socomec
Innovative Power Solutions

QUICK START EN 125A - 630A

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 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).

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

⚠ Risk of damaging the device

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

Accessories

- Bridging bars and connection kits.
- Control voltage transformer (400Vac -> 230Vac).
- DC power supply (12/24Vdc -> 230Vac).
- Mounting spacers to raise the product x 10mm.
- Phase barriers.
- Terminal shrouds / Terminal screens.
- Auxiliary contacts (Additional).
- Padlocking in 3 positions (I - 0 - II).
- Lockout accessories (RONIS - EL 11 AP).
- Door escutcheon frame.
- ATyS D20 Interface (remote control / display unit).
- RJ45 cable for ATyS D20 => ATyS p.
- 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

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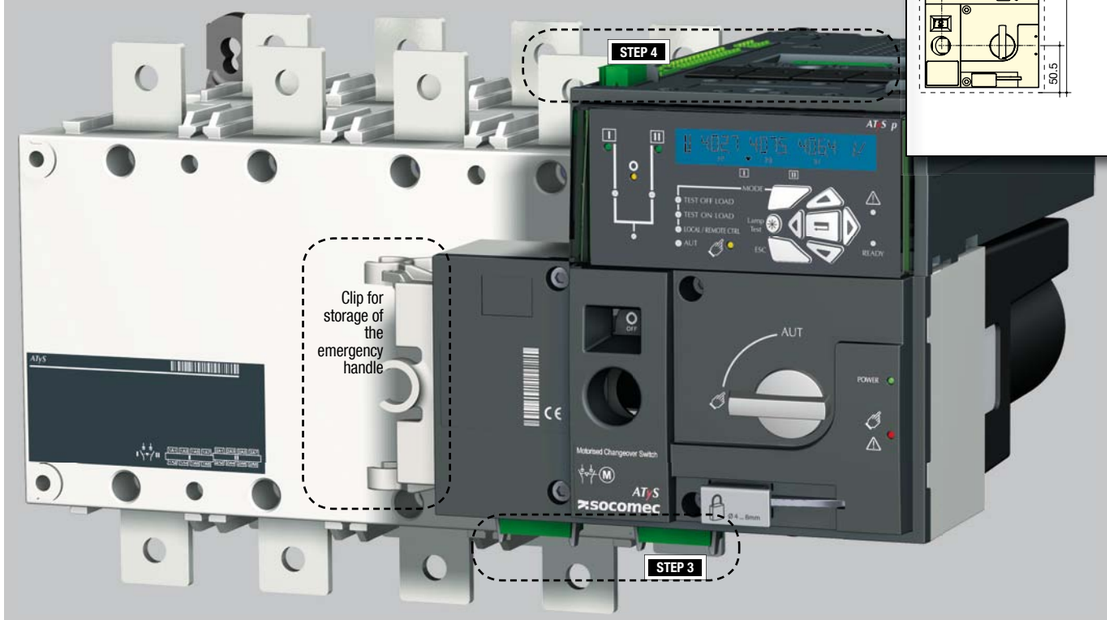
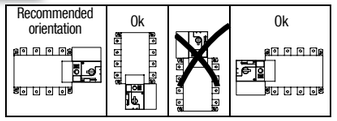
Installation and Commissioning

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

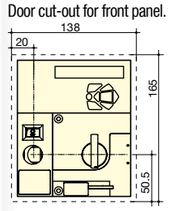


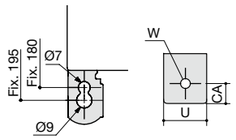
STEP 1 — Installation

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

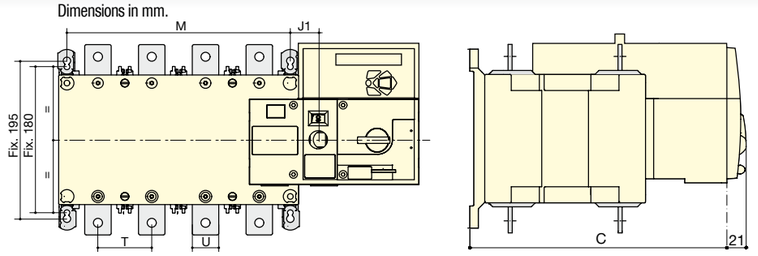


Door cut-out for front panel.





Dimensions in mm.



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

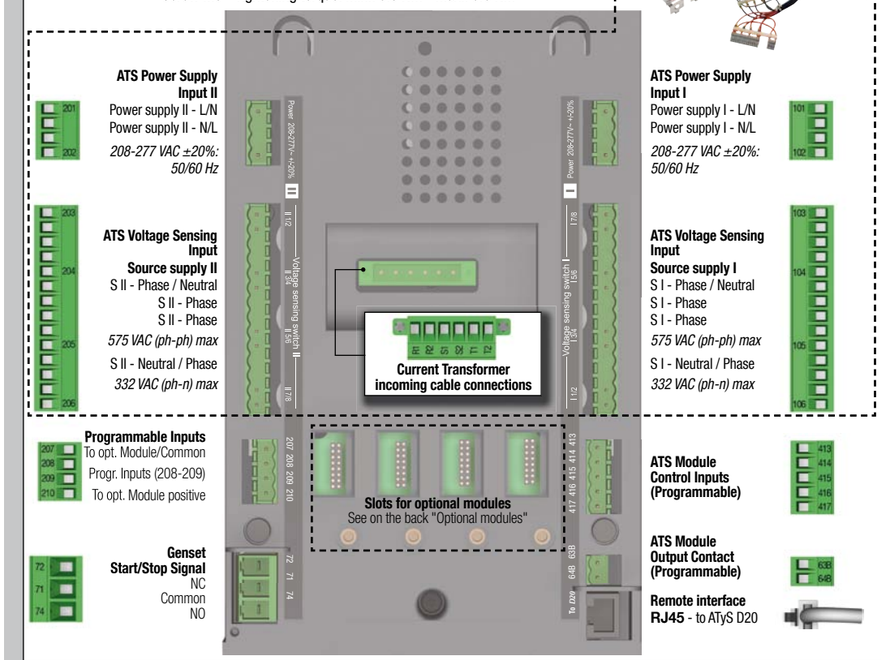
STEP 2 — Power Terminal Connections

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

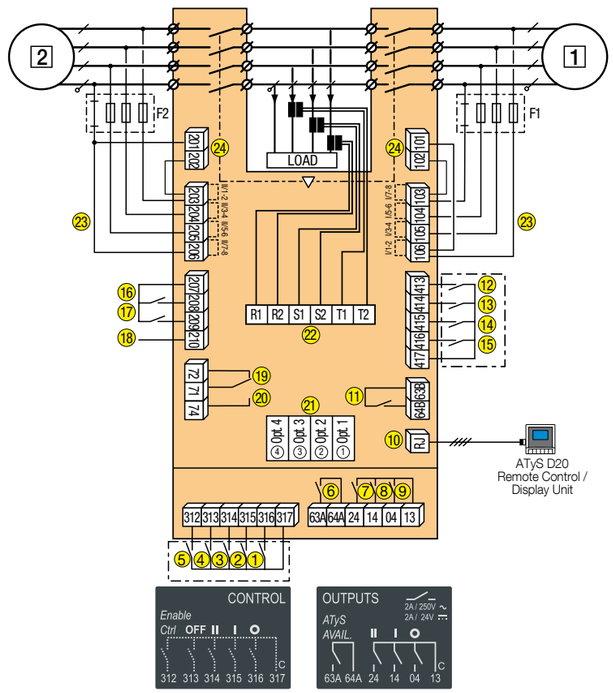
	FRAME B3			FRAME B4			FRAME B5	
	125 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A
Minimum cable section Cu (mm²) at Ith (IEC 60947-1)	35	35	50	95	120	185	2x95	2x120
Recommended cable section Cu (mm²) at Ith	-	-	-	-	-	-	2x30x5	2x40x5
Maximum cable section Cu (mm²)	50	95	120	150	240	240	2x185	2x300
Maximum 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 (N.m)	8.3	8.3	8.3	20	20	20	40	40
Maximum tightening torque (N.m)	13	13	13	26	26	26	45	45

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

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

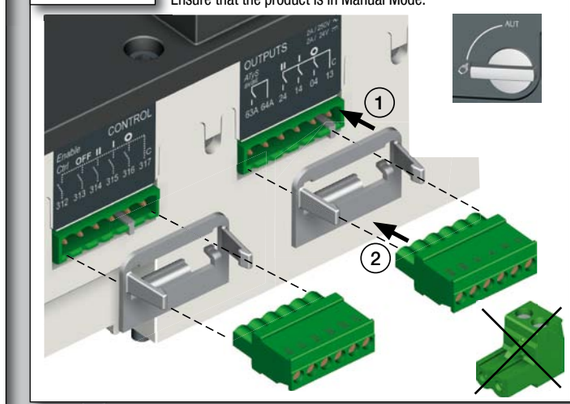


Example: Control wiring for a 400VAC application having a 3 phase and neutral supply.



STEP 3 — CONTROL / COMMAND Terminals

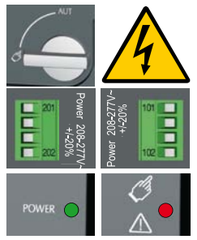
Ensure that the product is in Manual Mode.



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 le contact (71-72) is close
20. Contact "Start/Stop Genset" : if S1 is not available the NO contact le 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 5



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

LED “Power” Green: ON

LED Manuel/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. (9)	HOUR
NOM. VOLT	400 V	UNB. U I	00%	OV. F II	105%			2AT	0005 SEC (1)	IN 5 --- NO		GAT3-4	.000.000	MINUTE
NOM. FREQ	50 Hz	UNB. U HYS I	00%	OV. F HYS II	103%			2CT	0180 SEC (1)	IN 6 --- NO		MSK1-2	255.255. (9)	SECOND
APP	M-G	OV. U II	115%	UND. F II	095%			2ST	0030 SEC (1)	IN 7 --- NO (8)		MSK3-4	.255.000	
PRIO TON	NO (1)	OV. U HYS II	110%	UND. F HYS II	097%			ODT	0003 SEC	IN 8 --- NO (8)		ADDRESS	005	
PRIO EON	NO (3)	UND. U II	085%					TOT	UNL (1)	IN 9 --- NO (8)		BDRATE	9600	
PRIO NET	1 (2)	UND. U HYS II	095%					TOT	0010 SEC (1)	IN10 --- NO (8)		STOP BIT	1	
RETRANS	NO	UNB. U II	00%					T3T	0000 SEC (1)	IN11 --- NO (8)		PARITY	NONE	
CT PRI	100	UNB. U HYS II	00%					TFT	UNL (1)	IN12 --- NO (8)				
CT SEC	5							TFT	0600 SEC (1)	IN13 --- NO (8)				
S1=SW2	NO							E1T	0005 SEC (3)	IN14 --- NO (8)				
BACKLGHT	INT							E2T	UNL (3)	OUT 1 POP NO				
CODE P	1000							E2T	0010 SEC (3)	OUT 2 --- NO (8)				
CODE E	0000							E3T	0005 SEC (3)	OUT 3 --- NO (8)				
BACKUP	SAVE							E5T	0005 SEC (4)	OUT 4 --- NO (8)				
								E6T	LIM (4)	OUT 5 --- NO (8)				
								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)					

(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

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, 0 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

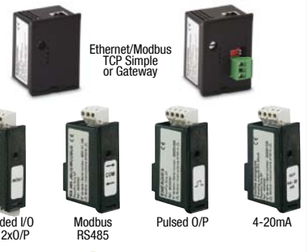
Optional Modules

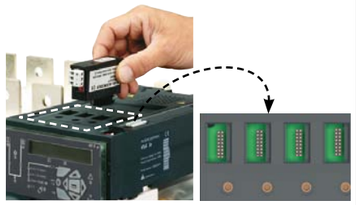
Communication between the software and the ATyS p may be done through the Ethernet/Modbus TCP or Modbus RTU modules that are available as an option. The ETHERNET / MODBUS modules are to be installed in one of the slots provided in the ATYS p ATS control unit.

Easy Config may be used with a PC connected or through ETHERNET or MODBUS modules as well as isolated from the product and simply saved on a PC for download at any convenient time.

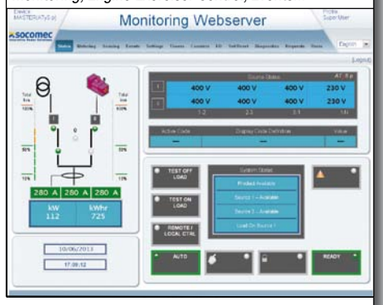
Note: *The ATyS p may accept a total of 4 additional Input / Output modules offering an additional 8 programmable inputs and 8 programmable outputs. When including a MODBUS module the ATyS p accepts a total of 3 I/O modules and when including the ETHERNET module a total of 2 I/O modules.*

Refer to the ATyS p accessory section for details.





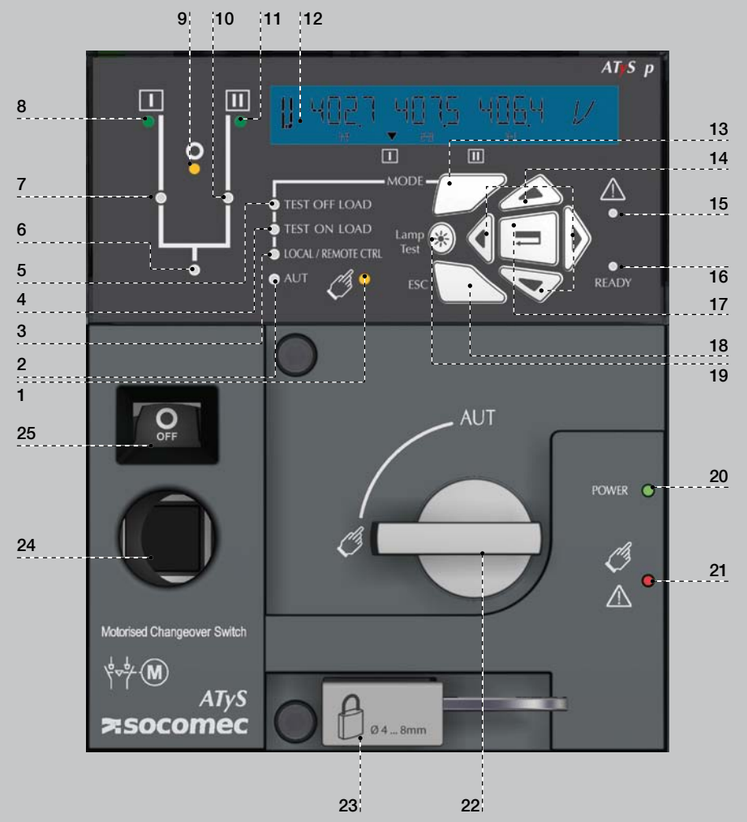
The Ethernet module includes a built in Web Server for Monitoring, Engine Exerciser Control, Events...



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	

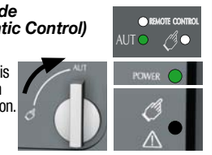
Note: *Source I or source II must be available to set by Auto Configuration.*



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) O (Off) II (On switch II).

STEP 7A

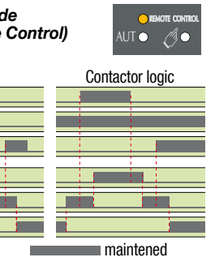
AUT Mode (Automatic Control)



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

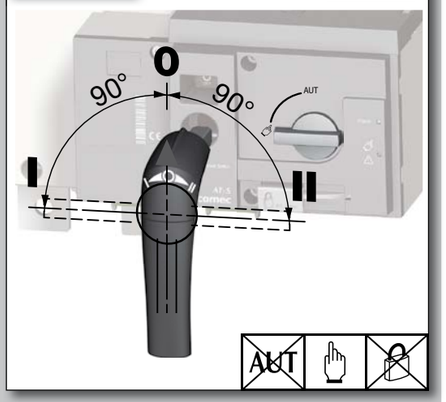
AUT Mode (Remote Control)



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 Mode



STEP 7D

Padlocking Mode (as standard: in position O)