



ATyS A15

ATS Controller

entry-level functionalities

Transfer switches

new



ATyS A15

Function

ATyS A15 is an entry level ATSE controller without communications. It can be used to pilot a remotely operated transfer switch, such as ATyS r, ATyS S and ATyS d M, as well as contactors. ATyS A15 ensure the automatic or remotely controlled transfer from one source to another with fixed timers and thresholds.

Advantages

Flexible space saving

The ATyS A15 controller can be mounted on either a DIN rail or to the panel door, offering flexibility and optimising space.

Cost-effective

The ATyS A15 has an integrated DPS, for supplying the motorisation of the switch, and can be door mounted, therefore there's no need for an external DPS or display, reducing installation time and costs.

Fast commissioning & testing

- 8 dip-switches allow very fast commissioning, even offline.
- All main functions such as remote position control, mode selection, lamp test and genset test on load are available on the front of the product allowing quick and easy operation.

General characteristics

- Self-powered from sensing.
- Wide voltage range (184-300 VAC).
- 24 VDC aux power supply (for optional use).
- Main/Main or Main/Genset networks.
- Fixed I/O.
- Voltage sensing on all phases.
- Three-phase + Neutral & Single-phase + Neutral networks.
- Phase rotation checking.
- Door or DIN rail mounting.

The solution for

- > ATS panels
- > Compact transfer enclosures
- > Basic ATS controls



Strong points

- > Integrated AC Double Power Supply
- > Compact solution
- > Time saving configuration

Conformity to standards

- > IEC 61010-2-201
- > IEC 60947-6-1
- > GB/T 14048.11 Annex C



ATyS A & ATyS C package

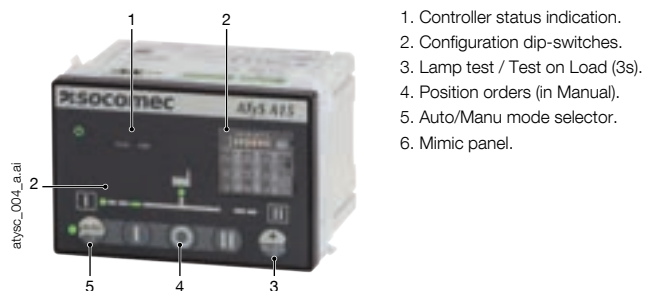
- > Transfer switch packaged with wiring and a controller.
- > Fully certified ATSE with a door mounted controller complying with IEC 60947-6-1.



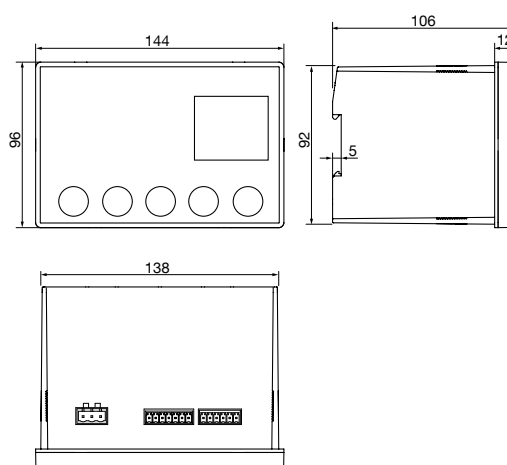
References

Description	Reference
ATyS A15 – ATS controller	1600 0015

Front panel



Dimensions (mm)



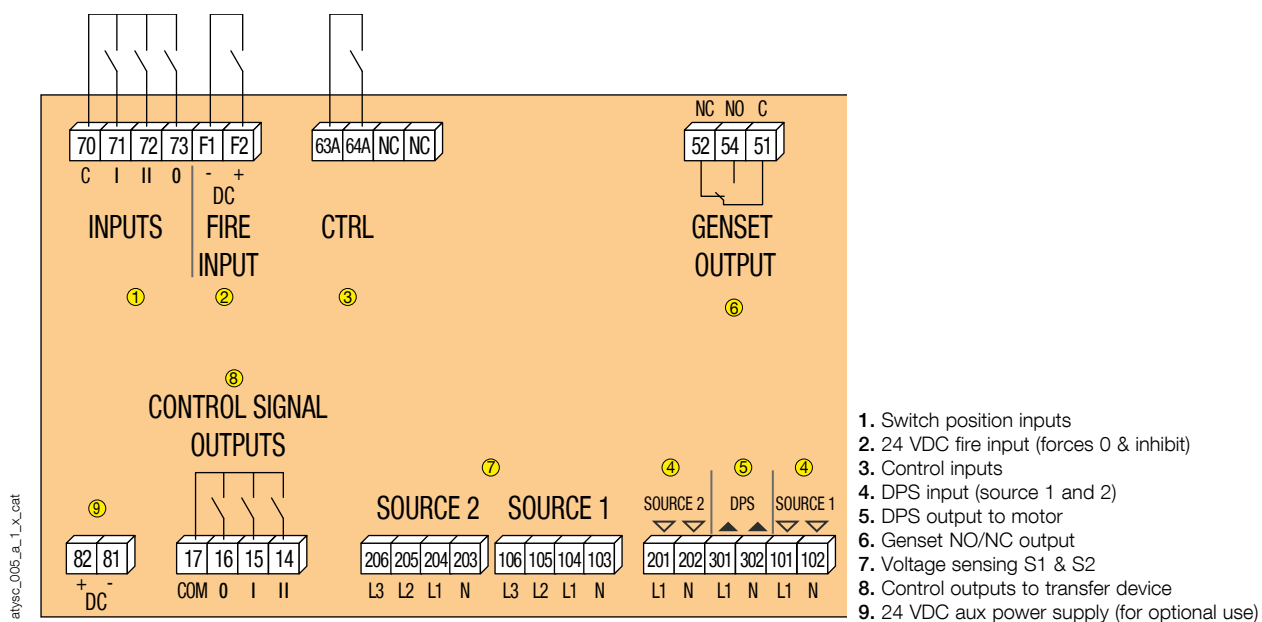
Characteristics

Electrical characteristics		Measurement characteristics	
AC operating limits	184 ⁽¹⁾ - 300 VAC	Nominal voltage DIP 1 (1PH+N / 3P+N)	230 / 400 VAC
Optional DC supply	24 VDC	Nominal frequency (fixed)	50 Hz
Frequency limits	45 - 65 Hz	Voltage threshold settings DIP 4	10% / 20% of Nominal voltage
Power consumption	< 10 W	Frequency threshold settings DIP 4	5% / 10% of nominal frequency
Inputs	5 - fixed (auto inhibit & 24 VDC fire input, position indication I-O-II)	Voltage and frequency Hysteresis (fixed)	20% of ΔU/ΔF
Outputs	4 - fixed (position control I-O-II & genset start)	Other settings	
Impulse withstand	6/4 kV ⁽²⁾	ODT dead-band timer DIP 5	0 / 2 s
Overvoltage category	CAT 3	FT Source 1 and 2 fail timer DIP 6	3 / 10s
Mechanical characteristics		RT Source 1 and 2 return timer DIP 7&8	0 (3s) / 3 / 10 / 30 min
Weight	830 gr	Source priority DIP 2	Priority source 1 / No priority
Door cutout	138 x 92 mm	Position Output signal DIP 3	Impulse / Maintained
Operating temperature	-25 ... +60°C		

(1) 190 VAC in contactor mode.

(2) 6 kV tested between phases of a different source and 4 kV tested between phases of a the same source.

Terminals





ATyS *d* H

Transfer Switching Equipment
4000 to 6300 A



FULLY INTEGRATED AND
READY FOR INSTALLATION

SAFE ON LOAD TRANSFER

HIGH PERFORMANCE
SWITCHING

AUTOMATIC OR REMOTELY
OPERATED CONTROLS



Ensure power availability by using integrated and safe transfer switch equipment.

ATyS d H transfer switching equipment is designed for use in power systems for the safe transfer of a load supply between a normal and an alternate source. The changeover is done in open transition and with minimum supply interruption during transfer ensuring full compliance with IEC 60947-6-1 and GB 14048-11.

ATyS d H

Transfer Switching Equipment from 4000 to 6300 A

Advantages

- **Fully integrated and ready for installation**

The ATyS d H has been designed to facilitate installation and is available as a fixed or withdrawable transfer switch. It is composed of two switches with easily accessible power connections located at the rear. The bridging bars on the load side are connected within the product thus enabling to save cost and time during installation.

- **Safe on load transfer: I-0-II**

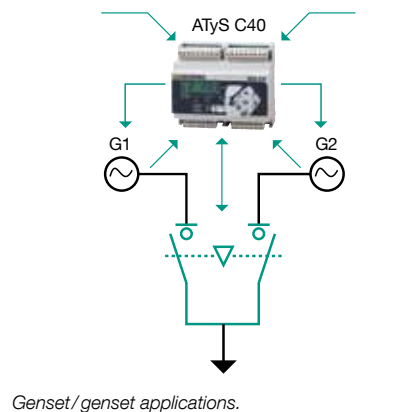
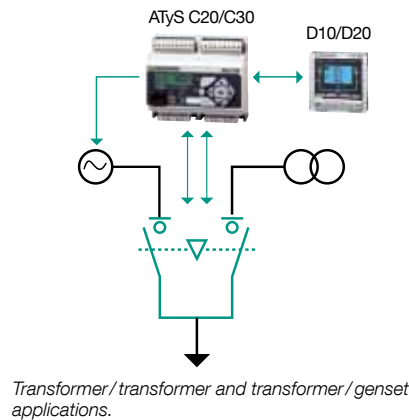
The ATyS d H ensures that source I and source II do not overlap by including two mechanically interlocked fast transfer switches. An integrated 0 position provides isolation and allows safe maintenance of the installation.

- **High performance switching**

The ATyS d H offers high withstand short circuit current ratings of 143 kA l_{cm} and 65 kA for 0.1 sec l_{cw} with load switching capacity of AC33iB (6 x I_n cos Ø 0.5) without derating.

- **Automatic (ATSE) or remotely operated (RTSE) controls**

The ATyS d H is an RTSE that may easily be associated with an ATS controller to comply with and operate as an ATSE.



To find out more

Please consult our website:
www.socomec.com/en/atys-dh



FLD-URL 118 A GB

Conformity to standards

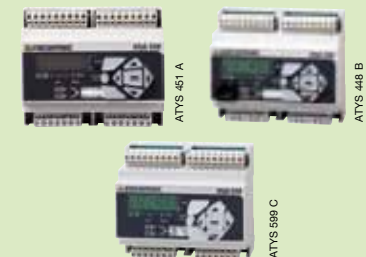
The ATyS d H are compliant to the following standards
IEC 60947-6-1 and GB14048-11 dedicated to transfer switching equipment.



Accessories

- **ATyS C20/C30/C40**

ATS controllers:
Mains/Mains, Mains/Genset and Genset/Genset



For more information, refer to the catalogue.

Characteristics

Thermal current I _{th} at 40 °C	4000 A	5000 A	6300 A
Rated Short-time withstand current (0.1 sec) - I _{cw} (kA rms) at 600 Vac	65	65	65
Rated short-circuit making capacity - I _{cm} (kA peak) at 600 Vac	143	143	143
Utilisation category at 660 Vac – AC32B	4000 A	5000 A	6300 A
Utilisation category at 660 Vac – AC 33iB	4000 A	5000 A	6300 A
Mechanical characteristics			
Weight (kg) - Fixed type 3/4P	180/220	200/250	200/250
Weight (kg) - Drawout type 3/4P	270/330	300/400	300/400
Overall dimensions - Fixed type (H x W 3P/W 4P x D)	530x866/1096x527	530x866/1096x541	530x866/1096x541
Overall dimensions - Drawout type (H x W 3P/W 4P x D)	602x866/1096x696	602x866/1096x710	602x866/1096x710

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Innovative Power Solutions



ATyS d M

Remotely operated Transfer Switching Equipment
from 40 to 160 A

Transfer switches



ATyS d M
I-O-II 4P

The solution for

- > Applications with a normal/emergency external controller
- > Building Management System (BMS)



Strong points

- > Secure
- > Superior electrical performance
- > High-speed transfer
- > Immune to voltage fluctuations

Conformity to standards

- > IEC 60947-6,-1
- > IEC 60947-3
- > GB 14048.11



Approvals and certifications



Function

ATyS d M devices are 2 pole or 4 pole transfer switches that are remotely controlled using volt-free contacts from an external controller. They are modular products with positive break indication. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

Advantages

Secure

ATyS M have both electrical and mechanical interlocks for optimum security. They also feature a positive break indicator, confirming switch position with dual mechanical indicators for increased safety.

High-speed transfer

ATyS d M devices are based on a coil solution with rotating contacts, therefore ensuring an extremely short black-out duration (< 90ms).

Superior electrical performance

ATyS M devices are compliant with IEC 60947-6-1, the standard governing transfer switches. Their AC-33B properties of up to 125 A mean you can use the same product for resistive and inductive loads.

Immune to voltage fluctuations

The power supply of the ATyS d M is only active during transfer. As the product is based on stable positions, it is not affected by network voltage fluctuations.

Operating modes



ATyS d M_014_c

Easy selection of AUT/MAN mode



ATyS d M_015_c_1_cat

Manual emergency operation



ATyS d M_016_c_1_cat

Padlocking facility

What you need to know

Electrical control

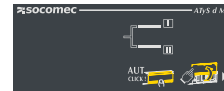
The positions are controlled by dry contacts on any external automated system (e.g. ATyS C30).
These positions are stable even in case of loss of input supply.

Control logic

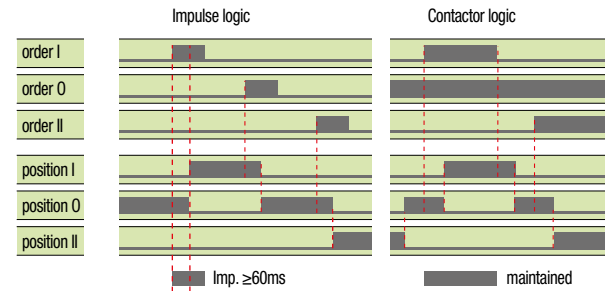
Two types of control logic are offered:

- Pulse logic
 - A switching command of at least 60 ms is necessary to initiate operation.
 - Commands I and II have priority over command 0.
 - The first command received (I or II) has priority as long as it remains present.
- Contactor logic
 - Command 0 must be maintained.
 - If command I or II disappears, the device returns to position 0, so long as the power supply is available.

Single-phase interface



Three-phase interface



Power supply

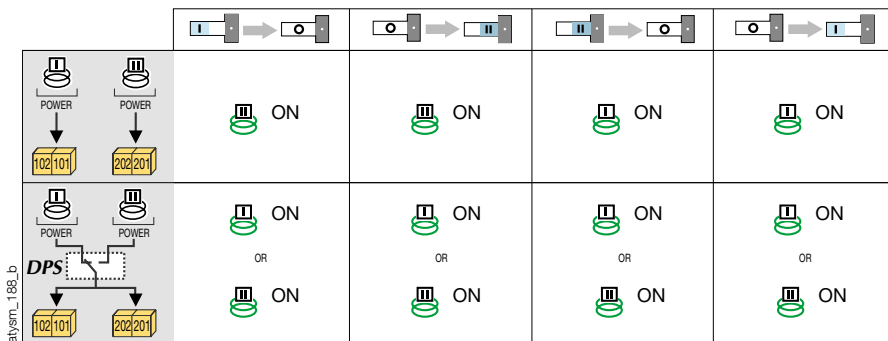
The ATyS d M is equipped with two independent 230 VAC power inputs (176-288 VAC), 50/60 Hz (45/65 Hz).

These two supplies can be connected individually; one to switch I and the other to switch II:

- Power supply 101-102 must be available to reach position I
- Power supply 201-202 must be available to reach position II.

The use of a dual power supply (DPS) or an external supply module secures the command of the 3 positions irrespective of the power supply source.

In this case, both the supply inputs must be connected in parallel.



References

ATyS d M

Rating (A)	No. of poles	ATyS d M	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block
40 A	2 P	9323 2004	2 P 1309 2006 4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 st unit included 2 nd unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾
	4 P	9323 4004				
63 A	2 P	9323 2006				
	4 P	9323 4006				
80 A	2 P	9323 2008	2 P 1309 2006 4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 st unit included 2 nd unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾
	4 P	9323 4008				
100 A	2 P	9323 2010	2 P 1309 2006 4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 st unit included 2 nd unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾
	4 P	9323 4010				
125 A	2 P	9323 2012	2 P 1309 2006 4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 st unit included 2 nd unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾
	4 P	9323 4012				
160 A	2 P	9323 2016	1309 2016	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 st unit included 2 nd unit Separate common points 1309 0001 ⁽²⁾ Linked common points 1309 0011 ⁽²⁾
	4 P	9323 4016	1309 4016			

(1) For the three-phase version, for complete upstream and downstream protection, please order 2x; for the single-phase version please order the part just 1x.
(2) 1 NO/NC contact block for positions I, 0 and II.



549669C

QUICK START EN 125 A - 630 A

ATyS g

**Motorised Source Changeover Switch
Automatic Transfer Switching Equipment**

Preliminary operations

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

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

Warning

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

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

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

- For 125 - 160 A (Uimp = 8 kV). Terminations must respect a minimum of 8 mm clearance from live parts to parts intended to be earthed and between poles.
- For 200 - 630 A (Uimp = 12 kV). Terminations must respect a minimum of 14 mm clearance from live parts to parts intended to be earthed and between poles.

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

⚠ Risk of damaging the device
In case the product is dropped or damaged in any way it is recommended to replace the complete product.

Accessories

- Bridging bars and connection kits.
- Control voltage transformer (400 VAC → 230 VAC).
- DC power supply (12/24 VDC → 230 VAC).
- Phase barriers.
- Terminal shrouds.
- Terminal screens.
- Auxiliary contacts (Additional).
- Padlocking in 3 positions (I - 0 - II).
- Lockout accessories (RONIS - EL 11 AP).
- Door escutcheon frame.
- ATyS D10 Interface (remote display).
- Voltage sensing kit.
- Sealable cover.
- RJ45 cable for ATyS D10.
- Plug-in optional Modbus RS485 communication module.

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



www.socomec.com
To download, brochures, catalogues and technical manuals:
https://www.socomec.com/range-automatic-transfer-switches_en.html?product=/atys-t-atys-g_en.html

Installation and Commissioning

STEP 1
Cabinet / Back Plate Installation

STEP 2
Power Terminal Connections

STEP 3
COMMAND / CONTROL terminal connections

STEP 4
Power SUPPLY and ATS Controller Terminal Connections

STEP 5
CHECK

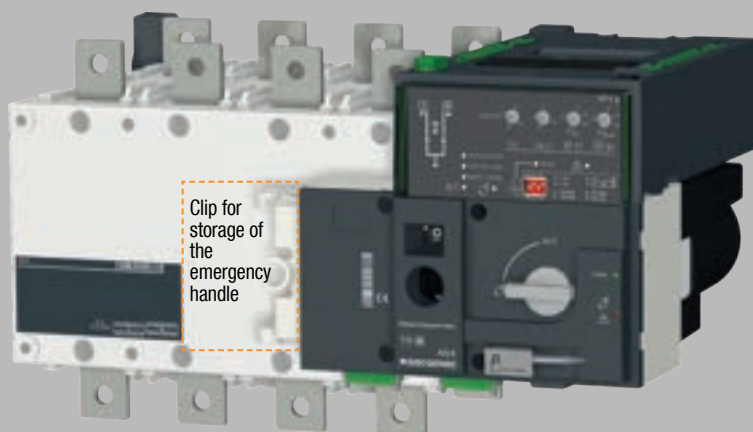
STEP 6
PROGRAMMING

STEP 7A
AUT Mode
(Automatic Control)

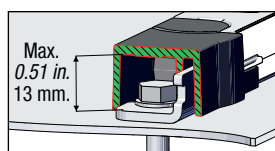
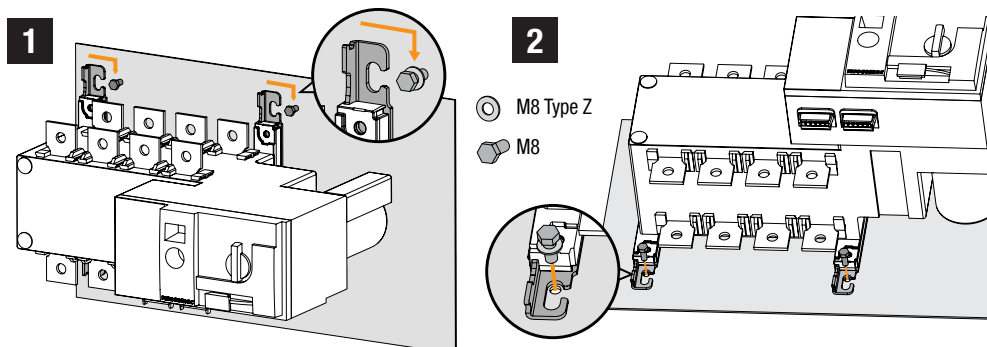
STEP 7B
AUT Mode
(Remote Control)

STEP 7C
Manual Mode

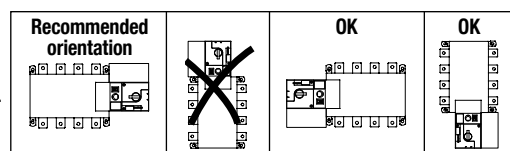
STEP 7D
Padlocking Mode



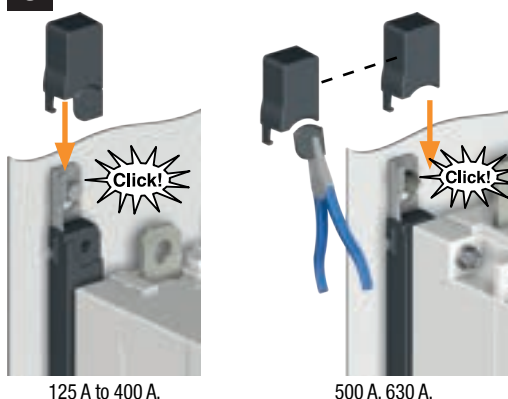
STEP 1 Installation



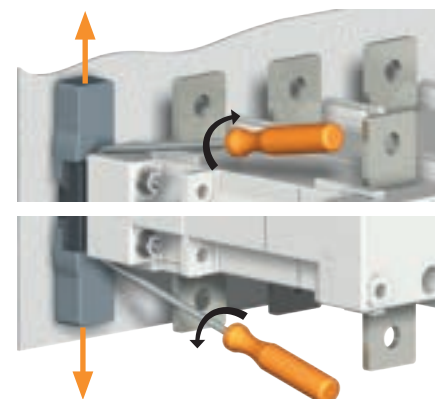
⚠ Caution: ensure that the product is installed on a flat rigid surface.



3 Mounting



Removing covers



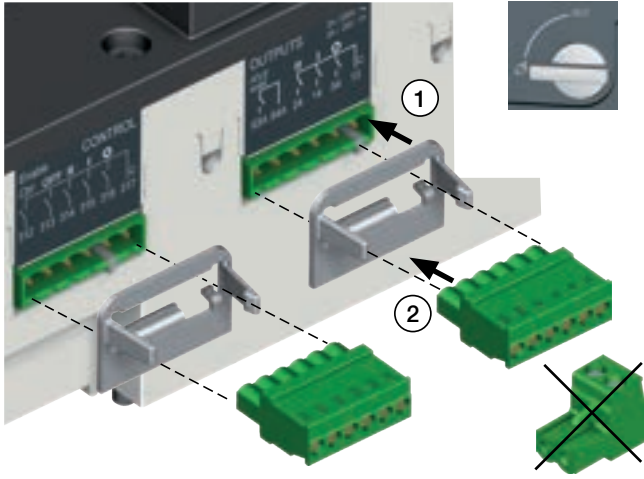
STEP 2 Power Terminal Connections

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

	FRAME B3			FRAME B4			FRAME B5	
	125 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A
Minimum cable section Cu (mm²)	35	35	50	95	120	185	2x95	2x120
Recommended Cu busbar cross-section (mm²)	-	-	-	-	-	-	2x32x5	2x40x5
Maximum Cu cable cross-section (mm²)	50	95	120	150	240	240	2x185	2x300
Maximum Cu busbar width (mm)	25	25	25	32	32	32	50	50
Type of screw	M8	M8	M8	M10	M10	M10	M12	M12
Recommended tightening torque (lb.in/N.m)	73.46/8.3	73.46/8.3	73.46/8.3	177.02/20	177.02/20	177.02/20	354.04/40	354.04/40
Maximum tightening torque (lb.in/N.m)	115.06/13	115.06/13	115.06/13	230.13/26	230.13/26	230.13/26	398.30/45	398.30/45

STEP 3 CONTROL / COMMAND Terminals

Ensure that the product is in Manual Mode.



- 1 preferred source
2 alternate source

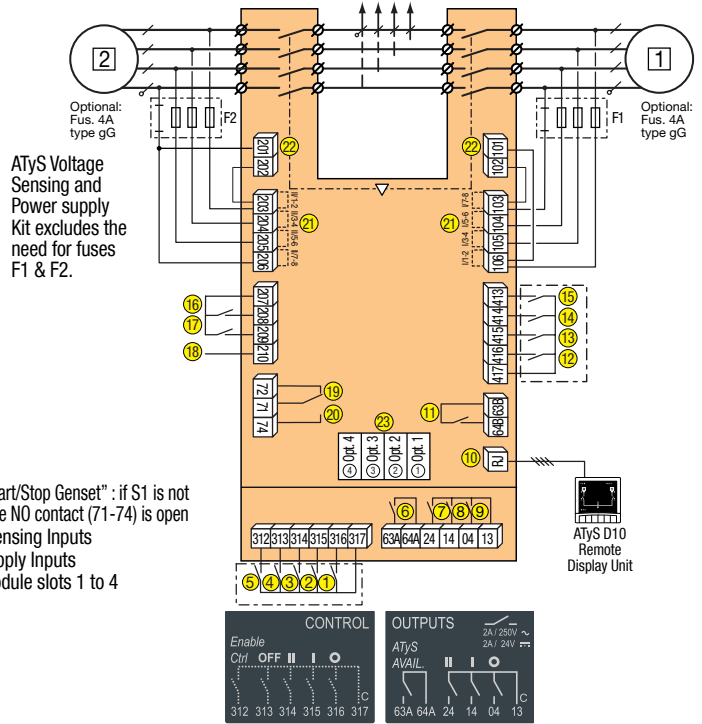
1. Position 0 order
2. Position 1 order
3. Position 2 order
4. Zero position priority order
5. Remote Control Enable (Priority over Auto)
6. Product Available output (Motor)
7. Position II aux contact
8. Position I aux contact
9. Position 0 aux contact
10. O/P to ATyS D10 remote display

11. Product Available output (ATS)
12. I/P Inhibition of the ATS controls
13. I/P Manual retransfer
14. S2 Stability Time Bypass: 2AT
15. M-G: Priority to TON / M-M: Priority enable/disable
16. TEST OFF LOAD Signal : TOF
17. M-G: Test On Load Input (TON) / M-M: Priority source selection
18. Not used
19. Contact "Start/Stop Genset" : if S1 is not available the NC contact (71-72) is close

20. Contact "Start/Stop Genset" : if S1 is not available the NO contact (71-74) is open
21. Voltage Sensing Inputs
22. Power Supply Inputs
23. Option module slots 1 to 4

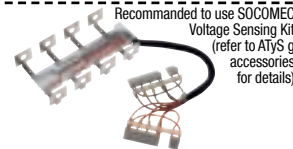
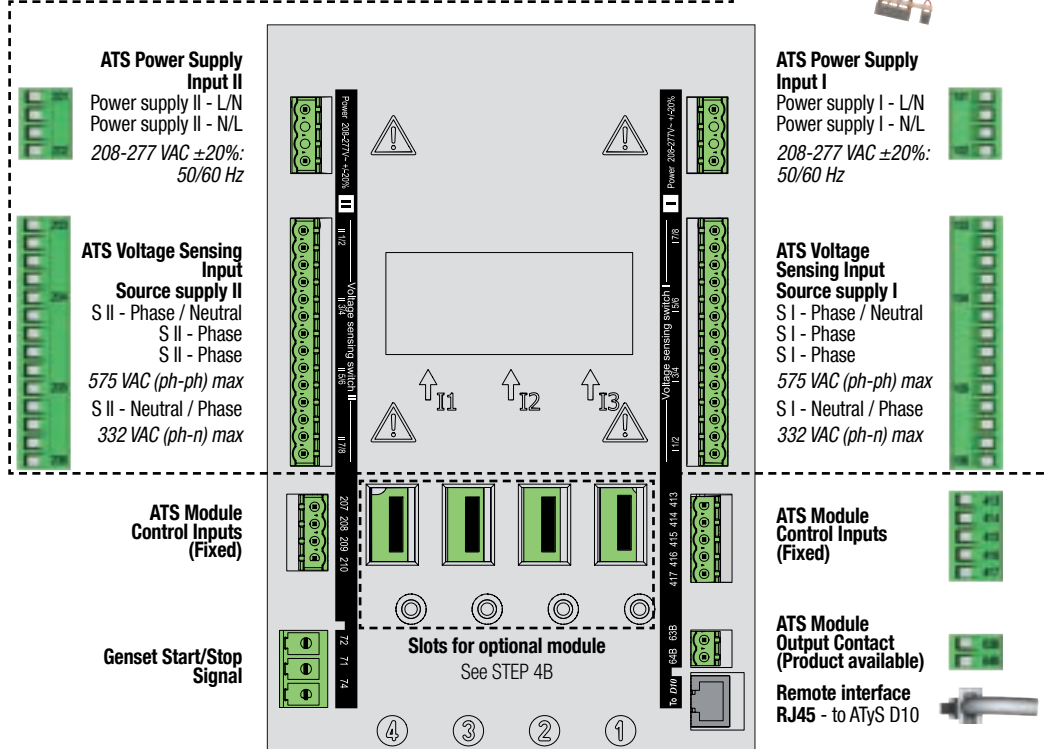
STEP 4A Power Supply, Sensing and Control wiring (ATyS Controller)

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



Connect the product with a cable of section of 1,5 to 2,5 mm².

Screw M3 - Tightening torque:
min.: 0.5 Nm - max.: 0.6 Nm / min.: 4.43 lbin - max.: 5.31 lbin

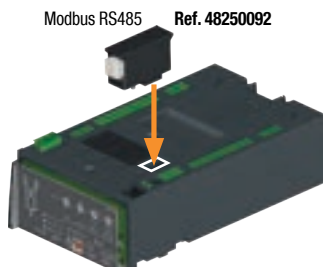


Recommended to use SOCOMEC Voltage Sensing Kit (refer to ATyS g accessories for details)

STEP 4B Optional Module

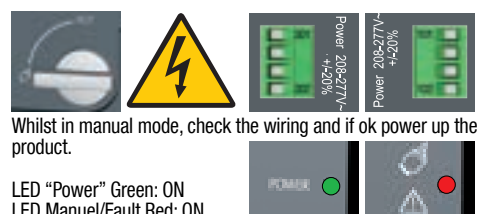
Communication between the software and the ATyS g may be done through the Modbus RTU module which is available as an option. The MODBUS module is to be installed in one of the slots provided in the ATyS g ATS control unit. Easy Config may be installed on a PC connected through MODBUS module for a direct ATyS configuration, either isolated with possibility to create a specific configuration for a later upload and use in ATyS.

Note: The ATyS g may accept 1 additional MODBUS communication module. Refer to the ATyS g accessory section for details.



Factory settings:
Address: 10
Baud Rate: 38400
Stop Bit: 1
Parity: None

STEP 5 Check

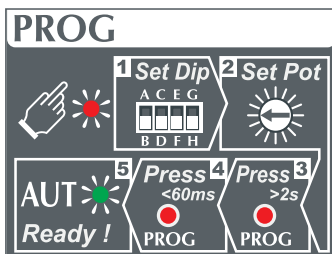


LED "Power" Green: ON
LED Manual/Fault Red: ON

STEP 6 Programming the ATyS g

The ATyS g is programmed after wiring verification tests through the front of the ATS Controller in 5 steps:

Note: Ensure that the ATyS g is in "Manual Mode", powered and with at least one network supply available.



WARNING

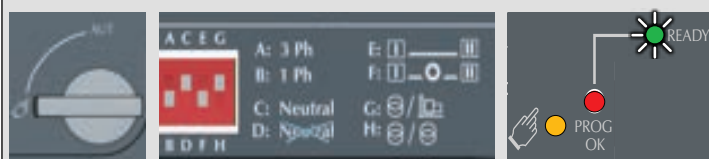
As a safety measure the READY LED will flash when any of the settings shown on the controller are different to those that are saved. To return to the steady READY LED revert to the saved setting values or save the displayed value by pressing the PROG OK button briefly. (This is intended as a visual alarm in case one has changed the configuration settings but has not yet saved the new values in the product). For added security the ATyS g may be equipped with a sealable cover so as to limit the access to configuration settings. Refer to the product accessory section for details.



Dip Switch Setting Options

SET the 4 Dip Switches using a small screw driver. Possible variants vary from positions "A to H" as described in the table below. For convenience, the position functions are also described on the front of the ATS controller adjacent to the dip switches.

Note: The READY LED will flash green as soon as settings are changed and until the new settings have been saved by pressing the PROG OK button momentarily.



Dip Switch Setting Options

Dipswitch 1 A / B	A	Three Phase Network
	B	Single Phase Network (Attn : Dipswitch 2 is inactive in this position)
Dipswitch 2 C / D	C	Three Phase 4 wire Network (Including Neutral) (Allows to detect a loss of neutral for unbalanced loads)
	D	Three Phase 3 wire Network (Without Neutral)
Dipswitch 3 E / F	E	Load supply down time of 0 second (ODT = 0 sec)
	F	Load supply down time of 2 seconds (ODT = 2 sec)
Dipswitch 4 G / H	G	Main - Generator Application
	H	Main - Main Application



Potentiometer Setting Options

SET the 4 potentiometers using a small screw driver paying attention to the arrow indicating the position. There are a total of 14 positions for which the specific settings are described in the table below.

Note: The READY LED will flash green as soon as settings are changed and until the new settings have been saved by pressing the PROG OK button momentarily.



WARNING Whatever Pot 1 trimming, it is IMPERATIVE to set Pots 2 to 4.

Potentiometer	Configuration
Un	Position: 1 2 3 4 5 6 7 8 9 10 11 12 13 PP / PN: 220 / 380 / 400 / 415 / 480 / 208 / 220 / 230 / 240 / 380 / 400 / 415 / 480 / Measured: 127V 220V 230V 240V 277V 120V 127V 132V 138V 220V 230V 240V 277V 50Hz 60Hz
ΔU / ΔF	Position: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 U threshold in % of Un: 5% 6% 7% 8% 9% 10% 11% 12% 13% 14% 15% 16% 18% 20% F threshold in % of Fn: 3% 3% 4% 4% 5% 5% 6% 6% 7% 7% 8% 8% 9% 10% Hysteresis: 20% of ΔU / ΔF settings
FT	Source Failure Timer (s): 0 1 2 3 4 5 8 10 15 20 30 40 50 60
RT	Source Return Timer (min): 0 1 2 3 4 5 8 10 15 20 30 40 50 60



Auto Configuration of Mains Voltage and Frequency

If the 1st potentiometer is not on "Auto Conf", go to STEP 4.

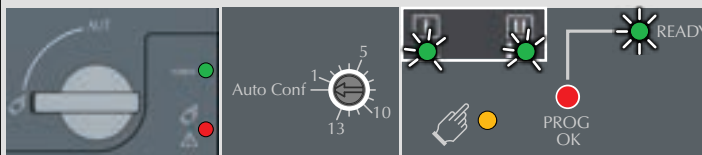


The ATyS g includes an "Auto Configuration" feature to detect the mains voltage and frequency nominal values, phase rotation and neutral position and saves them in the ATS controller.

Note: Before configuring the nominal values ensure that the product is properly wired, verified and ready for commissioning. It is imperative that the network supply is available and that the wiring to the ATyS g voltage sensing terminals 103 – 106 and 203 – 206 has been done. It is preferable to use the ATyS sensing kit that may be provided as an accessory.

• Press and hold the Red "PROG OK" button for >2s to measure the mains voltage and frequency.

Note: The source available LED will flash while the available network is being measured. The READY LED will flash green as soon as settings are measured and until these settings have been saved by pressing the PROG OK button a second time momentarily. (Refer to STEP 4).

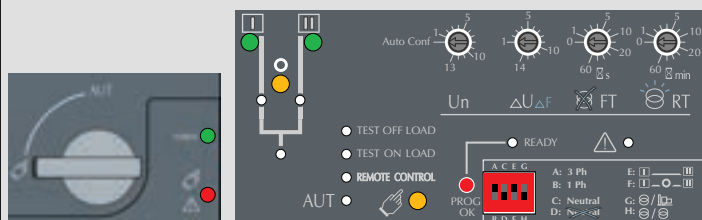


Saving the configured values

To SAVE the recorded setting configuration press the PROG OK button momentarily: <60ms.

Note: The flashing READY LED goes off once the values are saved in the ATS controller.

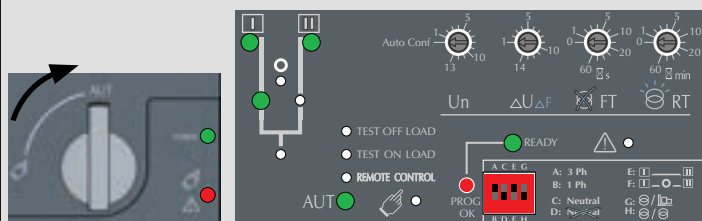
At least one of the source availability LED must be ON.



Putting the ATyS g into Auto Operation

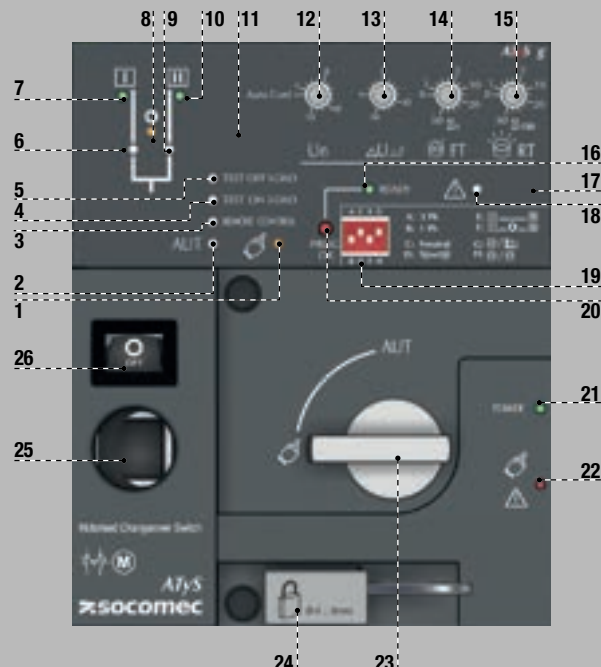
After following Steps 1 to 4, and once ready to put the ATyS g into AUTO operation turn the mode selector switch to Auto.

Note: When the product is powered and properly configured, after switching the product from Manual Mode to Auto Mode the READY light should be a steady green light



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

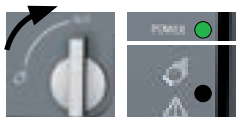
1. MANUAL Mode LED indication.
(Yellow steady light when in Manual Mode).
2. AUTO Mode LED indication
Green steady light when in Auto mode with no timers running.
Green flashing light when in Auto with timers running in the background.
3. REMOTE CONTROL Mode LED indication.
Yellow steady light when in remote control mode.
Remote control mode is achieved with the Auto/Manu selector switched to Auto and terminals 312 closed with terminal 317.
Remote control orders are received through closing 314 to 316 with 317.
4. TEST ON LOAD CONTROL Mode LED indication. (Yellow steady light when in TON mode)
5. TEST OFF LOAD CONTROL Mode LED indication. (Yellow steady light when in TOF mode).
6. Switch 1 LED position indication.
(Green when in position 1).
7. Source supply I availability LED indication.
(Green when supply I voltage is within the set limits).
8. Zero position LED indication.
(Yellow when in position 0).
9. Switch 2 LED position indication.
(Green when in position 2).
10. Source supply II availability LED indication.
(Green when supply II voltage is within the set limits).
11. Sealing screw location 1 for use with sealing cover (Available as an accessory)
12. Potentiometer 1 : Network Configuration.
(Auto Configuration or refer to the configuration guide sticker on the front of the ATyS g when using the predefined setting positions 1 to 13).
13. Potentiometer 2 : Voltage and Frequency threshold settings. (Refer to the configuration guide sticker on the front of the ATyS g to set the V / Hz threshold. Positions 1 to 14).
14. Potentiometer 3: Supply FAILURE Time (FT) Adjustable from 0 to 60 seconds.
15. Potentiometer 4: Supply RETURN Time (RT) Adjustable from 0 to 60 minutes.
16. READY LED indication
Green steady light : Product in AUTO, Watchdog OK, Product Available to chgover.
Green flashing: Settings displayed not saved or have been changed since last saved.
(Press PROG OK button in manual mode to save or revert to last saved settings).
17. Sealing screw location 2 for use with the sealing cover.
18. FAULT LED indication. (Red steady light in case of an ATS controller internal fault).
19. Configuration dip switches :
(4 dip switches with 2 positions in each A to H).
20. PROG OK: Configuration save push button.
(ATTN: Active in Manual Mode ONLY). Press briefly to confirm and save all set configuration settings.
Hold pressed for 2 seconds to set the network supply voltage and frequency by Auto Configuration.
This is to be followed by pressing briefly to save the set value configured.
21. Green LED Indication: Power
22. Red LED Indication: Product Unavailable / Manual Mode / Fault Condition
23. Auto / Manual mode selector switch
(Key version available as an option)
24. Padlocking facility
(Up to 3 padlocks of dia. 4 – 8 mm)
25. Emergency manual operation shaft location
(Accessible only in manual mode)
26. Switch position indication window:
I (On switch I) 0 (Off) II (On switch II).



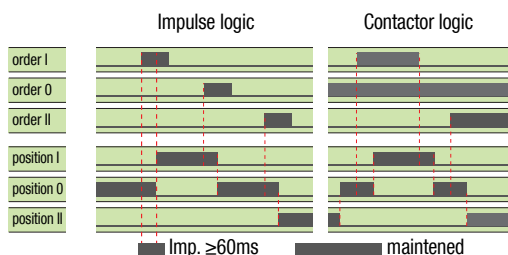
STEP 7A AUT Mode (Automatic Control)



Ensure that the emergency handle is not inserted in the product and turn the mode selector to the AUT position.
LED "Power" Green: ON
LED Manual/Default: OFF



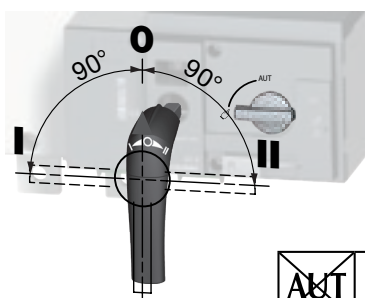
STEP 7B AUT Mode (Remote Control)



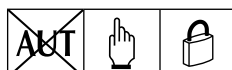
To enable control, close contact 312 with 317. For contactor logic bridge contact 316 with 317. To operate: close the contact corresponding to the desired position. To force the product to 0 position "OFF" bridge contact 313 with 317.



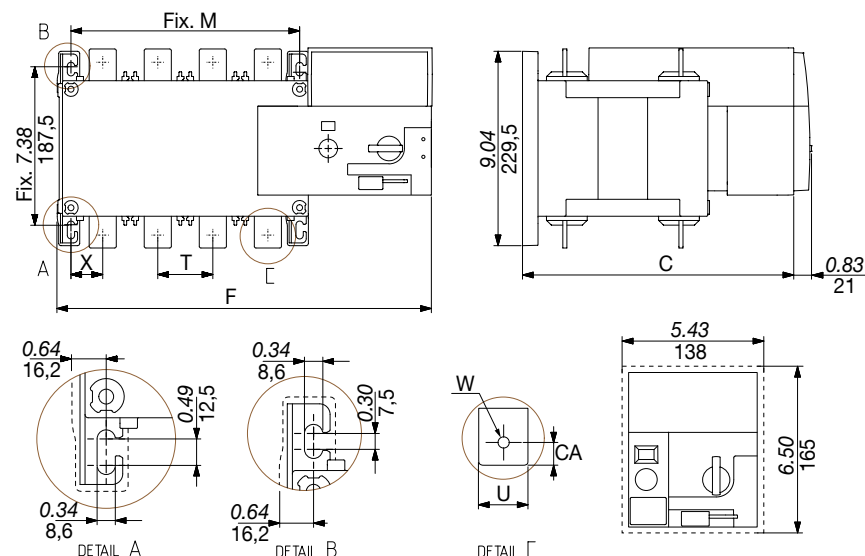
STEP 7C Manual Operation



STEP 7D Padlocking Mode (as standard : in position 0)



Dimensions in./mm.



	125 A				160 A				200 A				250 A			
	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P
C	9.61	244	9.61	244	9.61	244	9.61	244	9.61	244	9.61	244	9.61	244	9.61	244
CA	0.39	10	0.39	10	0.39	10	0.39	10	0.39	10	0.39	10	0.59	15	0.59	15
F	11.28	286,5	12.48	317	11.28	286,5	12.48	317	11.28	286,5	12.48	317	12.91	328	14.88	378
M	4.72	120	5.91	150	4.72	120	5.91	150	4.72	120	5.91	150	6.30	160	8.27	210
T	1.42	36	1.42	36	1.42	36	1.42	36	1.42	36	1.42	36	1.97	50	1.97	50
U	0.79	20	0.79	20	0.79	20	0.79	20	0.79	20	0.79	20	0.98	25	0.98	25
W	0.35	9	0.35	9	0.35	9	0.35	9	0.35	9	0.35	9	0.43	11	0.43	11
X	1.10	28	0.87	22	1.10	28	0.87	22	1.10	28	0.87	22	1.30	33	1.30	33

	315 A				400 A				500 A				630 A			
	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P
C	9.61	244	9.61	244	9.61	244	9.61	244	12.64	321	12.64	321	12.64	321	12.64	321
CA	0.59	15	0.59	15	0.59	15	0.59	15	0.59	15	0.59	15	0.79	20	0.79	20
F	12.91	328	14.88	378	12.91	328	14.88	378	14.84	377	17.20	437	14.84	377	17.20	437
M	6.30	160	8.27	210	6.30	160	8.27	210	8.27	210	10.63	270	8.27	210	10.63	270
T	1.97	50	1.97	50	1.97	50	1.97	50	2.56	65	2.56	65	2.56	65	2.56	65
U	1.38	35	1.38	35	1.38	35	1.38	35	1.26	32	1.26	32	1.77	45	1.77	45
W	0.43	11	0.43	11	0.43	11	0.43	11	0.55	14	0.55	14	0.51	13	0.51	13
X	1.30	33	1.30	33	1.30	33	1.30	33	1.67	42,5	1.48	37,5	1.67	42,5	1.48	37,5



549691C

QUICK START EN 125 A - 630 A

ATyS p

**Motorised Source Changeover Switch
Automatic Transfer Switching Equipment**

Preliminary operations

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

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

Warning

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

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

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

- For 125 - 160 A (Uimp = 8 kV). Terminations must respect a minimum of 8 mm clearance from live parts to parts intended to be earthed and between poles.
- For 200 - 630 A (Uimp = 12 kV). Terminations must respect a minimum of 14 mm clearance from live parts to parts intended to be earthed and between poles.

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

⚠ Risk of damaging the device
In case the product is dropped or damaged in any way it is recommended to replace the complete product.

Accessories

- Bridging bars and connection kits.
- Control voltage transformer (400 VAC → 230 VAC).
- DC power supply (12/24 VDC → 230 VAC).
- Phase barriers.
- Terminal shrouds / Terminal screens.
- Auxiliary contacts (Additional).
- Padlocking in 3 positions (I - 0 - II).
- Lockout accessories (RONIS - EL 11 AP).
- Door escutcheon frame.
- ATyS D20 Interface (remote control / display unit).
- RJ45 cable for ATyS D20.
- Voltage sensing kit.
- Current transformers.
- Plug-in optional modules: RS485 MODBUS communication, 2 inputs/2 outputs, Ethernet communication, Ethernet communication + RS485 JBUS/MODBUS gateway, Analogue outputs, Pulse outputs.

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



www.socomec.com
To download, brochures, catalogues and technical manuals:
<http://www.socomec.com/en/documentation-atys-p>

Installation and Commissioning

STEP 1
Cabinet / Back
Plate Installation

STEP 2
Power Terminal
Connections

STEP 3
COMMAND /
CONTROL
terminal
connections

STEP 4
Power SUPPLY and
ATS Controller
Terminal
Connections

STEP 5
CHECK

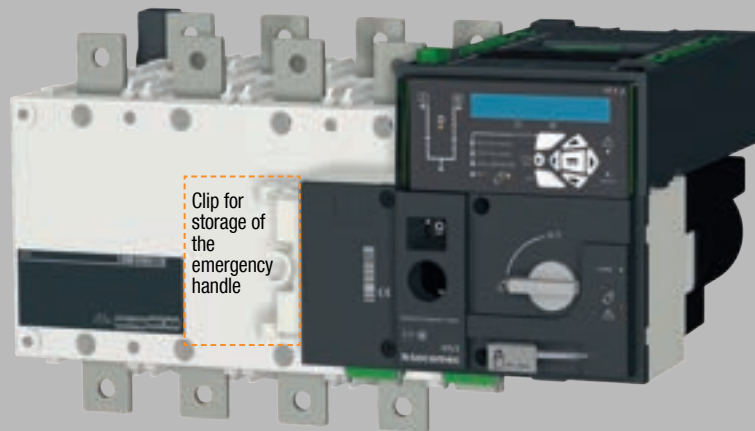
STEP 6
PROGRAMMING
A - Software
B - Keypad

STEP 7A
AUT Mode
(Automatic Control)

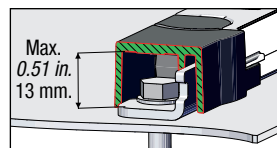
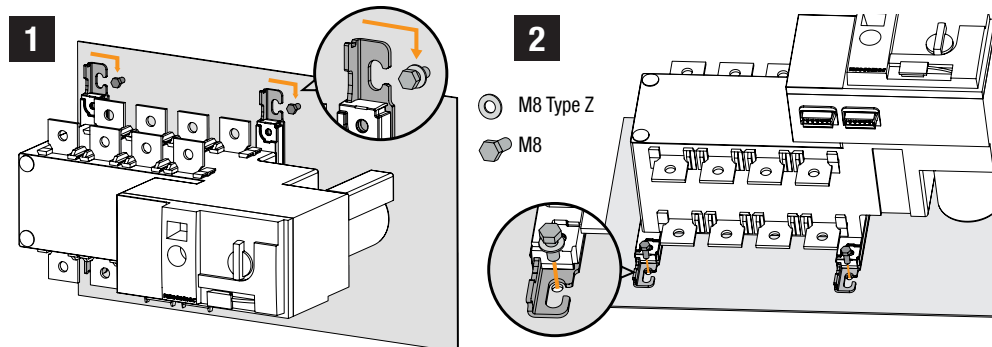
STEP 7B
AUT Mode
(Remote Control)

STEP 7C
Manual Mode

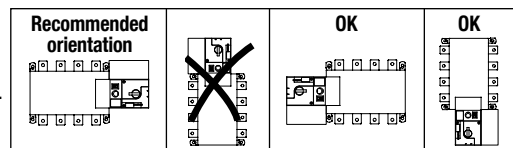
STEP 7D
Padlocking Mode



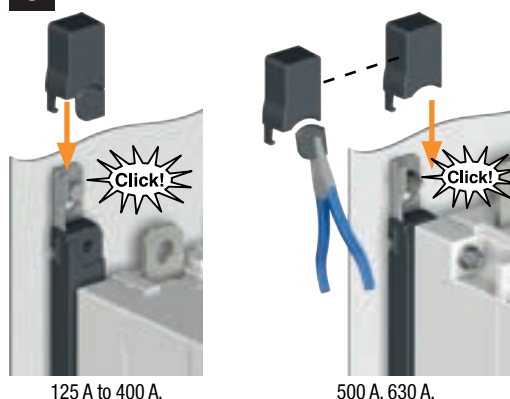
STEP 1 Installation



⚠ Caution: ensure that the product is installed on a flat rigid surface.



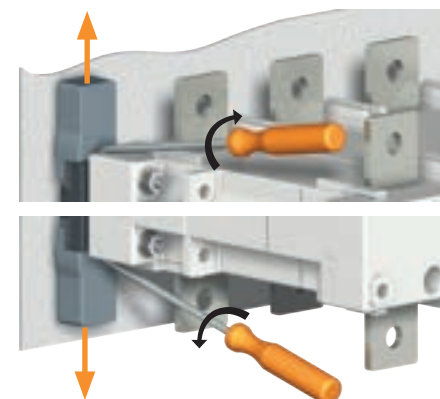
3 Mounting



125 A to 400 A.

500 A, 630 A.

Removing covers



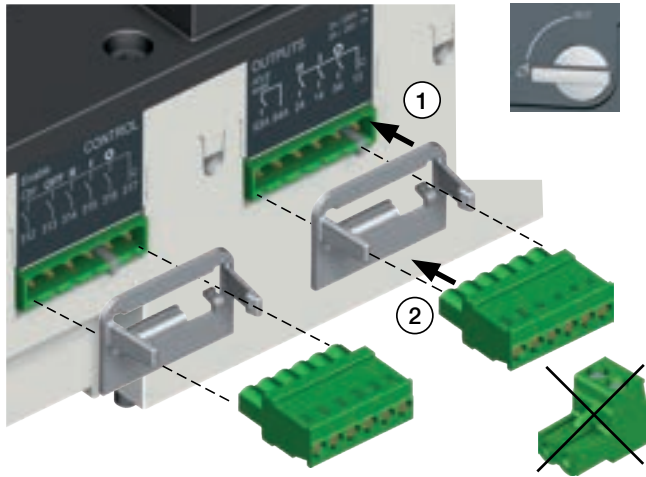
STEP 2 Power Terminal Connections

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

	FRAME B3			FRAME B4			FRAME B5	
	125 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A
Minimum cable section Cu (mm²)	35	35	50	95	120	185	2x95	2x120
Recommended Cu busbar cross-section (mm²)	-	-	-	-	-	-	2x32x5	2x40x5
Maximum Cu cable cross-section (mm²)	50	95	120	150	240	240	2x185	2x300
Maximum Cu busbar width (mm)	25	25	25	32	32	32	50	50
Type of screw	M8	M8	M8	M10	M10	M10	M12	M12
Recommended tightening torque (lb.in/N.m)	73.46/8.3	73.46/8.3	73.46/8.3	177.02/20	177.02/20	177.02/20	354.04/40	354.04/40
Maximum tightening torque (lb.in/N.m)	115.06/13	115.06/13	115.06/13	230.13/26	230.13/26	230.13/26	398.30/45	398.30/45

STEP 3 CONTROL / COMMAND Terminals

Ensure that the product is in Manual Mode.



- 1 preferred source
2 alternate source

1. Position 0 order
2. Position 1 order
3. Position 2 order
4. Zero position priority order
5. Remote Control Enable (Priority over Auto)
6. Product Available output (Motor)
7. Position II aux contact
8. Position I aux contact
9. Position 0 aux contact

10. O/P to ATyS D20 remote unit
11. Programmable Output Contact.
By default set to ATS Product Available - Normally Open

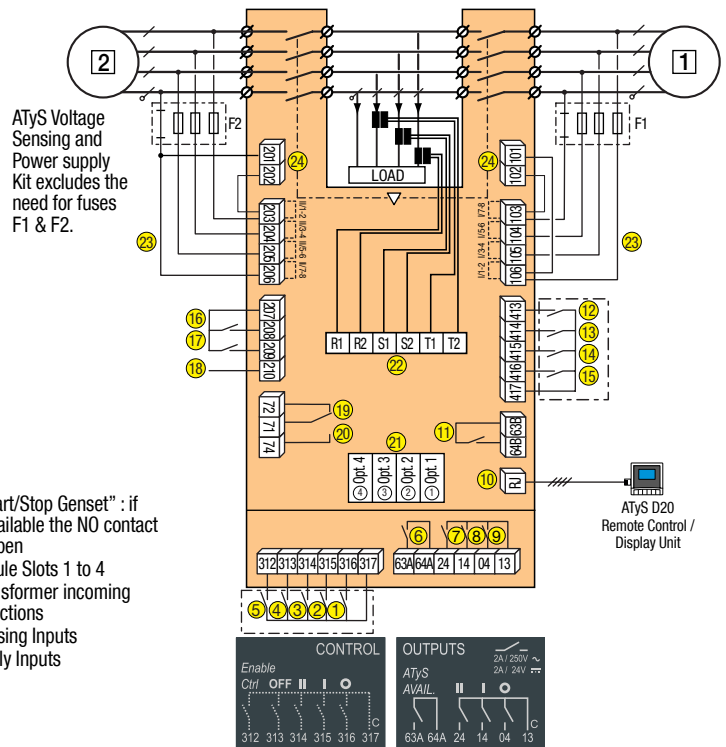
- 12-15. Programmable Inputs 1-4
16-17. Programmable Inputs 5-6
18. Aux. Supply (207/210) to be used with ATyS optional I/O modules
19. Contact "Start/Stop Genset" : if S1 is not available the NC contact (71-72) is close

20. Contact "Start/Stop Genset" : if S1 is not available the NO contact (71-74) is open

21. Option Module Slots 1 to 4
22. Current Transformer incoming cable connections
23. Voltage Sensing Inputs
24. Power Supply Inputs

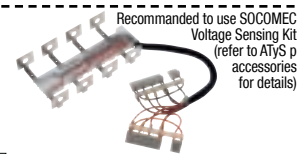
STEP 4 Power Supply, Sensing and Control wiring (ATyS Controller)

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

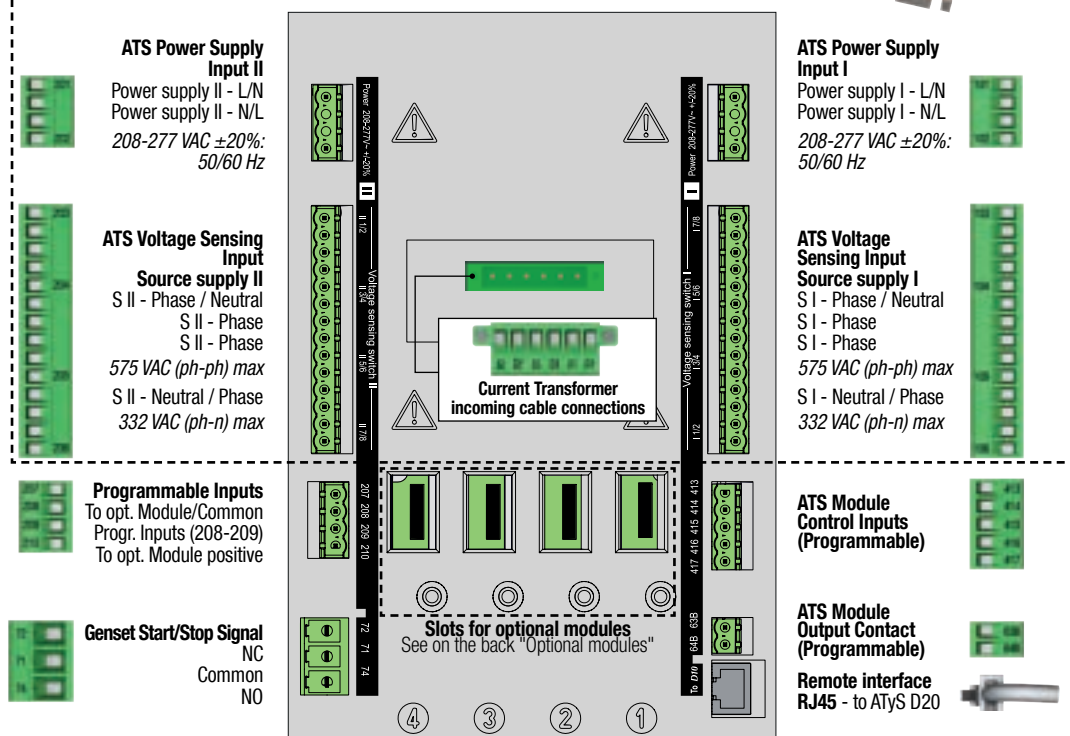


Connect the product with a cable of section of 1,5 to 2,5 mm².

Screw M3 - Tightening torque:
min.: 0.5 Nm - max.: 0.6 Nm / min.: 4.43 lbin - max.: 5.31 lbin

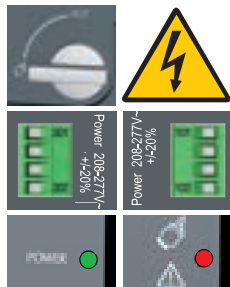


Recommended to use SOCOMEC Voltage Sensing Kit (refer to ATyS p accessories for details)



STEP 5 Check

Whilst in manual mode, check the wiring and if ok power up the product.



LED "Power" Green: ON
LED Manual/Fault Red: ON

STEP 6 Programming the ATyS p

The ATyS p is to be programmed powered up and after wiring verification tests. This may either be done through the front of the ATS Controller using the keypad or with the user-friendly Easy Config software.

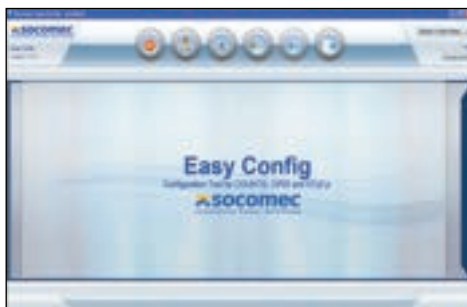
For convenience, we recommend to use the Easy Config software. (Downloadable free from www.socomec.com).

The ATyS p is delivered with default setting values based on most used customer application requirements. The minimum configuration parameters that must be programmed are the type of network and application together with the voltage and frequency nominal values. ATyS p Auto Configuration makes the setup of Volts, Hz, Phase rotation and Neutral Position quick and easy.

A - Programming with Easy Config Software

To program the ATyS p using Easy Config software simply follow the setting boxes from left to right until all desired settings in each window have been completed. Help pop ups are included to show the minimum and maximum setting values allowed. The software includes most SOCOMEC products so before programming click NEW and select the product "ATyS p" from the list of products available.

When the ATyS p is powered and communicating, the software will include a screen to monitor and display the ATyS p status. Control through software (such as changing switch position I-O-II) is also possible when in Super User Mode.



B - Programming with the ATyS p keypad

1 SETUP	2 VOLT. LEVELS	3 FREQ. LEVELS	4 PWR. LEVELS	5 TIMERS VALUE	6 I-O	7 COMM	8 DATE/TIME
NETWORK 4NBL	OV. U I 115%	OV. F I 105%	OV.P I 0000 kVA	1FT 0003 SEC	IN 1 --- NO	DHCP NO (9)	YEAR
AUTOCONF NO (7)	OV. U HYS I 110%	OV. F HYS I 103%	OV.P HYS I 0000 kVA	1RT 0180 SEC	IN 2 --- NO	IP 1-2 192.168. (9)	MONTH
NEUTRAL AUTO	UND. U I 085%	UND. F I 095%	OV.P II 0000 kVA	2FT 0003 SEC	IN 3 --- NO	IP 3-4 .002.001	DAY
ROT PH. ---	UND. U HYS I 095%	UND. F HYS I 097%	OV.P HYS II 0000 kVA	2RT 0005 SEC (2)	IN 4 --- NO	GAT1-2 000.000.	HOUR
CHECK ROT YES	UNB. U I 00%	OV. F II 105%	(1) When «APP» is set to «M-G» (2) When «APP» is set to «M-M» (3) When one of the I/P is set to «EON» (4) When one of the I/P is set to «EOF» (5) When one of the O/P is set to «LSC» (6) When one of the O/P is set to «EES» (7) If the product is in manual mode (8) With optional I/O modules (9) With Ethernet module	2AT 0005 SEC (1)	IN 5 --- NO	GAT3-4 .000.000 (9)	MINUTE
NOM. VOLT 400 V	UNB. U HYS I 00%	OV. F HYS II 103%		2CT 0180 SEC (1)	IN 6 --- NO	MSK1-2 255.255.	SECOND
NOM. FREQ 50 Hz	OV. U II 115%	UND. F II 095%		2ST 0030 SEC (1)	IN 7 --- NO (8)	MSK3-4 .255.000 (9)	
APP M-G	OV. U HYS II 110%	UND. F HYS II 097%		ODT 0003 SEC	IN 8 --- NO (8)	ADDRESS 005	
PRIOTON NO (1)	UND. U II 085%			TOT UNL (1)	IN 9 --- NO (8)	BDRATE 9600	
PRIOEON NO (3)	UND. U HYS II 095%			TOT 0010 SEC (1)	IN10 --- NO (8)	STOP BIT 1	
PRIONET 1 (2)	UNB. U II 00%			T3T 0000 SEC (1)	IN11 --- NO (8)	PARITY NONE	
RETRANS NO	UNB. U HYS II 00%			TFT UNL (1)	IN12 --- NO (8)		
RETURN O NO				TFT 0600 SEC (1)	IN13 --- NO (8)		
CT PRI 100				E1T 0005 SEC (3)	IN14 --- NO (8)		
CT SEC 5				E2T UNL (3)	OUT 1 POP NO		
S1=SW2 NO				E2T 0010 SEC (3)	OUT 2 --- NO (8)		
BACKLGHNT INT				E3T 0005 SEC (3)	OUT 3 --- NO (8)		
CODE P 1000				E5T 0005 SEC (4)	OUT 4 --- NO (8)		
CODE E 0000				E6T LIM (4)	OUT 5 --- NO (8)		
BACKUP SAVE				E6T 0600 SEC (4)	OUT 6 --- NO (8)		
				E7T 0005 SEC (4)	OUT 7 --- NO (8)		
				LST 0004 SEC (5)	OUT 8 --- NO (8)		
				EET 0168 H (6)	OUT 9 --- NO (8)		
				EDT 1800 SEC (6)			

ATyS p devices may also be programmed through the ATS controller keypad. This programming method is necessary for products not equipped with Ethernet or Modbus communication modules that facilitate programming through Easy Config software described above. The keypad is a useful interface and programming method most especially when changing a few parameters or simply interrogating the product.

Programming access: Press and hold for 5 s "Validation" push button (17). Access through the keypad is possible in Automatic or Manual mode, when the product is in a stable position (I, O or II) with at least one supply source available. Programming is not accessible whilst any cycle sequence is running.

To change the configuration: Enter code (factory code = 1000) using navigation push buttons (14).

Programming exit: Press and hold for 5 s "Validation" push button (17).

Note 1: Values as listed above are the setting values by default.

Note 2: Ensure that the Default Network Setting and Application match the installation or change accordingly before using Auto Configuration.

3 phase / 4 wire	3 phase / 3 wire	2 phase / 3 wire	2 phase / 2 wire	1 phase / 2 wire
4NBL 4BL	3NBL 3BL	2NBL	2BL	1BL

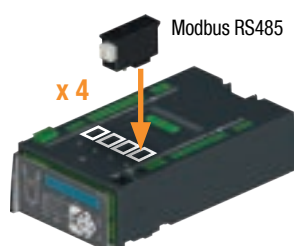
Setup by Auto Configuration (Volts, Hz, Neutral pos., Ph rotation)

Press 5s	
Go To	1 SETUP
Scroll to	AUTOCONF
Enter code	1000
Set to	YES
Press 60 ms	
LEDs flash	
Save : press 5s	

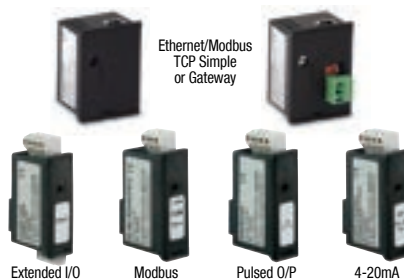
Note: Source I or source II must be available to set by Auto Configuration.

Optional Modules

Communication between the software and the ATyS p may be done through the Ethernet/Modbus TCP or Modbus RTU modules that are available as an option. The ETHERNET / MODBUS modules are to be installed in one of the slots provided in the ATyS p ATS control unit. Easy Config may be installed on a PC connected through ETHERNET or MODBUS modules for a direct ATyS configuration, either isolated with possibility to create a specific configuration for a later upload and use in ATyS.



The Ethernet module includes a built in Web Server for Monitoring, Engine Exerciser Control, Events...

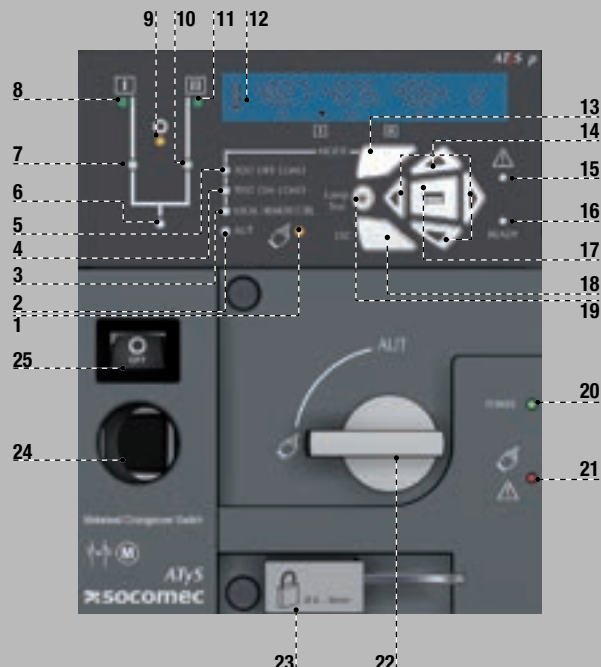


Note: The ATyS p may accept a total of 4 additional Input / Output modules offering an additional 8 programmable inputs and 8 programmable outputs. When including a MODBUS module the ATyS p accepts a total of 3 I/O modules and when including the ETHERNET module a total of 2 I/O modules.

Refer to the ATyS p accessory section for details.

1. MANUAL Mode LED indication. (Yellow steady light when in Manual Mode).
2. AUTO Mode LED indication Green steady light when in Auto mode with no timers running.
Green flashing light when in Auto with timers running.
3. LOCAL / REMOTE CONTROL Mode LED indication.
Yellow steady light when in Local / Remote control mode.
Remote control mode is achieved with the Auto/Manu selector switched to Auto and terminals 312 closed with terminal 317. Remote control orders are received through closing 314 to 316 with 317.
REMOTE Control is also achievable through Easy Config ATyS p software when connected to the product through Ethernet or MODBUS. (Optional modules). Local Control selectable and operable through the ATyS p keypad.
4. TEST ON LOAD CONTROL Mode LED indication. (Yellow steady light when in TON/ EON mode)
5. TEST OFF LOAD CONTROL Mode LED indication. (Yellow steady light when in TOF/ EOF mode).
6. Load Supply On LED. (Green when the load is supplied).
7. Switch 1 LED position indication. (Green when in position 1).
8. Source supply I availability LED indication. (Green when supply I voltage is within the set limits).
9. Zero position LED indication. (Yellow when in position 0).
10. Switch 2 LED position indication. (Green when in position 2).
11. Source supply II availability LED indication. (Green when supply II voltage is within the set limits).
12. LCD Display Screen : (Status, measurement, timers, counters, events, faults, programming)
13. MODE key to shift between operation modes.
14. Navigation Keys to browse through the ATyS p menus without software.
15. FAULT LED indication. (Red steady light in case of an ATS controller internal fault. Switch the product from Auto to Manual and back to Auto to reset a fault condition).
16. READY LED indication. (Green steady light : Product is powered and in AUTO, Watchdog OK, The Product is Available to changeover).

17. Enter Key used to enter Prog Mode (Press and hold for 5 seconds) and to validate the settings programmed through the keypad.
18. ESC key used to escape from a specific screen up to the main menu.
19. Lamp test key to check the LED's and LCD screen.
20. Green LED Indication: Power
21. Red LED Indication: Product Unavailable / Manual Mode / Fault Condition
22. Auto / Manual mode selector switch (Key version available as an option)
23. Padlocking facility (Up to 3 padlocks of dia. 4 - 8mm)
24. Emergency manual operation shaft location (Accessible only in manual mode)
25. Switch position indication window:
I (On switch I) 0 (Off) II (On switch II).



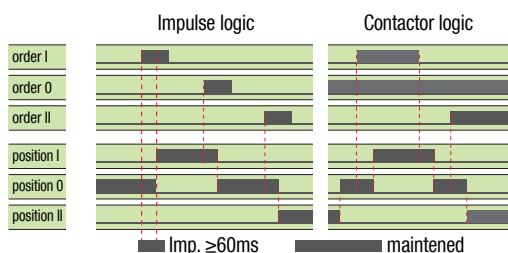
STEP 7A AUT Mode (Automatic Control)



Ensure that the emergency handle is not inserted in the product and turn the mode selector to the AUT position.
LED "Power" Green: ON
LED Manuel/Default: OFF



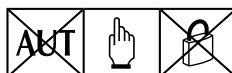
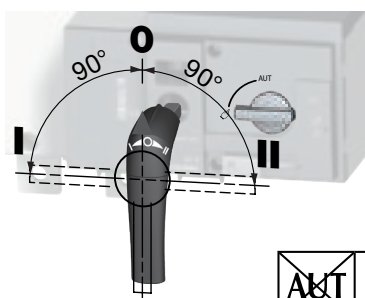
STEP 7B AUT Mode (Remote Control)



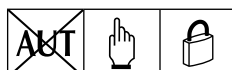
To enable control, close contact 312 with 317. For contactor logic bridge contact 316 with 317. To operate: close the contact corresponding to the desired position. To force the product to 0 position "OFF" bridge contact 313 with 317.



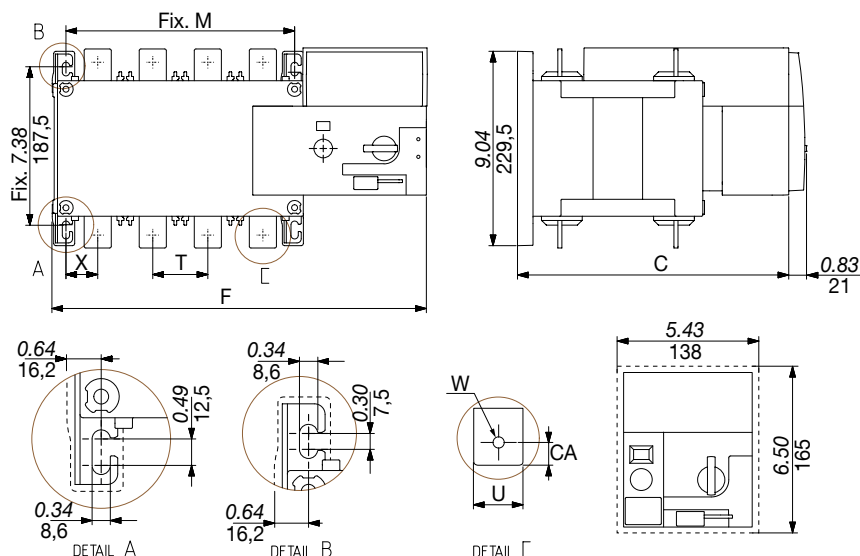
STEP 7C Manual Operation



STEP 7D Padlocking Mode (as standard : in position 0)



Dimensions in./mm.



	125 A				160 A				200 A				250 A			
	3 P	in	mm	4 P	3 P	in	mm	4 P	3 P	in	mm	4 P	3 P	in	mm	4 P
C	9.61	244		9.61	244		9.61	244	9.61	244		9.61	9.61	244		9.61
CA	0.39	10		0.39	10		0.39	10	0.39	10		0.39	0.59	15		0.59
F	11.28	286,5		12.48	317		11.28	286,5	12.48	317		11.28	12.91	328		14.88
M	4.72	120		5.91	150		4.72	120	5.91	150		4.72	6.30	160		8.27
T	1.42	36		1.42	36		1.42	36	1.42	36		1.42	1.97	50		1.97
U	0.79	20		0.79	20		0.79	20	0.79	20		0.79	0.98	25		0.98
W	0.35	9		0.35	9		0.35	9	0.35	9		0.35	0.43	11		0.43
X	1.10	28		0.87	22		1.10	28	0.87	22		1.10	1.30	33		1.30

	315 A				400 A				500 A				630 A			
	3 P	in	mm	4 P	3 P	in	mm	4 P	3 P	in	mm	4 P	3 P	in	mm	4 P
C	9.61	244		9.61	244		9.61	244	12.64	321		12.64	12.64	321		12.64
CA	0.59	15		0.59	15		0.59	15	0.59	15		0.59	0.79	20		0.79
F	12.91	328		14.88	378		12.91	328	14.84	377		17.20	14.84	377		17.20
M	6.30	160		8.27	210		6.30	160	8.27	210		10.63	8.27	210		10.63
T	1.97	50		1.97	50		1.97	50	2.56	65		2.56	2.56	65		2.56
U	1.38	35		1.38	35		1.38	35	1.26	32		1.26	1.77	45		1.77
W	0.43	11		0.43	11		0.43	11	0.55	14		0.55	0.51	13		0.51
X	1.30	33		1.30	33		1.30	33	1.67	42,5		1.48	1.67	42,5		1.48



ATyS *p* M

Automatic Transfer Switching Equipment
from 40 to 160 A



Function

ATyS *p* M are single-phase or three-phase modular automatic transfer switches with positive break indication.

Functions include ATyS *t* M and ATyS *g* M capability, with additional programmable parameters and a tripping function. A product model with communication is available. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

Advantages

Flexible programming

ATyS *p* M time delays and inputs/outputs are completely configurable, hence enabling the easy monitoring of specific applications (load shedding, test...) and the definition of an operating cycle specifically adapted to your application.

Trip function

ATyS *p* M features a function for returning to the 0 position in case of the loss of both power supply sources (tripping). This protects the load from issues due to source instability.

Communication and configuration

A specific version of ATyS *p* M is available with integrated Modbus communication. This gives access to most product data (status, voltages, frequencies...). A user friendly configuration software is also available free (Easyconfig) to configure, view and save all the parameters in the ATyS *p* M.

Remote control interface

Specifically designed for installations where the product is enclosed, the remote interface displays product status on the front panel (D10) or displays and controls with access to programming (D20).

The solution for

- > High-rise buildings
- > Data centres
- > Healthcare buildings
- > Banks and insurance companies
- > Transport (airports, tunnels, etc.)



Strong points

- > Flexible programming
- > Trip function
- > Communication and configuration
- > Remote control interface

Conformity to standards

- > IEC 60947-6,-1
- > IEC 60947-3
- > GB 14048.11

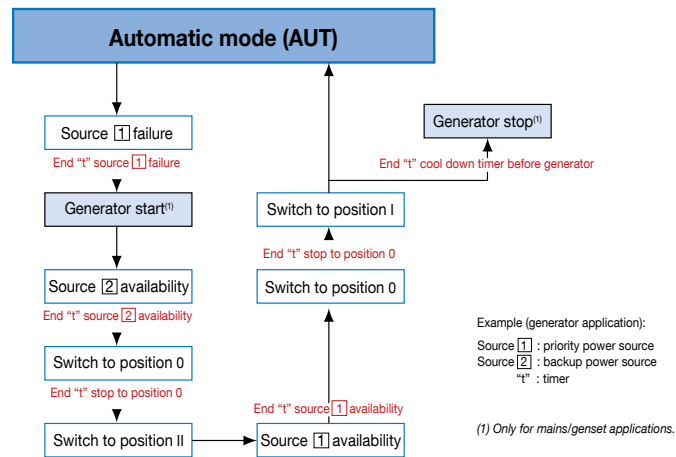


Approvals and certifications



What you need to know

The ATyS p M are automatic transfer switching equipment that include a fully integrated ATS controller. These products are self powered from incoming supplies: 230 VAC (160-305 VAC), 50/60 Hz (45/65Hz). Automatic products are all equipped with a sequence logic. Here is an example of the sequence logic in case of loss and return of the preferred source.



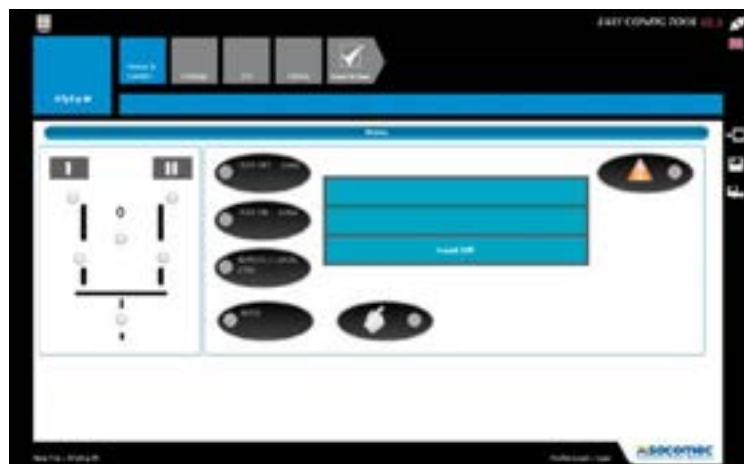
atys_028_h_1_gb_cat

Easyconfig

Easyconfig software is the ideal solution to save time and simplify complex configuration.

You can configure the following parameters:

- application type,
- voltage and frequency thresholds,
- timers,
- inputs/outputs...



atys_049_b_gb

ATyS p M

Rating (A)	No. of poles	Network (VAC) ⁽³⁾	ATyS p M	ATyS p M + com	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block	Remote interface
40 A	4 P	230/400	9364 4004	9384 4004	4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016 ⁽¹⁾	1 piece	D10 9599 2010 D20 9599 2020
63 A	4 P	230/400	9364 4006	9384 4006				Separate common points	
80 A	4 P	230/400	9364 4008	9384 4008				1309 0001 ⁽²⁾	
100 A	4 P	230/400	9364 4010	9384 4010				Linked common points	
125 A	4 P	230/400	9364 4012	9384 4012	1309 4016			1309 0011 ⁽²⁾	
160 A	4 P	230/400	9364 4016	9384 4016					

(1) For complete upstream and downstream protection please order quantity 2.

(2) 1 NO/NC contact block for positions I, 0 and II.

(3) For 127/230VAC networks, please contact us.



ATyS *r* - ATyS *d*

Remotely operated Transfer Switching Equipment
from 125 to 3200 A

Transfer switches



The solution for

- > Applications with an external ATS/AMF controller
- > Building Management Systems (BMS)



Strong points

- > Watchdog relay to check product availability
- > Integrated auxiliary contacts
- > Extended power supply range
- > ATyS d: integrated dual power supply

Conformity to standards

- > IEC 60947-6-1
- > IEC 60947-3
- > GB/T 14048.11



Approvals and certifications⁽¹⁾



BUREAU
VERITAS

⁽¹⁾ Product references on request.

External automatic controller

- > The ATyS r and ATyS d are compatible with our ATyS C30 external controllers (for mains/mains and mains/genset applications) and ATyS C40 controllers (for genset/genset applications).

Enclosed RTSE



See "Enclosed transfer switches"

Function

ATyS r and **ATyS d** are 3 or 4 pole remotely operated motorised transfer switches with positive break indication.

They enable the on-load transfer of two three-phase power supplies via remote volt-free contacts, from either an external automatic controller, using pulse logic, or a switch.

They are intended for use in low voltage power systems where interruption of the load supply is acceptable during transfer.

Advantages

Watchdog relay to check product availability

ATyS r and ATyS d products are equipped with a Watchdog relay which constantly monitors your product, thereby securing the installation.

This relay informs in real time the user of the product's availability, i.e. whether it is operational and ready for source switching.

Integrated auxiliary contacts

As part of the product monitoring function, the ATyS r and ATyS d enable the transmission of information relating to their position. This is possible thanks to the standard integration of an auxiliary contact for each position.

Extended power supply range

ATyS r and ATyS d products offer greater availability thanks to their extensive power supply range of 208 to 277 VAC \pm 20%.

ATyS d: integrated dual power supply

In addition to the functions offered by the ATyS r, the ATyS d incorporates supply redundancy without the need for additional wiring. This is obtained by integrating a double supply (2 independent power supplies) directly within the product.

References

ATyS *r* - ATyS *d*

Rating (A) / Frame size	No. of poles	ATyS <i>r</i>	ATyS <i>d</i>	Bridging bars	Terminal shrouds	Terminal screens	Auxiliary contact	3 position padlocking	Auto transformer
125 A / B3	3 P	9523 3012	9533 3012						
	4 P	9523 4012	9533 4012						
160 A / B3	3 P	9523 3016	9533 3016	3 P 4109 3019 4 P 4109 4019	3 P 2694 3014 ⁽²⁾ 4 P 2694 4014 ⁽²⁾	3 P 1509 3012 4 P 1509 4012			
	4 P	9523 4016	9533 4016						
200 A / B3	3 P	9523 3020	9533 3020						
	4 P	9523 4020	9533 4020						
250 A / B4	3 P	9523 3025	9533 3025	3 P 4109 3025 4 P 4109 4025			1599 0502	9599 0003 ⁽³⁾	
	4 P	9523 4025	9533 4025						
315 A / B4	3 P	9523 3031	9533 3031	3 P 4109 3039 4 P 4109 4039	3 P 2694 3021 ⁽²⁾ 4 P 2694 4021 ⁽²⁾	3 P 1509 3025 4 P 1509 4025			
	4 P	9523 4031	9533 4031						
400 A / B4	3 P	9523 3040	9533 3040						
	4 P	9523 4040	9533 4040						
500 A / B5	3 P	9523 3050	9533 3050	3 P 4109 3050 4 P 4109 4050	3 P 2694 3051 ⁽²⁾ 4 P 2694 4051 ⁽²⁾	3 P 1509 3063 4 P 1509 4063			400/230 VAC 1599 4064
	4 P	9523 4050	9533 4050						
630 A / B5	3 P	9523 3063	9533 3063	3 P 4109 3063 4 P 4109 4063					
	4 P	9523 4063	9533 4063						
800 A / B6	3 P	9523 3080	9533 3080	3 P 4109 3080 4 P 4109 4080		3 P 1509 3080 4 P 1509 4080	1599 0532		
	4 P	9523 4080	9533 4080						
1000 A / B6	3 P	9523 3100	9533 3100						
	4 P	9523 4100	9533 4100						
1250 A / B6	3 P	9523 3120	9533 3120	3 P 4109 3120 4 P 4109 4120					
	4 P	9523 4120	9533 4120						
1600 A / B7	3 P	9523 3160	9533 3160	3 P 4109 3160 4 P 4109 4160		3 P 1509 3160 4 P 1509 4160		9599 0004 ⁽³⁾	
	4 P	9523 4160	9533 4160						
2000 A / B8	3 P	9523 3200	9533 3200						
	4 P	9523 4200	9533 4200						
2500 A / B8	3 P	9523 3250	9533 3250	(1)		3 P 1509 3200 4 P 1509 4200	included		
	4 P	9523 4250	9533 4250						
3200 A / B8	3 P	9523 3320	9533 3320						
	4 P	9523 4320	9533 4320						

(1) See "Copper bar connection pieces"

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

To shroud front switch top and bottom 2 references required (Whenever a bridging beam is fitted, it is then only possible to fit 3 times the reference for the terminal cover).

(3) Factory mounting only.

Technical information

- > Accessories: see
- > Characteristics: see
- > Terminals and connections: see
- > Dimensions: see

2. INTRODUCTION

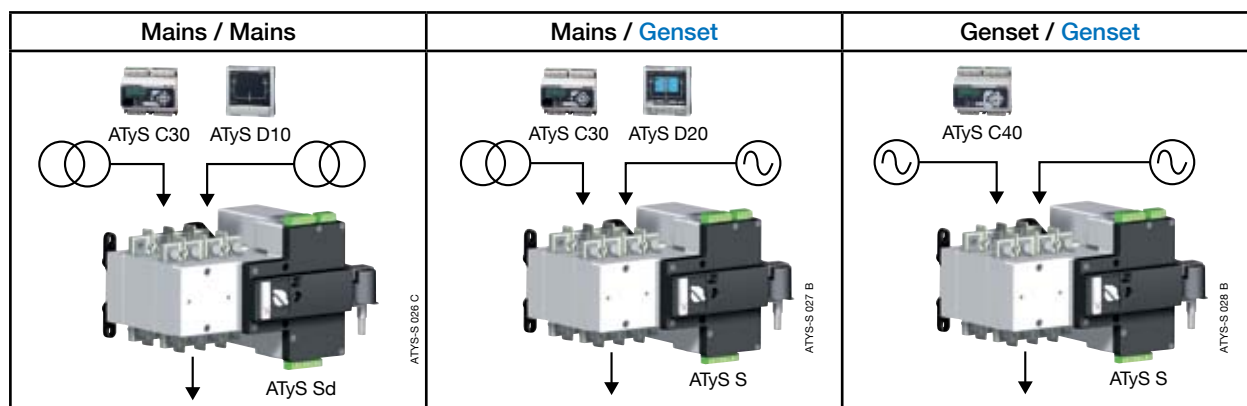
ATyS S family of “remotely operated transfer switching equipment” (RTSE) are designed for use in power systems for the safe transfer of a load supply between a normal and an alternate source. The changeover is done in open transition and with minimum supply interruption during transfer ensuring full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

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

As Class PC RTSE, the ATyS S and ATyS Sd products are capable of “making and withstanding short circuit currents” assigned to IEC 60947-3 utilization categories of up to AC23B, GB 14048-11, IEC 60947-6-1 and equivalent standards with utilization categories of up to AC32B.

ATyS S and ATyS Sd motorised source changeover switches ensure:

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



3. THE ATyS FAMILY PRODUCT RANGE

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

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

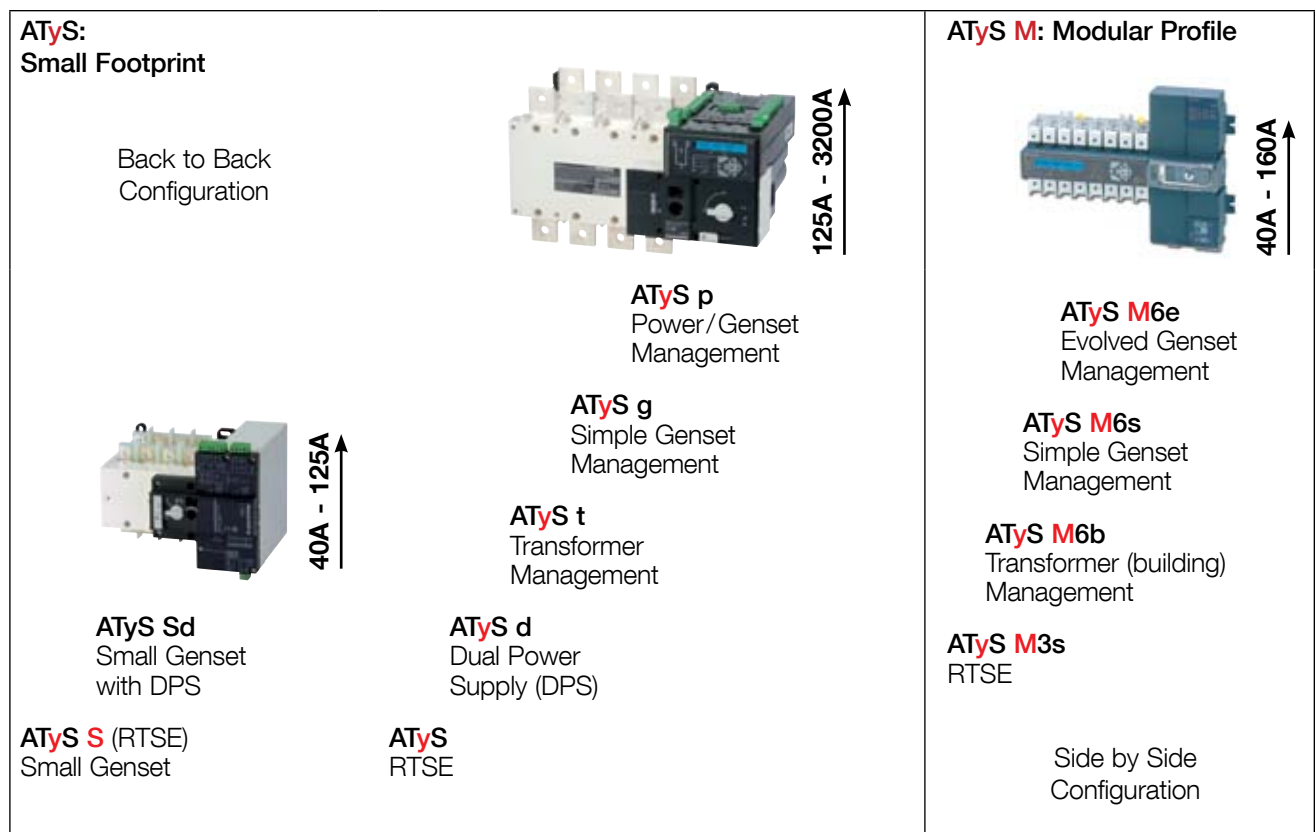
The ATyS Family includes a complete range of remotely operated transfer switch equipment (RTSE) as well as automatic fully integrated products and solutions (ATSE). Selecting the right ATyS will depend on the application as well as the nature of installation in which the ATyS will be installed.

This instruction manual includes details and instructions specific to the "ATyS S and ATyS Sd" RTSE only. For all other ATyS Family of products please refer to the specific instruction manual related to that product. (Available for download on www.socomec.com).

An overview of the complete ATyS range is presented below:

(The ATyS S and ATyS Sd are the transfer switch equipment detailed in this instruction manual).

Just the right ATyS for your application...



3.1. The ATyS back to back Range Key Features

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

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

4. QUICK START



QUICK START EN

ATyS S / Sd

Motorised Source Changeover Switch

Preliminary operations

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

- Packaging and contents are in good condition.
- The product reference corresponds to the order.
- Contents should include:
 - Qty 1 x ATyS S / Sd product
 - Qty 1 x handle and storage clip
 - Quick Start instruction sheet
 - Qty 1 set of 3 terminal connectors
 - Qty 1 set of 16 screws, nuts and washers for connecting the power section.

Warning

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

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

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

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

⚠ Risk of damage the device

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

Accessories

- Bridging bars 4P 125A.
- Control voltage transformer 400V -> 230V.
- Terminal Shrouds Supply side / Load side.
- Secure Connector Bracket.
- Voltage taps.
- DIN-rail 4 modules.
- ATS Controller type ATyS C30 + D10/D20.
- ATS Controller type ATyS C40.

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

www.socomec.com

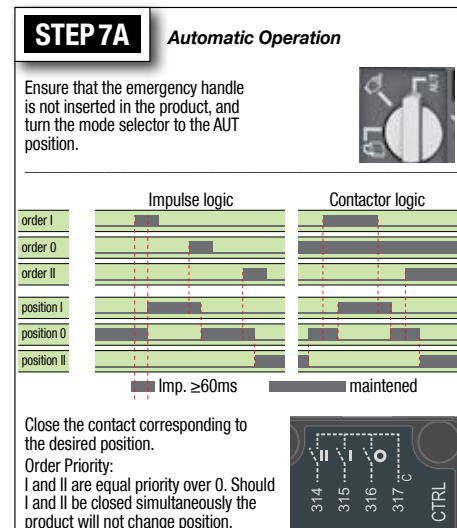
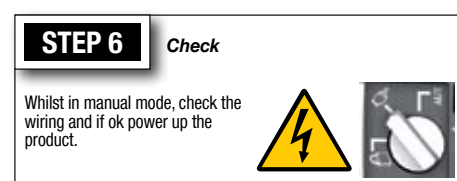
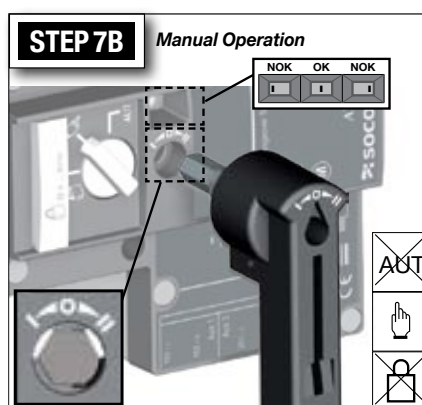
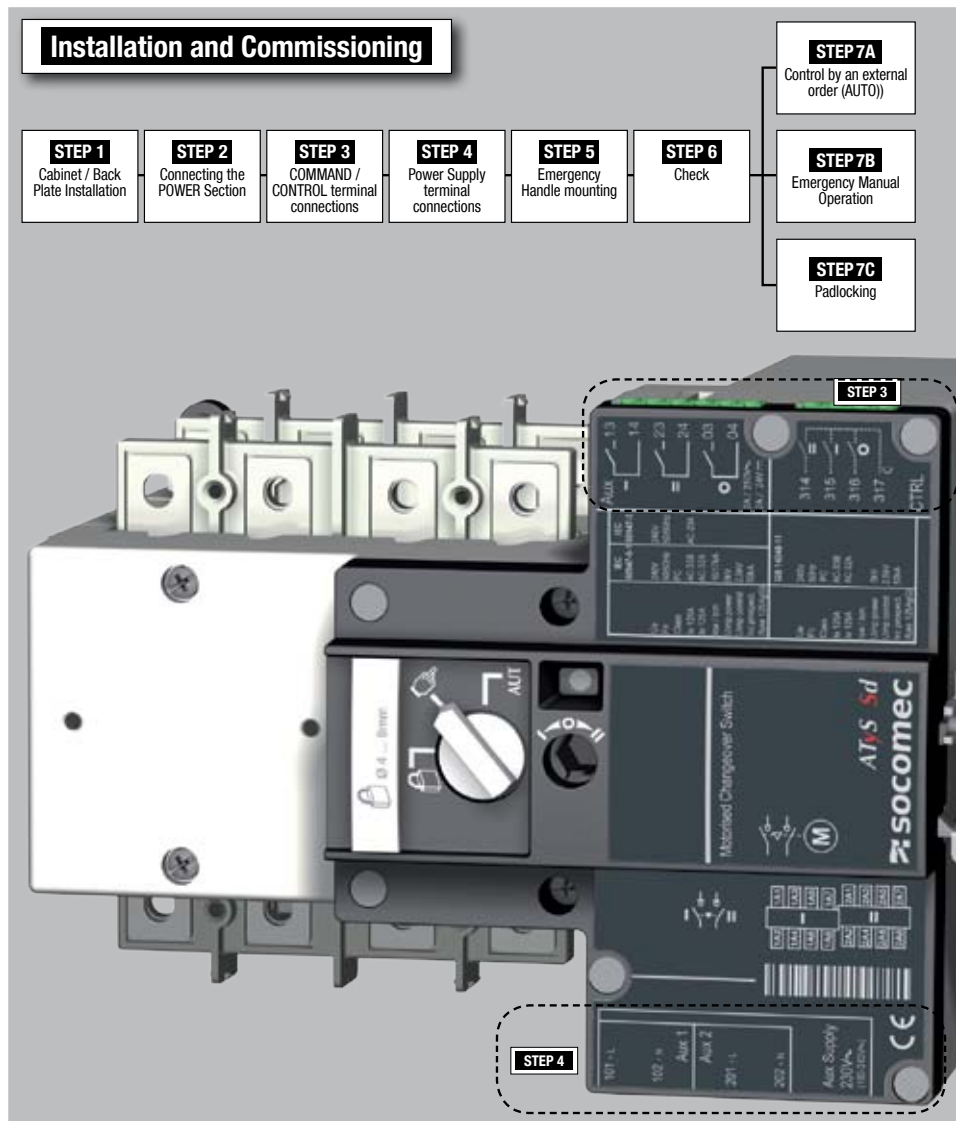
To download brochures, catalogues and technical manuals:



Printing informations: 1 color Black. White paper 90g/m².
Printing size: 420x297. Final size 210x148. This page visible first.

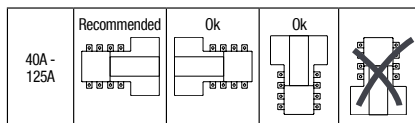


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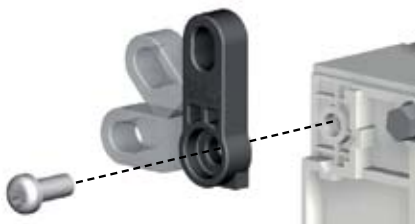


STEP 1 Installation

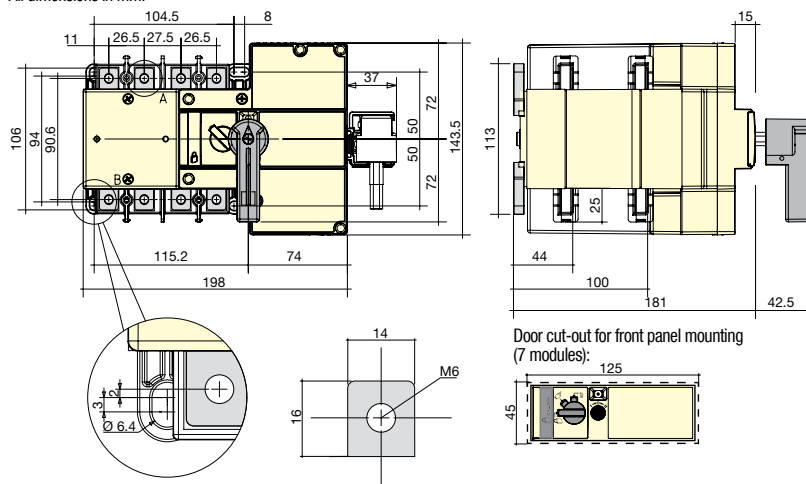
Attention: Ensure that the product is installed on a flat rigid surface.
Orientation:



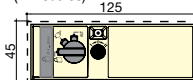
Detailed fixing point: 0° - 45° - 90°



All dimensions in mm.



Door cut-out for front panel mounting
(7 modules):

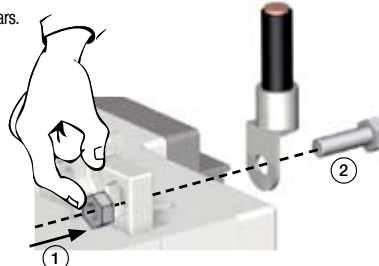


STEP 2 Power Terminal Connections

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

	40 A	63 A	80 A	100 A	125 A
Minimum cable section Cu (mm²) at lth	10	16	25	35	50
Maximum cable section Cu (mm²)	70	70	70	70	70
Type of screw	M6	M6	M6	M6	M6
Recommended tightening torque (N.m)	4.5	4.5	4.5	4.5	4.5
Maximum tightening torque (N.m)	5.4	5.4	5.4	5.4	5.4

All values are indicative.



STEP 3

CONTROL / COMMAND Terminals

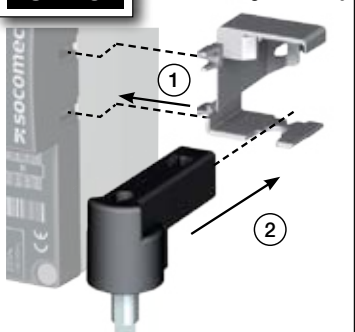
Ensure that the product is in manual mode and connect the product controls using the supplied connectors and suitable cable of section 1.5 - 2.5 mm².



Screw M3
Tightening torque: min.: 0.5 Nm - max.: 0.6 Nm

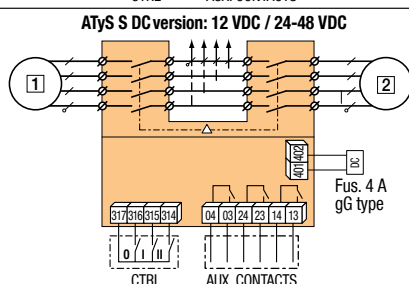
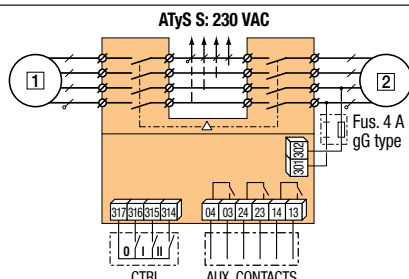
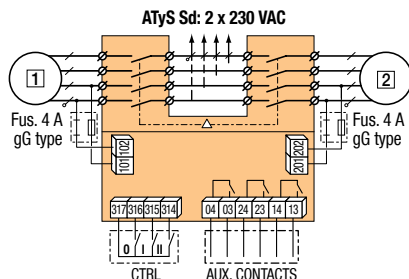
STEP 5

Handle Storage Assembly



STEP 4

Power Supply Terminals



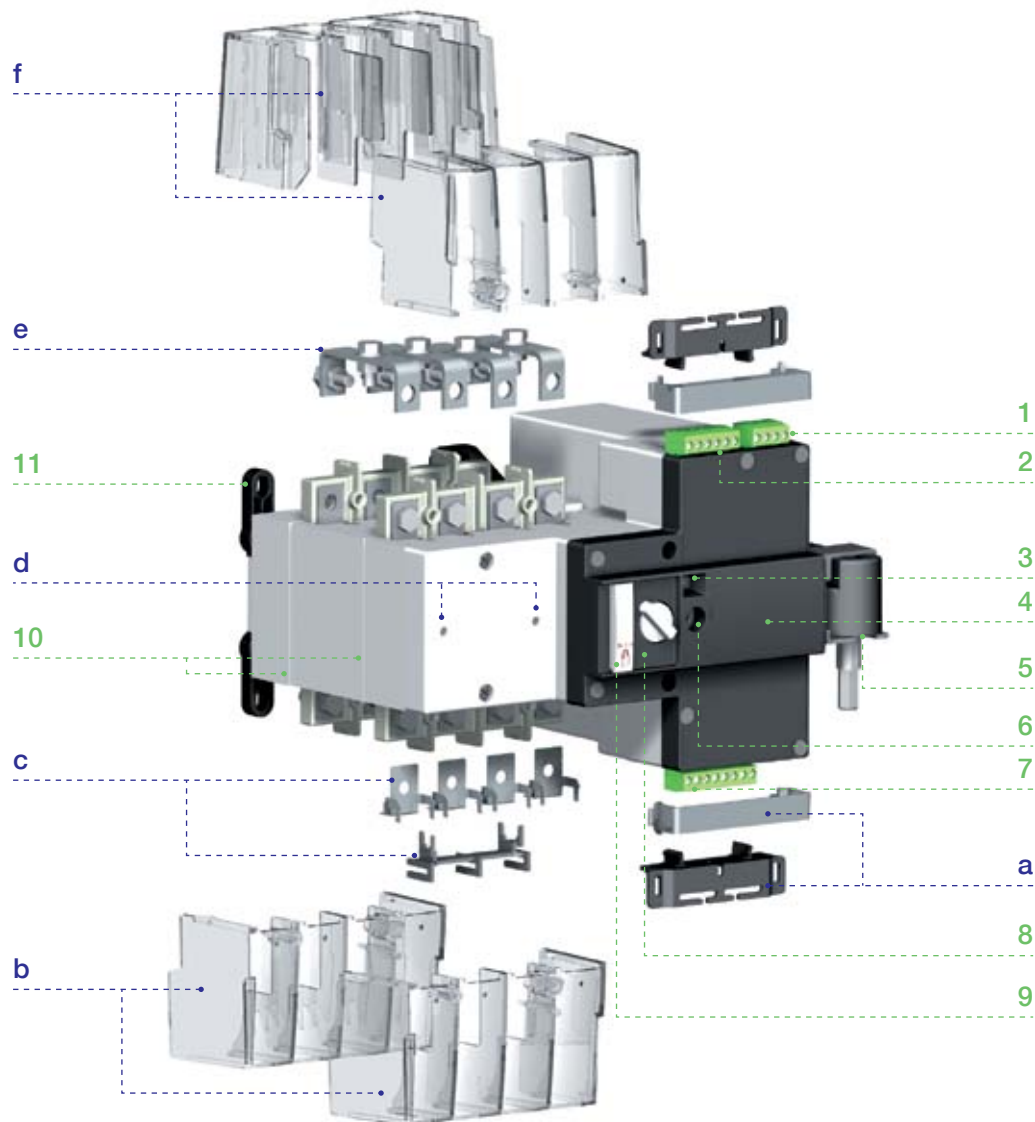
*Torque

*Torque

Screw M3
*Tightening torque:
min.: 0.5 Nm
max.: 0.6 Nm

5. GENERAL OVERVIEW

5.1. ATyS S & ATyS Sd : RTSE « Product introduction »



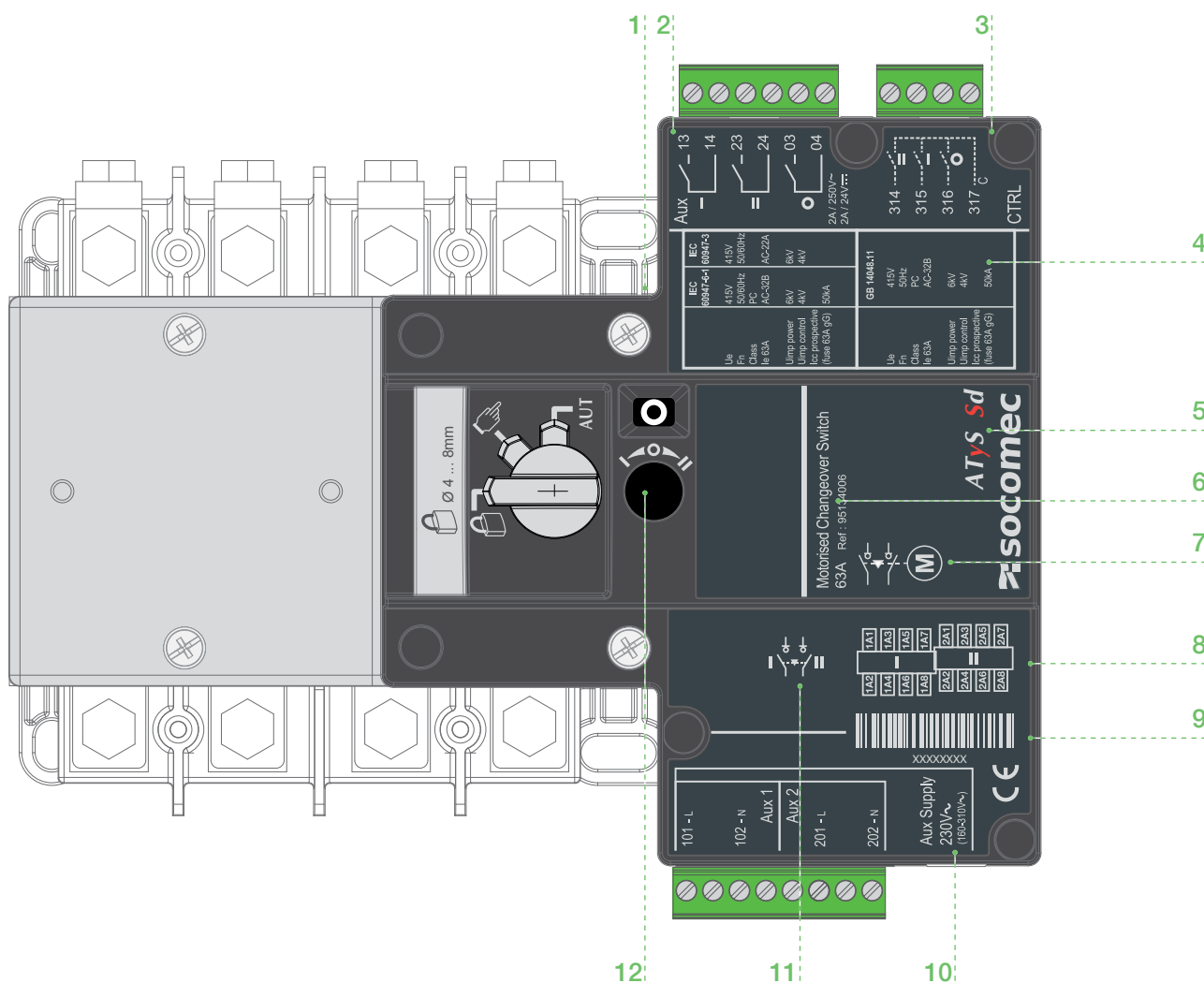
Included as standard:

1. Position Output Aux. Contacts x 3
(Position indication I-O-II outputs: 6 pin connector)
2. Control / Command Input contacts x 3
(Position orders I-O-II : 4 pin connector)
3. Switch position indication window I – 0 – II
I (On) – O (Off) – II (On)
4. Motorisation module housing and control unit.
5. Emergency manual operation handle and storage clip.
6. Emergency manual operation shaft location
(Accessible only in manual mode)
7. Auxiliary power supply : (Attn: Image shows ATyS Sd)
ATyS Sd : 230Vac x 2 (Dual Supply)
ATyS S : 230Vac, 12Vdc, 24/48Vdc
8. Auto / Manual / Padlocking mode selector switch
9. Facility for padlocking in “0” position. (3 x 4-8mm)
10. Power Section : 4P changeover switch assembly
Includes an inherent mechanical interlock.
Back Switch II, Front Switch I).
11. Back-plate mounting ATyS fixing lugs x 4

Available as an accessory:

- a. Easy secure connector bracket
- b. Supply side terminal shrouds
- c. Reversible top/bottom bridging bars
- d. Voltage tapping kit
- e. Mounting holes for the ATyS S din rail accessory.
(Accepts up to 4 modules)
- f. Load side terminal shrouds

5.2. ATyS : RTSE « Product identification »



1. Switch 1 (Front) and Switch 2 (back) identification labels (Top & Bottom)
2. Output contacts identification label.
3. Input contacts identification label.
4. Main changeover switch identification label including:
Electrical characteristics & Applicable standards
5. ATyS Product Type (ATyS S or ATyS Sd)
6. ATyS S / ATyS Sd current rating and product reference number
7. Product Type pictogram (RTSE – Motorised Changeover Switch)
8. Power Terminals incoming and outgoing wiring details.
9. Complete ATyS product serial number, barcode and CE marking.
10. Auxiliary power supply contacts and identification label
11. Switch position and mechanical interlock pictogram
12. Direction of rotation for emergency manual operation

ATyS S

Remote Transfer Switching Equipment
from 40 to 125 A



When **energy** matters

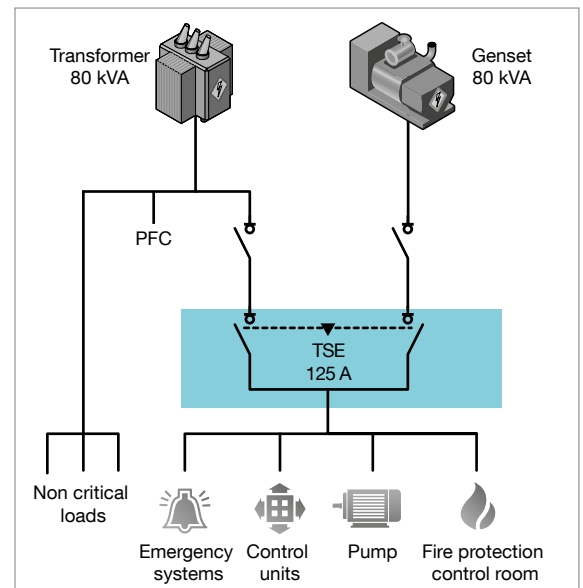
 **socomec**
Innovative Power Solutions

Why do you need Transfer Switching Equipment (TSE)?

Power outages can occur, even in high reliability distribution networks, leading to major incidents and losses on critical applications :

- Emergency systems.
- Healthcare facilities.
- Server rooms.
- Production lines.

To maximize your power availability, the Socomec range will safely transfer from any unstable or lost source to an alternate source. Furthermore, we ensure that you are prepared at all times thanks to our unique safety functions that facilitate maintenance on your low voltage electrical installation.



ATyS S rides through any unstable network

Contact us to find out how your application could benefit from ATyS S.



Portable backup source switching

Use ATyS S with portable diesel generators up to 80 kVA to guarantee a safe transfer when the main power source is no longer available.

Unstable grids power guaranteed

In many areas, blackouts are frequent and the electrical network is very unstable. The ATyS S is engineered to perform in any type of network. Totally unaffected by voltage fluctuations that can burn contactor coils.



Hybrid solutions power transfer

Renewable energy integration within electrical grids and off-grid applications are becoming more common every day. Use ATyS technology to safely switch between two different sources at any time.

Why choose Socomec's *ATyS S*?



Constant power availability keeps your activity safe and efficient. At Socomec, we have been designing, manufacturing and testing switchgear since 1922 and guarantee safe, reliable and long lasting Transfer Switching Equipment (TSE) for your electrical installation. All our solutions are fully compliant with Class PC of IEC 60947-6-1, the international product standard for TSE.

Today, more than 3 million installations and major integrators worldwide are secured with a Socomec transfer switch. Each day, their smile is ON knowing that their operations will always keep on running.



Easy to use

Easily switch between automatic, manual and padlocked operating modes.



Safe operation

Manual emergency transfer always accessible, even when the enclosure door is closed.



Reliable

Not being affected by voltage fluctuations. This prevents the welding of the contacts as well as operating coil failure. The possibility to replace the motor maximises the availability.



Time and space saving

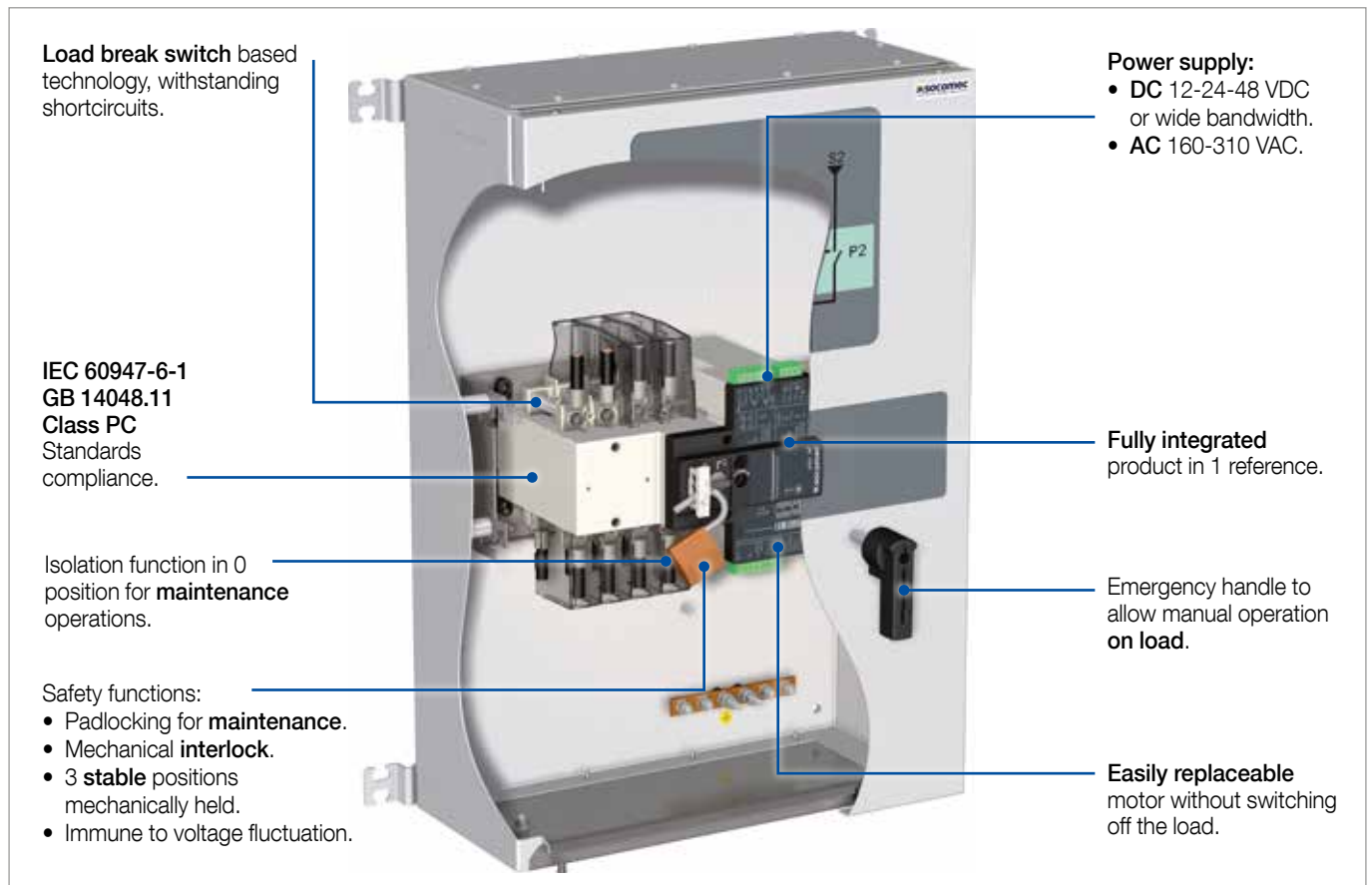
Fully integrated back to back switch that enables the ATyS S to fit directly into any 200 mm depth enclosure.



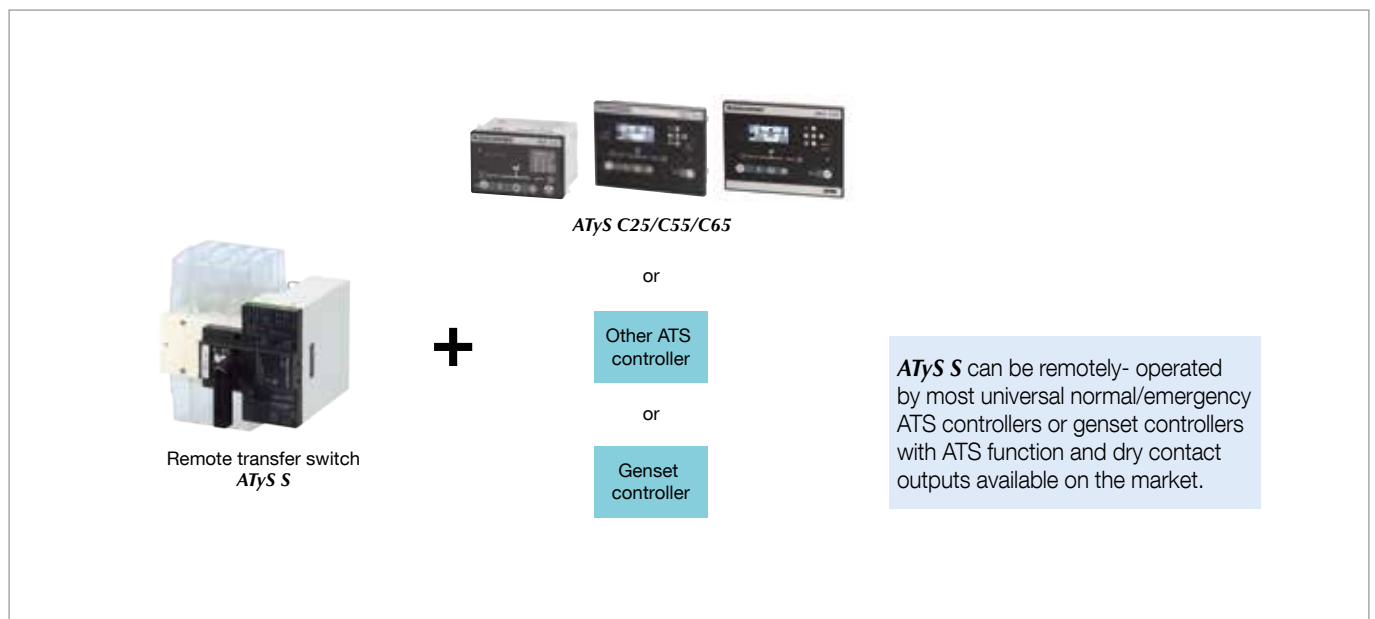
Proven technology

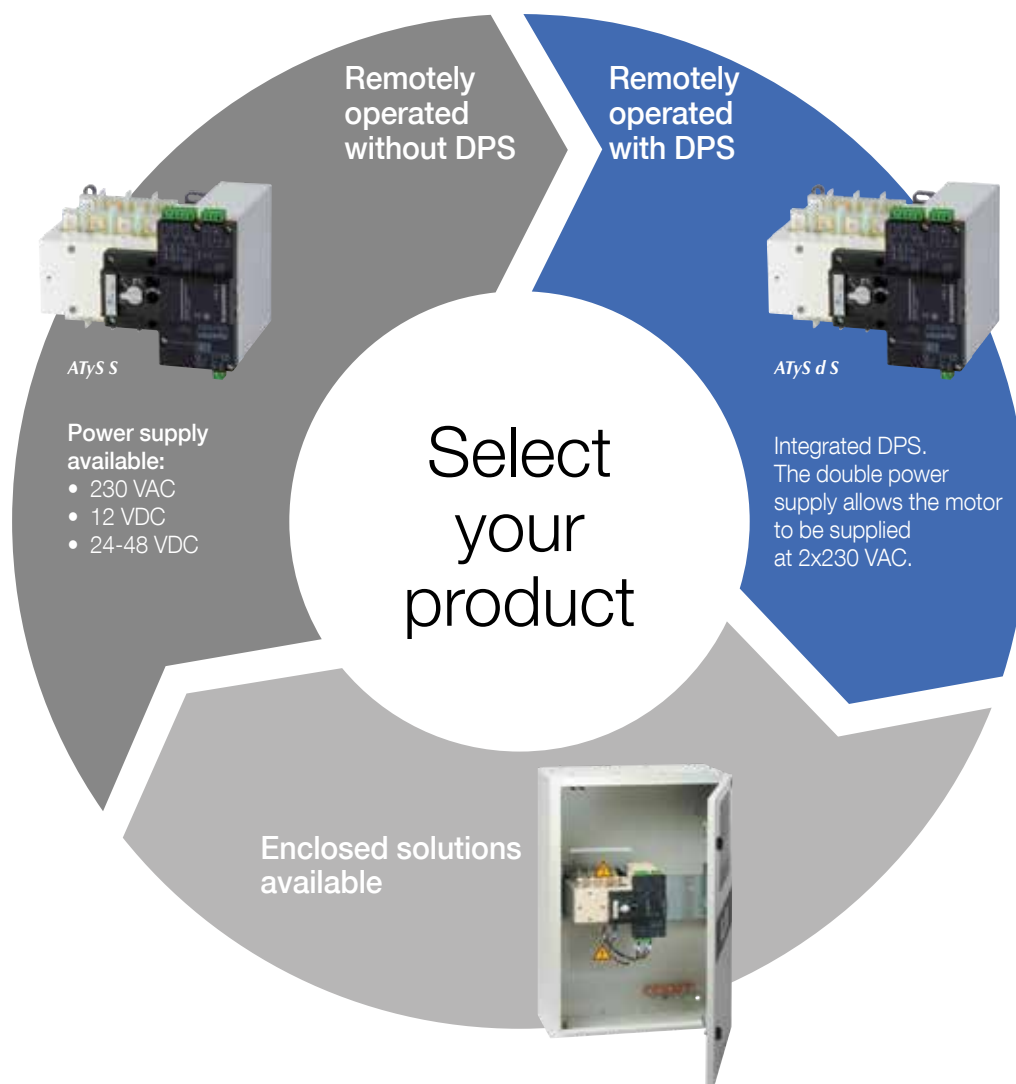
Integrated solution that has been engineered and tested according to IEC 60947-6-1 Class PC standard requirements for transfer switching.

Main features



Automate your transfer switch





A solution for every application

Manual	Remotely operated	Automatic	Enclosed
 <i>SIRCO VM1</i>	  <i>ATyS S & d S</i> <i>ATyS d M</i>	  <i>ATyS t M & g M</i> <i>ATyS p M</i>	 < 160 A > 125 A
  <i>SIRCOVER</i> <i>SIRCOVER Bypass</i>	  <i>ATyS r</i> <i>ATyS d H</i>	  <i>ATyS g</i> <i>ATyS p</i>	
DC	Static	Bypass	
 <i>SIRCOVER PV</i>	  <i>ATyS S DC</i> <i>ATyS r DC</i>	 <i>STATYS</i>	 <i>ATyS Bypass</i>

Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,600 employees
worldwide

10 % of sales revenue
dedicated to R&D

400 experts
dedicated to service provision

Your power management expert



POWER
SWITCHING



POWER
MONITORING



POWER
CONVERSION



ENERGY
STORAGE



EXPERT
SERVICES

The specialist for critical applications

- Control, command of LV facilities
- Safety of persons and assets
- Measurement of electrical parameters
- Energy management
- Energy quality
- Energy availability
- Energy storage
- Prevention and repairs
- Measurement and analysis
- Optimisation
- Consultancy, commissioning and training

A worldwide presence

12 production sites

- France (x3)
- Italy (x2)
- Tunisia
- India
- China (x2)
- USA (x3)

28 subsidiaries and commercial locations

- Algeria • Australia • Belgium • China • Canada
- Dubai (United Arab Emirates) • France • Germany
- India • Indonesia • Italy • Ivory Coast • Netherlands
- Poland • Portugal • Romania • Serbia • Singapore
- Slovenia • South Africa • Spain • Switzerland
- Thailand • Tunisia • Turkey • UK • USA

80 countries

where our brand is distributed

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549658C

QUICK START EN 800 A - 3200 A

ATyS t

**Motorised Source Changeover Switch
Automatic Transfer Switching Equipment**

Preliminary operations

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

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

Warning

⚠ Risk of electrocution, burns or injury to persons and / or damage to equipment.
This Quick Start is intended for personnel trained in the installation and commissioning of this product. For further details refer to the product instruction manual available on the SOCOMEC website.

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

- For 800 - 3200 A (Uimp = 12 kV). Terminations must respect a minimum of 14 mm clearance from live parts to parts intended to be earthed and between poles.

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

⚠ Risk of damaging the device
In case the product is dropped or damaged in any way it is recommended to replace the complete product.

Accessories

- Bridging bars and connection kits.
- Control voltage transformer (400 VAC → 230 VAC).
- DC power supply (12/24 VDC → 230 VAC).
- Phase barriers.
- Terminal shrouds.
- Terminal screens.
- Auxiliary contacts (Additional).
- Padlocking in 3 positions (I - 0 - II).
- Lockout accessories (RONIS - EL 11 AP).
- Door escutcheon frame.
- ATyS D10 Interface (remote display).
- Voltage sensing kit.
- Sealable cover.
- RJ45 cable for ATyS D10.

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

Installation and Commissioning

STEP 1
Cabinet / Back
Plate Installation

STEP 2
Power Terminal
Connections

STEP 3
COMMAND /
CONTROL
terminal
connections

STEP 4
Power SUPPLY and
ATS Controller
Terminal
Connections

STEP 5
CHECK

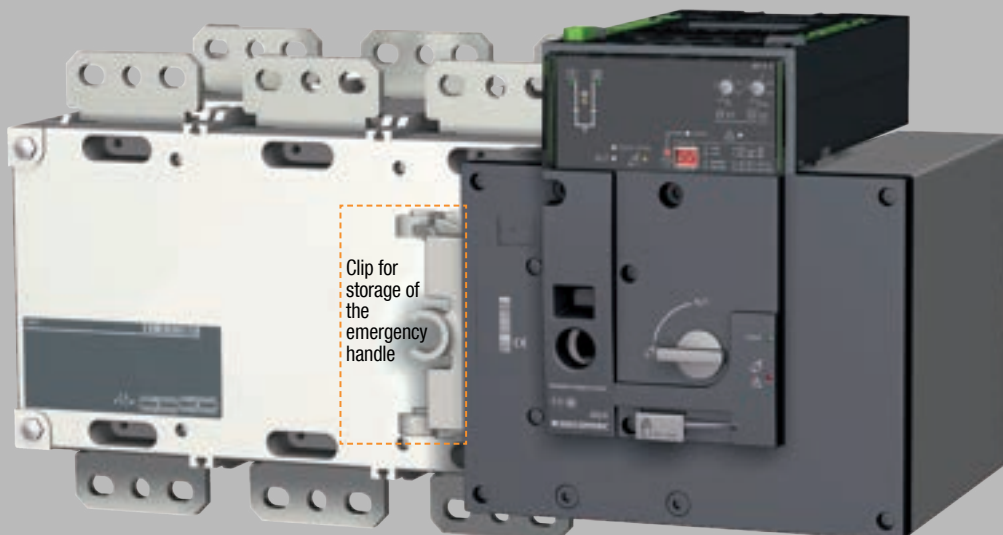
STEP 6
PROGRAMMING

STEP 7A
AUT Mode
(Automatic Control)

STEP 7B
AUT Mode
(Remote Control)

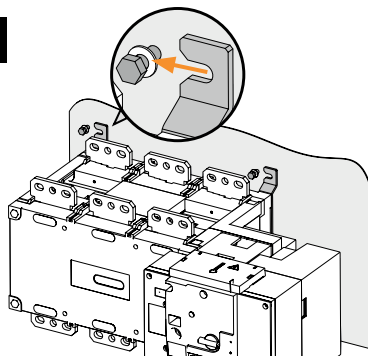
STEP 7C
Manual Mode

STEP 7D
Padlocking Mode



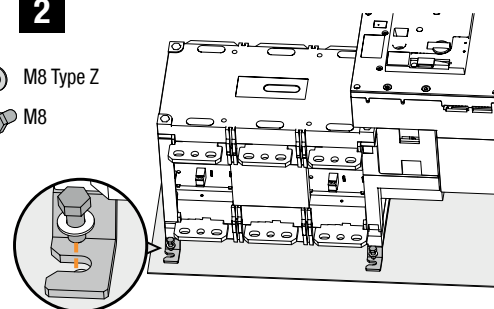
STEP 1 Installation

1

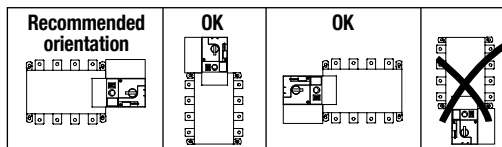


2

⊙ M8 Type Z
● M8



⚠ Caution: ensure that the product is installed on a flat rigid surface.



STEP 2 Power Terminal Connections

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

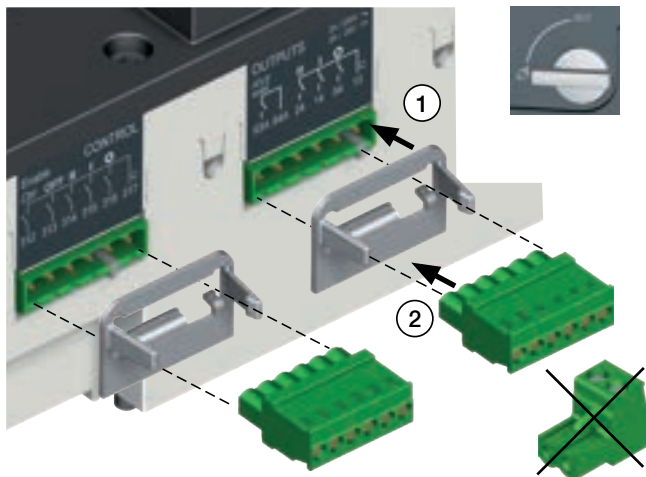
	FRAME B6			FRAME B7		FRAME B8	
	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A
Minimum cable section Cu (mm²)	2x185	-	-	-	-	-	-
Recommended cable section Cu (mm²)	2x50x5	2x63x5	2x63x7	2x100x5	3x100x5	2x100x10	3x100x10
Maximum Cu cable cross-section (mm²)	4x185	4x185	4x185	6x185	-	-	-
Maximum Cu busbar width (mm)	63	63	63	100	100	100	100
Type of screw	M8	M8	M10	M12	M12	M12	M12
Recommended tightening torque (lb.in/N.m)	73.46/8.3	73.46/8.3	177.02/20	354.04/40	354.04/40	354.04/40	354.04/40
Maximum tightening torque (lb.in/N.m)	115.06/13	115.06/13	230.13/26	398.30/45	398.30/45	398.30/45	398.30/45



www.socomec.com
To download, brochures, catalogues
and technical manuals:
https://www.socomec.com/range-automatic-transfer-switches_en.html?product=atys-t-atys-g_en.html

STEP 3 CONTROL / COMMAND Terminals

Ensure that the product is in Manual Mode.



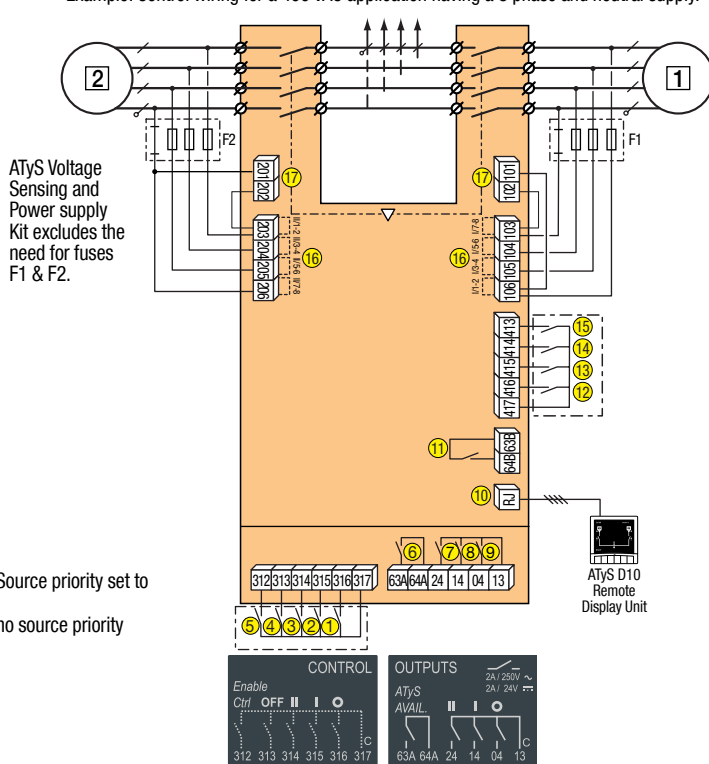
- 1 preferred source
- 2 alternate source

- 1. Position 0 order
- 2. Position I order
- 3. Position II order
- 4. Zero position priority order
- 5. Remote Control Enable (Priority over Auto)
- 6. Product Available output (Motor)
- 7. Position II aux contact
- 8. Position I aux contact
- 9. Position 0 aux contact
- 10. O/P to ATyS D10 remote display

- 11. Product Available output (ATS)
- 12. I/P Inhibition of the ATS controls
- 13. I/P Manual retransfer (RTC)
- 14. I/P to define the source priority: Source priority set to S2 if closed, S1 if open
- 15. I/P with/without source priority: no source priority when closed
- 16. Voltage Sensing Inputs
- 17. Power Supply Inputs

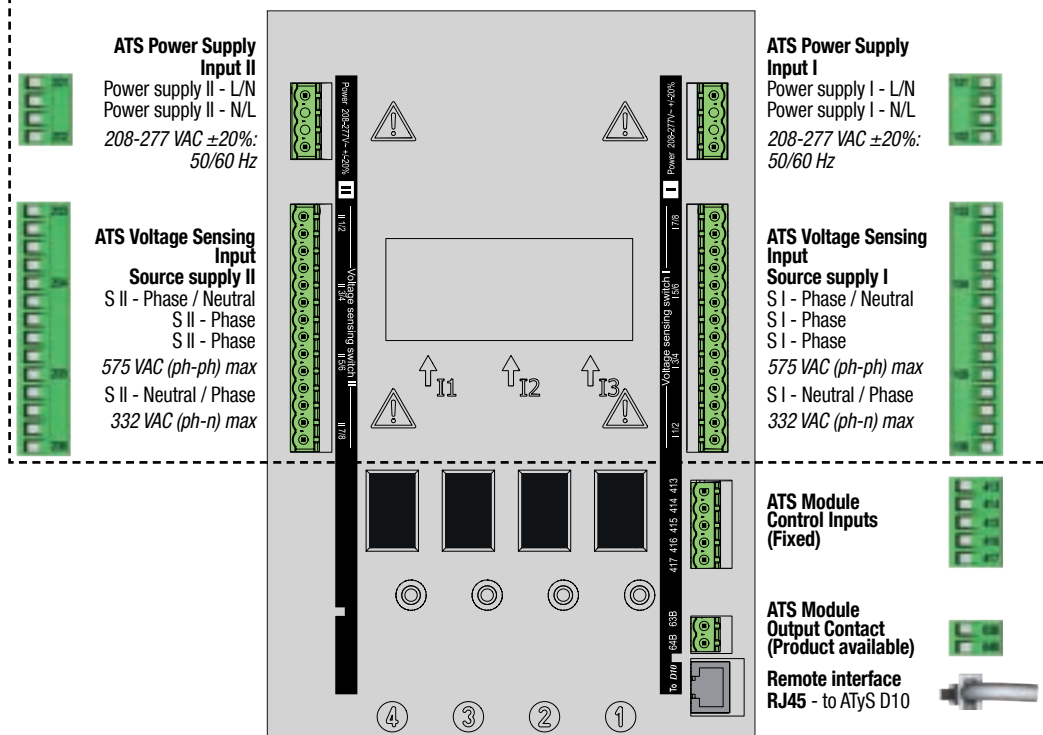
STEP 4 Power Supply, Sensing and Control wiring (ATS Controller)

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



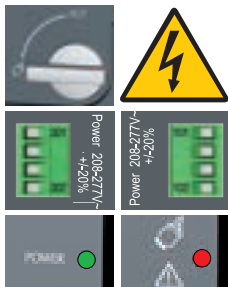
Connect the product with a cable of section of 1,5 to 2,5 mm².

Screw M3 - Tightening torque:
min.: 0.5 Nm - max.: 0.6 Nm / min.: 4.43 lbin - max.: 5.31 lbin



STEP 5 Check

Whilst in manual mode, check the wiring and if ok power up the product.

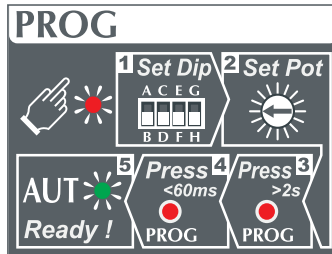


LED "Power" Green: ON
LED Manual/Fault Red: ON

STEP 6 Programming the ATyS t

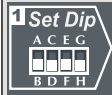
The ATyS t is programmed after wiring verification tests through the front of the ATS Controller in 5 steps:

Note: Ensure that the ATyS t is in "Manual Mode", powered and with at least one network supply available.



WARNING

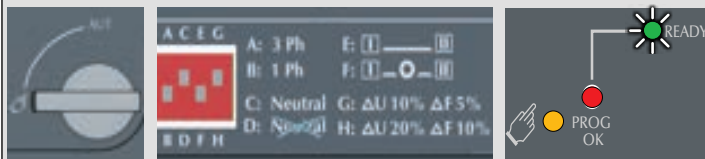
As a safety measure the READY LED will flash when any of the settings shown on the controller are different to those that are saved. To return to the steady READY LED revert to the saved setting values or save the displayed value by pressing the PROG OK button briefly. (This is intended as a visual alarm in case one has changed the configuration settings but has not yet saved the new values in the product). For added security the ATyS t may be equipped with a sealable cover so as to limit the access to configuration settings. Refer to the product accessory section for details.



Dip Switch Setting Options

SET the 4 Dip Switches using a small screw driver. Possible variants vary from positions "A to H" as described in the table below. For convenience, the position functions are also described on the front of the ATS controller adjacent to the dip switches.

Note: The READY LED will flash green as soon as settings are changed and until the new settings have been saved by pressing the PROG OK button momentarily.



Dip Switch Setting Options

Dipswitch 1 A / B	A	Three Phase Network
	B	Single Phase Network (Attn : Dipswitch 2 is inactive in this position)
Dipswitch 2 C / D	C	Three Phase 4 wire Network (Including Neutral) (Allows to detect a loss of neutral for unbalanced loads)
	D	Three Phase 3 wire Network (Without Neutral)
Dipswitch 3 E / F	E	Load supply down time of 0 second (ODT = 0 sec)
	F	Load supply down time of 2 seconds (ODT = 2 sec)
Dipswitch 4 G / H	G	Threshold Delta U : 10% / Delta F : 5%
	H	Threshold Delta U : 20% / Delta F : 10%



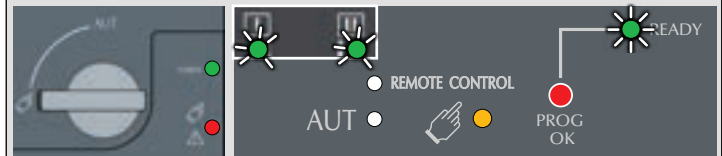
Auto Configuration of Mains Voltage and Frequency

The ATyS t includes an "Auto Configuration" feature to detect the mains voltage and frequency nominal values, phase rotation and neutral position and saves them in the ATS controller.

Note: Before configuring the nominal values ensure that the product is properly wired, verified and ready for commissioning. It is imperative that the network supply is available and that the wiring to the ATyS t voltage sensing terminals 103 – 106 and 203 – 206 has been done. It is preferable to use the ATyS sensing kit that may be provided as an accessory.

- Press and hold the Red "PROG OK" button for >2s to measure the mains voltage and frequency.

Note: The source available LED will flash while the available network is being measured. The READY LED will flash green as soon as settings are measured and until these settings have been saved by pressing the PROG OK button a second time momentarily. (Refer to STEP 4).

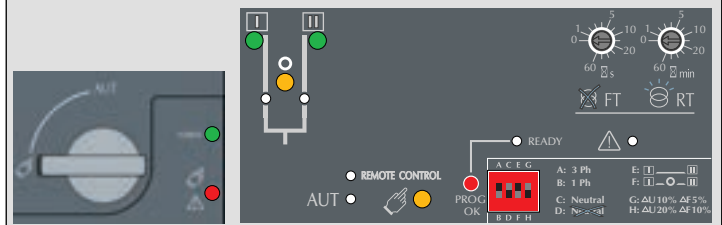


Saving the configured values

To SAVE the recorded setting configuration press the PROG OK button momentarily: <60ms.

Note: The flashing READY LED goes off once the values are saved in the ATS controller.

At least one of the source availability LED must be ON.



Potentiometer Setting Options

SET the 2 potentiometers using a small screw driver paying attention to the arrow indicating the position. There are a total of 14 positions for which the specific settings are described in the table below.

Note: The READY LED will flash green as soon as settings are changed and until the new settings have been saved by pressing the PROG OK button momentarily.



Functional Description

Potentiometer 1	FT	Supply Source Failure time : 0 to 60s
Potentiometer 2	RT	Supply Source Return Time : 0 to 60 min

Position Setting Identification

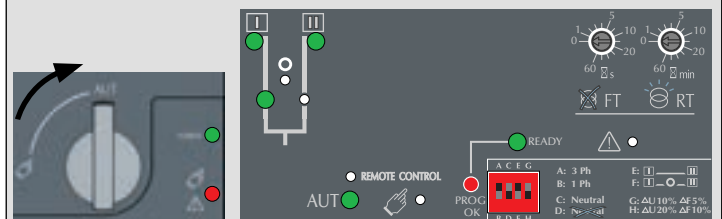
FT (sec)	0	1	2	3	4	5	8	10	15	20	30	40	50	60
RT (min)	0	1	2	3	4	5	8	10	15	20	30	40	50	60



Putting the ATyS t into Auto Operation

After following Steps 1 to 4, and once ready to put the ATyS t into AUTO operation turn the mode selector switch to Auto.

Note: When the product is powered and properly configured, after switching the product from Manual Mode to Auto Mode the READY light should be a steady green light

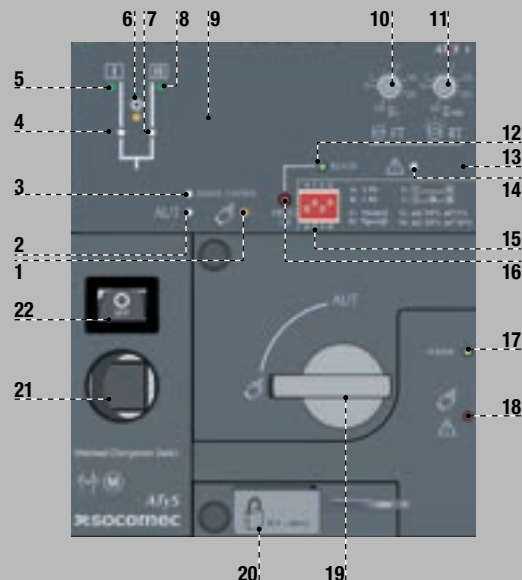


WARNING

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

1. MANUAL Mode LED indication.
(Yellow steady light when in Manual Mode).
2. AUTO Mode LED indication
Green steady light when in Auto mode with no timers running.
Green flashing light when in Auto with timers running in the background.
3. REMOTE CONTROL Mode LED indication.
Yellow steady light when in remote control mode.
Remote control mode is achieved with the Auto/Manu selector switched to Auto and terminals 312 closed with terminal 317.
Remote control orders are received through closing 314 to 316 with 317.
4. Switch 1 LED position indication.
(Green when in position 1).
5. Source supply I availability LED indication.
(Green when supply I voltage is within the set limits).
6. Zero position LED indication.
(Yellow when in position 0).
7. Switch 2 LED position indication.
(Green when in position 2).
8. Source supply II availability LED indication.
(Green when supply II voltage is within the set limits).
9. Sealing screw location 1 for use with sealing cover (Available as an accessory)
10. Potentiometer 1: Supply FAILURE Time (FT) Adjustable from 0 to 60 seconds.
11. Potentiometer 2: Supply RETURN Time (RT) Adjustable from 0 to 60 minutes.
12. READY LED indication
Green steady light : Product in AUTO, Watchdog OK, Product Available to changeover.
Green flashing: Settings displayed not saved or have been changed since last saved.
(Press PROG OK button in manual mode to save or revert to last saved settings).
13. Sealing screw location 2 for use with the sealing cover.
14. FAULT LED indication. (Red steady light in case of an ATS controller internal fault).
15. Configuration dip switches :
(4 dip switches with 2 positions in each A to H).
16. PROG OK: Configuration save push button.
(ATTN: Active in Manual Mode ONLY).
Press briefly to confirm and save all set configuration settings.
Hold pressed for 2 seconds to set the network supply voltage and frequency by Auto Configuration.
This is to be followed by pressing briefly to save the set value configured.
17. Green LED Indication: Power

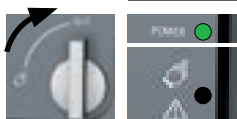
18. Red LED Indication: Product Unavailable / Manual Mode / Fault Condition
19. Auto / Manual mode selector switch
(Key version available as an option)
20. Padlocking facility
(Up to 3 padlocks of dia. 4 – 8mm)
21. Emergency manual operation shaft location (Accessible only in manual mode)
22. Switch position indication window:
I (On switch I) 0 (Off) II (On switch II).



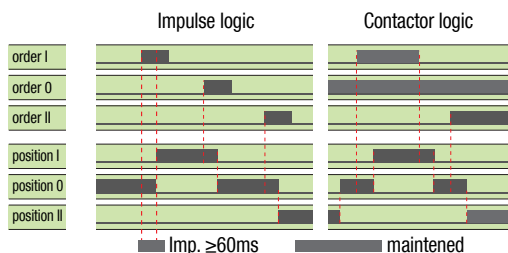
STEP 7A AUT Mode (Automatic Control)

Ensure that the emergency handle is not inserted in the product and turn the mode selector to the AUT position.

LED "Power" Green: ON
LED Manuel/Default: OFF



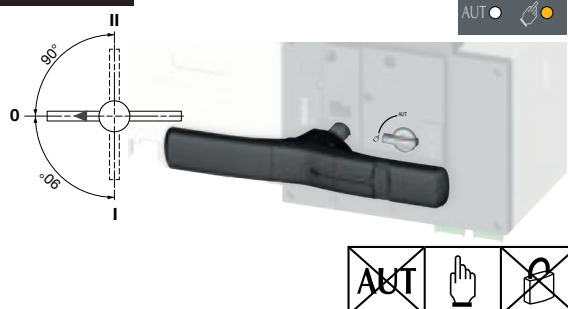
STEP 7B AUT Mode (Remote Control)



To enable control, close contact 312 with 317. For contactor logic bridge contact 316 with 317. To operate: close the contact corresponding to the desired position. To force the product to 0 position "OFF" bridge contact 313 with 317.



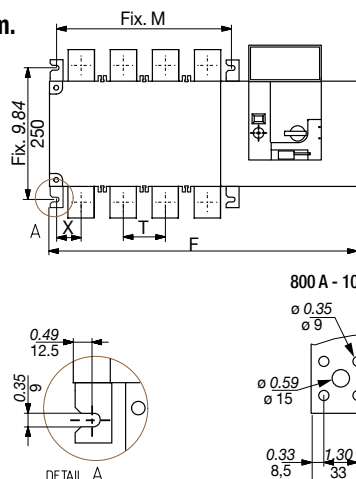
STEP 7C Manual Operation



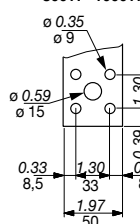
STEP 7D Padlocking Mode (as standard : in position 0)



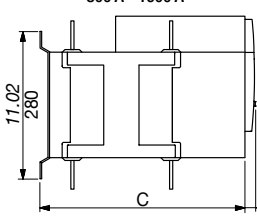
Dimensions in./mm.



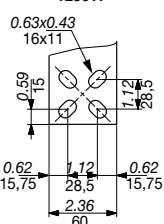
800 A - 1000 A



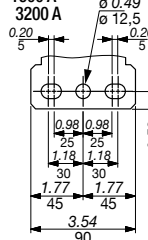
800 A - 1600 A



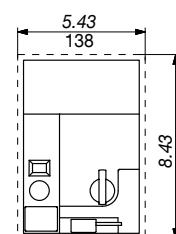
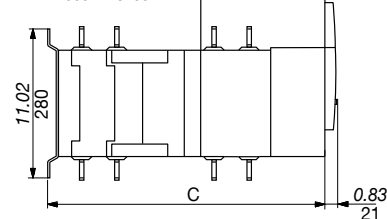
1250 A



1600 A - 3200 A



2000 A - 3200 A



	800 A				1000 A				1250 A				1600 A				2000 A				2500 A				3200 A			
	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P	3 P	4 P
C	15.39	391	15.39	391	15.39	391	15.39	391	15.39	391	15.39	391	15.39	391	15.39	391	523	20.59	523	20.59	523	20.59	523	20.59	523	20.59	523	20.59
F	19.84	504	22.99	584	19.84	504	22.99	584	19.84	504	22.99	584	23.46	596	28.19	716	23.46	596	28.19	716	23.46	596	28.19	716	23.46	596	28.19	716
M	10.04	255	13.19	335	10.04	255	13.19	335	10.04	255	13.19	335	13.66	347	18.39	467	13.66	347	18.39	467	13.66	347	18.39	467	13.66	347	18.39	467
T	3.15	80	3.15	80	3.15	80	3.15	80	3.15	80	3.15	80	4.72	120	4.72	120	4.72	120	4.72	120	4.72	120	4.72	120	4.72	120	4.72	120
X	1.87	47.5	1.87	47.5	1.87	47.5	1.87	47.5	1.87	47.5	1.87	47.5	2.09	53	2.09	53	2.11	53.5	2.11	53.5	2.11	53.5	2.11	53.5	2.11	53.5	2.11	53.5



ATyS *t* M - ATyS *g* M

Automatic Transfer Switching Equipment

from 40 to 160 A

Transfer switches



The solution for

- > High-rise buildings
- > Data centers
- > Healthcare buildings



Strong points

- > Fast commissioning
- > ATyS *d* M with an integrated controller for dedicated mains/mains or mains/genset functions
- > Secure programming

Conformity to standards

- > IEC 60947-6,-1
- > IEC 60947-3
- > GB 14048.11



Approvals and certifications⁽¹⁾



⁽¹⁾ Product references on request.

Function

ATyS *t* M and **ATyS *g* M** are modular automatic transfer switches with positive break indication. ATyS *t* M are 4 pole (three-phase) devices and ATyS *g* M are 2 or 4 pole (single or three-phase) devices.

They have all the functions of the ATyS *d* M together with an integrated controller, giving them automatic features dedicated to mains/mains (ATyS *t* M) and mains/genset (ATyS *g* M) applications. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

Advantages

Quick start

ATyS *t* M and *g* M transfer switches offer significant time saving during commissioning (the process takes 2 to 3 minutes). Thanks to the design that allows commissioning through just one potentiometer (4 on the ATyS *g* M) and four DIP switches, a screwdriver is all that is required to configure the parameters.

ATyS *g* M: dedicated to mains/genset applications

In addition to its single-phase and three-phase voltage & frequency monitoring for both incoming sources, the product's integrated controller also features functions that are specific to mains/genset applications (genset control, test on load, etc.).

ATyS *t* M: dedicated to three-phase mains/mains applications

The ATyS *t* M integrated controller has been designed to provide all the functions necessary for these applications (operation with or without priority, preferred source selection) together with the monitoring of the voltage and frequency of both sources for three-phase networks.

Secure programming

To ensure that the correct configuration is maintained an optional sealable cover can be fitted in order to avoid any unintentional modifications to the programming.

What you need to know

The ATyS t M and ATyS g M are automatic transfer switching equipment that include a fully integrated ATS controller. These products are self powered from incoming supplies: 230 VAC (176-288 VAC), 50/60 Hz (45/65Hz).

References

ATyS t M

Rating (A)	No. of poles	Network (VAC)	ATyS t M	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block	Sealable cover
40 A	4 P	230/400	9344 4004	4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016⁽¹⁾	1 unit Separate common points 1309 0001⁽²⁾ Linked common points 1309 0011⁽²⁾	1359 0000
63 A	4 P	230/400	9344 4006					
80 A	4 P	230/400	9344 4008					
100 A	4 P	230/400	9344 4010					
125 A	4 P	230/400	9344 4012	1309 4016				
160 A	4 P	230/400	9344 4016					

(1) For complete upstream and downstream protection please order quantity 2.

(2) 1 NO/NC contact block for positions I, 0 and II.

ATyS g M

Rating (A)	No. of poles	Network (VAC) ⁽³⁾	ATyS g M	Bridging bars	Voltage sensing and power supply tap	Terminal shrouds	Auxiliary contact block	Sealable cover
40 A	2 P	230	9353 2004	2 P 1309 2006 4 P 1309 4006	2 pieces 1399 4006	2 pieces 2294 4016⁽¹⁾	1 unit Separate common points 1309 0001⁽²⁾ Linked common points 1309 0011⁽²⁾	2 P 1359 2000 4 P 1359 0000
	4 P	230/400	9354 4004					
63 A	2 P	230	9353 2006					
	4 P	230/400	9354 4006					
80 A	2 P	230	9353 2008					
	4 P	230/400	9354 4008					
100 A	2 P	230	9353 2010					
	4 P	230/400	9354 4010					
125 A	2 P	230	9353 2012					
	4 P	230/400	9354 4012					
160 A	2 P	230	9353 2016	1309 2016				
	4 P	230/400	9354 4016	1309 4016				

(1) 4 pole version - for complete upstream and downstream protection please order quantity 2; for 2 pole version order quantity 1.

(2) 1 NO/NC contact block for positions I, 0 and II.

(3) For 127/230VAC networks, please contact your supplier.