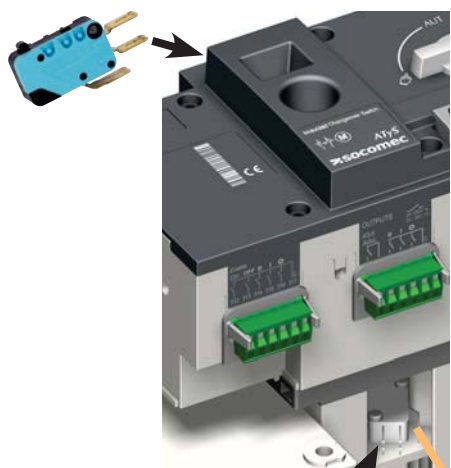


### 5.7.10. Additional auxiliary contacts

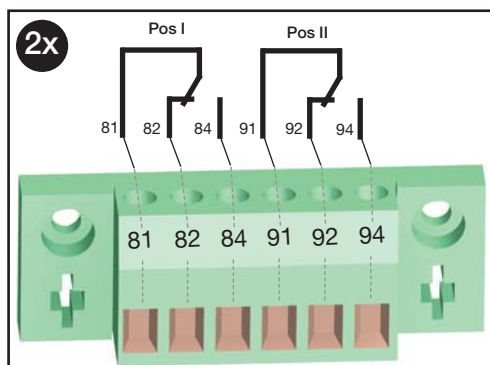
Intended for pre breaking and signaling of positions I and II:

A maximum of 2 NO/NC additional auxiliary contacts can be fitted for each position. (Customer assembly may be required.)

**125A to 630A (Optional)**



**800A to 1600A (Optional)  
2000A to 3200A (Standard)**

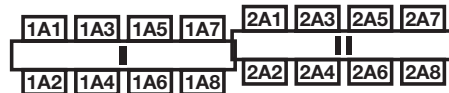
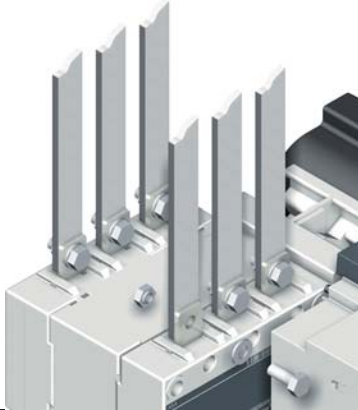


(1) When mounting one auxiliary contact on position I or II, use the short screws provided. When mounting two auxiliary contacts on position I or II, use the long screws provided.

## 6. CONNECTIONS

### 6.1. Power circuits

#### 6.1.1. Cable or bar connections



Recommended tightening torque:

- M6: 4,5 N.m
- M8: 8,3 N.m
- M10: 20 N.m
- M12: 40 N.m

Maximum tightening torque:

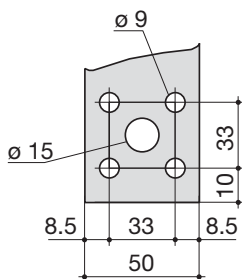
- M6: 5,4 N.m
- M8: 13 N.m
- M10: 26 N.m
- M12: 45 N.m

#### 6.1.2. Power connection terminals

##### 125A to 630A

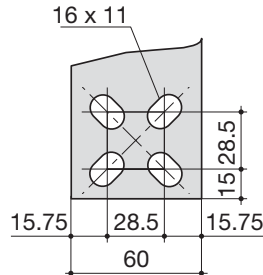
Refer to section "Product dimensions", page 20 for power connection terminals up to 630A.

##### 800A to 1000A



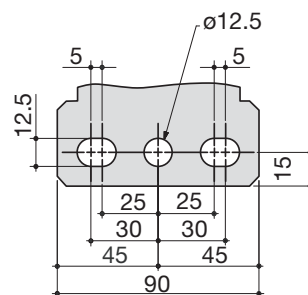
svr\_077\_a\_1\_x\_cat

##### 1250A



svr\_078\_b\_1\_x\_cat

##### 1600A to 3200A



#### 6.1.3. Power connection cross-section

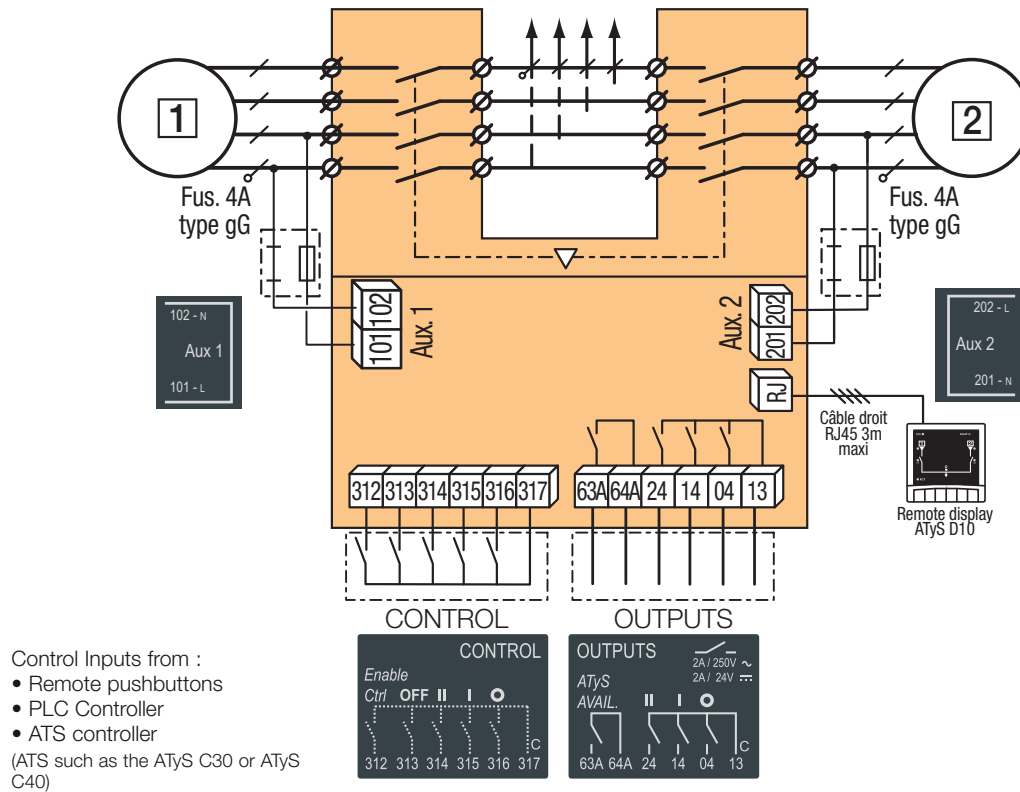
|                                      | B3   |      |      | B4   |      |      | B5         |            | B6         |            |            | B7          | B8          |             |              |
|--------------------------------------|------|------|------|------|------|------|------------|------------|------------|------------|------------|-------------|-------------|-------------|--------------|
|                                      | 125A | 160A | 200A | 250A | 315A | 400A | 500A       | 630A       | 800A       | 1000A      | 1250A      | 1600A       | 2000A       | 2500A       | 3200A        |
| Minimum cables section Cu (mm²), lth | 50   | 70   | 95   | 120  | 185  | 240  | 2x150      | 2x185      | 2x240      | -          | -          | -           | -           | -           | -            |
| Minimum bars section Cu (mm²), lth   | -    | -    | -    | -    | -    | -    | 2x30<br>x5 | 2x40<br>x5 | 2x50<br>x5 | 2x60<br>x5 | 2x80<br>x5 | 2x100<br>x5 | 3x100<br>x5 | 4x100<br>x5 | 3x100<br>x10 |
| Maximum cables section Cu (mm²)      | 50   | 95   | 150  | 150  | 240  | 240  | 2x300      | 2x300      | 2x300      | 4x185      | 4x185      | 6x185       | -           | -           | -            |
| Maximum bars width Cu (mm)           | 25   | 25   | 25   | 32   | 32   | 32   | 50         | 50         | 63         | 63         | 63         | 100         | 100         | 100         | 100          |

Note for all ratings: Take into account the connection cable lengths and/or others environmental specific operating conditions.

## 6.2. Control circuits

### 6.2.1. Typical ATyS d wiring

Example: Control wiring for a 400VAC application having a 3 phase and neutral supply.



**CAUTION**

Verify that the Auxiliary power supply feeding terminals 301 and 302 are within the limits of 208VAC -> 277VAC  $\pm 20\%$ .

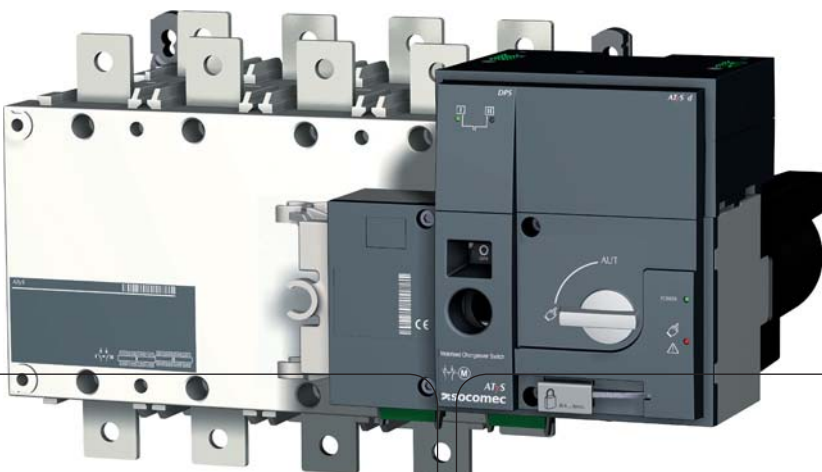


**DANGER**

Do not handle any control or power cables connected to the ATyS when voltage may be present.

6.2.2. ATyS d input and output contacts

6.2.2.1. Terminal denomination, description and characteristics.



  
All pressure on the connector pins is to be avoided during wiring of the auxiliary cables

**CONTROL**

Enable  
Ctrl OFF II I O



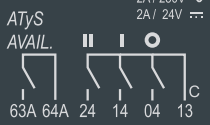
312 313 314 315 316 317 C

Control Enable: 312  
Override to OFF: 313  
Sw to Pos II I/P: 314  
Sw to Pos I I/P: 315  
Sw to Pos 0 I/P: 316  
Common: 317

Prod Avail Common 63A  
Prod Avail O/P: 64A  
Pos II Aux Contact: 24  
Pos I Aux Contact: 14  
Pos 0 Aux Contact: 04  
Common: 13

**OUTPUTS**

ATyS  
AVAIL. II I O



63A 64A 24 14 04 13 C

**Aux Supply 1**  
Power - 230V  
208-277 Vac ±20%  
(166 - 332Vac)



Aux. supply 230V~  
(208-277V~ ±20%)



**Aux Supply 2**  
Power - 230V  
208-277 Vac ±20%  
(166 - 332Vac)



RJ45 to  
D10



| Denomination           | Terminal | Description                                                                                                                                                   | Characteristics                                                          | Recommended Cable Section |
|------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------|
| Aux Power supply Input | 101      | Power supply 1 – L                                                                                                                                            | 208 - 277VAC<br>± 20% : 50/60Hz                                          | 1.5mm                     |
|                        | 102      | Power supply 1 – N                                                                                                                                            |                                                                          |                           |
|                        | 201      | Power supply 2 – L                                                                                                                                            |                                                                          |                           |
|                        | 202      | Power supply 2 – L                                                                                                                                            |                                                                          |                           |
| Control Inputs         | 312      | Remote Control Mode Enable when closed with 317                                                                                                               | Attn:<br>Do not connect to any Power supply<br><br>Max cable length 100m | 1.5mm                     |
|                        | 313      | Position 0 order if closed with 317. (Priority order input forcing the product to remote control mode and 0 position)                                         |                                                                          |                           |
|                        | 314      | Position II order if closed with 317                                                                                                                          |                                                                          |                           |
|                        | 315      | Position I order if closed with 317                                                                                                                           |                                                                          |                           |
|                        | 316      | Position 0 order if closed with 317                                                                                                                           |                                                                          |                           |
|                        | 317      | Common control terminal for 312 - 316 ATyS d (Specific Voltage Supply)                                                                                        |                                                                          |                           |
| Signalisation Outputs  | 13       | Common I - 0 - II for Aux Contacts                                                                                                                            | Dry Contacts<br>2A AC1 / 250V                                            | 1.5mm                     |
|                        | 04       | Aux Contact Position 0 - Normally Open Contact                                                                                                                |                                                                          |                           |
|                        | 14       | Aux Contact position I : Normally Open Contact                                                                                                                |                                                                          |                           |
|                        | 24       | Aux Contact position II : Normally Open Contact                                                                                                               |                                                                          |                           |
|                        | 63A      | Product Available : Normally Open Contact. Closed when the ATyS d is in Auto mode and motorisation is operational. (No Fault powered and ready to changeover) |                                                                          |                           |
|                        | 64A      |                                                                                                                                                               |                                                                          |                           |
| Additional Aux Contact | 81       | Common for Aux Contacts positions I                                                                                                                           | Dry Contacts 2A<br>AC1 / 250V                                            | 1.5 – 2.5mm               |
|                        | 82       | Aux Contact position I: Normally Closed Contact                                                                                                               |                                                                          |                           |
|                        | 84       | Aux Contact position I: Normally Open Contact                                                                                                                 |                                                                          |                           |
|                        | 91       | Common for Aux Contacts positions II                                                                                                                          |                                                                          |                           |
|                        | 92       | Aux Contact position II: Normally Closed Contact                                                                                                              |                                                                          |                           |
|                        | 94       | Aux Contact position II: Normally Open Contact                                                                                                                |                                                                          |                           |

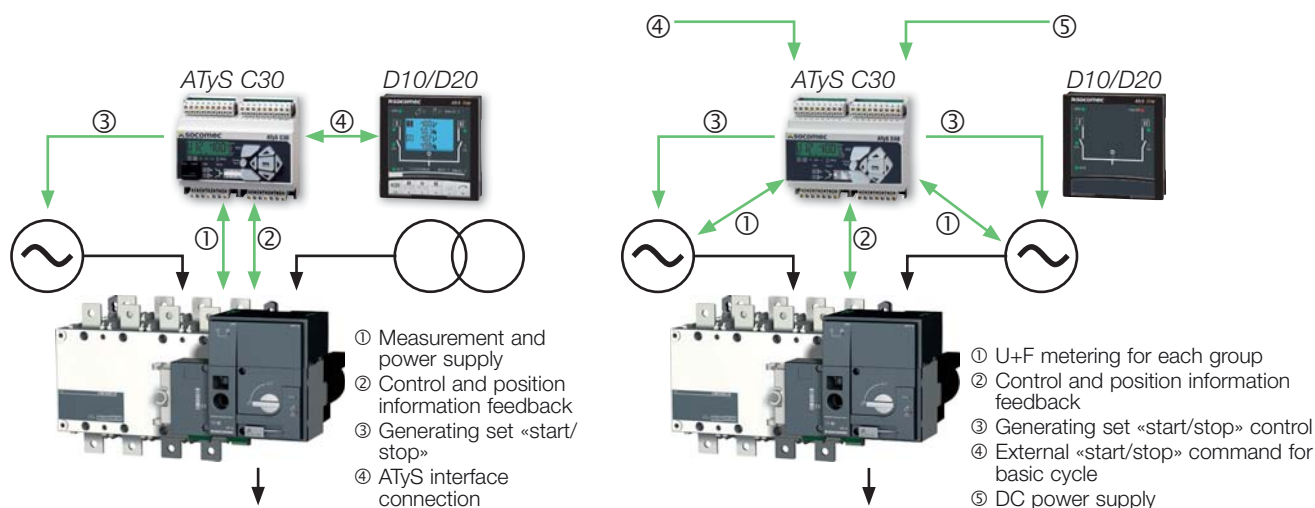


## CAUTION

Do not connect terminals 312 to 317 to any power supply. These order inputs are powered through terminal 317 and external dry contacts ONLY.

### 6.2.3. ATyS d RTSE + ATS Controllers type ATyS C30 and ATyS C40

Refer to the relevant ATS controller instruction manual for ATyS C30 and ATyS C40 details

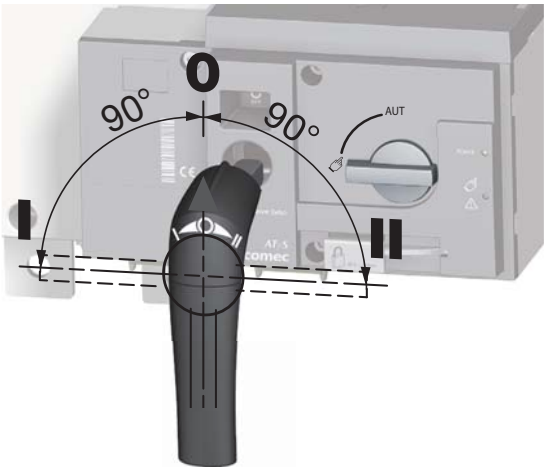


## 7. ATyS d OPERATING MODES

The ATyS d includes 3 safe and distinct operating modes through a selector switch located on the front of the product. As standard the ATyS d is delivered with a selector switch however a key lock type selector switch is available on option. (To be specified at order by the addition of “-K” at the end of the standard reference).

The modes of operation are as follows:

- Auto Mode: “Remotely operated transfer switching”
- Manual Mode: “Local emergency manual operation”
- Locked Mode: “Secure locked padlocking facility”

|                                                                                                                                                                                             |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>AUT</b><br/>MODE</p>                                                                                                                                                                  |    | <p><b>AUT</b></p> <p><b>AUTO MODE:</b></p> <ul style="list-style-type: none"> <li>• Activates the remote control inputs and the ATS controller automation.</li> <li>• Inhibits the padlocking facility</li> <li>• Inhibits the insertion of the manual operation handle when in AUT Mode</li> </ul> <p>AUTO Mode position is inhibited when padlocked or when the handle for manual operation is inserted into the ATyS d.</p>                                                                            |
| <p><br/>MODE</p>                                                                                         |   | <p><b>AUT</b></p> <p><b>MANUAL MODE:<br/>(Not Padlocked)</b></p> <ul style="list-style-type: none"> <li>• Inhibits the control inputs.</li> <li>• Allows to insert the handle for emergency manual operation.</li> <li>• Allows padlocking in O Position. <i>(With the handle for manual operation removed)</i></li> </ul> <p>Turning the selector switch to  from AUT and back to AUT resets a fault state.</p>     |
| <p><br/><br/>MODE</p> |  | <p><b>AUT</b></p> <p><b>MANUAL MODE:<br/>(Padlocked)</b></p> <ul style="list-style-type: none"> <li>• Inhibits the control inputs.</li> <li>• Inhibits insertion of the emergency handle.</li> <li>• Allows padlocking when in O Position.</li> </ul> <p> <b>POS 0</b></p> <p>Padlocking in position I - O and II is possible when the optional function is included in the ATyS d. (Refer to product catalogue)</p> |



**WARNING**

Depending on the state of the ATyS d the ATS automation may change the switch position as soon as the mode selector is switched to AUT. This is a normal operation.

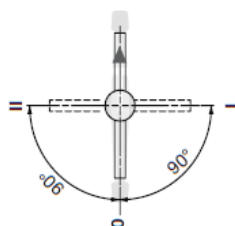
## 7.1. Manual operation

### 7.1.1. Emergency manual operation

The ATyS d can be manually operated as a “Manual Transfer Switch Equipment – MTSE” whilst retaining the electrical characteristics and performance of the power switching function. This function is usually used in case of emergencies or during maintenance.

To operate the ATyS d manually ensure that no live parts are accessible, turn the front selector switch into the manual position (see page 14) and insert the handle (see page 14) into the emergency handle shaft location hole provided (see «5.2. Product identification», page 15).

Turn the handle 90° clockwise or anti-clockwise (depending on the position to be reached) for each consecutive change in position. I -> O -> II -> O -> I.



#### CAUTION

Ensure to verify the product position and direction of rotation before effecting manual operation.

Ensure to remove the handle from the product before changing the selector switch back to AUT position.

### 7.1.2. Padlocking

The ATyS d can be padlocked in the O position as standard whilst padlocking in positions I, O or II is available as a factory fitted option.

To padlock the ATyS d first ensure that the ATyS d mode selector switch is on Manual then ensure that the emergency manual operation handle is not inserted into the location hole. (Remove if inserted).

Pull the padlocking mechanism outwards to reveal the slot for inserting up to 3x dia. 4 - 8mm padlocks.

Padlock the device with approved quality padlocks of minimum diameter 4mm and maximum diameter of 8mm. A maximum of 3x 8mm padlocks may be padlocked onto the ATyS d to padlocking mechanism.



#### CAUTION

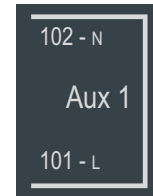
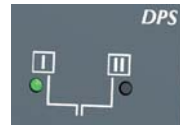
As standard, padlocking is only made possible in the “O position”, when in manual mode and with the emergency handle not inserted.

## 7.2. Electrical operation

### 7.2.1. Power supply

The ATyS d includes a dual power supply and is to be powered between terminals 101 - 102 and 201 - 202 (2 different supplies - main & alternative) within the limit of:

- 2x 208 – 277Vac  $\pm 20\%$  (166 – 332Vac)
- 50/60Hz  $\pm 10\%$



Current Input:

- 10mA (Standby mode)
- 15A max (Switching mode)

Surge Protection :

- $V_{in\_sg}$ : 4 / 8kV – 1.2/50 $\mu$ s according to IEC 61010-1

Terminal connector:

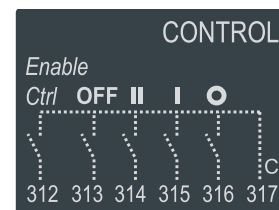
- Minimum 1.5mm<sup>2</sup>
- Maximum 2.5mm<sup>2</sup>

### 7.2.2. Fixed inputs

#### 7.2.2.1. Description

The ATyS d includes for 5 off fixed inputs through a 6 pin connector installed on the motorisation module. No additional power supply should be used on these contacts as the inputs **MUST** be used with the common supply taken from terminal 317.

At least one of the ATyS d aux power supplies (101 – 102 or 201 - 202) must be available to activate inputs 312 to 317.



Pulse duration for activation of contact inputs:  $\geq 60$ ms.

- **Pin 312:** Remote Control Mode Enable when closed with 317.  
This contact must be closed with 317 so as to activate all control inputs except for 313 that takes priority and is active immaterial of the state of input 312.
- **Pin 313:** Position 0 order if closed with 317 when in AUTO. **(Force ATyS d to the OFF Position).**  
This is a “Priority Order Input” meaning that when closed with 317 it takes priority over all other electrical commands. The ATyS d will remain in 0 position as long as the contact 313 – 317 remains closed. Once the contact is open the ATyS d is ready to receive new orders. This contact order is independent of other inputs and is also enabled without 312 connected to 317. Impulse duration to activate and switch to position O is a minimum of 60ms.
- **Pin 314:** Position II order if closed with 317.  
This contact is active with the ATyS d in AUT mode with contact 312 – 317 closed and 313 – 317 open. Impulse duration to activate and switch to position II is a minimum of 60ms.
- **Pin 315:-** Position I order if closed with 317.  
This contact is active with the ATyS d in AUT mode with contact 312 – 317 closed and 313 – 317 open. Impulse duration to activate and switch to position I is a minimum of 60ms.
- **Pin 316:-** Position O order if closed with 317.  
This contact is active with the ATyS d in AUT mode with contact 312 – 317 closed and 313 – 317 open. Impulse duration to activate and switch to position O is a minimum of 60ms. For contactor logic maintain contacts on between terminal 316 and 317.
- **Pin 317:-** Common for inputs 312 to 316.

### 7.2.2.2. Technical data

|                                     | Motorisation Module                                 |
|-------------------------------------|-----------------------------------------------------|
| Input Qty                           | 5                                                   |
| Direct Current I <sub>in</sub>      | 0.35 to 0.5mA                                       |
| Line resistance                     | 1kΩ                                                 |
| Line length                         | 100m (Min. wire 1.5mm <sup>2</sup> #16AWG)          |
| Pulse duration                      | 60ms                                                |
| Power per Input                     | 0.06VA                                              |
| Surge protection Vin <sub>sg</sub>  | 4.8kV (1.2/50μs surge)                              |
| ESD withstand voltage (Contact/air) | 2/4kV                                               |
| Insulation (Common mode)            | 4.8kVAC<br>(Between I/P and all common parts)       |
| Terminal connector                  | 1.5mm <sup>2</sup> minimum / 2.5mm <sup>2</sup> max |

### 7.2.2.3. Remote control logic

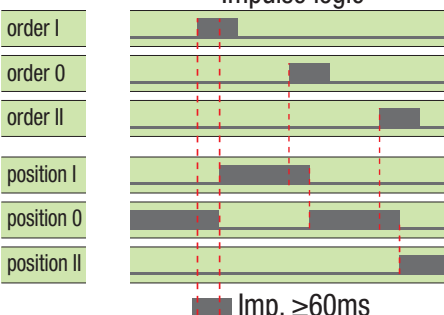
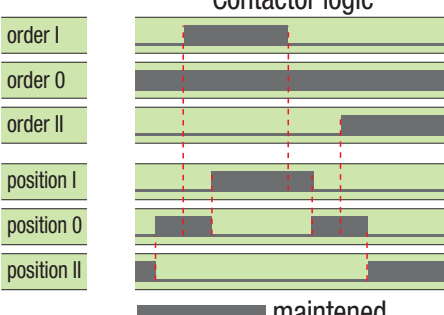
Remote switching operation can be driven in AUT mode by external volt free contacts as described above using input contacts 312 to 317.

Depending on the wiring configuration there are two types of logic that may be applied to the ATyS d.

- Impulse logic or
- Contactor logic.

In remote control, the ATyS d inputs give priority to orders I and II over 0 therefore contactor logic can be implemented by simply bridging terminals 316 and 317.

(NOTE: 312 – 317 closed / Force ATyS d to OFF Position, takes priority over all other orders no matter of the control logic used.)

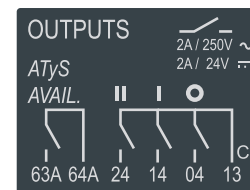
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Impulse logic:</b></p> <p>The ATyS d is driven to a stable position (I – O – II) after receiving an impulse order.</p> <ul style="list-style-type: none"> <li>• A switching command of at least 60 ms is necessary to initiate the switching operation.</li> <li>• Orders I and II have priority over order 0.</li> </ul> <p>Note: The logic diagrams exclude the transfer times.</p>                                                                                                                          | <p style="text-align: center;"><b>Impulse logic</b></p>  <p style="text-align: center;">(Note : Excludes position switching delays)</p>   |
| <p><b>Contactor Logic :</b></p> <p>The ATyS is driven to a specific position (I or II) for as long as the order is maintained.</p> <ul style="list-style-type: none"> <li>• Order 0 is maintained. (Bridge 316 – 317)</li> <li>• Orders I and II have priority over order 0.</li> <li>• Orders I and II have equal priority.<br/>(1st order received is held until no longer maintained).</li> <li>• If order I or II disappears, the device returns to zero position. (With the power supply available).</li> </ul> | <p style="text-align: center;"><b>Contactor logic</b></p>  <p style="text-align: center;">(Note : Excludes position switching delays)</p> |

## 7.2.3. Fixed outputs - Dry contacts

### 7.2.3.1. Description

As standard, the ATyS d is equipped with four fixed outputs located on the motorisation module.

(Dry contacts to be powered by the user).



### 7.2.3.2. Position auxiliary contact

The ATyS d is equipped with integrated position (I – O – II) auxiliary contact outputs through 3 off micro switches.

#### Pins 13, 04, 14, 24

(Normally Open contacts with pin 13 as common)

### 7.2.3.3. ATyS d Product available output (motorisation)

#### Pin 63A – 64A

(Normally Open contact that is held closed when the motorisation is available).

This contact gives constant feedback about the product's availability and it's capacity to transfer from the main supply to the alternative. The feedback given is relative to the motorisation module excluding the ATS controller that may be monitored separately.

The ATyS d performs a self diagnostics test on the motorisation module at startup, when put from Manual -> Auto and then every 5 minutes. This test ensures that the ATyS d is operational in terms of control inputs. Should one of the tests fail, a second test is performed to reconfirm the error state. Should the ATyS d motorisation module become unavailable, contact 63A – 64A are opened, the power/ready LED's are switched off, and the fault LED is activated. The fault LED will remain active for as long as sufficient power is available and the fault condition is not reset. The fault is reset when the product is switched from AUT -> Manual -> Auto mode.

ATyS d (Motorisation) Product Available / Unavailable Watchdog relay will open for any of the following reasons below: For added security, "Product Availability" is informative and does not necessarily inhibit motor operation.

| Product Unavailable + Warning LED Condition:           | Inhibition |
|--------------------------------------------------------|------------|
| Product in manual mode                                 | Yes        |
| Motor not detected (Autotest)                          | No         |
| Control voltage out of range                           | Yes        |
| Operating factor fault active (N° of operations / min) | Yes        |
| Powerfail active                                       | Yes        |
| Customer input autotest failed                         | No         |
| Invalid product customisation                          | No         |
| Abnormal switching when not in manual mode             | Yes        |
| Requested position not reached                         | Yes        |
| Locked mode active when not in manual mode             | Yes        |
| External Fault -> User input                           | No         |
| Unexpected current flowing through the motor when idle | Yes        |

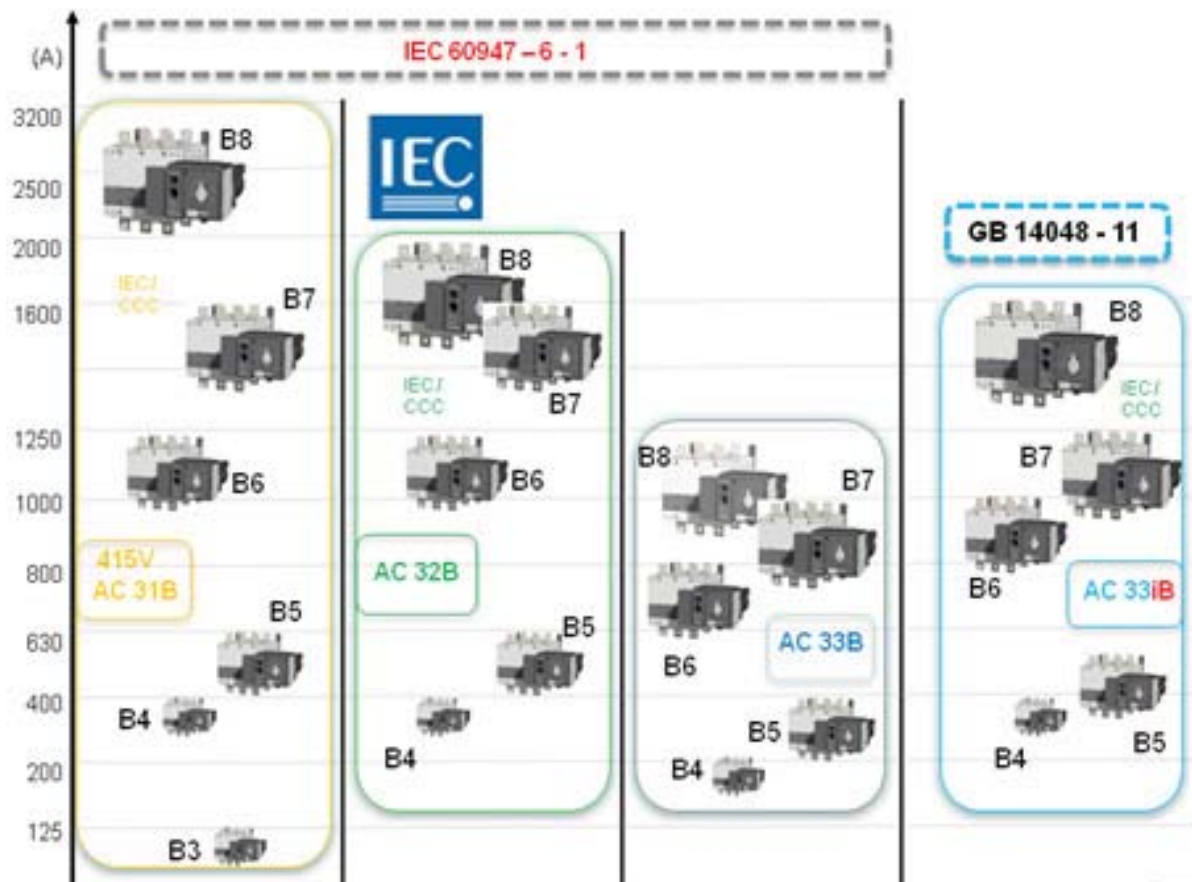
*Sampling rate for the above is every 10 ms*

*Exception: motor detection sampling rate is every 5 min*

#### 7.2.3.4. Technical data

|                                      |                                                         |
|--------------------------------------|---------------------------------------------------------|
| Auxiliary Contact Quantity           | 4                                                       |
| Configuration                        | NO                                                      |
| Mechanical Endurance                 | 100k cycles                                             |
| Response Time                        | 5 – 10 ms                                               |
| Startup duration                     | 200ms                                                   |
| Rated Voltage / Switching Voltage    | 250VAC                                                  |
| Rated Current                        | 2A                                                      |
| Surge protection Vin_sg:             | 4.8kV (1.2/50µs surge)                                  |
| ESD withstand voltage (Contact/air): | 2/4kV                                                   |
| Dielectric Strength contact/parts:   | 4.8kVAC (Reinforced Insulation)                         |
| Insulation:                          | 4.8KVAC                                                 |
| Output Terminal:                     | 1.5mm <sup>2</sup> minimum / 2.5mm <sup>2</sup> maximum |

## 8. CHARACTERISTICS



# Characteristics according to IEC 60947-3 and IEC 60947-6-1

125 to 630 A / B3 to B5

| Thermal current $I_{th}$ at 40°C                                                                                                  |                      | 125 A              | 160 A              | 200 A              | 250 A              | 315 A              | 400 A              | 500 A              | 630 A              |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Frame size                                                                                                                        |                      | B3                 | B3                 | B3                 | B4                 | B4                 | B4                 | B5                 | B5                 |
| Rated insulation voltage $U_i$ (V) (power circuit)                                                                                |                      | 800                | 800                | 800                | 1000               | 1000               | 1000               | 1000               | 1000               |
| Rated impulse withstand voltage $U_{imp}$ (kV) (power circuit)                                                                    |                      | 8                  | 8                  | 8                  | 12                 | 12                 | 12                 | 12                 | 12                 |
| Rated insulation voltage $U_i$ (V) (operation circuit)                                                                            |                      | 300                | 300                | 300                | 300                | 300                | 300                | 300                | 300                |
| Rated impulse withstand voltage $U_{imp}$ (kV) (operation circuit)                                                                |                      | 4                  | 4                  | 4                  | 4                  | 4                  | 4                  | 4                  | 4                  |
| Rated operational currents $I_e$ (A) according to IEC 60947-6-1                                                                   |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| 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> | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> |
| 415 VAC                                                                                                                           | AC-31 B              | 125                | 160                | 200                | 250                | 315                | 400                | 500                | 630                |
| 415 VAC                                                                                                                           | AC-32 B              |                    |                    |                    | 200                | 315                | 400                | 500                | 500                |
| 415 VAC                                                                                                                           | AC-33 B              |                    |                    |                    | 200                | 200                | 200                | 400                | 400                |
| Rated operational currents $I_e$ (A) according to IEC 60947-3                                                                     |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| 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> | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> |
| 415 VAC                                                                                                                           | AC-20 A / AC-20 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 415 VAC                                                                                                                           | AC-21 A / AC-21 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 415 VAC                                                                                                                           | AC-22 A / AC-22 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 415 VAC                                                                                                                           | AC-23 A / AC-23 B    | 125/125            | 160/160            | 200/200            | 200/200            | 315/315            | 400/400            | 500/500            | 630/630            |
| 500 VAC                                                                                                                           | AC-20 A / AC-20 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 500 VAC                                                                                                                           | AC-21 A / AC-21 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 500 VAC                                                                                                                           | AC-22 A / AC-22 B    | 125/125            | 160/160            | 200/200            | 200/250            | 200/315            | 200/400            | 500/500            | 500/500            |
| 500 VAC                                                                                                                           | AC-23 A / AC-23 B    | 80/80              | 80/80              | 80/80              | 200/200            | 200/200            | 200/200            | 400/400            | 400/400            |
| 690 VAC                                                                                                                           | AC-20 A / AC-20 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 690 VAC                                                                                                                           | AC-21 A / AC-21 B    | 125/125            | 160/160            | 200/200            | 200/200            | 200/200            | 200/200            | 500/500            | 500/500            |
| 690 VAC                                                                                                                           | AC-22 A / AC-22 B    | 125/125            | 125/125            | 125/125            | 160/160            | 160/160            | 160/160            | 400/400            | 400/400            |
| 690 VAC                                                                                                                           | AC-23 A / AC-23 B    | 63/80              | 63/80              | 63/80              | 125/125            | 125/125            | 125/125            | 400/400            | 400/400            |
| 220 VDC <sup>(2)</sup>                                                                                                            | DC-20 A / DC-20 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 220 VDC <sup>(2)</sup>                                                                                                            | DC-21 A / DC-21 B    | 125/125            | 160/160            | 200/200            | 250/250            | 250/250            | 250/250            | 500/500            | 630/630            |
| 220 VDC <sup>(2)</sup>                                                                                                            | DC-22 A / DC-22 B    | 125/125            | 160/160            | 200/200            | 250/250            | 250/250            | 250/250            | 500/500            | 630/630            |
| 220 VDC <sup>(2)</sup>                                                                                                            | DC-23 A / DC-23 B    | 125/125            | 125/125            | 125/125            | 200/200            | 200/200            | 200/200            | 500/500            | 630/630            |
| 440 VDC <sup>(2)</sup>                                                                                                            | DC-20 A / DC-20 B    | 125/125            | 160/160            | 200/200            | 250/250            | 315/315            | 400/400            | 500/500            | 630/630            |
| 440 VDC <sup>(2)</sup>                                                                                                            | DC-21 A / DC-21 B    | 125/125            | 125/125            | 125/125            | 200/200            | 200/200            | 200/200            | 500/500            | 630/630            |
| 440 VDC <sup>(2)</sup>                                                                                                            | DC-22 A / DC-22 B    | 125/125            | 125/125            | 125/125            | 200/200            | 200/200            | 200/200            | 500/500            | 630/630            |
| 440 VDC <sup>(2)</sup>                                                                                                            | DC-23 A / DC-23 B    | 125/125            | 125/125            | 125/125            | 200/200            | 200/200            | 200/200            | 500/500            | 630/630            |
| Fuse protected short-circuit withstand as per IEC 60947-3 at 690 VAC                                                              |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| Prospective short-circuit current (kA rms)                                                                                        |                      | 100 <sup>(3)</sup> | 100 <sup>(3)</sup> | 50 <sup>(3)</sup>  | 50                 | 50                 | 50                 | 50                 | 50                 |
| Associated fuse rating (A)                                                                                                        |                      | 125                | 160                | 200                | 250                | 315                | 400                | 500                | 630                |
| Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s <sup>(4)</sup> |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| Rated short-time withstand current 0.3s $I_{cw}$ (kA rms)                                                                         |                      | 12 <sup>(3)</sup>  | 12 <sup>(3)</sup>  | 12 <sup>(3)</sup>  | 15                 | 15                 | 15                 | 17                 | 17                 |
| Rated short-circuit withstand without protection                                                                                  |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| Rated short-time withstand current 60ms $I_{cw}$ (kA rms) as per IEC 60947-6-1 at 415 VAC                                         |                      |                    |                    |                    | 10 <sup>(5)</sup>  | 10 <sup>(5)</sup>  | 10 <sup>(5)</sup>  | 10                 | 12.6               |
| Rated short-time withstand current 1ms $I_{cw}$ (kA rms) as per IEC 60947-3 at 690 VAC                                            |                      | 7 <sup>(3)</sup>   | 7 <sup>(3)</sup>   | 7 <sup>(3)</sup>   | 8                  | 8                  | 8                  | 10                 | 10                 |
| Rated peak withstand current (kA peak) as per IEC 60947-3 at 690 VAC                                                              |                      | 20                 | 20                 | 20                 | 30                 | 30                 | 30                 | 45                 | 45                 |
| Connection                                                                                                                        |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| Maximum Cu cable cross-section (mm²)                                                                                              |                      | 35                 | 50                 | 70                 | 95                 | 150                | 185                | 240                | 2 x 150            |
| Minimum Cu busbar cross-section (mm²)                                                                                             |                      |                    |                    |                    |                    |                    |                    |                    | 2 x 30 x 5         |
| Maximum Cu cable cross-section (mm²)                                                                                              |                      | 50                 | 95                 | 120                | 150                | 240                | 240                | 2 x 185            | 2 x 300            |
| Maximum Cu busbar width (mm)                                                                                                      |                      | 25                 | 25                 | 25                 | 32                 | 32                 | 32                 | 50                 | 50                 |
| Tightening torque mini / maxi (Nm)                                                                                                |                      | 9/13               | 9/13               | 9/13               | 20/26              | 20/26              | 20/26              | 20/26              | 20/26              |
| Switching time (Standard setting)                                                                                                 |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| I - II or II - I (s)                                                                                                              |                      | 0.75               | 0.75               | 0.75               | 1.3                | 1.3                | 1.3                | 1.3                | 1.3                |
| I-0 or 0-II (s)                                                                                                                   |                      | 0.45               | 0.45               | 0.45               | 0.85               | 0.85               | 0.85               | 0.85               | 0.85               |
| Duration of "electrical blackout" I - II (s)                                                                                      |                      | 0.3                | 0.3                | 0.3                | 0.6                | 0.6                | 0.6                | 0.6                | 0.6                |
| Power supply                                                                                                                      |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| min / max (VAC)                                                                                                                   |                      | 166/332            | 166/332            | 166/332            | 166/332            | 166/332            | 166/332            | 166/332            | 166/332            |
| Control supply power demand                                                                                                       |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| Power supply 230 VAC inrush / nominal (VA) - ATyS                                                                                 |                      | 184/92             | 184/92             | 184/92             | 276/115            | 276/115            | 276/115            | 276/150            | 276/150            |
| Power supply 230 VAC inrush / nominal (VA) - ATyS d, t, g, p                                                                      |                      | 206/114            | 206/114            | 206/114            | 298/137            | 298/137            | 298/137            | 298/172            | 298/172            |
| Mechanical characteristics                                                                                                        |                      |                    |                    |                    |                    |                    |                    |                    |                    |
| Durability (number of operating cycles)                                                                                           |                      | 10 000             | 10 000             | 10 000             | 8 000              | 8 000              | 8 000              | 5 000              | 5 000              |
| Weight ATyS 3/4 P (kg)                                                                                                            |                      | 5.7 / 6.9          | 5.7 / 6.9          | 5.7 / 6.9          | 6.6 / 7.4          | 6.7 / 7.8          | 6.7 / 7.8          | 11.4 / 13.3        | 11.9 / 14.0        |
| Weight ATyS d 3/4 P (kg)                                                                                                          |                      | 6.3 / 7.5          | 6.3 / 7.5          | 6.3 / 7.5          | 7.2 / 8.0          | 7.3 / 8.4          | 7.3 / 8.4          | 12.0 / 13.9        | 12.5 / 14.6        |
| Weight ATyS r, t, g, p 3/4 P (kg)                                                                                                 |                      | 6.8 / 8.0          | 6.8 / 8.0          | 6.8 / 8.0          | 7.7 / 8.5          | 7.8 / 8.9          | 7.8 / 8.9          | 12.5 / 14.4        | 13.0 / 15.1        |

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

(2) 3-pole device with 2 pole in series for the "+" and 1 pole for the "-". 4-pole device with 2 poles in series by polarity.

(3) At 415 VAC.

(5) Value for coordination with any circuit-breaker that ensures tripping in less than 0.3s.

For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

(5) At 30ms.

## 800 to 3200 A / B6 to B8

| Thermal current $I_{th}$ at 40°C                                   | 800 A | 1000 A | 1250 A | 1600 A | 2000 A | 2500 A | 3200 A |
|--------------------------------------------------------------------|-------|--------|--------|--------|--------|--------|--------|
| Frame size                                                         | B6    | B6     | B6     | B7     | B8     | B8     | B8     |
| Rated insulation voltage $U_i$ (V) (power circuit)                 | 1000  | 1000   | 1000   | 1000   | 1000   | 1000   | 1000   |
| Rated impulse withstand voltage $U_{imp}$ (kV) (power circuit)     | 12    | 12     | 12     | 12     | 12     | 12     | 12     |
| Rated insulation voltage $U_i$ (V) (operation circuit)             | 300   | 300    | 300    | 300    | 300    | 300    | 300    |
| Rated impulse withstand voltage $U_{imp}$ (kV) (operation circuit) | 4     | 4      | 4      | 4      | 4      | 4      | 4      |

### Rated operational currents $I_e$ (A) according to IEC 60947-6-1

| 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> | A/B <sup>(1)</sup> |
|---------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 415 VAC       | AC-31 B              | 800                | 1000               | 1250               | 1600               | 2000               | 2500               | 3200               |
| 415 VAC       | AC-32 B              | 800                | 1000               | 1250               | 1600               | 2000               | 2000               | 2000               |
| 415 VAC       | AC-33 B              | 800                | 800                | 800                | 1000               | 1250               | 1250               | 1250               |

### Rated operational currents $I_e$ (A) according to IEC 60947-3

| 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> | A/B <sup>(1)</sup> |
|------------------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 415 VAC                | AC-20 A / AC-20 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          | 2000/2000          | 2500/2500          | 3200/3200          |
| 415 VAC                | AC-21 A / AC-21 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          | -/2000             | -/2500             | -/3200             |
| 415 VAC                | AC-22 A / AC-22 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          | -/2000             | -/2500             | -/3200             |
| 415 VAC                | AC-23 A / AC-23 B    | 800/800            | 1000/1000          | 1250/1250          | 1250/1250          | -/1600             | -/1600             | -/1600             |
| 500 VAC                | AC-20 A / AC-20 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          | 2000/2000          | 2500/2500          | 3200/3200          |
| 500 VAC                | AC-21 A / AC-21 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          | -/2000             | -/2500             | -/3200             |
| 500 VAC                | AC-22 A / AC-22 B    | 630/630            | 800/800            | 1000/1000          | 1600/1600          |                    |                    |                    |
| 500 VAC                | AC-23 A / AC-23 B    | 400/400            | 630/630            | 800/800            | 1000/1000          |                    |                    |                    |
| 690 VAC                | AC-20 A / AC-20 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          | 2000/2000          | 2500/2500          | 3200/3200          |
| 690 VAC                | AC-21 A / AC-21 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          | -/2000             | -/2500             | -/3200             |
| 690 VAC                | AC-22 A / AC-22 B    | 630/630            | 800/800            | 1000/1000          | 1000/1000          |                    |                    |                    |
| 690 VAC                | AC-23 A / AC-23 B    | 400/400            | 630/630            | 800/800            | 800/800            |                    |                    |                    |
| 220 VDC <sup>(2)</sup> | DC-20 A / DC-20 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          |                    |                    |                    |
| 220 VDC <sup>(2)</sup> | DC-21 A / DC-21 B    | 800/800            | 1000/1000          | 1250/1250          | 1250/1250          |                    |                    |                    |
| 220 VDC <sup>(2)</sup> | DC-22 A / DC-22 B    | 800/800            | 1000/1000          | 1250/1250          | 1250/1250          |                    |                    |                    |
| 220 VDC <sup>(2)</sup> | DC-23 A / DC-23 B    | 800/800            | 1000/1000          | 1250/1250          | 1250/1250          |                    |                    |                    |
| 440 VDC <sup>(2)</sup> | DC-20 A / DC-20 B    | 800/800            | 1000/1000          | 1250/1250          | 1600/1600          |                    |                    |                    |
| 440 VDC <sup>(2)</sup> | DC-21 A / DC-21 B    | 800/800            | 1000/1000          | 1250/1250          | 1250/1250          |                    |                    |                    |
| 440 VDC <sup>(2)</sup> | DC-22 A / DC-22 B    | 800/800            | 1000/1000          | 1250/1250          | 1250/1250          |                    |                    |                    |
| 440 VDC <sup>(2)</sup> | DC-23 A / DC-23 B    | 800/800            | 1000/1000          | 1250/1250          | 1250/1250          |                    |                    |                    |

### Fuse protected short-circuit withstand as per IEC 60947-3 at 415 VAC

|                                            |     |      |      |       |  |  |  |
|--------------------------------------------|-----|------|------|-------|--|--|--|
| Prospective short-circuit current (kA rms) | 50  | 100  | 100  | 100   |  |  |  |
| Associated fuse rating (A)                 | 800 | 1000 | 1250 | 2x800 |  |  |  |

### Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s<sup>(3)</sup>

|                                                           |    |    |    |    |    |    |    |
|-----------------------------------------------------------|----|----|----|----|----|----|----|
| Rated short-time withstand current 0.3s $I_{cw}$ (kA rms) | 47 | 64 | 64 | 78 | 78 | 78 | 78 |
|-----------------------------------------------------------|----|----|----|----|----|----|----|

### Rated short-circuit withstand without protection

|                                                                                           |    |    |    |     |     |     |     |
|-------------------------------------------------------------------------------------------|----|----|----|-----|-----|-----|-----|
| Rated short-time withstand current 60ms $I_{cw}$ (kA rms) as per IEC 60947-6-1 at 415 VAC | 16 | 20 | 25 | 32  | 40  | 50  | 50  |
| Rated short-time withstand current 1ms $I_{cw}$ (kA rms) as per IEC 60947-3 at 415 VAC    | 26 | 35 | 35 | 50  | 50  | 50  | 50  |
| Rated peak withstand current (kA peak) as per IEC 60947-3 at 415 VAC                      | 55 | 55 | 80 | 110 | 120 | 120 | 120 |

### Connection

|                                       |            |            |            |            |              |              |              |
|---------------------------------------|------------|------------|------------|------------|--------------|--------------|--------------|
| Maximum Cu cable cross-section (mm²)  | 2 x 185    | 2 x 240    |            |            |              |              |              |
| Minimum Cu busbar cross-section (mm²) | 2 x 50 x 5 | 2 x 50 x 5 | 2 x 60 x 5 | 2 x 80 x 5 | 2 x 100 x 10 | 2 x 100 x 10 | 2 x 100 x 10 |
| Maximum Cu cable cross-section (mm²)  | 2 x 300    | 4 x 185    | 4 x 185    | 6 x 185    |              |              |              |
| Maximum Cu busbar width (mm)          | 63         | 63         | 63         | 100        | 100          | 100          | 100          |
| Tightening torque mini / maxi (Nm)    | 20/26      | 20/26      | 20/26      | 40/45      | 40/45        | 40/45        | 40/45        |

### Switching time (Standard setting)

|                                              |     |     |     |     |   |   |   |
|----------------------------------------------|-----|-----|-----|-----|---|---|---|
| I-0 or II-0 (s)                              | 2.6 | 2.6 | 2.6 | 2.6 | 2 | 2 | 2 |
| I - II or II - I (s)                         | 1.6 | 1.6 | 1.6 | 1.6 | 1 | 1 | 1 |
| Duration of "electrical blackout" I - II (s) | 1.5 | 1.5 | 1.5 | 1.6 | 1 | 1 | 1 |

### Power supply

|                 |         |         |         |         |         |         |         |
|-----------------|---------|---------|---------|---------|---------|---------|---------|
| min / max (VAC) | 166/332 | 166/332 | 166/332 | 166/332 | 166/332 | 166/332 | 166/332 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|

### Control supply power demand

|                                                              |         |         |         |         |         |         |         |
|--------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Power supply 230 VAC inrush / nominal (VA) - ATyS            | 460/184 | 460/184 | 460/184 | 460/230 | 812/322 | 812/322 | 812/322 |
| Power supply 230 VAC inrush / nominal (VA) - ATyS d, t, g, p | 482/206 | 482/206 | 482/206 | 482/252 | 834/344 | 834/344 | 834/344 |

### Mechanical characteristics

|                                         |             |             |             |             |             |             |             |
|-----------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Durability (number of operating cycles) | 4 000       | 4 000       | 4 000       | 3 000       | 3 000       | 3 000       | 3 000       |
| Weight ATyS 3/4 P (kg)                  | 27.9 / 32.2 | 28.4 / 32.9 | 28.9 / 33.6 | 33.1 / 39.4 | 50.7 / 61.6 | 50.7 / 61.6 | 61.0 / 75.3 |
| Weight ATyS d 3/4 P (kg)                | 28.5 / 32.8 | 29.0 / 33.5 | 29.5 / 34.2 | 33.7 / 40.0 | 51.3 / 62.2 | 51.3 / 62.2 | 61.6 / 75.9 |
| Weight ATyS r, t, g, p 3/4 P (kg)       | 29.0 / 33.3 | 29.5 / 34.0 | 30.0 / 34.7 | 34.2 / 40.5 | 51.8 / 62.7 | 51.8 / 62.7 | 62.1 / 76.4 |

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

(2) 3-pole device with 2 pole in series for the "+" and 1 pole for the "-".

4-pole device with 2 poles in series by polarity.

(3) Value for coordination with any circuit-breaker that ensures tripping in less than 0.3s.

For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

## 9. PREVENTIVE MAINTENANCE

It is recommended to verify the tightening torque of all connections and to operate the product in a full operating cycle (I – 0 – II – 0 – I: Auto and Manual) at least once a year.

Note: Maintenance should be planned carefully and carried out by qualified and authorised personnel. Consideration of the critical level and application where the product is installed should form an essential and integral part of the maintenance plan. Good engineering practice is imperative whilst all necessary precautions must be taken to ensure that the intervention (whether directly or indirectly) remains safe in all aspects.

## 10. TROUBLE SHOOTING GUIDE

|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The ATyS d does not operate electrically                            | <ul style="list-style-type: none"> <li>• Verify the power supply on terminals 101-102 and 201-202: 208 - 277 Vac <math>\pm 20\%</math></li> <li>• Verify that the front selector switch is in position (AUT)</li> <li>• Verify that contacts 313 and 317 are open.</li> <li>• Verify that the power LED (Green) is On whilst the fault LED (RED) is off.</li> <li>• Verify presence of at least one green LED on the DPS module.</li> <li>• Verify that the product is available with contacts 63A and 64A closed.</li> </ul>                                                                  |
| It is not possible to manually operate the switch                   | <ul style="list-style-type: none"> <li>• Verify that the front selector switch position is on the Manual position.</li> <li>• Make sure that the product is not padlocked</li> <li>• Verify the rotation direction of the handle</li> <li>• Apply a sufficient progressive action in the direction as indicated on the handle.</li> </ul>                                                                                                                                                                                                                                                      |
| Electrical operation does not correspond to external order I, O, II | <ul style="list-style-type: none"> <li>• Verify the selected control logic wiring (impulse or contactor)</li> <li>• Verify the connector connections.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                               |
| The fault/manual LED is ON                                          | <ul style="list-style-type: none"> <li>• The FAULT / MANUAL LED is on when in manual mode (this is normal) and in AUT Mode when there is an internal fault in the ATyS d. To reset a fault condition switch the ATyS d from AUT to Manu and back to AUT. Should the fault LED remain on you will need to localize and clear the fault prior to reset.</li> <li>• The FAULT / Manual LED will also be on when contact 313 is closed with 317. (Force the ATyS d to off position). This is a normal condition.</li> <li>• Should the Fault LED remain on abnormally, contact SOCOMEC.</li> </ul> |
| Impossible to padlock                                               | <ul style="list-style-type: none"> <li>• Verify that the front selector switch is in manual position</li> <li>• Verify that the emergency handle for manual operation is not inserted into the ATyS d manual slot.</li> <li>• Verify that the ATyS d is in 0 position<br/>(Padlocking is only possible in 0 position for standard products)</li> </ul>                                                                                                                                                                                                                                         |

# 11. ACCESSORIES

## 11.1. Terminal shrouds

### Use

IP2X protection against direct contact with terminals or connecting parts.

### Advantages

Perforations allow remote thermographic inspection without the need to remove the shrouds.

| Rating (A)  | Frame size | No. of poles | Position                             | Reference                          |
|-------------|------------|--------------|--------------------------------------|------------------------------------|
| 125 ... 200 | B3         | 3 P          | top / bottom / front (I) / rear (II) | 2694 <b>3014</b> <sup>(1)(2)</sup> |
| 125 ... 200 | B3         | 4 P          | top / bottom / front (I) / rear (II) | 2694 <b>4014</b> <sup>(1)(2)</sup> |
| 250 ... 400 | B4         | 3 P          | top / bottom / front (I) / rear (II) | 2694 <b>3021</b> <sup>(1)(2)</sup> |
| 250 ... 400 | B4         | 4 P          | top / bottom / front (I) / rear (II) | 2694 <b>4021</b> <sup>(1)(2)</sup> |
| 500 ... 630 | B5         | 3 P          | top / bottom / front (I) / rear (II) | 2694 <b>3051</b> <sup>(1)(2)</sup> |
| 500 ... 630 | B5         | 4 P          | top / bottom / front (I) / rear (II) | 2694 <b>4051</b> <sup>(1)(2)</sup> |

(1) To shroud front switch top and bottom 2 references required.

(2) To fully shroud front, rear, top and bottom 4 references required.



access\_206\_a\_2\_cat

## 11.2. Terminal screens

### Use

Top and bottom protection against direct contact with terminals or connection parts.

For upstream and downstream protection, order the reference once.

| Rating (A)    | Frame size | No. of poles | Position     | Reference        |
|---------------|------------|--------------|--------------|------------------|
| 125 ... 200   | B3         | 3 P          | top / bottom | 1509 <b>3012</b> |
| 125 ... 200   | B3         | 4 P          | top / bottom | 1509 <b>4012</b> |
| 250 ... 400   | B4         | 3 P          | top / bottom | 1509 <b>3025</b> |
| 250 ... 400   | B4         | 4 P          | top / bottom | 1509 <b>4025</b> |
| 500 ... 630   | B5         | 3 P          | top / bottom | 1509 <b>3063</b> |
| 500 ... 630   | B5         | 4 P          | top / bottom | 1509 <b>4063</b> |
| 800 ... 1250  | B6         | 3 P          | top / bottom | 1509 <b>3080</b> |
| 800 ... 1250  | B6         | 4 P          | top / bottom | 1509 <b>4080</b> |
| 1600          | B7         | 3 P          | top / bottom | 1509 <b>3160</b> |
| 1600          | B7         | 4 P          | top / bottom | 1509 <b>4160</b> |
| 2000 ... 3200 | B8         | 3 P          | top / bottom | 1509 <b>3200</b> |
| 2000 ... 3200 | B8         | 4 P          | top / bottom | 1509 <b>4200</b> |



access\_207\_a\_2\_cat

## 11.3. Bridging bars

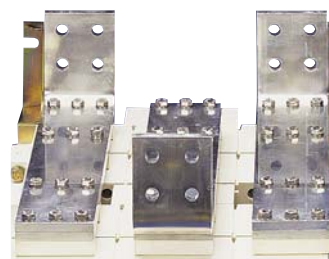
### Use

For bridging power terminals on the top or bottom side of the switch.  
One piece required per pole.

| Rating (A)   | Frame size | No. of poles | Section (mm) | Reference        |
|--------------|------------|--------------|--------------|------------------|
| 125 ... 200  | B3         | 3 P          | 20 x 2.5     | 4109 <b>3019</b> |
| 125 ... 200  | B3         | 4 P          | 20 x 2.5     | 4109 <b>4019</b> |
| 250          | B4         | 3 P          | 25 x 2.5     | 4109 <b>3025</b> |
| 250          | B4         | 4 P          | 25 x 2.5     | 4109 <b>4025</b> |
| 315 ... 400  | B4         | 3 P          | 32 x 5       | 4109 <b>3039</b> |
| 315 ... 400  | B4         | 4 P          | 32 x 5       | 4109 <b>4039</b> |
| 500          | B5         | 3 P          | 32 x 5       | 4109 <b>3050</b> |
| 500          | B5         | 4 P          | 32 x 5       | 4109 <b>4050</b> |
| 630          | B5         | 3 P          | 50 x 5       | 4109 <b>3063</b> |
| 630          | B5         | 4 P          | 50 x 5       | 4109 <b>4063</b> |
| 800 ... 1000 | B6         | 3 P          | 50 x 6       | 4109 <b>3080</b> |
| 800 ... 1000 | B6         | 4 P          | 50 x 6       | 4109 <b>4080</b> |
| 1250         | B6         | 3 P          | 60 x 8       | 4109 <b>3120</b> |
| 1250         | B6         | 4 P          | 60 x 8       | 4109 <b>4120</b> |
| 1600         | B7         | 3 P          | 90 x 10      | 4109 <b>3160</b> |
| 1600         | B7         | 4 P          | 90 x 10      | 4109 <b>4160</b> |



access\_205\_a\_2\_cat



access\_041\_a\_1\_cat

## 11.4. Copper bar connection kits

### Use

Enables:

- connection between the two power terminals of the same pole for 2000 to 3200 A ratings (Fig. 1 and Fig. 2)
  - top or bottom bridging connection (Fig. 3).
- For 3200 A rating, the connection pieces (part A) are delivered bridged from factory.

Bolt sets must be ordered separately. The user manual for these specific accessories can be downloaded from [www.socomec.com](http://www.socomec.com).

Fig. 1

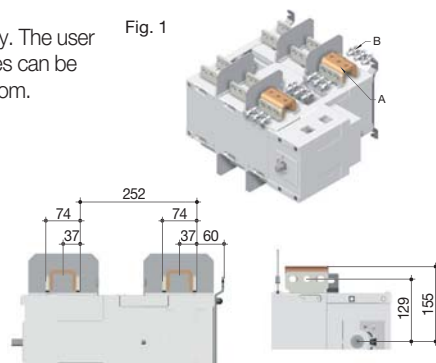


Fig. 2

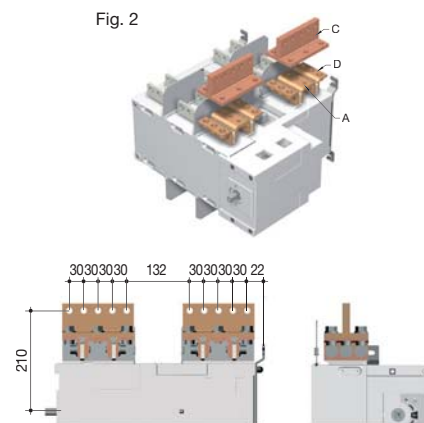
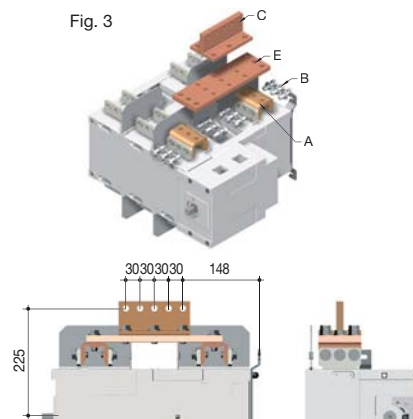


Fig. 3



Top or bottom flat connection - Fig. 1

| Rating (A)    | Frame size | Piece               | Quantity to order per pole <sup>(1)</sup> | Reference |
|---------------|------------|---------------------|-------------------------------------------|-----------|
| 2000 ... 2500 | B8         | Connection - part A | 2                                         | 2619 1200 |
| 2000 ... 2500 | B8         | Bolt set - part B   | 2                                         | 2699 1200 |
| 3200          | B8         | Connection - part A |                                           | included  |
| 3200          | B8         | Bolt set - part B   | 2                                         | 2699 1200 |

Top or bottom edgewise connection - Fig. 2

| Rating (A)    | Frame size | Piece               | Quantity to order per pole <sup>(1)</sup> | Reference                |
|---------------|------------|---------------------|-------------------------------------------|--------------------------|
| 2000 ... 2500 | B8         | Connection - part A | 2                                         | 2619 1200                |
| 2000 ... 2500 | B8         | T piece - part C    | 2                                         | 2629 1200 <sup>(2)</sup> |
| 2000 ... 2500 | B8         | Bracket - part D    | 2                                         | 2639 1200 <sup>(2)</sup> |
| 3200          | B8         | Connection - part A |                                           | included                 |
| 3200          | B8         | T piece - part C    | 2                                         | 2629 1200 <sup>(2)</sup> |
| 3200          | B8         | Bracket - part D    | 2                                         | 2639 1200 <sup>(2)</sup> |

Top or bottom bridging connection - Fig. 3

| Rating (A)    | Frame size | Piece               | Quantity to order per pole <sup>(1)</sup> | Reference                |
|---------------|------------|---------------------|-------------------------------------------|--------------------------|
| 2000 ... 2500 | B8         | Connection - part A | 2                                         | 2619 1200                |
| 2000 ... 2500 | B8         | Bolt set - part B   | 2                                         | 2699 1200                |
| 2000 ... 2500 | B8         | Bar - part E        | 1                                         | 4109 0320 <sup>(2)</sup> |
| 2000 ... 2500 | B8         | T piece - part C    | 1                                         | 2629 1200 <sup>(2)</sup> |
| 3200          | B8         | Connection - part A |                                           | included                 |
| 3200          | B8         | Bolt set - part B   | 2                                         | 2699 1200                |
| 3200          | B8         | Bar - part E        | 1                                         | 4109 0320 <sup>(2)</sup> |
| 3200          | B8         | T piece - part C    | 1                                         | 2629 1200 <sup>(2)</sup> |

(1) Example for 3 pole device equipped upstream only: Order 3 times the indicated quantities.

(2) Bolt set is provided with the accessories.

## 11.5. Solid neutral

### Use

The connection kit enables the connection between the input and output neutrals, without any need to switch the neutral.

| Rating (A)   | Frame size | Reference |
|--------------|------------|-----------|
| 125 ... 200  | B3         | 9509 0012 |
| 200 ... 315  | B4         | 9509 0025 |
| 400          | B4         | 9509 0040 |
| 500 ... 630  | B5         | 9509 0063 |
| 800 ... 1000 | B6         | 9509 0080 |
| 1250         | B6         | 9509 0120 |
| 1600         | B7         | 9509 0160 |

## 11.6. Autotransformer 400/230 VAC

### Use

For applications without neutral, this autotransformer provides the 230 VAC required to power these ATyS products.

| Rating (A)   | Frame size | Reference |
|--------------|------------|-----------|
| 125 ... 3200 | B3 ... B8  | 1599 4064 |

## 11.7. DC power supply

### Use

Allows an ATyS to be supplied from a 12 or 24 VDC source.

To be positioned as close as possible to the DC power supply source.

| Rating (A)   | Frame size | Operating voltage | Reference |
|--------------|------------|-------------------|-----------|
| 125 ... 3200 | B3 ... B8  | 12 VDC / 230 VAC  | 1599 5012 |
| 125 ... 3200 | B3 ... B8  | 24 VDC / 230 VAC  | 1599 5112 |

## 11.8. Voltage relay

### Use

The ATyS DS is a voltage relay for monitoring a three-phase power supply source.

The fault relay will close as soon as a fault is detected on the supply being monitored.

| Rating (A) | Reference |
|------------|-----------|
| DS         | 192X 0056 |



atys\_762\_a\_1\_cat

## 11.9. Door protective surround

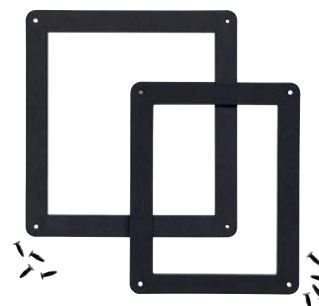
### Use

When direct access to the ATyS front face (mode selection, manual operation, display....) is required, the door surround can be utilised to provide a clean and safe finish to the panel's cut-out.

| For ATyS r   |            |           |
|--------------|------------|-----------|
| Rating (A)   | Frame size | Reference |
| 125 ... 630  | B3 ... B5  | 1529 0012 |
| 800 ... 3200 | B6 ... B8  | 1529 0080 |

| For ATyS d, t, g and p |            |           |
|------------------------|------------|-----------|
| Rating (A)             | Frame size | Reference |
| 125 ... 630            | B3 ... B5  | 1539 0012 |
| 800 ... 3200           | B6 ... B8  | 1539 0080 |



atys\_595\_a\_2\_cat

## 11.10. Auxiliary contacts (additional)

### Use

Pre breaking and signalling of positions I and II: each reference provides a single factory or customer fitted NO/NC contacts for both positions.

Low level auxiliary contacts: please consult us.

| Rating (A)   | Frame size | Nominal current (A) | Operating current I <sub>o</sub> (A) |               |              |              |
|--------------|------------|---------------------|--------------------------------------|---------------|--------------|--------------|
|              |            |                     | 250 VAC AC-13                        | 400 VAC AC-13 | 24 VDC DC-13 | 48 VDC DC-13 |
| 125 ... 3200 | B3 ... B8  | 16                  | 12                                   | 8             | 14           | 6            |

| Rating (A)    | Frame size | Type of mounting | Reference                |
|---------------|------------|------------------|--------------------------|
| 125 ... 630   | B3 ... B5  | Customer fitted  | 1599 0502 <sup>(1)</sup> |
| 125 ... 630   | B3 ... B5  | Factory fitted   | 1599 0002 <sup>(1)</sup> |
| 800 ... 1600  | B6 ... B7  | Customer fitted  | 1599 0532 <sup>(1)</sup> |
| 800 ... 1600  | B6 ... B7  | Factory fitted   | 1599 0032 <sup>(1)</sup> |
| 2000 ... 3200 | B8         | -                | included                 |

(1) Up to 2 auxiliary contacts can be ordered.



125 to 630 A

access\_397\_a



800 to 1600 A

access\_396\_a

## 11.11. Mounting spacers

### Use

Increases the distance between the rear power terminals and the backplate by 1 cm per spacer.

This accessory may also be used to replace the original mounting spacers.

| Rating (A)  | Frame size | Description of accessories | Reference |
|-------------|------------|----------------------------|-----------|
| 125 ... 630 | B3 ... B5  | 1 set of 2 spacers         | 1509 0001 |



atys\_009\_b\_2\_cat

## 11.12. 3 position padlocking (I - 0 - II)

### Use

Enables the ATyS to be padlocked in the 3 positions 0, I and II (factory fitted).

| Rating (A)   | Frame size | Reference |
|--------------|------------|-----------|
| 125 ... 630  | B3 ... B5  | 9599 0003 |
| 800 ... 3200 | B6 ... B8  | 9599 0004 |



## 11.13. RONIS Key interlocking system

### Use

With the product in manual mode, it enables locking in position 0 using a RONIS EL11AP lock (factory fitted).

As standard, locking in position 0.

Optional padlocking in 3 positions: locking in position I, 0 or II.

| Rating (A)   | Frame size | Reference |
|--------------|------------|-----------|
| 125 ... 630  | B3 ... B5  | 9599 1006 |
| 800 ... 3200 | B6 ... B8  | 9599 1004 |



atys\_868\_a

## 11.14. Remote interface

### Use

To remotely display source availability and position indication typically used on the front of a panel when the product is enclosed.

Interfaces are powered from the ATyS transfer switch via the RJ45 connection cable.

Maximum cable length: 3 m.

### D10 - for ATyS d, t and g

To display source availability and position indication on the front panel of an enclosure. Protection degree: IP21.

### D20 - for ATyS p

In addition to the functions of the ATyS D10, the D20 displays measurements and enables control and configuration from the front of a panel.

Protection degree: IP21.

### Door mounting

2 holes Ø 22.5. ATyS transfer switch connection via RJ45 cable, not isolated.

Cable available as an accessory.



atys\_564\_d\_1\_cat

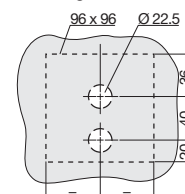
atys\_565\_d\_1\_cat

| Description of accessories | Reference |
|----------------------------|-----------|
| D10                        | 9599 2010 |
| D20                        | 9599 2020 |



atys\_597\_a\_1\_cat

### Drillings



atys\_161\_a\_1\_x\_cat

## 11.15. Connection cable for remote interface

### Use

To connect between a remote interface (type D10 or D20) and an ATyS transfer switch (ATyS d, t, g or p).

RJ45 8 wire straight-through, non isolated cable. Length 3m.

### Characteristics

| For ATyS d, t, g and p |        |           |
|------------------------|--------|-----------|
| Type                   | Length | Reference |
| RJ45 cable             | 3 m    | 1599 2009 |



access\_2009\_a\_2\_cat

## 11.16. Auto/Manual key selector

### Use

Replaces the standard Auto/Manual selector knob with a key selector, providing added security by preventing unauthorised use of product. Customer assembly required.

| Rating (A)   | Frame size | Reference |
|--------------|------------|-----------|
| 125 ... 3200 | B3 ... B8  | 9599 1007 |



atys\_869\_a

## 12. Spare parts

### 12.1. Electronic module

The electronic module of ATyS d, t, g and p can be easily replaced in case of problems, even when the load is supplied.

| Product model | References       |
|---------------|------------------|
| ATyS d        | 9539 <b>2001</b> |
| ATyS t        | 9549 <b>2001</b> |
| ATyS g        | 9559 <b>2001</b> |
| ATyS p        | 9579 <b>2001</b> |



atys\_621\_c\_1\_gb\_cat

### 12.2. Motorisation module

The motorisation module of ATyS r, d, t, g and p can be easily replaced in case of problems, even when the load is supplied.

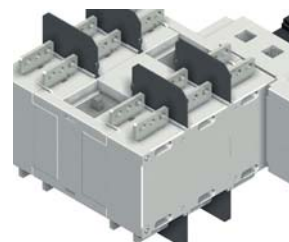
| Rating          | References       |
|-----------------|------------------|
| 125 ... 200 A   | 9509 <b>5020</b> |
| 250 ... 400 A   | 9509 <b>5040</b> |
| 500 ... 630 A   | 9509 <b>5063</b> |
| 800 ... 1250 A  | 9509 <b>5120</b> |
| 1600 A          | 9509 <b>5160</b> |
| 2000 ... 3200 A | 9509 <b>5320</b> |



atys\_871\_a

### 12.3. Power section

References to be used for replacing the switching module of ATyS r, d, t, g or p. Please contact SOCOMEC.

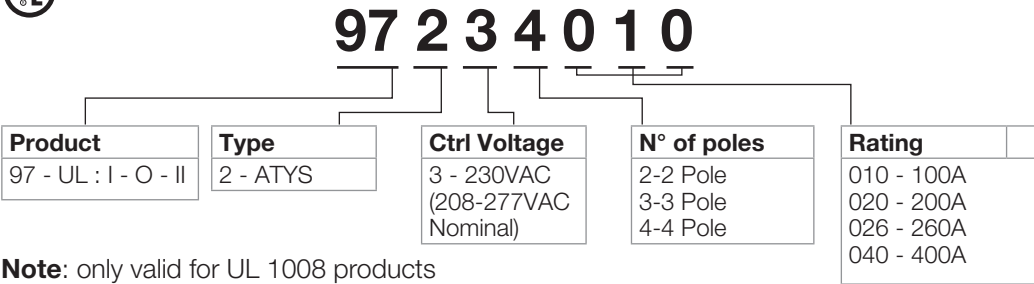


# 13. ATYS Family: ORDERING INFORMATION

The following is an ordering guide for ATYS Motorised Transfer Switches delivered inclusive of the emergency handle and storage clip. This guide is intended so as to explain the logic behind SOCOMEC ATYS reference numbers.

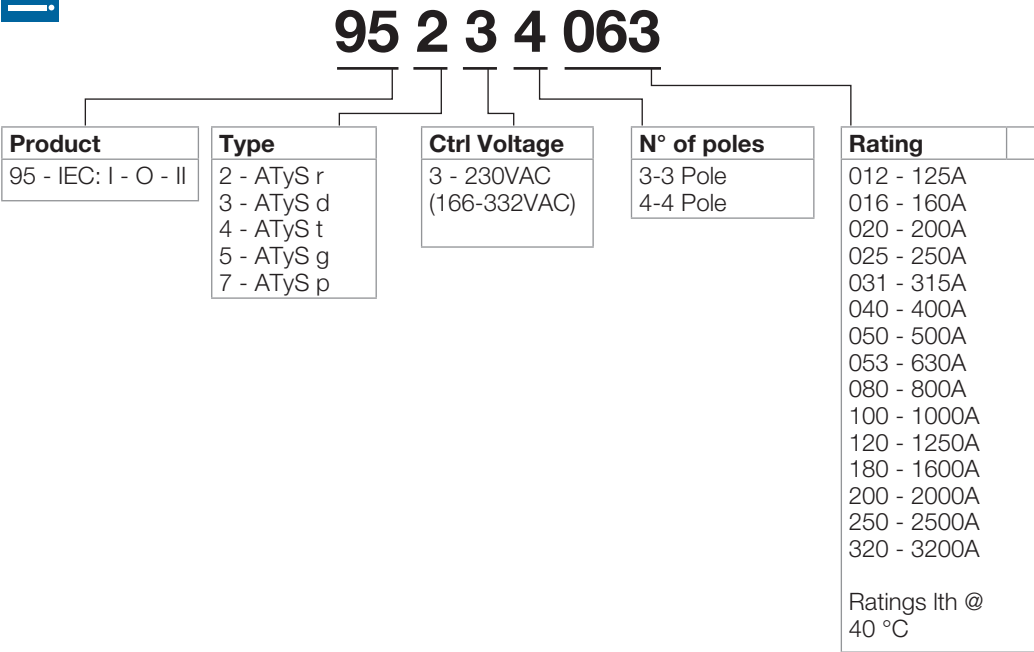
When ordering please consult the latest SOCOMEC catalogue.

## Typical UL 1008 (Optional Standby Power) ATYS reference



**Note:** only valid for UL 1008 products

## Typical IEC 60947-6-1 ATYS reference





# Socomec worldwide

## IN EUROPE

### BELGIUM

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +32 2 340 02 30  
Fax +32 2 346 28 99  
info.be@socomec.com

### FRANCE

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +33 1 45 14 63 00  
Fax +33 1 48 67 31 12  
dcm.ups.fr@socomec.com

### GERMANY

Critical Power  
Tel. +49 621 71 68 40  
Fax +49 621 71 68 444  
info.ups.de@socomec.com  
Power Control & Safety / Energy Efficiency  
Tel. +49 7243 65292 0  
Fax +49 7243 65292 13  
info.scp.de@socomec.com

### ITALY

Critical Power  
Tel. +39 02 98 242 942  
Fax +39 02 98 240 723  
info.ups.it@socomec.com  
Power Control & Safety / Energy Efficiency  
Tel. +39 02 98 49 821  
Fax +39 02 98 24 33 10  
info.scp.it@socomec.com  
Solar Power  
Tel. +39 0444 598611  
Fax +39 0444 598627  
info.solar.it@socomec.com

### NETHERLANDS

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +31 30 760 0900  
Fax +31 30 637 2166  
info.nl@socomec.com

### POLAND

Critical Power / Solar Power  
Tel. +48 22 825 73 60  
Fax. +48 22 825 73 70  
info.ups.pl@socomec.com  
Power Control & Safety / Energy Efficiency  
Tel. +48 91 442 64 11  
Fax +48 91 442 64 19  
info.scp.pl@socomec.com

### PORTUGAL

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +351 261 812 599  
Fax +351 261 812 570  
info.ups.pt@socomec.com

### ROMANIA

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +40 21 319 36 88  
Fax +40 21 319 36 89  
info.ro@socomec.com

### RUSSIA

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +7 495 775 19 85  
Fax +7 495 775 19 85  
info.ru@socomec.com

### SLOVENIA

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +386 1 5807 860  
Fax +386 1 561 11 73  
info.si@socomec.com

### SPAIN

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +34 93 540 75 75  
Fax +34 93 540 75 76  
info.es@socomec.com

### TURKEY

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +90 216 540 71 20-21-22  
Fax +90 216 540 71 27  
info.tr@socomec.com

### UNITED KINGDOM

Critical Power  
Tel. +44 1285 863 300  
Fax +44 1285 862 304  
info.ups.uk@socomec.com  
Power Control & Safety / Energy Efficiency  
Tel. +44 1462 440 033  
Fax +44 1462 431 143  
info.scp.uk@socomec.com

## IN ASIA PACIFIC

### AUSTRALIA

Critical Power / Power Control & Safety  
Tel. +61 2 9325 3900  
Fax +61 2 9888 9544  
info.ups.au@socomec.com

### CHINA

Critical Power / Power Control & Safety /  
Energy Efficiency  
Tel. +86 21 52 98 95 55  
Fax +86 21 62 28 34 68  
info.cn@socomec.com

### INDIA

Critical Power / Solar Power  
Tel. +91 44 39215400  
Fax +91 44 39215450 & 51  
info.ups.in@socomec.com  
info.solar.in@socomec.com  
Power Control & Safety / Energy Efficiency  
Tel. +91 124 4027210  
Fax +91 124 4562738  
info.scp.in@socomec.com

### SINGAPORE

Critical Power / Power Control & Safety /  
Energy Efficiency  
Tel. +65 6506 7600  
Fax +65 64 58 7377  
info.sg@socomec.com

### THAILAND

Critical Power  
Tel. +66 2 941 1644 7  
Fax +66 2 941 1650  
info.ups.th@socomec.com

## IN MIDDLE EAST

### UNITED ARAB EMIRATES

Critical Power / Power Control & Safety /  
Energy Efficiency / Solar Power  
Tel. +971 4 29 98 441  
Fax +971 4 29 98 449  
info.ae@socomec.com

## IN AMERICA

### USA, CANADA & MEXICO

Power Control & Safety / Energy Efficiency  
Tel. +1 617 245 0447  
Fax +1 617 245 0437  
info.us@socomec.com

## OTHER COUNTRIES

### NORTH AFRICA

Algeria / Morocco / Tunisia  
info.naf@socomec.com

### AFRICA

Other countries  
info.africa@socomec.com

### SOUTH EUROPE

Cyprus / Greece / Israel / Malta  
info.se@socomec.com

### SOUTH AMERICA

Tel. +34 93 540 75 75  
info.es@socomec.com

### MORE DETAILS

www.socomec.com/worldwide

## HEAD OFFICE

### SOCOMECS GROUP

SAS SOCOMECS capital 10 816 800€  
R.C.S. Strasbourg B 548 500 149  
B.P. 60010 - 1, rue de Westhouse  
F-67235 Benfeld Cedex - FRANCE  
Tel. +33 3 88 57 41 41  
Fax +33 3 88 74 08 00  
info.scp.isd@socomec.com

www.socomec.com

## YOUR DISTRIBUTOR

