ATyS Bypass Single Line & Double Line
from 40 to 3200 A
Ensures availability of the electrical power supply under all circumstances

**Reliable solution**
- Complete ATS redundancy.
- Optimised MTTR.
- Inspection, test & maintenance simplified.

**Safe solution**
- Intuitive and secured operation.
- High electrical operation.
- Original manufacturing (Made in France).

**Integrated solution**
- Complete solutions or loose components.
- New installation & retrofit.
- Remote control capabilities.
Applications

Tertiary sector / Critical building / Building

• High-rise & public buildings (security equipments, alarm systems, smoke extraction systems, fire pumps, air compressors, sprinkler systems, lifts...).
• Hospitals (surgery, intensive care, hospitalisation...).
• It rooms (data centre, banks, insurances, web sites hosting...).
• Shopping centers.

Infrastructure

• Airports (navigation, track signs...).
• Commercial and military navy (dock connection, embedded supplies).
• Highways / motorways (tunnels, tolls...).
• Railways (rail signs) / subways
• Telecom (self-sufficient power supply).

SOCOMEC, your best asset

European manufacturing group
• Created in 1922.
• A workforce of almost 3000.
• Located on all five continents.

A culture of independence
• Family shareholding.
• Control of the decision-making process.
• Respect of human values.

The spirit of innovation
• Almost 10% of turnover is invested in R&D.

A flexible manufacturing structure
• Competitive production sites.
• Lean Management.
• Lead times, quality and cost guaranteed.

The vision of a specialist
• Expertise in core technologies.
• Product adaptations as per customer requirements.

A focus on service
• Advice, technical assistance and call-out, training.
• Teams located across the globe.
**General presentation**

**Transfer Switch Equipments**

**Introduction**

The Transfer Switch Equipment (TSE) is applied to any application requiring switching operations from one power circuit to another. The transfer concept is mainly applied for two sources which require transfers, one considered as a main / normal supply and the other one as a backup/emergency source. The expression “normal / emergency” is used to name this function. The ATyS switching range has been designed, tested and proven according to the international standard IEC 60947-6-1. Hence, SOCOMEC ATyS guarantees a high quality product which meets all requirements of an Automatic Transfer Switch Equipment (ATSE).

**Applications & ATSE solutions**

- Automatic Transfer Switch Equipments (TSE) realise a changeover between main & emergency / backup sources in order to ensure Power supply quality & continuity for economic and / or (people / equipments) safety reasons. The most useful transfer application concerns installations requiring switching to another power supply in case of loss of a main’s network.

  - **Mains / Genset (Standard)**
  - **Mains / Mains (Standard)**
  - **ATyS p M range from 40 to 160 A (4 poles)**
  - **ATyS p range from 125 to 3200 A (3 & 4 poles)**

- An ATSE can also be used to ensure power supply self-sufficiency in case of isolated site like telecom relay.

  - **Genset / Genset (on request)**

  - **ATyS M range from 40 to 160 A (4 poles)**
  - **ATyS range from 125 to 3200 A (3 & 4 poles)**
Bypass Switch Equipments

The ATyS Bypass function is a solution which allows on normal / emergency changeover installation to isolate the Automatic Transfer Switch Equipment (ATSE) during the maintenance periods, & keeps the supply available for the installation.

So the ATSE, which is subject to high number of operations and risks of damages (lightning, high voltage fluctuation) due to the permanent connection to the mains, can be controlled or replaced without any threat for the operator and without affecting the continuity of the supply.

SOCOMEC ATyS Bypass are available in 2 versions:

**Bypass Single Line**

Bypass Single Line (BPSL) consists of two elements, an Automatic Transfer Switch & a one-way bypass isolation switch.

**Bypass Double Line**

Bypass Double Line (BPDL) consists of two elements, an Automatic Transfer Switch & a two-way bypass isolation switch.

**Typical functioning**

**Normal position**

The load is supplied by source 1 or source 2 through the ATSE.

**Bypass position**

The ATSE is Bypassed, the load is supplied by source 1 or source 2 through the MTSE.

**Test position**

The load is not supplied by the ATSE but through the MTSE, the Automatic transfer switch can be tested without any perturbation on the load.
Technical presentation

Standard features

Introduction

SOCOMEC proposes a complete enclosed ATyS Bypass range from 40 to 3200 A (4 poles in standard & 3 poles on request).
The ATyS Bypass system consists of two elements:

An Automatic Transfer Switch Equipment (ATSE) (with built-in microprocessor controller):
- 1 ATyS or 1 ATyS M depending on the rating.

A Manual bypass isolation switch:
- One-way / Single line:
  - 1 Load Break Switch (LBS): SIRCO (M) 8 poles
  - 1 Manual Transfer Switch (MTSE): SIRCOVER
- Two-way / Double Line:
  - 1 Load Break Switch (LBS): SIRCO 8 poles
  - 2 Manual Transfer Switch (MTSE): SIRCOVER.

SOCOMEC products are Made in France & the complete system is assembled in France.

General electrical characteristics

With:
- A large range [40 A / 3200 A].
- A high voltage range.
- A high frequency range [45 Hz / 65 Hz].

Power supply from:
- P-N 160 VAC to 305 VAC (40 to 125 A).
- P-N 166 VAC to 332 VAC (160 to 3200 A).

SOCOMEC ATS/BPS offer a solution for all types of installations and loads.

Switching

All these features concern SOCOMEC LBS, MTSE & ATSE
- Inherently double throw switch for low voltage applications.
- Secured disconnection integrated for load isolation, thanks to a double switching technology per pole with fully visualized breaking.
- High number of operations according to IEC 60947-3/ 60947-6-1.
- Constant pressure on the contacts not affected by voltage variations, vibrations or repulsive force during short-circuits.
- Synchronised neutral closing
  The neutral contact is fitted on the same moving contact bar
  > Ensure neutral referencing & avoid surges.
  Like the most famous switches builder, it’s the SOCOMEC answer for neutral overlapping.

SOCOMEC sliding contacts

Contactors & circuit breakers

- Integrated mechanical interlocking system.
- Silver plated & self cleaning contacts > maintenance free, no inspection & replacement needed.
- High dynamic short circuit withstand (result after 10 short-circuits).
- Synchronised neutral closing
  The neutral contact is fitted on the same moving contact bar
  > Ensure neutral referencing & avoid surges.
  Like the most famous switches builder, it’s the SOCOMEC answer for neutral overlapping.

SOCOMEC sliding contacts

Contactors & circuit breakers

- Neutral is fully rated in comparison with phases.
- Open transition: In order to avoid inrush currents in case of motor load.

It’s an alternative solution of make before break and break before make for neutral needs.
Automatic Transfer Switch

Mechanical parts
• Integrated mechanical and electrical interlocking system.

- The electric mechanism is a single operator momentarily energized.
- Making & breaking speeds are independent of the operating mode (manual & motorised).
- Stable positions not affected by voltage fluctuations & vibrations.
- Product not powered in stable positions.
  Operator is a momentarily energized mechanism > no consumption & extended operating life.
- Operating mode selector (AUT / MAN) with interlocking.

Open the front cover to activate manual mode

Handle housing not possible in Auto mode to secure manual operation.
• Emergency manual operation facilities with a single handle.

- Built-in mechanical padlocking system in manual mode in 0 position (3 positions on request).

Automatic & Manual modes are disabled and not possible in padlocked mode.
• Easy maintenance.
  Motor & control relay can be replaced on load = no power loss!
  During maintenance operations, changeover is always possible manually.
Technical presentation

Automatic Transfer Switch (continued)

Microprocessor controller part

Embedded controller for Mains / Mains & Mains / Genset applications

The controller is provided by a single built-in microprocessor completely integrated to the ATSE. The controller is self-supplied by the mains and backup sources.

Two models according to the ratings:

ATys p front face

User-Friendly interface

Facilities on the 2 versions:

- **Configuration (Password protection to control the access):**
  - Installation parameters configuration.
  - Independent over/under voltage and over/under frequency thresholds ±20% of nominal values & hysteresis.
  - Phase rotation and unbalance control.
  - Adjustable timers.

- **Visualisation:**
  - Voltage measurements on the 2 sources (according to the network type).
  - Frequency measurements on the 2 sources.
  - Timers settings & countdowns.
  - Number of cycles & last events.
  - Remote reporting by digital outputs (dry contacts).

- **Exploitation (Password protection to control the access):**
  - Changeover cycle automatic management.
  - Tests on load & tests off load facilities.
  - Remote control by digital inputs.

- **LED indicator light:**
  - Power On.
  - Sources availability.
  - Changeover positions.
  - “MAN / AUT” modes.
  - Test & control operations.

All these facilities are also accessible with the serial link RS485 through a Slave JBUS/MODBUS protocol.

Measurements

Measurements are true RMS type for the 2 sources.

- **Voltage is accurate to 1%** on the complete operating temperature range [-20°C > + 70°C].

- **The frequency is accurate to 0.1%** on the complete operating temperature range [-20°C > + 70°C]. These measurements are continuously monitored.

<table>
<thead>
<tr>
<th>Thresholds &amp; hysteresis</th>
<th>Phases controlled</th>
<th>Default value</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over voltage (dropout / trip)</td>
<td>3 Ph</td>
<td>115%</td>
<td>102 to 130%</td>
</tr>
<tr>
<td>Over voltage hysteresis (pickup / reset)</td>
<td>3 Ph+N</td>
<td>110%</td>
<td>101 to 129%</td>
</tr>
<tr>
<td>Under voltage (dropout / trip)</td>
<td>2 Ph</td>
<td>85%</td>
<td>60 to 98%</td>
</tr>
<tr>
<td>Under voltage hysteresis (pickup / reset)</td>
<td>2 Ph+N</td>
<td>95%</td>
<td>60 to 99%</td>
</tr>
<tr>
<td>Over frequency (dropout / trip)</td>
<td>1 Ph</td>
<td>105%</td>
<td>101 to 130%</td>
</tr>
<tr>
<td>Over frequency hysteresis (pickup / reset)</td>
<td>1 Ph+N</td>
<td>103%</td>
<td>100.5 to 129%</td>
</tr>
<tr>
<td>Under frequency (dropout / trip)</td>
<td>1 &amp; 2 (N &amp; E)</td>
<td>95%</td>
<td>60 to 99%</td>
</tr>
<tr>
<td>Under frequency hysteresis (pickup / reset)</td>
<td>(Following network type definition)</td>
<td>97%</td>
<td>61 to 99.5%</td>
</tr>
</tbody>
</table>

- Nominal Voltage can be set from 180 VAC to 480 VAC in 1 V increment.
- Nominal Frequency can be select between 50 Hz and 60 Hz.
- Voltage thresholds & hysteresis can be set in 1% increment.
- Frequency threshold & hysteresis can be set in 0.5% increment.
- The controller also realizes phase rotation sensing on the 2 sources according to the configuration in case of 3 phases network.
Automatic Transfer Switch (continued)

Integrated connection RJ45 for remote control interface (D20)
The remote control interface is integrated in the SOCOMEC ATS Bypass offer.

Remote control (digital input)

ATyS p M:
- 3 configurable inputs (self powered) for the following functions:
  - Inhibition mode,
  - Test on load & test off load,
  - Manual retransfer to inhibit the automatic retransfer,
  - Changeover position control for the 3 positions,
  - Network priority,
  - Load shedding.
  - ...

ATyS p:
- 6 configurable inputs (self powered) and up to 8 inputs with optional modules (2 per module) for the following functions:
  - Inhibition mode,
  - Test on load & test off load,
  - Manual retransfer to inhibit the automatic retransfer,
  - Changeover position control for the 3 positions,
  - Network priority,
  - Load shedding.
  - ...

- Up to 4 inputs for optional modules (2 per module) for the following functions:
  - Manual retransfer to inhibit the automatic retransfer,
  - External sources fault (2),
  - Override Source 2 availability.

Remote reporting (digital output) for BMS system:

ATyS p M:
- Auxiliary contacts (NO/NC for the 3 positions) (5 A AC1 250 VAC).
- 2 configurable outputs (0.5 A AC1 250 A) for the following functions:
  - Sources availabilities,
  - Sources on load,
  - Load shedding order,
  - Product availability (Auto mode + no fault + power supply).
- ...

ATyS p:
- Auxiliary contacts (NO/NC for the 2 positions) (5 A AC1 250 VAC).
- 1 fixed outputs (0.5 A AC1 250 A) for the following functions:
  - Watchdog relay.
  - Up to 8 outputs for optional modules (2 per module) (0.5 A AC1 250 A) for the following functions:
    - Sources availabilities,
    - Sources on load,
    - Load shedding order,
    - Product availability (Auto mode + no fault + power supply).

Timers & Automatic cycle

<table>
<thead>
<tr>
<th>Timers</th>
<th>Designations</th>
<th>ATyS p M</th>
<th>ATyS p</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Source failure timer</td>
<td>1FT</td>
<td>3s</td>
</tr>
<tr>
<td>T2</td>
<td>Delay To Transfer on source 2 (only for genset)</td>
<td>2AT</td>
<td>5s</td>
</tr>
<tr>
<td>T3</td>
<td>0 position stay before transfer “failure”</td>
<td>ODT</td>
<td>3s</td>
</tr>
<tr>
<td>T4</td>
<td>Source 1 return timer before retransfer</td>
<td>1RT</td>
<td>180s</td>
</tr>
<tr>
<td>T5</td>
<td>0 position stay before transfer “return”</td>
<td>ODT</td>
<td>3s</td>
</tr>
<tr>
<td>T6</td>
<td>Cool down timer before generator set shutdown</td>
<td>2CT</td>
<td>180s</td>
</tr>
<tr>
<td></td>
<td>Load shedding timer</td>
<td>LST</td>
<td>4s</td>
</tr>
</tbody>
</table>

All time delays are adjustable in 1sec increment for timers based on seconds and in 0.1 min for timers based on minutes.
Technical presentation

Bypass Isolation Switch

The SOCOMEC ATyS Bypass solutions are Open Transition Automatic Transfer Equipment which allow to changeover & to bypass the load to either sources and permit complete isolation and test of the ATS.

ATyS Bypass Single Line

General features for Single Line (SL) & Double Line (DL) Bypass:

- **ATS mode**
  In the automatic mode, the bypass products are out of power so that they will not carry fault currents.
  All the changeover functionalities are ensured by the ATS.

- **Bypass mode**
  They are done manually with 2 handles for SL and 3 handles for DL without any key to interlock.
  - One handle (Q1) to choose between ATS mode & bypass mode. This handle allow on bypass mode to isolate the ATS from load power conductors.
  - One handle (Q2) to select the sources during bypass mode (only with DL version).
  - One handle (Q3) to isolate the ATS from all sources and to realise some tests after maintenance.

- **Three possible operating modes:**
  - Normal (ATS),
  - Bypass (on mains or emergency),
  - Test.

- **Power connections removal**
  All the power connections on the ATS can be easily removed with standard tools.

- **Protective Screen**
  Even while the panel door is open, the screen protection will ensure a total protection against direct contacts. All parts under voltage are individually protected by protective screens.

- **Easy replacement of ATS (from 250 to 3200 A)**
  Allows to change the ATS product in full security, in a minimum time and allows an easiest product handling.

- **Bus bar identification**
  Allows clear identification of the different phases in order to avoid connection mistakes. A bus bar code colour ensures the coherence with the indicator light on the mimic diagram.

No critical position can be reached by the operator! Safe Utilisation


tyS_899_a_1_gb_cat

atyS_883_c

atyS_766_a
Bypass Isolation Switch (continued)

Cables entries

- **Steel enclosure (up to 400 A)**
  In the standard solution with steel enclosure, the incoming cables from sources and the outgoing cables to the load arrive are connected to the bottom side of the enclosure.

- **Steel cabinet (from 630 A)**
  In the standard solution with steel cabinet, the incoming cables from sources are connected to the bottom side of the cabinet. The outgoing cables to the load can be connected to top or bottom sides. In option, a cabinet extension is available to allow incoming cables connection from the top of the cabinet.

Mimic diagram

Allows the customer to have a full vision of the ATyS Bypass status:
- Availability of each source phase,
- Normal and bypass positions,
- Voltage & frequency measurements.

The mimic diagram consists in 16 LED indicating lights (16 mm industrial grade in option).
## Components presentation & sizing (continued)

### Switching equipments

<table>
<thead>
<tr>
<th>Functions</th>
<th>Qties</th>
<th>40 to 100 A</th>
<th>125 &amp; 160 A</th>
<th>250 to 3200 A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ATS</strong> Automatic Transfer Switch</td>
<td>1</td>
<td><img src="image" alt="ATyS p M" /></td>
<td><img src="image" alt="ATyS p M" /></td>
<td><img src="image" alt="ATyS p" /></td>
</tr>
<tr>
<td><strong>LBS</strong> Load Break Switch</td>
<td>1</td>
<td><img src="image" alt="SIRCO M8 P" /></td>
<td><img src="image" alt="SIRCO VM8 P" /></td>
<td><img src="image" alt="SIRCO 8 P" /></td>
</tr>
<tr>
<td><strong>MTS</strong> Manual Transfer Switch</td>
<td>1 / 2(h)</td>
<td><img src="image" alt="SIRCO M" /></td>
<td><img src="image" alt="SIRCO VM1" /></td>
<td><img src="image" alt="SIRCOVER" /></td>
</tr>
<tr>
<td><strong>HMI</strong> Human Machine Interface</td>
<td>1</td>
<td><img src="image" alt="Mimic Diagram + D20" /></td>
<td><img src="image" alt="Mimic Diagram + D20" /></td>
<td><img src="image" alt="Mimic Diagram + D20" /></td>
</tr>
</tbody>
</table>

*for double line version*

### Enclosure Dimensions

<table>
<thead>
<tr>
<th>Ratings (A)</th>
<th>Dimensions H x W x D (mm)</th>
<th>Type</th>
<th>IP</th>
<th>Cables entry In / Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 … 80</td>
<td>800 x 800 x 300</td>
<td>Steel Enclosure</td>
<td>Std: IP41</td>
<td>B / B</td>
</tr>
<tr>
<td>100 … 125</td>
<td>1000 x 800 x 300</td>
<td>Steel Enclosure</td>
<td>Std: IP41</td>
<td>B / B</td>
</tr>
<tr>
<td>160</td>
<td>1000 x 800 x 400</td>
<td>Steel Enclosure</td>
<td>Std: IP41</td>
<td>B / B</td>
</tr>
<tr>
<td>250 … 400</td>
<td>1200 x 1000 x 550</td>
<td>Steel Enclosure</td>
<td>Std: IP41</td>
<td>B / B</td>
</tr>
<tr>
<td>630</td>
<td>1600 x 1200 x 600</td>
<td>Steel Cabinet</td>
<td>Std: IP41</td>
<td>B / B</td>
</tr>
<tr>
<td>800 … 1000</td>
<td>1800 x 1600 x 800</td>
<td>Steel Cabinet</td>
<td>Std: IP41</td>
<td>B / B</td>
</tr>
<tr>
<td>1250 … 3200</td>
<td>2360 x 2000 x 1000</td>
<td>Steel Cabinet</td>
<td>Std: IP41</td>
<td>B / B or T / T in option</td>
</tr>
</tbody>
</table>

### References

**Product**

178: ATyS Bypass

**Type**

5: Single line
6: Double line

**Number of poles**

4: 4 poles

**Rating**

004: 40 A
006: 63 A
008: 80 A
010: 100 A
012: 125 A
016: 160 A
025: 250 A
040: 400 A
063: 630 A
080: 800 A
100: 1000 A
125: 1250 A
160: 1600 A
200: 2000 A
250: 2500 A
320: 3200 A
Documentation & support provided

- Electrical drawings.
- Mechanical drawings.
- ATS manual instruction & troubleshooting guide.
- Certificate of compliance with the standards.
- Tests report.
- Product selection & definition according to the total load rated and environmental conditions.

Codes & Standards

The products meet the applicable European directive and they are marked:

![CE mark]

SOCOMEC ATyS Bypass and their components are compliant with applicable international directives IEC:

Low-voltage switchgear and controlgear assemblies:
- IEC 61439-1: General rules.
- IEC 61439-2: Power switchgear and controlgear assemblies.

LOVAG /ASEFA Third-party-certified in accordance with IEC 61439:

Low-voltage switchgear and controlgear:
- IEC 60947-1: General rules.
- IEC 60947-3: Switches, Disconnectors, switch-disconnectors and fuse-combination units
- IEC 60947-6-1: Multiple function equipment transfer switching equipment

Electromagnetic Compatibility (EMC):
- Emission general standard.
- EN 55022: Conducted emission.
- EN 55022: Radiated emission.

Immunity general standard:

<table>
<thead>
<tr>
<th>Description</th>
<th>Std (IEC)</th>
<th>Requirement (criteria)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted</td>
<td>CISPR 11</td>
<td>Class B</td>
</tr>
<tr>
<td>Radiated</td>
<td>CISPR 11</td>
<td>Class B</td>
</tr>
<tr>
<td>ESD contact</td>
<td>61000-4-2</td>
<td>4 kV (B)</td>
</tr>
<tr>
<td>ESD air</td>
<td>61000-4-2</td>
<td>8 kV (B)</td>
</tr>
<tr>
<td>Electromagnetic field</td>
<td>61000-4-3</td>
<td>10 V/m (A)</td>
</tr>
<tr>
<td>RF Conducted</td>
<td>61000-4-6</td>
<td>10 V (A)</td>
</tr>
<tr>
<td>Burst</td>
<td>61000-4-4</td>
<td>2 kV (A) power 1 kV (A) control</td>
</tr>
<tr>
<td>Surge differential</td>
<td>61000-4-5</td>
<td>1 kV (A)</td>
</tr>
</tbody>
</table>

Others international directives:
- NBN EN 60947-3
- BS EN 60947-3
- GB 14048-3
- NBN EN 60947-6-1
- BS EN 60947-6-1
- GB 14048-11
- VDE 0660-107
Technical presentation

Optional & additional features (continued)

Power measurements
In option, SOCOMEC ATyS Bypass can be equipped with measurement devices to allow power management.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>DIRIS A10</th>
<th>DIRIS A20</th>
<th>DIRIS A40/A41</th>
<th>DIRIS A60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder measurement &amp; control</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Energy breakdown &amp; allocation</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Load analysis &amp; management</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Event monitoring</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Detection &amp; storage of network perturbations</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Form factor</td>
<td>4 modules</td>
<td>panel 96x96</td>
<td>panel 96x96</td>
<td>panel 96x96</td>
</tr>
</tbody>
</table>

Measurement

| Currents, voltages, frequency, active, reactive and apparent power, power factor | •         | •         | •              | •         |
| Predictive power                                                                 | •         | •         | •              | •         |
| Voltage/current unbalance; Tangent q                                            |           |           | 1...4 option   | 1...4 option |
| Temperature(s)                                                                  | •         | 1...4 option | 1...4 option   |
| Average currents, voltages and frequency                                         | •         | •         | •              | •         |
| Average power                                                                    | •         | •         | •              | •         |

Energy management

| Energy meters (cl. 0.5s IEC 62053-22; cl. 2 IEC 62053-22) | •         | •         | •              | •         |
| Pulse meter                                                    | 1*        | 2...6 option | 2...6 option   |
| Load curves                                                    | •         | •         | •              | •         |

Quality analysis and event detection

| THD 3U, 3V, 3I/n                                               | level 51  | level 51  | level 63       | level 63 |
| Individual harmonics 3U, 3V, 3I/n (level 63)                  | •         | •         | •              | •         |
| Sag, swell and outages, overcurrent                           | •         | •         | •              | •         |
| RMS 1/2 period curve backup                                   | •         | •         | •              | •         |
| Alarm output                                                   | 1*        | 1* option | 2...6 option   | 2...6 option |

Measurement and event history

| Load curves                                                   | in option  | •         | •              | •         |
| Events & Alarms                                               | •         | •         | •              | •         |
| Maximum average power                                          | kW        | kW        | •              | •         |
| Maximum average currents                                       | •         | •         | •              | •         |

Optional & additional features (continued)

Remote ATyS Bypass management
In standard, a serial communication port RS485 with slave JBUS / MODUS protocol is provided with a free monitoring software (ATyS Vision software can be downloaded on the SOCOMEC WEB site).
In order to extend communication facilities, an optional module can be integrated in the ATyS Bypass to allow communication through Ethernet for the following functions:

- Alarm management.
- Data logging.
- Remote control.
- Visualisation via embedded website.
- …
Optional & additional features

**Extension cabinet**
From 1200 to 3200 A, in standard, the cables entry are at the bottom for the sources and at the bottom or on the top for the load. In order to allow sources cables entry on the top, we can provide an extension cabinet.

**Lightning protection**
In order to ensure the ATyS Bypass protection and availability, SOCOMEC proposes in option some lightning protection devices.

**Environment**
The complete product meets the following environmental requirements:

**IP-rating:**
In standard, the system is IP41. Other IP (on request).

**Operation:**
- **Temperature:**
  - [-20°C to + 70°C]: Above +40°C a de-rating has to be respected for the power circuit.
- **Hygrometry:**
  - 80% humidity without condensation at 55°C.
  - 95% humidity with condensation at 40°C.
- **Altitude:**
  - Maximum altitude without de-rating = 2000 m.

**Storage:**
- **Temperature:** [-20°C to + 70°C].
- **Period:** Maximum 1 year (without supply of the ATS).

**Tinned bus bar**
In standard, the enclosure is realised with virgin copper. On request, it is possible to provide a tinned Busbar for aggressive environment.

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**LV network Installation**

- **T**: Telesignalling
- **DP**: Protection device (Fuses)