



## From 125 to 3200 A

### Function

The **ATyS** dedicated to applications from 125A, enables the switching On Load three phase sources in remote or automatic mode. This Transfer Switching Equipment (TSE) is designed to be used in low voltage power systems for Open Transition Transfer applications.

This Transfer Switching Equipment (TSE) is composed of two mechanically and electrically interlocked switches.

- The **ATyS 3 (RTSE)** is driven by volt-free dry contacts allowing switching operation between position I, 0, II, from an external control logic or a PLC (control relays type ATyS C30).
- The **ATyS 6 (ATSE)** is dedicated to break before make automatic transfer applications. The ATyS 6 integrates control relays, timers and test functions to manage a Normal/ Backup switching operation between two networks or between a generator set and a network.

### General characteristics

- Fully visible breaking.
- On load switching.
- Manual emergency operation.
- 3 stable positions (I, 0, II), overlapping contacts on request (I, I+II, II).
- Padlocking in 0 position (I and II optional).
- AUTO / MANU selector.
- Single phase or three phase control on networks I and II (ATyS 6e and 6m).
- Electrical measurements (ATyS 6e and 6m).
- Measure of I, P, Q, S and PF (ATyS 6m).
- Configurable Control Logic.
- Possibility of inhibition of the electrical control (ATyS 3e).
- Optional communication and inputs/outputs modules (ATyS 3e and ATyS 6).

### Conformity to standards

- IEC 60947-3
- IS 14947-3
- EN 60947-3
- NBN EN 60947-3
- BS EN 60947-3
- GB 14048
- IEC 60947-6-1
- EN 60947-6-1
- NBN EN 60947-6-1
- BS EN 60947-6-1
- VDE 0660-107



AUT/MAN command



Emergency manual operation



Padlocking facility

➤ What you need to know

• On ATyS 3s and 3e models

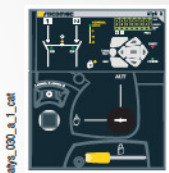
Operation

ATyS 3s



ATyS 3s is equipped with one 230VAC power input (176-288 VAC), 50/60 Hz (45/65 Hz).

ATyS 3e



ATyS 3e is equipped with 2 power inputs: one for power source 1 & the other one as backup power source 2. It allows the product to be electrically controlled in the 3 positions with only one of the supplies present.

Electrical control

• General

- The switching operation can be driven by an external dry contact.
- On ATyS 3e, it is possible to inhibit the electrical control (dry contact closed between terminal n° 313 and 317).

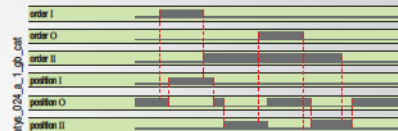
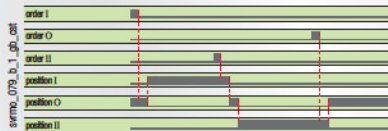
- The first order received has priority as long as it is present. A zero command has always priority, excepted in case of controls inhibition.

• Pulse logic

- The switching command is a pulsed dry contact (100ms minimum).
- When the order disappears, the product remains in position. The impulse can be of infinite duration without causing any disturbance.

• Contactor logic

- The transfer command is a maintained dry contact.
- If command I or II disappears, the device returns to zero position, if power supply is available.
- A 0 command drives the device into zero position, irrespective of the status of the I and II commands.



• On ATyS 6e and 6m models

Operation

ATyS 6e



ATyS 6m



ATyS 6e and 6m are equipped with 2 power inputs (same as ATyS 3e): one for power source 1 & the other one as backup power source 2. It allows the product to be electrically controlled in the 3 positions with only one of the supplies present.

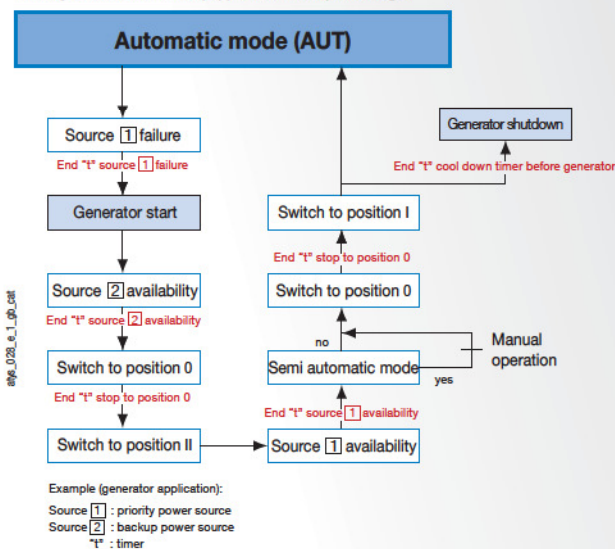
Characteristics

- Single phase or three phase control on networks I and II.
- Independent adjustable over/undervoltage and over/underfrequency thresholds: +/- 20 % of the nominal value.
- Adjustable hysteresis thresholds linked to the threshold values.
- Control of phase rotation
- Measure (3U and frequency on network 1 and 2; ATyS 6e and 6m N/E cycle delay; 3I, In, P, Q, S, PF - 3 phases only on ATyS 6m).

- Display + keyboard (adjustment of all threshold parameters; adjustment of MFT, DTT, OMF, MRT, OMR and CDT Visualization of electrical values; Test functions and position control functions;
- LED's (Product Power On; Status of the electrical sources; Position of the switch status; "/AUT" mode; TEST/CONTROL mode and default.
- 1 configurable bistable output relay for generator start/stop command.(30 VDC, 5 A, AC1).
- 1NO fault relay activated in case of changeover position ordered and not reached (30 VDC, 5 A, AC1).

Automatic Control

The ATyS 6e and 6m are equipped with a sequence logic.



• Control modes

- Test On Load: This test simulates a loss of priority source. The complete automatic sequence is then followed. Can be activated from the keypad of the product or remotely from an external dry contact.
- Test Off-Load: This test will start and stop the generator without load transfer. Can be activated from the keypad of the product.
- Control of position I, 0, II: Allows the selection of the position of the product; the Automatic mode is inhibited. Can be activated from the keypad of the product or remotely from an external dry contact.
- Manual retransfer (Semi automatic): When this parameter is programmed, the switching back to the main must be acknowledge on the keypad of the product or through the contact of an optional input/output module.

➔ ATyS - References



ATyS 3

| Rating (A) | No. of poles | ATyS 3s                  | ATyS 3e   | Bridging bars* | Terminal shrouds                   | Terminal screens                | Optional modules                    | Auxiliary contacts                  | Voltage transformer 400/230 VAC |        |   |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|------------|--------------|--------------------------|-----------|----------------|------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|---------------------------------|--------|---|-------------------------------------|-----------|---|-------------------------------------|---------------------------------|---|-------------------------------------|-----------|-----------|------------------------------------|---------------------------------|---|---------------------------------|---------------------------------|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|---|--|-----|-----|--------------------------|-----------|------------------------------------|------------------------------------|---------------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------|---------------------------------|-------------------------------------|---------------------------------|---------------------------------|------------------------------------|-------------------------------------|---------------------------------|-------------------------------------|---------------------------------|---------------------------------|-----------|-------------------------------------|---------------------------------|-------------------------------------|------------------------------------|---------------------------------|-------------------------------------|--------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|-------------------------------------|-------------------------------------|---------------------------------|---------------------------------|-------------------------------------|--|--|-------------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------------|---------------------------------|---------------------------------|-------------------------------------|--------------------------|-----------|---------------------------------|---------------------------------|---------------------------------|----------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------|---------------------------------|--------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------|----------|---------------------------------|----------|--|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|---------------------------------|----------|--|--|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------|-----------|---------------------------------|---------------------------------|---------------------------------|----------|-----------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------|-----------|-----------|----------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|----------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--|---------------------------------|----------|-----------|---------------------------------|---------------------------------|--------|-----------|---------------------------------|---------------------------------|-----------|---------------------------------|---------------------------------|----------|--|--|-----|
| 125 A      | 3 P          | 1523 3012                | 1533 3012 | 4109 0019      | 3 P<br>2694 3014 <sup>(3)(4)</sup> | 3 P<br>1509 3012 <sup>(6)</sup> |                                     | ATyS 3s<br>1599 1002 <sup>(7)</sup> | 1599 4063                       |        |   |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4012 <sup>(1)</sup> | 1533 4012 |                | 4 P<br>2694 4014 <sup>(3)(4)</sup> | 4 P<br>1509 4012 <sup>(6)</sup> |                                     |                                     |                                 | 160 A  | 3 P   | 1523 3016                           | 1533 3016 | 4109 0025   | 4 P<br>2694 4014 <sup>(3)(4)</sup>  | 4 P<br>1509 4012 <sup>(6)</sup> | RS485<br>MODBUS<br>1599 2000 <sup>(6)</sup> | ATyS 3e<br>1599 0002 <sup>(7)</sup> |           | 4 P       | 1523 4016 <sup>(1)</sup>           | 1533 4016                       | 3 P<br>2694 3021 <sup>(3)(4)</sup>                  | 3 P<br>1509 3025 <sup>(6)</sup> | 250 A                           | 3 P                                | 1523 3025                           | 1533 3025                           | 4109 0039                           | 4 P<br>2694 4021 <sup>(3)(4)</sup> | 4 P<br>1509 4025 <sup>(6)</sup>     | 2 inputs /<br>2 outputs<br>1599 2001 <sup>(6)</sup> |  |     | 4 P | 1523 4025 <sup>(1)</sup> | 1533 4025 | 3 P<br>2694 3051 <sup>(3)(4)</sup> | 3 P<br>1509 3063 <sup>(6)</sup>    | 400 A                           | 3 P                                 | 1523 3040                       | 1533 3040                       | 4109 0063                       | 4 P<br>2694 4021 <sup>(3)(4)</sup> | 4 P<br>1509 4025 <sup>(6)</sup> | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                 |                                 | 4 P                                | 1523 4040 <sup>(1)</sup>            | 1533 4040                       | 4 P<br>2694 4051 <sup>(3)(4)</sup>  | 4 P<br>1509 4063 <sup>(6)</sup> | 630 A                           | 3 P       | 1523 3063                           | 1533 3063                       | 4109 0080                           | 4 P<br>2694 4051 <sup>(3)(4)</sup> | 4 P<br>1509 4063 <sup>(6)</sup> | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                          |                                 | 4 P                             | 1523 4063 <sup>(1)</sup>        | 1533 4063                       | 3 P<br>1509 3080 <sup>(6)</sup> | 3 P<br>1509 3080 <sup>(6)</sup> | 800 A     | 3 P                             | 1523 3080                       | 1533 3080                           | 4109 0120                           | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup> | ATyS 3s<br>1599 1032 <sup>(7)</sup> |  |  | 4 P                                 | 1523 4080 <sup>(1)</sup>        | 1533 4080 | 3 P<br>1509 3100 <sup>(6)</sup> | 3 P<br>1509 3100 <sup>(6)</sup> | 1000 A                          | 3 P                             | 1523 3100                       | 1533 3100                       | 4109 0160                       | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup> | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                 |                                 | 4 P                             | 1523 4100 <sup>(1)</sup>        | 1533 4100                       | 3 P<br>1509 3160 <sup>(6)</sup>     | 3 P<br>1509 3160 <sup>(6)</sup> | 1250 A                          | 3 P                                 | 1523 3120                | 1533 3120 | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included |           |                                 | 4 P                             | 1523 4120 <sup>(1)</sup>        | 1533 4120                       | 3 P<br>1509 3180 <sup>(6)</sup> | 3 P<br>1509 3180 <sup>(6)</sup> | 1600 A                          | 3 P      | 1523 3160 | 1533 3160                       | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |                                 | 4 P                             | 1523 4160 <sup>(1)</sup>        | 1533 4160 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A    | 3 P                             | 1523 3180                       |                                 | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |           | 4 P                             | 1523 4180                |                                 | 3 P<br>1509 3250 <sup>(6)</sup> | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A                          | 3 P      |                                 | 1533 3200                       | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included |          |                                 | 4 P      |  | 1533 4200 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          | 3 P                             |                                 | 1533 3250 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included |  |  | 4 P       |                                 | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                          | 3 P                             |           | 1533 3320 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included |           |                                 | 4 P                             |           | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 160 A      | 3 P          | 1523 3016                | 1533 3016 | 4109 0025      | 4 P<br>2694 4014 <sup>(3)(4)</sup> | 4 P<br>1509 4012 <sup>(6)</sup> |                                     |                                     |                                 |        | RS485<br>MODBUS<br>1599 2000 <sup>(6)</sup> | ATyS 3e<br>1599 0002 <sup>(7)</sup> |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4016 <sup>(1)</sup> | 1533 4016 |                | 3 P<br>2694 3021 <sup>(3)(4)</sup> | 3 P<br>1509 3025 <sup>(6)</sup> |                                     |                                     |                                 | 250 A  |   |                                     |           | 3 P   | 1523 3025                           | 1533 3025                       |   |                                     |           | 4109 0039 | 4 P<br>2694 4021 <sup>(3)(4)</sup> | 4 P<br>1509 4025 <sup>(6)</sup> | 2 inputs /<br>2 outputs<br>1599 2001 <sup>(6)</sup> |                                 |                                 | 4 P                                | 1523 4025 <sup>(1)</sup>            | 1533 4025                           | 3 P<br>2694 3051 <sup>(3)(4)</sup>  | 3 P<br>1509 3063 <sup>(6)</sup>    | 400 A                               |   |  |     | 3 P | 1523 3040                | 1533 3040 | 4109 0063                          | 4 P<br>2694 4021 <sup>(3)(4)</sup> | 4 P<br>1509 4025 <sup>(6)</sup> | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                 |                                 | 4 P                             | 1523 4040 <sup>(1)</sup>           | 1533 4040                       |                                     |                                 |                                 | 4 P<br>2694 4051 <sup>(3)(4)</sup> | 4 P<br>1509 4063 <sup>(6)</sup>     | 630 A                           | 3 P                                 | 1523 3063                       | 1533 3063                       | 4109 0080 | 4 P<br>2694 4051 <sup>(3)(4)</sup>  | 4 P<br>1509 4063 <sup>(6)</sup> | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                    |                                 |                                     |                          |                                 | 4 P                             | 1523 4063 <sup>(1)</sup>        | 1533 4063                       | 3 P<br>1509 3080 <sup>(6)</sup> | 3 P<br>1509 3080 <sup>(6)</sup> | 800 A     | 3 P                             | 1523 3080                       | 1533 3080                           | 4109 0120                           | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup> |                                     |  |  | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                 |           | 4 P                             | 1523 4080 <sup>(1)</sup>        | 1533 4080                       | 3 P<br>1509 3100 <sup>(6)</sup> | 3 P<br>1509 3100 <sup>(6)</sup> | 1000 A                          | 3 P                             | 1523 3100                       | 1533 3100                       |                                     |                                 |                                 | 4109 0160                       | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup> | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                 |                                 | 4 P                                 | 1523 4100 <sup>(1)</sup> | 1533 4100 | 3 P<br>1509 3160 <sup>(6)</sup> | 3 P<br>1509 3160 <sup>(6)</sup> | 1250 A                          |          |           |                                 | 3 P                             | 1523 3120                       | 1533 3120                       | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included |           |                                 | 4 P                             | 1523 4120 <sup>(1)</sup>        | 1533 4120                       |                                 |                                 |                                 | 3 P<br>1509 3180 <sup>(6)</sup> | 3 P<br>1509 3180 <sup>(6)</sup> | 1600 A    | 3 P                             | 1523 3160                       | 1533 3160 | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |                                 |                                 |                                 |           | 4 P                             | 1523 4160 <sup>(1)</sup> | 1533 4160                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A                          | 3 P      | 1523 3180                       |                                 | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> |          |          |                                 | included |  |           | 4 P                             | 1523 4180                       |                                 | 3 P<br>1509 3250 <sup>(6)</sup> | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A    | 3 P                             |                                 | 1533 3200                       |          |  |  | 4109 0160 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |                                 | 4 P                             |           | 1533 4200 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          |          |           |                                 | 3 P                             |           | 1533 3250                       | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included |           |           | 4 P      |           | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                          | 3 P                             |                                 | 1533 3320                       | 4109 0160 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included |                                 |                                 | 4 P       |                                 | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 250 A      | 3 P          | 1523 3025                | 1533 3025 | 4109 0039      | 4 P<br>2694 4021 <sup>(3)(4)</sup> | 4 P<br>1509 4025 <sup>(6)</sup> |                                     |                                     |                                 |        |   |                                     |           | 2 inputs /<br>2 outputs<br>1599 2001 <sup>(6)</sup> |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4025 <sup>(1)</sup> | 1533 4025 |                | 3 P<br>2694 3051 <sup>(3)(4)</sup> | 3 P<br>1509 3063 <sup>(6)</sup> |                                     |                                     |                                 | 400 A  |   |                                     |           |   |                                     |                                 |   |                                     |           | 3 P       | 1523 3040                          | 1533 3040                       |   |                                 |                                 | 4109 0063                          | 4 P<br>2694 4021 <sup>(3)(4)</sup>  | 4 P<br>1509 4025 <sup>(6)</sup>     | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                    |                                     |   |  |     | 4 P | 1523 4040 <sup>(1)</sup> | 1533 4040 | 4 P<br>2694 4051 <sup>(3)(4)</sup> | 4 P<br>1509 4063 <sup>(6)</sup>    | 630 A                           |                                     |                                 |                                 | 3 P                             | 1523 3063                          | 1533 3063                       |                                     |                                 |                                 | 4109 0080                          | 4 P<br>2694 4051 <sup>(3)(4)</sup>  | 4 P<br>1509 4063 <sup>(6)</sup> | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                 |                                 | 4 P       | 1523 4063 <sup>(1)</sup>            | 1533 4063                       |                                     |                                    |                                 |                                     |                          |                                 | 3 P<br>1509 3080 <sup>(6)</sup> | 3 P<br>1509 3080 <sup>(6)</sup> | 800 A                           | 3 P                             | 1523 3080                       | 1533 3080 | 4109 0120                       | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup>     | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                 |                                 |                                     |  |  |                                     |                                 |           | 4 P                             | 1523 4080 <sup>(1)</sup>        | 1533 4080                       | 3 P<br>1509 3100 <sup>(6)</sup> | 3 P<br>1509 3100 <sup>(6)</sup> | 1000 A                          | 3 P                             | 1523 3100                       | 1533 3100                       |                                     |                                 |                                 | 4109 0160                       | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup> |                                     |                                 |                                 | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                          |           | 4 P                             | 1523 4100 <sup>(1)</sup>        | 1533 4100                       |          |           |                                 | 3 P<br>1509 3160 <sup>(6)</sup> | 3 P<br>1509 3160 <sup>(6)</sup> | 1250 A                          | 3 P                             | 1523 3120                       | 1533 3120                       |          |           |                                 | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> |                                 |                                 |                                 | included                        |                                 |           | 4 P                             | 1523 4120 <sup>(1)</sup>        | 1533 4120 | 3 P<br>1509 3180 <sup>(6)</sup> | 3 P<br>1509 3180 <sup>(6)</sup> | 1600 A                          |                                 |                                 |                                 |                                 |                                 |           | 3 P                             | 1523 3160                | 1533 3160                       | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included |                                 |                                 | 4 P                             | 1523 4160 <sup>(1)</sup>        | 1533 4160                       |          |          |                                 |          |  |           | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A                          | 3 P                             | 1523 3180                       |           | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> |          |  |  | included  |                                 |                                 |                                 |                                 |                                 | 4 P                             | 1523 4180 |           | 3 P<br>1509 3250 <sup>(6)</sup> | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A                          |          |           |                                 | 3 P                             |           | 1533 3200                       | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |          |           |           | included |           |                                 | 4 P                             |                                 | 1533 4200                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          | 3 P       |                                 | 1533 3250                       |          |                                 |                                 | 4109 0160 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |  | 4 P                             |          | 1533 4250 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A | 3 P       |                                 | 1533 3320                       | 4109 0160 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included |  |  | 4 P |
| 400 A      | 3 P          | 1523 3040                | 1533 3040 | 4109 0063      | 4 P<br>2694 4021 <sup>(3)(4)</sup> | 4 P<br>1509 4025 <sup>(6)</sup> |                                     | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                 |        |   |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4040 <sup>(1)</sup> | 1533 4040 |                | 4 P<br>2694 4051 <sup>(3)(4)</sup> | 4 P<br>1509 4063 <sup>(6)</sup> |                                     |                                     |                                 | 630 A  |   |                                     |           |   |                                     |                                 |   | 3 P                                 | 1523 3063 |           | 1533 3063                          | 4109 0080                       |   |                                 |                                 | 4 P<br>2694 4051 <sup>(3)(4)</sup> | 4 P<br>1509 4063 <sup>(6)</sup>     | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                     |                                    |                                     |   |  |     | 4 P | 1523 4063 <sup>(1)</sup> | 1533 4063 | 3 P<br>1509 3080 <sup>(6)</sup>    | 3 P<br>1509 3080 <sup>(6)</sup>    | 800 A                           |                                     |                                 |                                 | 3 P                             | 1523 3080                          | 1533 3080                       |                                     | 4109 0120                       | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup>    | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                 |                                     |                                 |                                 |           | 4 P                                 | 1523 4080 <sup>(1)</sup>        |                                     |                                    |                                 |                                     | 1533 4080                | 3 P<br>1509 3100 <sup>(6)</sup> | 3 P<br>1509 3100 <sup>(6)</sup> | 1000 A                          | 3 P                             | 1523 3100                       | 1533 3100                       | 4109 0160 | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup> | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           | 4 P                             | 1523 4100 <sup>(1)</sup>        | 1533 4100                       | 3 P<br>1509 3160 <sup>(6)</sup> | 3 P<br>1509 3160 <sup>(6)</sup> | 1250 A                          | 3 P                             | 1523 3120                       | 1533 3120                       |                                     | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |                                     |                                 |                                 |                                     |                          |           |                                 | 4 P                             | 1523 4120 <sup>(1)</sup>        |          | 1533 4120 | 3 P<br>1509 3180 <sup>(6)</sup> | 3 P<br>1509 3180 <sup>(6)</sup> | 1600 A                          | 3 P                             | 1523 3160                       | 1533 3160                       | 4109 0160                       |          |           |                                 | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |                                 |                                 |                                 |                                 |           | 4 P                             | 1523 4160 <sup>(1)</sup>        | 1533 4160 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A                          |                                 |                                 |                                 |                                 | 3 P                             | 1523 3180 |                                 | 4109 0160                | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |          |                                 |                                 |                                 | 4 P                             | 1523 4180                       |          |          | 3 P<br>1509 3250 <sup>(6)</sup> |          |  |           | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A                          | 3 P                             |                                 | 1533 3200                       | 4109 0160 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |          |  |  |           |                                 |                                 |                                 |                                 |                                 | 4 P                             |           | 1533 4200 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          |          | 3 P       |                                 | 1533 3250                       | 4109 0160 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |          |           |           |          |           |                                 |                                 | 4 P                             |                                 | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A    | 3 P                             |                                 |          |                                 |                                 | 1533 3320 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> |                                 |                                 |  | 4 P<br>1509 4200 <sup>(6)</sup> | included |           |                                 | 4 P                             |        | 1533 4320 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |           |                                 |                                 |          |  |  |     |
| 630 A      | 3 P          | 1523 3063                | 1533 3063 | 4109 0080      | 4 P<br>2694 4051 <sup>(3)(4)</sup> | 4 P<br>1509 4063 <sup>(6)</sup> |                                     |                                     |                                 |        |   | ATyS 3e<br>1599 0032 <sup>(7)</sup> |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4063 <sup>(1)</sup> | 1533 4063 |                | 3 P<br>1509 3080 <sup>(6)</sup>    | 3 P<br>1509 3080 <sup>(6)</sup> |                                     |                                     |                                 | 800 A  |   |                                     |           |   |                                     |                                 |   |                                     | 3 P       |           | 1523 3080                          | 1533 3080                       |   | 4109 0120                       | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup>    | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                     |                                     |                                    |                                     |   |  |     |     |                          | 4 P       | 1523 4080 <sup>(1)</sup>           | 1533 4080                          | 3 P<br>1509 3100 <sup>(6)</sup> |                                     | 3 P<br>1509 3100 <sup>(6)</sup> | 1000 A                          | 3 P                             | 1523 3100                          | 1533 3100                       |                                     | 4109 0160                       | 4 P<br>1509 4080 <sup>(6)</sup> | 4 P<br>1509 4080 <sup>(6)</sup>    |                                     |                                 |                                     |                                 |                                 |           | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                 |                                     |                                    | 4 P                             |                                     | 1523 4100 <sup>(1)</sup> | 1533 4100                       | 3 P<br>1509 3160 <sup>(6)</sup> | 3 P<br>1509 3160 <sup>(6)</sup> | 1250 A                          | 3 P                             | 1523 3120                       | 1533 3120 | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> |                                     |                                     |                                 |                                 |                                     |  |  |                                     | 4 P<br>1509 4160 <sup>(6)</sup> | included  |                                 |                                 | 4 P                             | 1523 4120 <sup>(1)</sup>        | 1533 4120                       | 3 P<br>1509 3180 <sup>(6)</sup> | 3 P<br>1509 3180 <sup>(6)</sup> | 1600 A                          | 3 P                             |                                     | 1523 3160                       | 1533 3160                       | 4109 0160                       |                                 |                                 |                                     | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> |                                     |                          |           |                                 | included                        |                                 |          |           | 4 P                             | 1523 4160 <sup>(1)</sup>        | 1533 4160                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A                          | 3 P                             |          | 1523 3180 |                                 | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> |                                 |                                 |                                 |                                 |                                 |                                 |           | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |           |                                 | 4 P                             | 1523 4180                       |                                 |                                 | 3 P<br>1509 3250 <sup>(6)</sup> |                                 | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A    | 3 P                             |                          | 1533 3200                       | 4109 0160                       |                                 |                                 |          |                                 |                                 |                                 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |          | included |                                 |          |  | 4 P       |                                 | 1533 4200                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          | 3 P       |                                 | 1533 3250                       |                                 |          |  |  |           |                                 |                                 |                                 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included  |           |                                 | 4 P                             |                                 |          | 1533 4250 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A    | 3 P                             |                                 |                                 |                                 |          | 1533 3320 | 4109 0160 |          |           |                                 |                                 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |                                 | 4 P       |                                 | 1533 4320                       |          | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 800 A      | 3 P          | 1523 3080                | 1533 3080 | 4109 0120      | 4 P<br>1509 4080 <sup>(6)</sup>    | 4 P<br>1509 4080 <sup>(6)</sup> |                                     |                                     |                                 |        |   |                                     |           |   | ATyS 3s<br>1599 1032 <sup>(7)</sup> |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4080 <sup>(1)</sup> | 1533 4080 |                | 3 P<br>1509 3100 <sup>(6)</sup>    | 3 P<br>1509 3100 <sup>(6)</sup> |                                     |                                     |                                 | 1000 A |   |                                     |           |   |                                     |                                 |   |                                     |           |           | 3 P                                | 1523 3100                       |   | 1533 3100                       | 4109 0160                       | 4 P<br>1509 4080 <sup>(6)</sup>    |                                     |                                     |                                     | 4 P<br>1509 4080 <sup>(6)</sup>    | ATyS 3e<br>1599 0032 <sup>(7)</sup> |   |  |     |     |                          |           |                                    | 4 P                                | 1523 4100 <sup>(1)</sup>        |                                     | 1533 4100                       | 3 P<br>1509 3160 <sup>(6)</sup> | 3 P<br>1509 3160 <sup>(6)</sup> | 1250 A                             | 3 P                             |                                     | 1523 3120                       | 1533 3120                       | 4109 0160                          |                                     |                                 |                                     | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> |           |                                     |                                 |                                     |                                    | included                        |                                     |                          |                                 | 4 P                             | 1523 4120 <sup>(1)</sup>        | 1533 4120                       | 3 P<br>1509 3180 <sup>(6)</sup> | 3 P<br>1509 3180 <sup>(6)</sup> | 1600 A    | 3 P                             | 1523 3160                       |                                     |                                     | 1533 3160                       | 4109 0160                       |                                     |  |  |                                     | 4 P<br>1509 4160 <sup>(6)</sup> |           |                                 |                                 | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |                                 | 4 P                             | 1523 4160 <sup>(1)</sup>        | 1533 4160                       |                                     | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A                          |                                 |                                 |                                     | 3 P                             | 1523 3180                       |                                     |                          | 4109 0160 |                                 |                                 |                                 |          |           | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                        |                                 |                                 | 4 P                             | 1523 4180                       |          |           | 3 P<br>1509 3250 <sup>(6)</sup> | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A                          |                                 |                                 |                                 |                                 |                                 | 3 P                             |           | 1533 3200                       |                                 |           |                                 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> |                                 | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |                                 |           | 4 P                             |                          | 1533 4200                       | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |          | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          |                                 | 3 P                             |                                 |          |          |                                 |          |  | 1533 3250 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |           | 4 P                             |                                 |                                 |          |  |  |           | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup> |                                 | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                          | 3 P                             |           |           |                                 |                                 | 1533 3320                       |          | 4109 0160 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included  |                                 |                                 |                                 |                                 |          | 4 P       |           |          | 1533 4320 | 3 P<br>1509 3200 <sup>(6)</sup> |                                 | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 1000 A     | 3 P          | 1523 3100                | 1533 3100 | 4109 0160      | 4 P<br>1509 4080 <sup>(6)</sup>    | 4 P<br>1509 4080 <sup>(6)</sup> | ATyS 3e<br>1599 0032 <sup>(7)</sup> |                                     |                                 |        |   |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4100 <sup>(1)</sup> | 1533 4100 |                | 3 P<br>1509 3160 <sup>(6)</sup>    | 3 P<br>1509 3160 <sup>(6)</sup> |                                     |                                     |                                 | 1250 A |   |                                     |           |   |                                     |                                 | 3 P   |                                     |           |           | 1523 3120                          | 1533 3120                       |   | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup>    |                                     |                                     |                                     | included                           |                                     |   |  | 4 P |     |                          |           |                                    | 1523 4120 <sup>(1)</sup>           | 1533 4120                       |                                     | 3 P<br>1509 3180 <sup>(6)</sup> | 3 P<br>1509 3180 <sup>(6)</sup> | 1600 A                          | 3 P                                | 1523 3160                       | 1533 3160                           | 4109 0160                       | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup>    |                                     | included                        |                                     |                                 |                                 | 4 P       |                                     |                                 |                                     |                                    |                                 | 1523 4160 <sup>(1)</sup>            |                          |                                 | 1533 4160                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A                          | 3 P                             | 1523 3180 |                                 | 4109 0160                       |                                     |                                     | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                            |  |  |                                     | 4 P                             |           |                                 |                                 | 1523 4180                       |                                 |                                 |                                 |                                 | 3 P<br>1509 3250 <sup>(6)</sup> | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A                              | 3 P                             |                                 | 1533 3200                       |                                 | 4109 0160                       |                                     | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                     | included                 |           |                                 |                                 |                                 | 4 P      |           |                                 | 1533 4200                       |                                 |                                 |                                 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |          | 2500 A    | 3 P                             |                                 | 1533 3250                       |                                 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                 | included                        |           |                                 |                                 |           |                                 | 4 P                             |                                 |                                 | 1533 4250                       |                                 | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |           | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                   | 3 P                             |                                 |                                 | 1533 3320                       |          | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |          |          |                                 |          |  | 4 P       |                                 | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |           | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 1250 A     | 3 P          | 1523 3120                | 1533 3120 | 4109 0160      | 4 P<br>1509 4160 <sup>(6)</sup>    | 4 P<br>1509 4160 <sup>(6)</sup> |                                     |                                     |                                 |        | included                                    |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4120 <sup>(1)</sup> | 1533 4120 |                | 3 P<br>1509 3180 <sup>(6)</sup>    | 3 P<br>1509 3180 <sup>(6)</sup> |                                     |                                     |                                 | 1600 A |   |                                     |           |   |                                     |                                 |   | 3 P                                 |           |           | 1523 3160                          | 1533 3160                       | 4109 0160   | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                           |                                     |                                     |                                     |                                    |                                     |   |  |     |     | 4 P                      |           |                                    | 1523 4160 <sup>(1)</sup>           | 1533 4160                       | 3 P<br>1509 3200 <sup>(6)</sup>     | 3 P<br>1509 3200 <sup>(6)</sup> | 1800 A                          | 3 P                             | 1523 3180                          |                                 | 4109 0160                           | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> | included                           |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 | 4 P                                 | 1523 4180                          |                                 |                                     |                          |                                 | 3 P<br>1509 3250 <sup>(6)</sup> | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A                          | 3 P                             |                                 | 1533 3200 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> |                                     |                                     | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                     |  |  |                                     |                                 |           | 4 P                             |                                 | 1533 4200                       |                                 |                                 |                                 | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          | 3 P                                 |                                 | 1533 3250                       | 4109 0160                       |                                 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup>     | included                        |                                 |                                     |                          |           |                                 |                                 |                                 | 4 P      |           | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |                                 | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                          | 3 P      |           | 1533 3320                       | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> |                                 | 4 P<br>1509 4200 <sup>(6)</sup> | included                        |                                 |                                 |                                 |           |                                 |                                 |           | 4 P                             |                                 | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 1600 A     | 3 P          | 1523 3160                | 1533 3160 | 4109 0160      | 4 P<br>1509 4160 <sup>(6)</sup>    | 4 P<br>1509 4160 <sup>(6)</sup> |                                     |                                     |                                 |        |   |                                     |           | included  |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4160 <sup>(1)</sup> | 1533 4160 |                | 3 P<br>1509 3200 <sup>(6)</sup>    | 3 P<br>1509 3200 <sup>(6)</sup> |                                     |                                     |                                 | 1800 A |   |                                     |           |   |                                     |                                 |   |                                     | 3 P       |           | 1523 3180                          |                                 | 4109 0160   | 4 P<br>1509 4160 <sup>(6)</sup> | 4 P<br>1509 4160 <sup>(6)</sup> |                                    |                                     |                                     | included                            |                                    |                                     |   |  |     |     |                          |           | 4 P                                | 1523 4180                          |                                 | 3 P<br>1509 3250 <sup>(6)</sup>     | 3 P<br>1509 3250 <sup>(6)</sup> | 2000 A                          | 3 P                             |                                    | 1533 3200                       | 4109 0160                           | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                    |                                     |                                 | included                            |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 | 4 P                                 |                          | 1533 4200                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          | 3 P                             |                                 | 1533 3250 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> |                                     | 4 P<br>1509 4200 <sup>(6)</sup>     | included                        |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 | 4 P                             |                                 |                                 | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                          | 3 P                                 |                                 | 1533 3320                       | 4109 0160                       |                                 | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup>     |                                 |                                 | included                            |                          |           |                                 |                                 |                                 |          |           | 4 P                             |                                 |                                 | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 1800 A     | 3 P          | 1523 3180                |           | 4109 0160      | 4 P<br>1509 4160 <sup>(6)</sup>    | 4 P<br>1509 4160 <sup>(6)</sup> |                                     | included                            |                                 |        |   |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          | 1523 4180                |           |                | 3 P<br>1509 3250 <sup>(6)</sup>    | 3 P<br>1509 3250 <sup>(6)</sup> |                                     |                                     |                                 | 2000 A |   |                                     |           |   |                                     |                                 |   |                                     |           | 3 P       |                                    | 1533 3200                       | 4109 0160   | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                    |                                     | included                            |                                     |                                    |                                     |   |  |     |     |                          |           | 4 P                                |                                    | 1533 4200                       | 3 P<br>1509 3200 <sup>(6)</sup>     | 3 P<br>1509 3200 <sup>(6)</sup> | 2500 A                          | 3 P                             |                                    | 1533 3250                       | 4109 0160                           | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                    | included                            |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 | 4 P                                 |                          | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                          | 3 P                             |                                 | 1533 3320 | 4109 0160                       | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup>     | included                            |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 | 4 P                             |                                 |                                 | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 2000 A     | 3 P          |                          | 1533 3200 | 4109 0160      | 4 P<br>1509 4200 <sup>(6)</sup>    | 4 P<br>1509 4200 <sup>(6)</sup> |                                     |                                     |                                 |        |   | included                            |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          |                          | 1533 4200 |                | 3 P<br>1509 3200 <sup>(6)</sup>    | 3 P<br>1509 3200 <sup>(6)</sup> |                                     |                                     |                                 | 2500 A |   |                                     |           |   |                                     |                                 |   |                                     |           | 3 P       |                                    | 1533 3250                       | 4109 0160   | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                    | included                            |                                     |                                     |                                    |                                     |   |  |     |     |                          |           | 4 P                                |                                    | 1533 4250                       | 3 P<br>1509 3200 <sup>(6)</sup>     | 3 P<br>1509 3200 <sup>(6)</sup> | 3200 A                          | 3 P                             |                                    | 1533 3320                       | 4109 0160                           | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                    |                                     |                                 |                                     |                                 |                                 | included  |                                     |                                 |                                     |                                    |                                 | 4 P                                 |                          | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup> | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 2500 A     | 3 P          |                          | 1533 3250 | 4109 0160      | 4 P<br>1509 4200 <sup>(6)</sup>    | 4 P<br>1509 4200 <sup>(6)</sup> |                                     |                                     |                                 |        |   |                                     |           |   | included                            |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          |                          | 1533 4250 |                | 3 P<br>1509 3200 <sup>(6)</sup>    | 3 P<br>1509 3200 <sup>(6)</sup> |                                     |                                     |                                 | 3200 A |   |                                     |           |   |                                     |                                 |   |                                     |           | 3 P       |                                    | 1533 3320                       | 4109 0160   | 4 P<br>1509 4200 <sup>(6)</sup> | 4 P<br>1509 4200 <sup>(6)</sup> |                                    |                                     |                                     |                                     |                                    | included                            |   |  |     |     |                          |           | 4 P                                |                                    | 1533 4320                       | 3 P<br>1509 3200 <sup>(6)</sup>     | 3 P<br>1509 3200 <sup>(6)</sup> |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
| 3200 A     | 3 P          |                          | 1533 3320 | 4109 0160      | 4 P<br>1509 4200 <sup>(6)</sup>    | 4 P<br>1509 4200 <sup>(6)</sup> | included                            |                                     |                                 |        |   |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |
|            | 4 P          |                          | 1533 4320 |                | 3 P<br>1509 3200 <sup>(6)</sup>    | 3 P<br>1509 3200 <sup>(6)</sup> |                                     |                                     |                                 |        |   |                                     |           |   |                                     |                                 |   |                                     |           |           |                                    |                                 |   |                                 |                                 |                                    |                                     |                                     |                                     |                                    |                                     |   |  |     |     |                          |           |                                    |                                    |                                 |                                     |                                 |                                 |                                 |                                    |                                 |                                     |                                 |                                 |                                    |                                     |                                 |                                     |                                 |                                 |           |                                     |                                 |                                     |                                    |                                 |                                     |                          |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                     |                                     |                                 |                                 |                                     |  |  |                                     |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                 |                                 |                                 |                                     |                                 |                                 |                                     |                          |           |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                          |                                 |                                 |                                 |                                 |          |                                 |                                 |                                 |                                 |                                 |          |          |                                 |          |  |           |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |                                 |          |  |  |           |                                 |                                 |                                 |                                 |                                 |                                 |           |           |                                 |                                 |                                 |          |           |                                 |                                 |           |                                 |                                 |                                 |                                 |          |           |           |          |           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |           |                                 |                                 |          |                                 |                                 |           |                                 |                                 |                                 |                                 |  |                                 |          |           |                                 |                                 |        |           |                                 |                                 |           |                                 |                                 |          |  |  |     |

\* 1 required per pole.  
 (1) Available enclosed (see pages 503 "Enclosed changeover switches").  
 (2) See page 317 "Copper bars connection kits".  
 (3) To shroud front switch top and bottom 2 references required.  
 (4) To fully shroud front, rear, top and bottom 4 references required.  
 (5) To shroud the front switch top and bottom, 1 reference is required.  
 (6) On ATyS 3e only.  
 (7) Factory fitted.

## ATyS 3 (continued)

| Rating (A) | No. of poles | ATyS 3s                  | ATyS 3e   | DC power supply            | Padlockable handle       | Key handle interlocking system | Door protective surround                         | Mounting spacers | DPS - Dual power supply  |                            |                          |                          |  |  |  |
|------------|--------------|--------------------------|-----------|----------------------------|--------------------------|--------------------------------|--|------------------|--------------------------|----------------------------|--------------------------|--------------------------|--|--|--|
| 125 A      | 3 P          | 1523 3012                | 1533 3012 | 12VDC/230 VAC<br>1599 5012 | 1599 0003 <sup>(2)</sup> | 1509 1006 <sup>(2)</sup>       | ATyS 3s<br>1529 0012<br><br>ATyS 3e<br>1539 0012 | 1509 0001        | 1599 4001 <sup>(3)</sup> |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4012 <sup>(1)</sup> | 1533 4012 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 160 A      | 3 P          | 1523 3016                | 1533 3016 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4016 <sup>(1)</sup> | 1533 4016 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 250 A      | 3 P          | 1523 3025                | 1533 3025 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4025 <sup>(1)</sup> | 1533 4025 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 400 A      | 3 P          | 1523 3040                | 1533 3040 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4040 <sup>(1)</sup> | 1533 4040 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 630 A      | 3 P          | 1523 3063                | 1533 3063 |                            |                          |                                |  |                  |                          | 24VDC/230 VAC<br>1599 5112 | 1599 0004 <sup>(2)</sup> | 1509 1004 <sup>(2)</sup> | ATyS 3s<br>1529 0080<br><br>ATyS 3e<br>1539 0080 |  |  |
|            | 4 P          | 1523 4063 <sup>(1)</sup> | 1533 4063 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 800 A      | 3 P          | 1523 3080                | 1533 3080 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4080 <sup>(1)</sup> | 1533 4080 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 1000 A     | 3 P          | 1523 3100                | 1533 3100 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4100 <sup>(1)</sup> | 1533 4100 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 1250 A     | 3 P          | 1523 3120                | 1533 3120 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4120 <sup>(1)</sup> | 1533 4120 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 1600 A     | 3 P          | 1523 3160                | 1533 3160 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4160 <sup>(1)</sup> | 1533 4160 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 1800 A     | 3 P          | 1523 3180                |           |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          | 1523 4180                |           |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 2000 A     | 3 P          |                          | 1533 3200 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          |                          | 1533 4200 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 2500 A     | 3 P          |                          | 1533 3250 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          |                          | 1533 4250 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
| 3200 A     | 3 P          |                          | 1533 3320 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |
|            | 4 P          |                          | 1533 4320 |                            |                          |                                |  |                  |                          |                            |                          |                          |  |  |  |

(1) Available enclosed (see pages 503 "Enclosed changeover switches").

(2) Factory fitted.

(3) On ATyS 3e only.



## ATyS 6\*

| Rating (A) | No. of poles | ATyS 6e                  | ATyS 6m   | Bridging bars** | Voltage sensing kit                                 | Terminal shrouds   | Terminal screens   | Optional modules  | Human interface / Offset Machine               | RJ45 connecting cable |                          |  |  |  |
|------------|--------------|--------------------------|-----------|-----------------|---|--|--|---|--|-----------------------|--------------------------|--|--|--|
| 125 A      | 3 P          | 1563 3012                | 1573 3012 | 4109 0019       | 3 P<br>1559 3012<br>4 P<br>1559 4013 <sup>(5)</sup> | 3 P<br>2694 3014 <sup>(4)(5)</sup><br>4 P<br>2694 4014 <sup>(4)(5)</sup> | 3 P<br>1509 3012 <sup>(6)</sup><br>4 P<br>1509 4012 <sup>(6)</sup> | RS485<br>MODBUS<br>1599 2000<br><br>2 inputs/<br>2 outputs<br>1599 2001 | ATyS D10<br>1599 2010<br>ATyS D20<br>1599 2020 | 1599 2009             |                          |  |  |  |
|            | 4 P          | 1563 4012 <sup>(1)</sup> | 1573 4012 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 160 A      | 3 P          | 1563 3016                | 1573 3016 |                 |   |  |  |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4016 <sup>(1)</sup> | 1573 4016 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 250 A      | 3 P          | 1563 3025                | 1573 3025 |                 |   |  |  |   |  |                       | 4109 0025                |  |  |  |
|            | 4 P          | 1563 4025 <sup>(1)</sup> | 1573 4025 |                 |   |  |  |   |  |                       | 1559 4026 <sup>(5)</sup> | 3 P<br>2694 3021 <sup>(4)(5)</sup><br>4 P<br>2694 4021 <sup>(4)(5)</sup> | 3 P<br>1509 3025 <sup>(6)</sup><br>4 P<br>1509 4025 <sup>(6)</sup> |  |
| 400 A      | 3 P          | 1563 3040                | 1573 3040 | 4109 0039       | 3 P<br>1559 3040<br>4 P<br>1559 4041 <sup>(5)</sup> |  |  |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4040 <sup>(1)</sup> | 1573 4040 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 630 A      | 3 P          | 1563 3063                | 1573 3063 | 4109 0063       | 3 P<br>1559 3063<br>4 P<br>1559 4064 <sup>(5)</sup> | 2694 3051 <sup>(4)(5)</sup>  | 1509 3063 <sup>(6)</sup>   |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4063 <sup>(1)</sup> | 1573 4063 |                 |   | 2694 4051 <sup>(4)(5)</sup>  | 1509 4063 <sup>(6)</sup>   |   |  |                       |                          |  |  |  |
| 800 A      | 3 P          | 1563 3080                | 1573 3080 | 4109 0080       | 3 P<br>1559 3080<br>4 P<br>1559 4081 <sup>(5)</sup> |  | 3 P<br>1509 3080 <sup>(6)</sup><br>4 P<br>1509 4080 <sup>(6)</sup> |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4080 <sup>(1)</sup> | 1573 4080 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 1000 A     | 3 P          | 1563 3100                | 1573 3100 |                 |   |  |  |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4100 <sup>(1)</sup> | 1573 4100 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 1250 A     | 3 P          | 1563 3120                | 1573 3120 | 4109 0120       | 3 P<br>1559 3120<br>4 P<br>1559 4121 <sup>(5)</sup> |  |  |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4120 <sup>(1)</sup> | 1573 4120 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 1600 A     | 3 P          | 1563 3160                | 1573 3160 | 4109 0160       | 3 P<br>1559 3160<br>4 P<br>1559 4161 <sup>(5)</sup> |  | 1509 3160 <sup>(6)</sup>   |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4160 <sup>(1)</sup> | 1573 4160 |                 |   |  | 1509 4160 <sup>(6)</sup>   |   |  |                       |                          |  |  |  |
| 2000 A     | 3 P          | 1563 3200                | 1573 3200 |                 |   |  |  |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4200                | 1573 4200 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 2500 A     | 3 P          | 1563 3250                | 1573 3250 |                 | 3 P<br>1559 3200<br>4 P<br>1559 4201 <sup>(3)</sup> |  | 3 P<br>1509 3200 <sup>(6)</sup><br>4 P<br>1509 4200 <sup>(6)</sup> |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4250                | 1573 4250 |                 |   |  |  |   |  |                       |                          |  |  |  |
| 3200 A     | 3 P          | 1563 3320                | 1573 3320 |                 |   |  |  |   |  |                       |                          |  |  |  |
|            | 4 P          | 1563 4320                | 1573 4320 |                 |   |  |  |   |  |                       |                          |  |  |  |

\* (ATS) Enclosed Automatic Transfer Switch.

\*\* 1 required per pole.

(1) Available enclosed (see pages 504 "Enclosed changeover switches").

(2) See page 317 "Copper bars connection kits".

(3) Neutral on the left (on the right, see page 318).

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

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

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

## ATyS 6\* (continued)

| Rating (A) | No. of poles | ATyS 6e                  | ATyS 6m   | Auxiliary contacts       | Voltage transformer 400/230 VAC | DC power supply  | Padlockable handle       | Key handle interlocking system | Door protective surround | Mounting spacers |                          |           |                          |                          |           |  |
|------------|--------------|--------------------------|-----------|--------------------------|---------------------------------|--|--------------------------|--------------------------------|--------------------------|------------------|--------------------------|-----------|--------------------------|--------------------------|-----------|--|
| 125 A      | 3 P          | 1563 3012                | 1573 3012 | 1599 0002 <sup>(2)</sup> | 1599 4063                       | 12 VDC / 230 VAC<br>1599 5012<br>24 VDC / 230 VAC<br>1599 5112 | 1599 0003 <sup>(2)</sup> | 1509 1006 <sup>(2)</sup>       | 1539 0012                | 1509 0001        |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4012 <sup>(1)</sup> | 1573 4012 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 160 A      | 3 P          | 1563 3016                | 1573 3016 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4016 <sup>(1)</sup> | 1573 4016 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 250 A      | 3 P          | 1563 3025                | 1573 3025 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4025 <sup>(1)</sup> | 1573 4025 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 400 A      | 3 P          | 1563 3040                | 1573 3040 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4040 <sup>(1)</sup> | 1573 4040 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 630 A      | 3 P          | 1563 3063                | 1573 3063 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4063 <sup>(1)</sup> | 1573 4063 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 800 A      | 3 P          | 1563 3080                | 1573 3080 |                          |                                 |  |                          |                                |                          |                  | 1599 0032 <sup>(2)</sup> | 1599 4120 | 1599 0004 <sup>(2)</sup> | 1509 1004 <sup>(2)</sup> | 1539 0080 |  |
|            | 4 P          | 1563 4080 <sup>(1)</sup> | 1573 4080 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 1000 A     | 3 P          | 1563 3100                | 1573 3100 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4100 <sup>(1)</sup> | 1573 4100 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 1250 A     | 3 P          | 1563 3120                | 1573 3120 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4120 <sup>(1)</sup> | 1573 4120 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 1600 A     | 3 P          | 1563 3160                | 1573 3160 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4160 <sup>(1)</sup> | 1573 4160 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 2000 A     | 3 P          | 1563 3200                | 1573 3200 | included                 | 1599 4200                       |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4200                | 1573 4200 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 2500 A     | 3 P          | 1563 3250                | 1573 3250 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4250                | 1573 4250 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
| 3200 A     | 3 P          | 1563 3320                | 1573 3320 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |
|            | 4 P          | 1563 4320                | 1573 4320 |                          |                                 |  |                          |                                |                          |                  |                          |           |                          |                          |           |  |

\* (ATS) Enclosed Automatic Transfer Switch.

(1) Available enclosed (see pages 504 "Enclosed changeover switches").

(2) Factory fitted.

## Other products

**Make before break motorised changeover switch (overlapping contact).**



**Function**

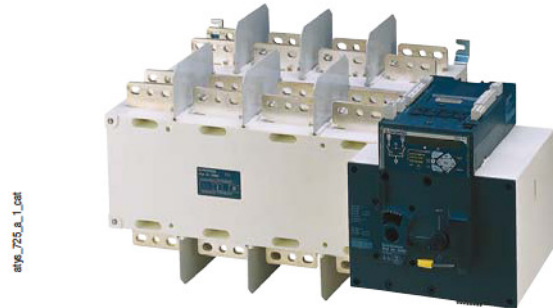
They provide switching, uninterrupted low voltage source inversion and safety isolation. They are intended to be coupled with a UPS (I, I+II, II).

**General characteristics**

- For ratings from 125 to 1800 A, 3 and 4 pole.
- 3 stable positions (I - I+II - II).
- Automatic on-load switching and source changeover without interruption with a UPS.
- Manual emergency operation.
- Padlocking in 3 positions.

**Consult us**

**Motorised mixed pole changeover switches**



**Function**

They provide switching and source inversion for low voltage sources of different power ratings.

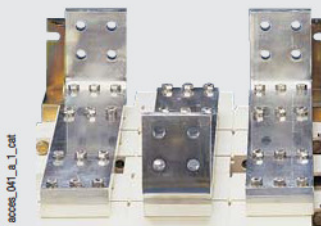
**General characteristics**

1250 to 3200 A ratings, 3 and 4 pole.

**Consult us**

## ➔ Accessories

**Bridging bars**



**Use**

To provide common point on either incoming or outgoing terminals.

| Rating (A)    | Section (mm) | Reference |
|---------------|--------------|-----------|
| 125 ... 160   | 20 x 2.5     | 4109 0019 |
| 250           | 25 x 2.5     | 4109 0025 |
| 400           | 32 x 5       | 4109 0039 |
| 630           | 50 x 5       | 4109 0063 |
| 800 ... 1000  | 50 x 6       | 4109 0080 |
| 1250          | 60 x 8       | 4109 0120 |
| 1600 ... 1800 | 90 x 10      | 4109 0160 |

**Copper bars connection kits**

Fig.1

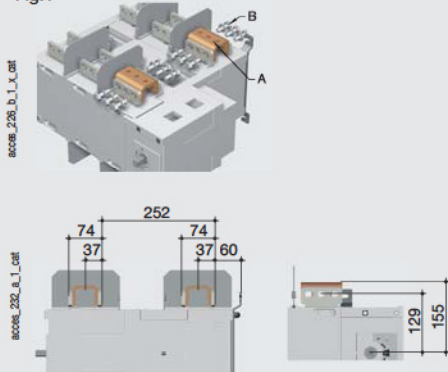


Fig. 2

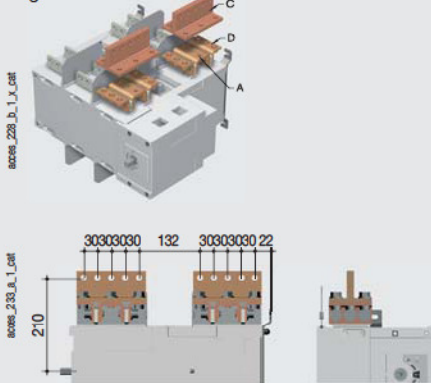
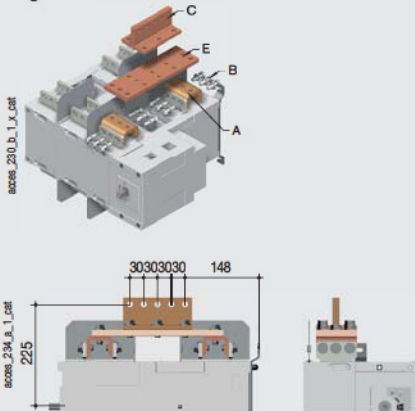


Fig. 3



**Use**

Enables:

- Connection between the two power terminals from 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 piece (part A) are delivered bridged from factory. Bolt sets must be ordered separately. Technical notice for these specific accessories can be download from [www.socomec.com](http://www.socomec.com)

**Top or bottom flat connection - Fig. 1**

| Rating (A)      | Piece               | Quantity to order per pole <sup>(1)</sup> | Reference |
|-----------------|---------------------|---|-----------|
| 2 000 ... 2 500 | Connection - part A | 2   | 2619 1200 |
| 2 000 ... 2 500 | Bolt set - part B   | 2   | 2699 1200 |
| 3 200           | Connection - part A |   | included  |
| 3 200           | Bolt set - part B   | 2   | 2699 1200 |

**Top or bottom edgewise connection - Fig. 2**

| Rating (A)      | Piece                | Quantity to order per pole <sup>(1)</sup> | Reference                |
|-----------------|----------------------|---|--------------------------|
| 2 000 ... 2 500 | Connection - part A  | 2   | 2619 1200                |
| 2 000 ... 2 500 | T piece - part C     | 2   | 2629 1200 <sup>(2)</sup> |
| 2 000 ... 2 500 | Right angle - part D | 2   | 2639 1200 <sup>(2)</sup> |
| 3 200           | Connection - part A  |   | included                 |
| 3 200           | T piece - part C     | 2   | 2629 1200 <sup>(2)</sup> |
| 3 200           | Right angle - part D | 2   | 2639 1200 <sup>(2)</sup> |

**Top or bottom bridging connection - Fig. 3**

| Rating (A)      | Piece               | Quantity to order per pole <sup>(1)</sup> | Reference                |
|-----------------|---------------------|---|--------------------------|
| 2 000 ... 2 500 | Connection - part A | 2   | 2619 1200                |
| 2 000 ... 2 500 | Bolt set - part B   | 2   | 2699 1200                |
| 2 000 ... 2 500 | Bar - piece E       | 1   | 4109 0250 <sup>(2)</sup> |
| 2 000 ... 2 500 | T piece - part C    | 1   | 2629 1200 <sup>(2)</sup> |
| 3 200           | Connection - part A |   | included                 |
| 3 200           | Bolt set - part B   | 2   | 2699 1200                |
| 3 200           | Bar - piece E       | 1   | 4109 0320 <sup>(2)</sup> |
| 3 200           | 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.

**Control voltage transformer**

**Use**

Enables a 230 VAC device to be supplied with 400 VAC.

| Rating (A)    | Reference |
|---------------|-----------|
| 125 ... 630   | 1599 4063 |
| 800 ... 1800  | 1599 4120 |
| 2000 ... 3200 | 1599 4200 |

**DC power supply**

**Use**

Allows standard ATyS 3 or ATyS 6 to be DC power supplied. To be positioned as close as possible to DC power supply source.

| Rating (A)   | Operating voltage | Reference |
|--------------|-------------------|-----------|
| 125 ... 1800 | 12 VDC / 230 VAC  | 1599 5012 |
| 125 ... 1800 | 24 VDC / 230 VAC  | 1599 5112 |



**Mounting spacers**



**Use**

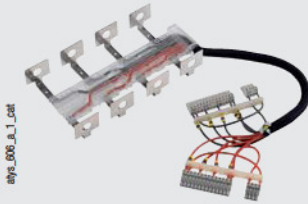
Raises the device's terminals 10mm away from the bottom of the enclosure or frame on which the device is mounted.

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

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

**Voltage sensing and power supply kit**

From 125 to 630 A.



**Use**

For ATyS 6 power supply and voltage measurement (4 wires, three phase). Routing of the conductors is controlled, which means that no specific protective device is necessary for these connections.

The kit can be fitted on the top or bottom of the switch.

**Note: the 3-pole version does not integrate the power supply.**

**From ATyS 6 - 3 pole**

| Rating (A)    | Reference |
|---------------|-----------|
| 125 ... 160   | 1559 3012 |
| 250           | 1559 3025 |
| 400           | 1559 3040 |
| 630           | 1559 3063 |
| 800 ... 1000  | 1559 3080 |
| 1250          | 1559 3120 |
| 1600          | 1559 3160 |
| 2000 ... 3200 | 1559 3200 |

From 800 to 3200 A.



**From ATyS 6 - 4 pole**

| Rating (A)    | Neutral on the right | Neutral on the left |
|---------------|----------------------|---------------------|
|               | Reference            | Reference           |
| 125 ... 160   | 1559 4012            | 1559 4013           |
| 250           | 1559 4025            | 1559 4026           |
| 400           | 1559 4040            | 1559 4041           |
| 630           | 1559 4063            | 1559 4064           |
| 800 ... 1000  | 1559 4080            | 1559 4081           |
| 1250          | 1559 4120            | 1559 4121           |
| 1600          | 1559 4160            | 1559 4161           |
| 2000 ... 3200 | 1559 4200            | 1559 4201           |

**Plug-in optional modules**



**Use**

**N°1 - communication module**  
Control and state feedback of the changeover switch via a 2 or 3-wire RS485 link with JBUS/MODBUS protocol® and transmission speed up to 38 400 baud.

**No. 2 - module with 2 inputs / 2 outputs**

- On ATyS 3e
  - 2 inputs: changeover control + backup network availability;
  - 2 outputs: a load shedder relay + fault relay.
- On ATyS 6e and 6m, 2 inputs / 2 programmable outputs.

| Description of accessories | Reference |
|----------------------------|-----------|
| RS485 MODBUS (N°1)         | 1599 2000 |
| 2 inputs/2 outputs (N°2)   | 1599 2001 |

**Terminal shrouds**



**Use**

Protection IP2X against direct contact with terminals or connecting parts.

**Advantages**

Perforations allowing remote thermographic inspection without removal.

| Rating (A)  | No. of poles | Position                             | Reference                   |
|-------------|--------------|--------------------------------------|-----------------------------|
| 125 ... 160 | 3 P          | top / bottom / front (I) / rear (II) | 2694 3014 <sup>(1)(2)</sup> |
| 125 ... 160 | 4 P          | top / bottom / front (I) / rear (II) | 2694 4014 <sup>(1)(2)</sup> |
| 250 ... 400 | 3 P          | top / bottom / front (I) / rear (II) | 2694 3021 <sup>(1)(2)</sup> |
| 250 ... 400 | 4 P          | top / bottom / front (I) / rear (II) | 2694 4021 <sup>(1)(2)</sup> |
| 630         | 3 P          | top / bottom / front (I) / rear (II) | 2694 3051 <sup>(1)(2)</sup> |
| 630         | 4 P          | top / bottom / front (I) / rear (II) | 2694 4051 <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.

**Terminal screens**

access\_207\_a2\_cat



**Use**

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

| Rating (A)    | No. of poles | Position     | Reference |
|---------------|--------------|--------------|-----------|
| 125 ... 160   | 3 P          | top / bottom | 1509 3012 |
| 125 ... 160   | 4 P          | top / bottom | 1509 4012 |
| 250 ... 400   | 3 P          | top / bottom | 1509 3025 |
| 250 ... 400   | 4 P          | top / bottom | 1509 4025 |
| 630           | 3 P          | top / bottom | 1509 3063 |
| 630           | 4 P          | top / bottom | 1509 4063 |
| 800 ... 1 250 | 3 P          | top / bottom | 1509 3080 |
| 800 ... 1 250 | 4 P          | top / bottom | 1509 4080 |
| 1600 ... 1800 | 3 P          | top / bottom | 1509 3160 |
| 1600 ... 1800 | 4 P          | top / bottom | 1509 4160 |
| 2000 ... 3200 | 3 P          | top / bottom | 1509 3200 |
| 2000 ... 3200 | 4 P          | top / bottom | 1509 4200 |

**Auxiliary contacts**

access\_066\_a1\_cat



**Use**

Pre breaking and signalling of positions I and II: 1 extra NO / NC auxiliary contact in each position (factory fitted).

Low level auxiliary contacts : Consult us.

**For ATyS 3s**

| Rating (A)   | Reference |
|--------------|-----------|
| 125 ... 630  | 1599 1002 |
| 800 ... 1800 | 1599 1032 |

**For ATyS 3e, 6e and 6m**

| Rating (A)    | Reference |
|---------------|-----------|
| 125 ... 630   | 1599 0002 |
| 800 ... 1600  | 1599 0032 |
| 2000 ... 3200 | included  |

**Padlocking in the 3 positions I-0-II**

atys\_125\_a1\_cat



**Use**

Allows padlocking of the operation in the 3 positions I, 0 and II (factory fitted).

| Rating (A)   | Reference |
|--------------|-----------|
| 125 ... 630  | 1599 0003 |
| 800 ... 3200 | 1599 0004 |

**Key handle interlocking accessories**

atys\_101\_a1\_cat



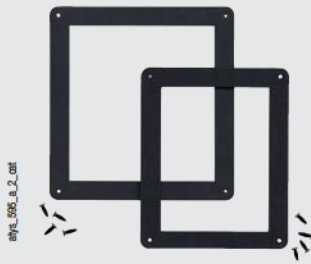
**Use**

Locking the electrical control and the backup control 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)   | Reference |
|--------------|-----------|
| 125 ... 630  | 1509 1006 |
| 800 ... 3200 | 1509 1004 |

**Door protective surround**



aty\_s95\_a\_2\_cat

**Use**

Door finishing surround for protecting ATyS application.

**For ATyS 3s**

| Rating (A)   | Reference |
|--------------|-----------|
| 125 ... 630  | 1529 0012 |
| 800 ... 1800 | 1529 0080 |

**For ATyS 3e, 6e and 6m**

| Rating (A)   | Reference |
|--------------|-----------|
| 125 ... 630  | 1539 0012 |
| 800 ... 3200 | 1539 0080 |

**Remote control interfaces for ATyS 6e, 6m and C30**



aty\_s94\_a\_1\_cat



aty\_s95\_a\_1\_cat

**Use**

To display source availability and changeover state on the front of a panel. Interfaces are self powered from the ATyS. Maximum connection distance: 3 m.

**ATyS D20**

In addition to the ATyS D10 allows displays, operation and configuration on the cabinet front panel. Protection degree: IP21.

**ATyS D10**

To display source availability and changeover state on the cabinet front panel. Protection degree: IP21.

**Door mounting**

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

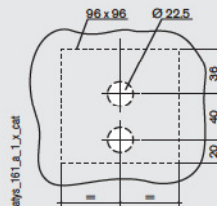
Cable not provided.

Interfaces are self powered from the ATyS.

Drillings



aty\_s97\_a\_1\_cat



aty\_s161\_a\_1\_cat

**Description of accessories**

| Description of accessories | Reference |
|----------------------------|-----------|
| ATyS D10                   | 1599 2010 |
| ATyS D20                   | 1599 2020 |

**Connecting cable for remote interfaces**



access\_209\_a\_2\_cat

**Use**

To connect between a remote interface (D10 or D20) and a control product (C30 or ATyS 6e or 6m).

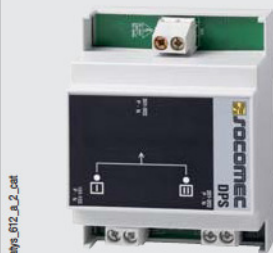
**Characteristics**

RJ45 8 straight non insulated wires, length 3m.

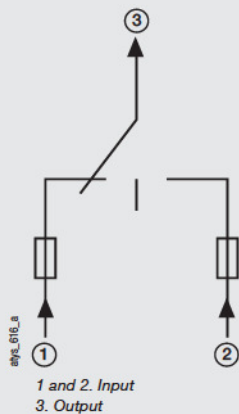
**For ATyS 6e, 6m and C30**

| Type       | Length | Reference |
|------------|--------|-----------|
| RJ45 cable | 3 m    | 1599 2009 |

**Double power supply - DPS**



aty\_s512\_a\_2\_cat



**Use**

Allows an ATyS 3s to be supplied by two 230 VAC 50/60Hz networks.

**Input**

- The input is considered as "active" from 200 VAC.
- Maximum voltage: 288 VAC.
- Internal protection: fuse protected 3.15 A
- Terminal connections: max. 6 mm<sup>2</sup>.
- Modular device: 4 modules width.

| Input 1 | Input 2 | Output            |
|---------|---------|-------------------|
| 230 VAC | 0 VAC   | 230 VAC (Input 1) |
| 0 VAC   | 230 VAC | 230 VAC (Input 2) |
| 230 VAC | 230 VAC | 230 VAC (Input 1) |
| 0 VAC   | 0 VAC   | 0 VAC             |

**Description of accessories**

| Description of accessories | Reference |
|----------------------------|-----------|
|                            | 1599 4001 |

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

### 125 to 1000 A

| Thermal current $I_{th}$ (40°C)                | 125 A | 160 A | 250 A | 400 A | 630 A | 800 A | 1 000 A |
|--|-------|-------|-------|-------|-------|-------|---------|
| Rated insulation voltage $U_i$ (V)             | 800   | 800   | 800   | 800   | 1000  | 1000  | 1000    |
| Rated impulse withstand voltage $U_{imp}$ (kV) | 8     | 8     | 8     | 8     | 12    | 12    | 12      |

| Rated operational currents $I_e$ (A) according to IEC 60947-3 |                    |  |  |  |  |  |  |  |
|---|--------------------|--|--|--|--|--|--|--|
| Rated voltage   | Load duty 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-21 A / AC-21 B  | 125/125                                | 160/160                                | 250/250                                | 400/400                                | 630/630                                | 800/800                                | 1000/1000                                |
| 415 VAC   | AC-22 A / AC-22 B  | 125/125                                | 160/160                                | 250/250                                | 400/400                                | 630/630                                | 800/800                                | 1000/1000                                |
| 415 VAC   | AC-23 A / AC-23 B  | 125/125                                | 160/160                                | 250/250                                | 250/250                                | 500/500                                | 800/800                                | 1000/1000                                |
| 690 VAC <sup>(2)</sup>  | AC-20 A / AC-20 B  | 125/125                                | 160/160                                | 250/250                                | 400/400                                | 630/630                                | 800/800                                | 1000/1000                                |
| 690 VAC <sup>(2)</sup>  | AC-21 A / AC-21 B  | 125/125                                | 160/160                                | 200/250                                | 200/250                                | 500/500                                | 800/800                                | 800/800                                  |
| 690 VAC <sup>(2)</sup>  | AC-22 A / AC-22 B  | 125/125                                | 125/125                                | 125/160                                | 125/160                                | 315/315                                | 800/800                                | 800/800                                  |
| 690 VAC <sup>(2)</sup>  | AC-23 A / AC-23 B  | 63/80                                  | 63/80                                  | 100/125                                | 100/125                                | 160/200                                | 200/250                                | 200/250                                  |
| 220 VDC   | DC-20 A / DC-20 B  | 125/125                                | 160/160                                | 250/250                                | 400/400                                | 630/630                                | 800/800                                | 1000/1000                                |
| 220 VDC   | DC-21 A / DC-21 B  | 125/125                                | 160/160                                | 250/250                                | 250/250                                | 630/630                                | 800/800                                | 1000/1000                                |
| 220 VDC   | DC-22 A / DC-22 B  | 125/125                                | 160/160                                | 250/250                                | 250/250                                | 500/500                                | 800/800                                | 1000/1000                                |
| 220 VDC   | DC-23 A / DC-23 B  | 125/125                                | 125/125                                | 200/200                                | 200/200                                | 500/500                                | 800/800                                | 1000/1000                                |
| 440 VDC   | DC-20 A / DC-20 B  | 125/125                                | 160/160                                | 250/250                                | 400/400                                | 630/630                                | 800/800                                | 1000/1000                                |
| 440 VDC   | DC-21 A / DC-21 B  | 125 <sup>(3)</sup> /125 <sup>(3)</sup> | 125 <sup>(3)</sup> /125 <sup>(3)</sup> | 200 <sup>(3)</sup> /200 <sup>(3)</sup> | 200 <sup>(3)</sup> /200 <sup>(3)</sup> | 500 <sup>(3)</sup> /500 <sup>(3)</sup> | 800 <sup>(4)</sup> /800 <sup>(4)</sup> | 1000 <sup>(4)</sup> /1000 <sup>(4)</sup> |
| 440 VDC   | DC-22 A / DC-22 B  | 125 <sup>(3)</sup> /125 <sup>(3)</sup> | 125 <sup>(3)</sup> /125 <sup>(3)</sup> | 200 <sup>(3)</sup> /200 <sup>(3)</sup> | 200 <sup>(3)</sup> /200 <sup>(3)</sup> | 500 <sup>(3)</sup> /500 <sup>(3)</sup> | 800 <sup>(4)</sup> /800 <sup>(4)</sup> | 1000 <sup>(4)</sup> /1000 <sup>(4)</sup> |
| 440 VDC   | DC-23 A / DC-23 B  | 125 <sup>(4)</sup> /125 <sup>(4)</sup> | 125 <sup>(4)</sup> /125 <sup>(4)</sup> | 200 <sup>(4)</sup> /200 <sup>(4)</sup> | 200 <sup>(4)</sup> /200 <sup>(4)</sup> | 500 <sup>(4)</sup> /500 <sup>(4)</sup> | 800 <sup>(4)</sup> /800 <sup>(4)</sup> | 1000 <sup>(4)</sup> /1000 <sup>(4)</sup> |

| Rated operational currents $I_c$ (A) according to IEC 60947-6-1 |           |     |     |     |     |     |     |       |
|---|-----------|-----|-----|-----|-----|-----|-----|-------|
| 415 VAC   | AC - 31 B | 125 | 160 | 250 | 400 | 630 | 800 | 1 000 |

| Overload capacity  |     |     |     |     |     |     |      |  |
|--|-----|-----|-----|-----|-----|-----|------|--|
| Rated short-time withstand current 1 s. $I_{sw}$ (kA eff.) | 7   | 7   | 9   | 9   | 13  | 26  | 35   |  |
| Short-circuit making capacity (kA peak) <sup>(5)</sup>     | 20  | 20  | 30  | 30  | 45  | 55  | 80   |  |
| Prospective short-circuit (kA rms) <sup>(5)</sup>          | 100 | 100 | 50  | 18  | 70  | 50  | 100  |  |
| Associated fuse rating (A) <sup>(5)</sup>                  | 125 | 160 | 250 | 400 | 630 | 800 | 1000 |  |

| Connection                                   |      |      |       |       |            |            |            |  |
|--|------|------|-------|-------|------------|------------|------------|--|
| Minimum Cu cable section (mm <sup>2</sup> )  | 35   | 50   | 95    | 185   | 2 x 150    | 2 x 185    | 2 x 240    |  |
| Minimum Cu busbar section (mm <sup>2</sup> ) |      |      |       |       | 2 x 30 x 5 | 2 x 40 x 5 | 2 x 50 x 5 |  |
| Maximum Cu cable section (mm <sup>2</sup> )  | 50   | 95   | 150   | 240   | 2 x 300    | 2 x 300    | 4 x 185    |  |
| Maximum Cu busbar width (mm)                 | 25   | 25   | 32    | 32    | 50         | 63         | 63         |  |
| Tightening torque min / max (Nm)             | 9/13 | 9/13 | 20/26 | 20/26 | 20/26      |            |            |  |

| Switching time (Standard setting)            |      |      |      |      |      |     |     |  |
|--|------|------|------|------|------|-----|-----|--|
| I - II or II - I (s) <sup>(6)</sup>          | 0.75 | 0.75 | 1.3  | 1.3  | 1.3  | 2.6 | 2.6 |  |
| I - O or II - O (s) <sup>(6)</sup>           | 0.45 | 0.45 | 0.85 | 0.85 | 0.85 | 1.6 | 1.6 |  |
| Duration of "electrical blackout" I - II (s) | 0.3  | 0.3  | 0.6  | 0.6  | 0.6  | 1.5 | 1.5 |  |

| Power supply                         |         |         |         |         |         |         |         |  |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|--|
| Power supply 230 VAC min / max (VAC) | 176/288 | 176/288 | 176/288 | 176/288 | 176/288 | 176/288 | 176/288 |  |

| Control supply power demand          |        |        |         |         |         |         |         |  |
|--------------------------------------|--------|--------|---------|---------|---------|---------|---------|--|
| Supply 230 VAC inrush / nominal (VA) | 420/80 | 420/80 | 420/100 | 420/100 | 420/110 | 450/120 | 450/120 |  |

| Mechanical characteristics              |        |        |       |       |       |       |       |  |
|---|--------|--------|-------|-------|-------|-------|-------|--|
| Durability (number of operating cycles) | 10 000 | 10 000 | 8 000 | 8 000 | 5 000 | 4 000 | 4 000 |  |
| Weight of 3 P switch (ATyS 3) (kg)      | 3.2    | 3.3    | 3.7   | 4.7   | 5.2   | 19.6  | 23.1  |  |
| Weight of 4 P switch (ATyS 3) (kg)      | 3.3    | 3.4    | 3.8   | 5.2   | 5.7   | 23.1  | 24.6  |  |
| Weight of 3 P switch (ATyS 6) (kg)      | 4      | 4.1    | 4.5   | 5.5   | 6     | 20.4  | 23.9  |  |
| Weight of 4 P switch (ATyS 6) (kg)      | 4.1    | 4.2    | 4.6   | 6     | 6.5   | 23.9  | 25.4  |  |

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

(2) With terminal shrouds or phase barrier.

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

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

(5) For a rated operational voltage  $U_n = 400$  VAC.

(6) Between the command given and arrival in position at  $U_n$  (under nominal conditions).

## 1 250 to 3 200 A

| Thermal current $I_{th}$ (40°C)                | 1 250 A | 1 600 A | 1 800 A | 2 000 A | 2 500 A | 3 200 A |
|--|---------|---------|---------|---------|---------|---------|
| Rated insulation voltage $U_i$ (V)             | 1000    | 1000    | 1000    | 1000    | 1000    | 1000    |
| Rated impulse withstand voltage $U_{imp}$ (kV) | 12      | 12      | 12      | 12      | 12      | 12      |

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

| Rated voltage          | Load duty category | A/B <sup>(1)</sup>                       | A/B <sup>(1)</sup>                       | A/B <sup>(1)</sup>                       | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> | A/B <sup>(1)</sup> |
|------------------------|--------------------|--|--|--|--------------------|--------------------|--------------------|
| 415 VAC                | AC-21 A / AC-21 B  | 1250/1250                                | 1600/1600                                | 1800/1800                                | -/2000             | -/2500             | -/3200             |
| 415 VAC                | AC-22 A / AC-22 B  | 1250/1250                                | 1600/1600                                | 1800/1800                                | -/2000             | -/2500             | -/3200             |
| 415 VAC                | AC-23 A / AC-23 B  | 1250/1250                                | 1250/1250                                | 1250/1250                                | -/1600             | -/1600             | -/1600             |
| 690 VAC <sup>(2)</sup> | AC-20 A / AC-20 B  | 1250/1250                                | 1600/1600                                | 1800/1800                                |                    |                    |                    |
| 690 VAC <sup>(2)</sup> | AC-21 A / AC-21 B  | 800/800                                  | 1000/1000                                | 1000/1000                                |                    |                    |                    |
| 690 VAC <sup>(2)</sup> | AC-22 A / AC-22 B  | 800/800                                  | 1000/1000                                | 1000/1000                                |                    |                    |                    |
| 690 VAC <sup>(2)</sup> | AC-23 A / AC-23 B  | 200/250                                  | 500/500                                  | 500/500                                  |                    |                    |                    |
| 220 VDC                | DC-20 A / DC-20 B  | 1250/1250                                | 1600/1600                                | 1800/1800                                |                    |                    |                    |
| 220 VDC                | DC-21 A / DC-21 B  | 1250/1250                                | 1250/1250                                | 1250/1250                                |                    |                    |                    |
| 220 VDC                | DC-22 A / DC-22 B  | 1250/1250                                | 1250/1250                                | 1250/1250                                |                    |                    |                    |
| 220 VDC                | DC-23 A / DC-23 B  | 1250/1250                                | 1250/1250                                | 1250/1250                                |                    |                    |                    |
| 440 VDC                | DC-20 A / DC-20 B  | 1250/1250                                | 1600/1600                                | 1800/1800                                |                    |                    |                    |
| 440 VDC                | DC-21 A / DC-21 B  | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> |                    |                    |                    |
| 440 VDC                | DC-22 A / DC-22 B  | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> |                    |                    |                    |
| 440 VDC                | DC-23 A / DC-23 B  | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> | 1250 <sup>(3)</sup> /1250 <sup>(3)</sup> |                    |                    |                    |

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

|         |           |       |       |      |       |       |       |
|---------|-----------|-------|-------|------|-------|-------|-------|
| 415 VAC | AC - 31 B | 1 250 | 1 600 | 1800 | 2 000 | 2 500 | 3 200 |
|---------|-----------|-------|-------|------|-------|-------|-------|

### Overload capacity

|  |      |      |      |     |     |     |
|--|------|------|------|-----|-----|-----|
| Rated short-time withstand current 1 s. $I_{cw}$ (kA eff.) | 35   | 50   | 50   | 55  | 55  | 55  |
| Rated peak withstand current (kA peak) <sup>(4)</sup>      | 80   | 110  | 110  | 120 | 120 | 120 |
| Prospective short-circuit (kA rms) <sup>(4)</sup>          | 100  | 100  | 100  |     |     |     |
| Associated fuse rating (A) <sup>(4)</sup>                  | 1250 | 1600 | 1800 |     |     |     |

### Connection

|  |            |            |             |              |              |              |
|--|------------|------------|-------------|--------------|--------------|--------------|
| Minimum Cu busbar section (mm <sup>2</sup> ) | 2 x 60 x 5 | 2 x 80 x 5 | 3 x 100 x 5 | 2 x 100 x 10 | 2 x 100 x 10 | 2 x 100 x 10 |
| Maximum Cu cable section (mm <sup>2</sup> )  | 4 x 185    | 6 x 185    | 6 x 185     |              |              |              |
| Maximum Cu busbar width (mm)                 | 63         | 100        | 100         | 100          | 100          | 100          |
| Tightening torque min / max (Nm)             | 20/26      | 40/45      | 40/45       | 40/45        | 40/45        | 40/45        |

### Switching time (Standard setting)

|  |     |     |     |   |   |   |
|--|-----|-----|-----|---|---|---|
| I - II or II - I (s) <sup>(5)</sup>          | 2.6 | 2.6 | 2.6 | 2 | 2 | 2 |
| I - 0 or II - 0 (s) <sup>(5)</sup>           | 1.6 | 1.6 | 1.6 | 1 | 1 | 1 |
| Duration of "electrical blackout" I - II (s) | 1.5 | 1.6 | 1.6 | 1 | 1 | 1 |

### Power supply

|                                      |         |         |         |         |         |         |
|--------------------------------------|---------|---------|---------|---------|---------|---------|
| Power supply 230 VAC min / max (VAC) | 176/288 | 176/288 | 176/288 | 176/288 | 176/288 | 176/288 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|

### Control supply power demand

|                                      |         |         |         |         |         |         |
|--------------------------------------|---------|---------|---------|---------|---------|---------|
| Supply 230 VAC inrush / nominal (VA) | 450/120 | 450/120 | 450/120 | 550/390 | 550/390 | 550/390 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|

### Mechanical characteristics

|   |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|
| Durability (number of operating cycles) | 4 000 | 3 000 | 3 000 | 3 000 | 3 000 | 3 000 |
| Weight of 3 P switch (ATyS 3) (kg)      | 24.6  | 36.1  | 36.1  | 47    | 51    | 59    |
| Weight of 4 P switch (ATyS 3) (kg)      | 29.6  | 42.1  | 42.1  | 57    | 61    | 69    |
| Weight of 3 P switch (ATyS 6) (kg)      | 25.4  | 36.9  |       | 47    | 51    | 59    |
| Weight of 4 P switch (ATyS 6) (kg)      | 30.4  | 42.9  |       | 57    | 61    | 69    |

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

(2) With terminal shrouds or phase barrier.

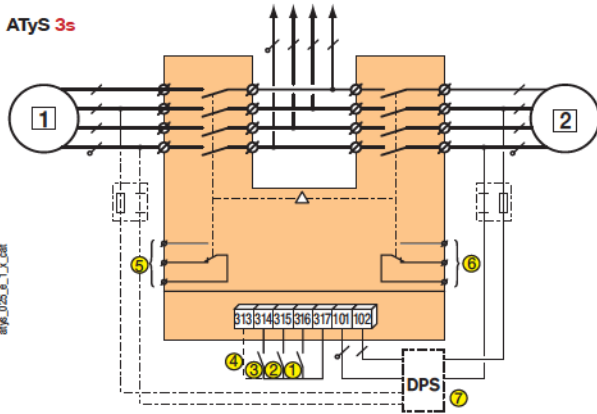
(3) 4-pole device with 2 poles in series by polarity.

(4) For a rated operational voltage  $U_n = 400$  VAC.

(5) Between the command given and arrival in position at  $U_n$  (under nominal conditions).

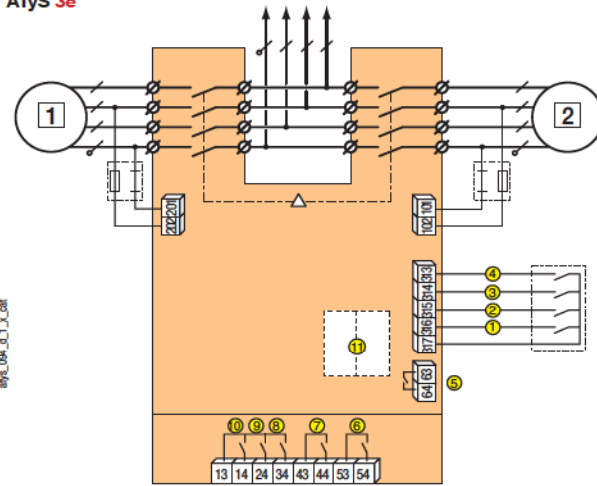
➤ Terminals and connections

ATyS 3s



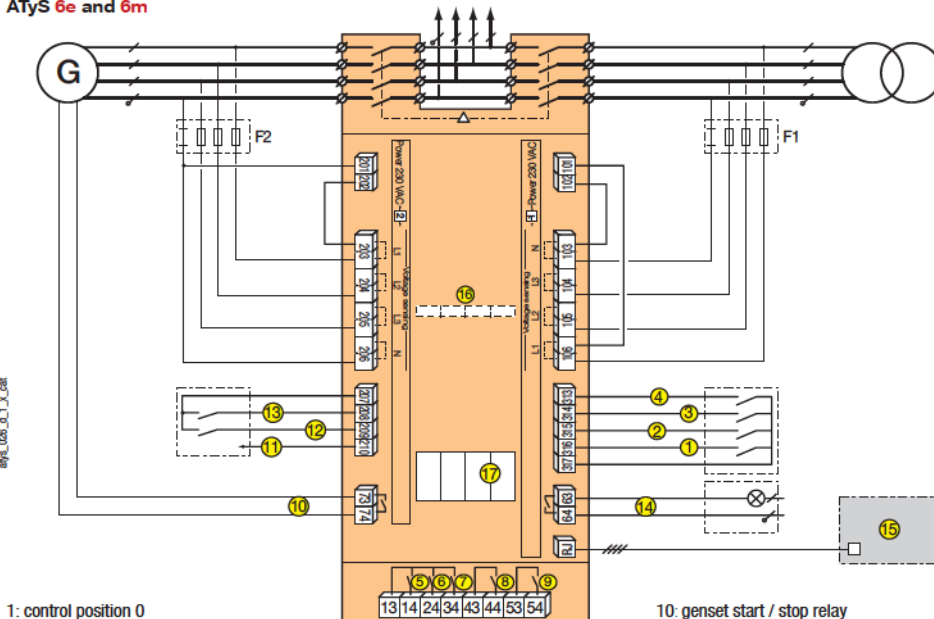
- 1 preferred source
- 2 alternate source
- 1: control position 0
- 2: control position I
- 3: control position II
- 4: configuration of the control logic
- 5: NO/NC position and prebreaking contact for position I
- 6: NO/NC position and prebreaking contact for position II
- 7: Double Power Supply (accessory)

ATyS 3e



- 1 preferred source
- 2 alternate source
- 1: control position 0
- 2: control position I
- 3: control position II
- 4: inhibition of the control position
- 5: fault relays
- 6: auxiliary contact, closed when the switch is padlocked
- 7: auxiliary contact, closed when the switch is in "AUT" mode
- 8: auxiliary contact, closed when the switch is in position 0
- 9: auxiliary contact, closed when the switch is in position II
- 10: auxiliary contact, closed when the switch is in position I
- 11: slots for optional modules

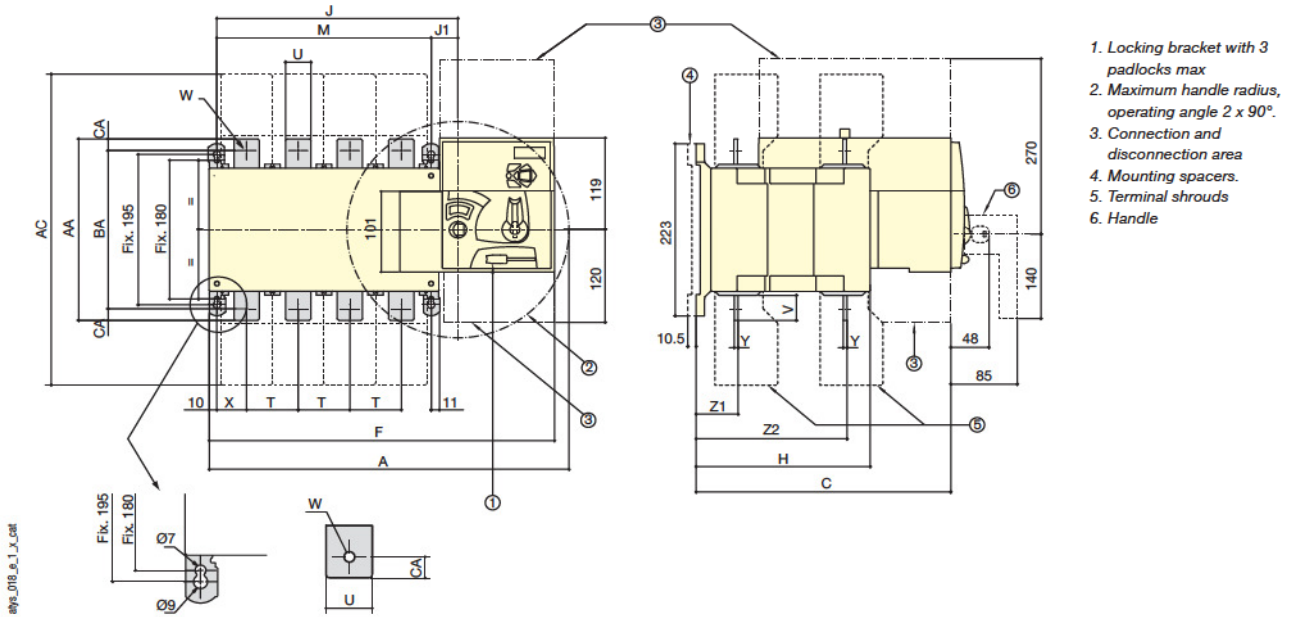
ATyS 6e and 6m



- 1: control position 0
- 2: control position I
- 3: control position II
- 4: remote command
- 5: auxiliary contact, closed when the switch is in position I
- 6: auxiliary contact, closed when the switch is in position II
- 7: auxiliary contact, closed when the switch is in position 0
- 8: auxiliary contact, closed when the switch is in "AUT" mode
- 9: auxiliary contact, closed when the switch is padlocked
- 10: genset start / stop relay
- 11: auxiliary power supply (for optional modules control)
- 12: remote "test on-load" input
- 13: DTT inhibit input. Transfer initiated as soon as the input is closed when DTT = max. value.
- 14: fault relay
- 15: remote control interface
- 16: current transformers (ATyS 6m only)
- 17: slots for optional modules

## ➔ ATyS - Dimensions

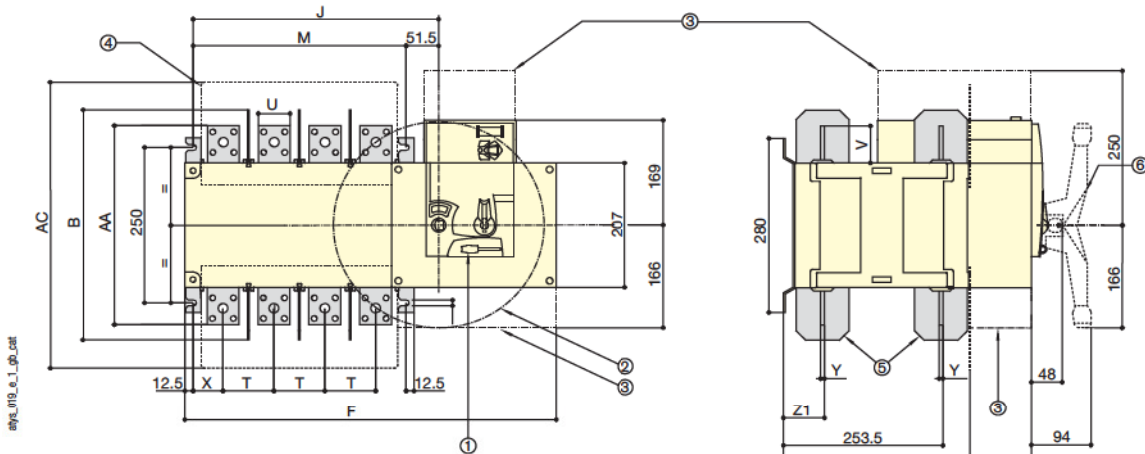
### ATyS 125 to 630 A



1. Locking bracket with 3 padlocks max
2. Maximum handle radius, operating angle  $2 \times 90^\circ$ .
3. Connection and disconnection area
4. Mounting spacers.
5. Terminal shrouds
6. Handle

| Rating (A) | Overall dimensions |       |       | Terminal shrouds |       | Switch 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   | Z2    | AA  | BA  | AC |
| 125        | 304                | 340   | 244   | 235              | 286.5 | 322.5       | 151 | 154   | 184   | 34 | 120             | 150   | 36         | 20 | 25 | 9  | 28    | 22    | 3.5 | 38   | 134   | 135 | 115 | 10 |
| 160        | 304                | 340   | 244   | 235              | 286.5 | 322.5       | 151 | 154   | 184   | 34 | 120             | 150   | 36         | 20 | 25 | 9  | 28    | 22    | 3.5 | 38   | 134   | 135 | 115 | 10 |
| 250        | 345                | 395   | 244.5 | 280              | 328   | 378         | 153 | 195   | 245   | 35 | 160             | 210   | 50         | 25 | 30 | 11 | 33    | 33    | 3.5 | 39.5 | 134.5 | 160 | 130 | 15 |
| 400        | 345                | 395   | 244.5 | 280              | 328   | 378         | 153 | 195   | 245   | 35 | 160             | 210   | 50         | 35 | 35 | 11 | 33    | 33    | 3.5 | 39.5 | 134.5 | 170 | 140 | 15 |
| 630        | 394                | 459   | 320.5 | 400              | 377   | 437         | 221 | 244   | 304   | 34 | 210             | 270   | 65         | 45 | 50 | 13 | 42.5  | 37.5  | 5   | 53   | 190   | 260 | 220 | 20 |

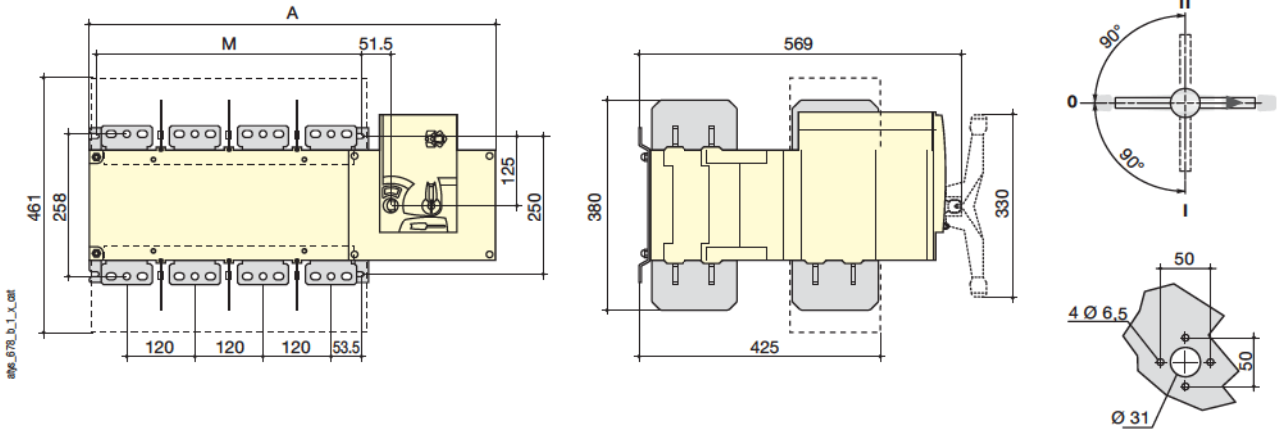
### ATyS 800 to 1800 A



1. Locking bracket with 3 padlocks max
2. Maximum handle radius, operating angle  $2 \times 90^\circ$ .
3. Connection and disconnection area
4. Terminals protection screen
5. Inter phase barrier.
6. Handle

| Rating (A) | Overall dimensions | Terminal shrouds | Switch 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   | 306.5 | 386.5 | 255             | 335   | 80         | 50 | 60.5 | 60 | 7 | 66.5 | 321 |
| 1000       | 370                | 461              | 504         | 584   | 306.5 | 386.5 | 255             | 335   | 80         | 50 | 60.5 | 60 | 7 | 66.5 | 321 |
| 1250       | 370                | 461              | 504         | 584   | 306.5 | 386.5 | 255             | 335   | 80         | 60 | 65   | 60 | 7 | 66.5 | 330 |
| 1600       | 380                | 481              | 596         | 716   | 398.5 | 518.5 | 347             | 467   | 120        | 90 | 44   | 66 | 8 | 67.5 | 288 |
| 1800       | 380                | 481              | 596         | 716   | 398.5 | 518.5 | 347             | 467   | 120        | 90 | 44   | 66 | 8 | 67.5 | 288 |

ATyS 2000 to 3200 A



| Rating (A)      | Overall dimensions |       | Switch mounting |       |
|-----------------|--------------------|-------|-----------------|-------|
|                 | A 3p.              | A 4p. | M 3p.           | M 4p. |
| 2 000 ... 3 200 | 596                | 716   | 347             | 467   |

➔ Cut of dimensions

ATyS 125 to 630 A

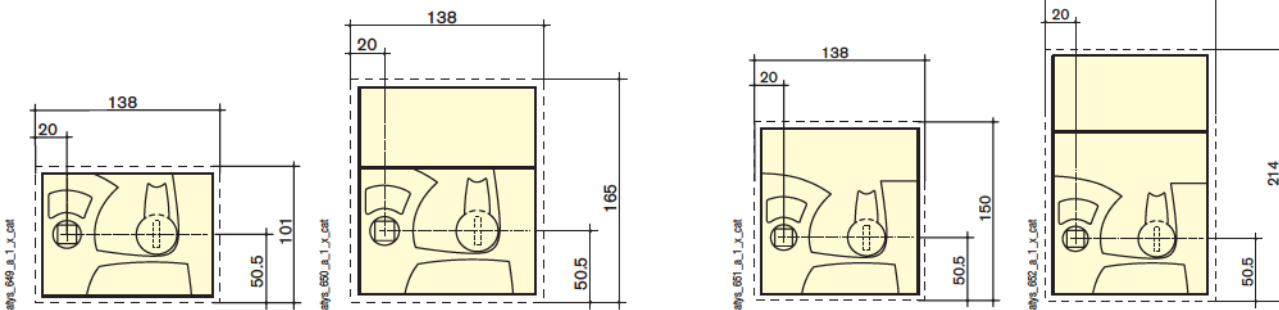
ATyS 3s

ATyS 3e, 6e, 6m

ATyS 800 to 1800 A

ATyS 3s

ATyS 3e, 6e, 6m



➔ Connection terminals

ATyS 800 to 1000 A

ATyS 1250 A

ATyS 1600 to 3200 A

