socomec
Innovative Power Solutions

548695E

ATyS FT

c UL us LISTED

100 A, 200 A, 260 A, 400 A

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 FT
  Qty 1 x C66 Controller
  Qty 1 x Harness

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 authorized 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 practices 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. Installation standards must be respected.

Accessories

Accessories are not included and must be ordered seperatly
- Terminal shrouds (see step 6A).
- Additional aux contacts (ref. 96990021).
- Digiware I/O 10 (ref. 48290140).
- Transformer 480 - 240 VAC (SPARTAN SP350MQMJ).
- Controller 24 VDC aux power supply (6W minimum type SELV) mandatory with I/0 10 Modules.
- Power terminal lugs (see step 1D).

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

Spares

- ATyS C66 Controller (ref. 16000066).
- UL 1008 ATyS FT (ref. 960XXXXX).
- Connector kit (ref. 16090002).
- Controller Nema 3R gasket (ref. 16090001).
- Controller mounting screws (ref. 16090004).
- Controller mounting feet (ref. 16090005).
- Cable harness without transfomer (ref. 96964000).
- Cable harness with transfomer (ref. 96974000).

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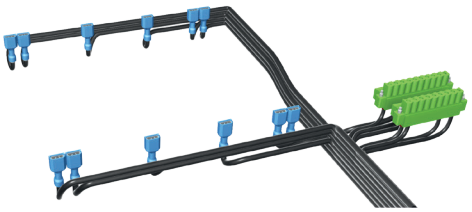
To download, brochures, catalogues and technical manuals:
www.socomec.us/resources/

Installation and Commissioning

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
Cabinet / Back Plate Installation	Connecting the cable harness	Controller interface	Operational limits	Manual operation	Accessories



Reference configurator

9	6	X	X	X	XXX

N° of poles
2: 2P
3: 3P
4: 4P

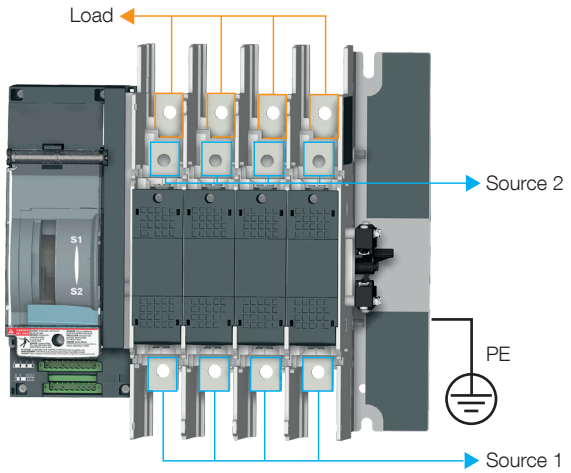
Rating
010: 100 A
020: 200 A
026: 260 A
040: 400 A

0: spare switch for networks up to 480 VAC
8: ATSE assembly for 480 V.a.c 3 wire network
A: ATSE Assembly for networks up to 480 VAC

0: Without solid neutral
1: With solid neutral

1A Switch installation

⚠ For Use on a Flat Surface of a Types 1, 3R, 12 and/or 12k enclosure.

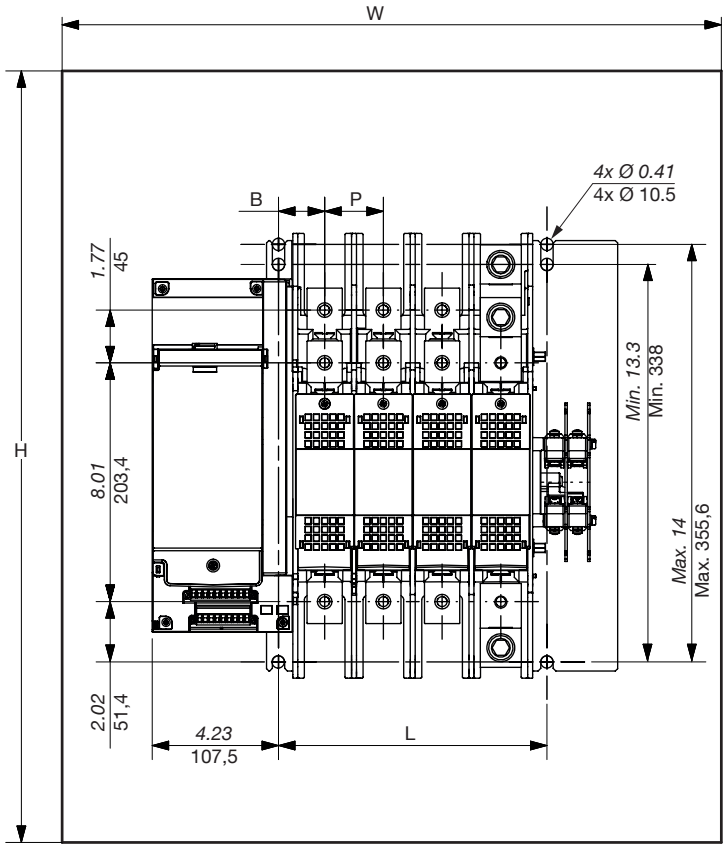


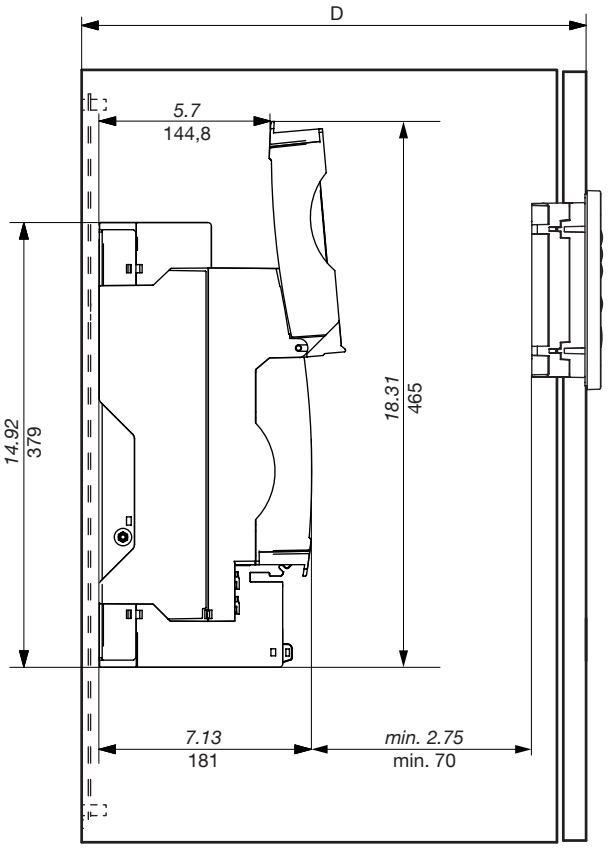
Mounting orientation

1B Product dimensions

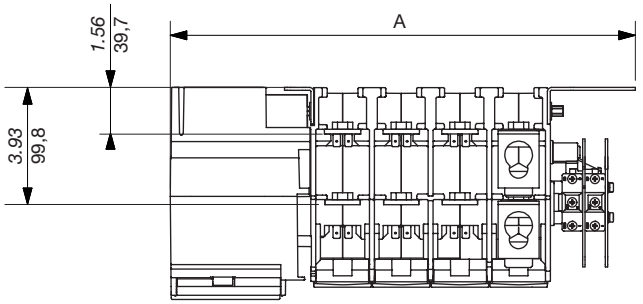
Switch & minimum enclosure size dimensions (4th pole represented with lugs installed.)

Dual Dimensions
in/mm

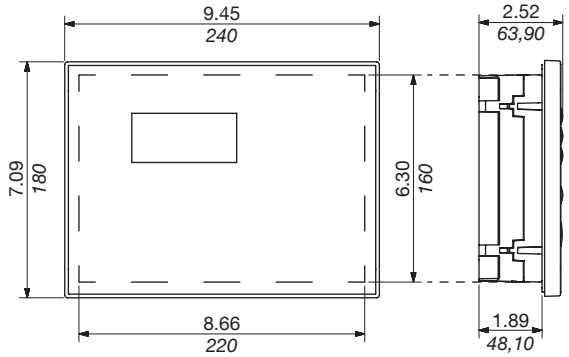




Switch top view



Controller dimensions

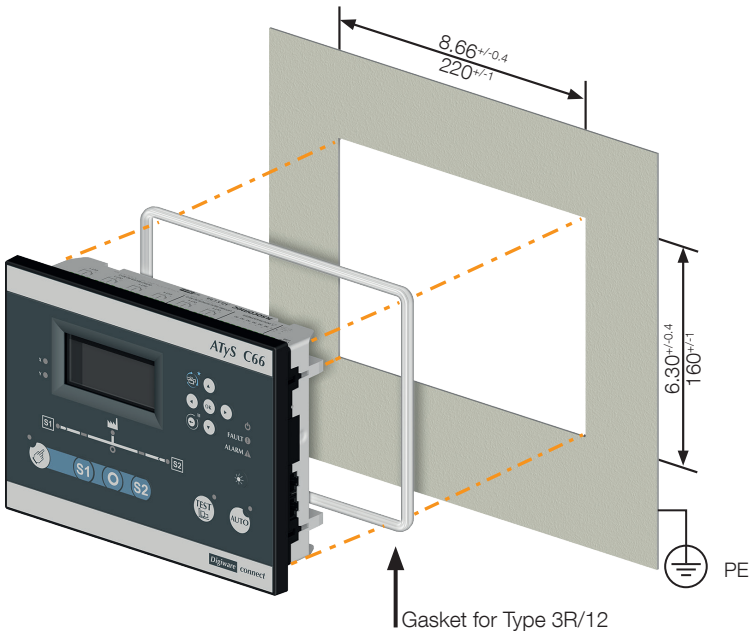


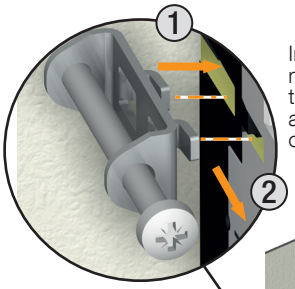
		SWITCH DIMENSIONS								MINIMUM ENCLOSURE SIZE					
		A		B		L		P		H		W		D	
		in	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm
100-200A	2P	*10.47*	266,30	*1.25*	31,80	*3.85*	98,70	*1.38*	35	*20*	508	*16*	406	*12*	305
	2P+N/ 3P	*11.85*	301,30	*1.25*	31,80	*5.49*	133,70	*1.38*	35	*20*	508	*16*	406	*12*	305
	3P+N/ 4P	*13.24*	336,30	*1.25*	31,80	*6.60*	168,70	*1.38*	35	*20*	508	*16*	406	*12*	305
260-400A	2P	*11.67*	296,30	*1.55*	39,30	*5*	128,60	*1.97*	50	*48*	1220	*24*	610	*12*	305
	2P+N/ 3P	*13.63*	346,30	*1.55*	39,30	*7*	178,60	*1.97*	50	*48*	1220	*24*	610	*12*	305
	3P+N/ 4P	*15.60*	396,30	*1.55*	39,30	*8.97*	228,60	*1.97*	50	*48*	1220	*24*	610	*12*	305

1C Mounting & connecting controller

Door mounting

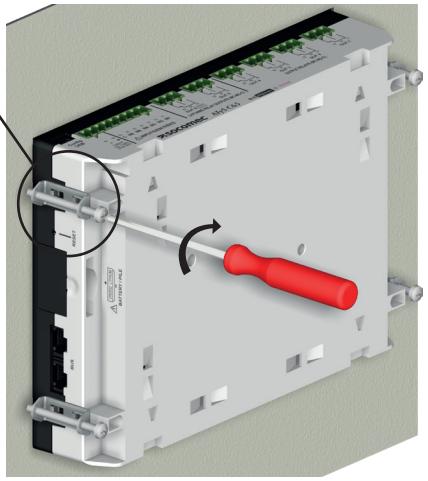
For use on a flat suface of Types 1, 3R, 12 and/or 12K enclosure.



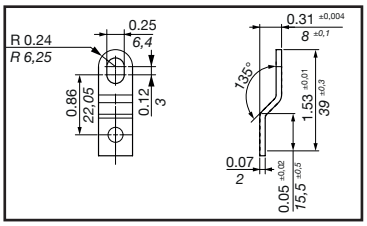


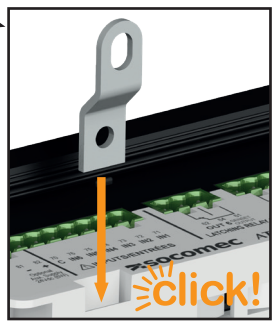
Insert the 4 door mounting screws in the designated slot and push back to clip in lock in place.

Screw Tightening torque
PH1 / 0.2 Nm 1.77 lb.in

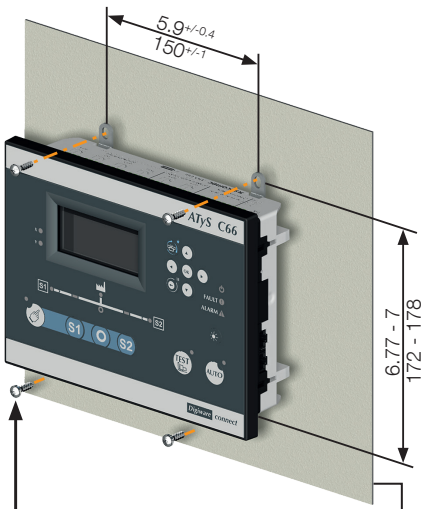


Backplate mounting





Clip the mounting feet in the designated slot



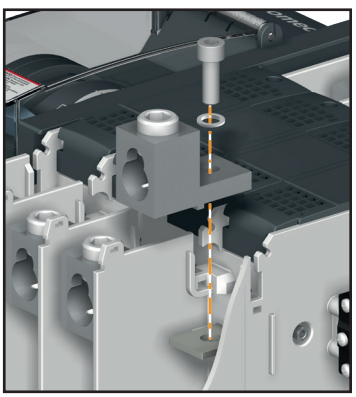
Screws not delivered with product

1D Installing terminal lugs (optional accessory)

Use terminal screws and washers supplied with the ATSE

Product Rating (A)	Designation	Ref. lugs	Quantity per reference	Openings per lug	Size / Section (AWG)		Pressure screw torque				Bolt torque					
					min.	max.	lb.in	Nm		Size in	lb.in	Nm		Size	in	mm
100A	Ilsco D0957	Contact us		1	14	1/0	*50*	5,65	⊖	8	70.8	8	◯	5mm	*0.625*	15,9
200A	Ilsco D2831	Contact us		1	6	250 KCMIL	*275*	31,1	◯	5/16	70.8	8	◯	5mm	*1*	25,4
100-200 A	CMC LA-300R	39542020	2	1	6	300 KCMIL	*275*	31,1	◯	5/16	70.8	8	◯	5mm	*1.12*	28,4
		39543020	3													
		39544020	4													
260-400 A	CMC LA-630R	39542040	2	1	4	600 KCMIL	*550*	62,1	◯	1/2	310	35	◯	8mm	*1.79*	45,7
		39543040	3													
		39544040	4													
260-400 A	Ilsco D3096	Contact us		1	4	600 KCMIL	*600*	67,8	◯	1/2	310	35	◯	8mm	*1.79*	45,7

Power cable connections : For 100A use 1/0 AWG / For 200A use 250 KCMIL / For 260A use 300 Kcmil / For 400A use 600 Kcmil copper cables.



⚠ Mount the load terminal lugs on the switch terminals before mounting source 2 terminal lugs.

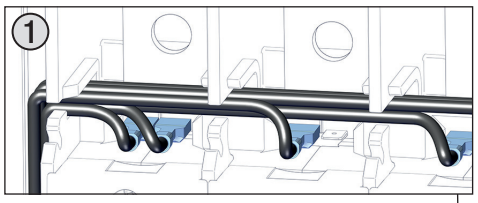
2A Mounting & connecting the cable harness

For details on the cable harness wiring diagram and integration see Cable harness Quickstart guide **ref 551401.**
Cable harness without transformer (**ref. 96964000**) delivered with **96AX XXXX** products.
Cable harness for connections with transformer (**ref. 96974000**) delivered with **968X XXXX** products.
Note: transformers not delivered with the product.

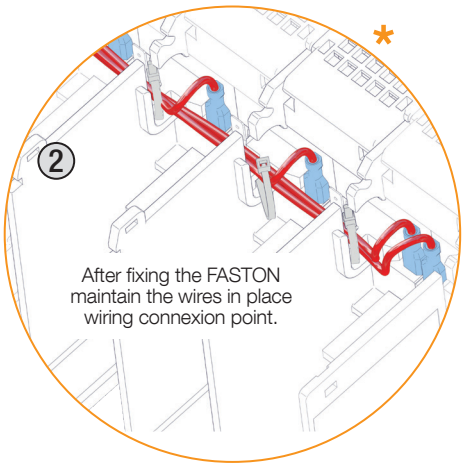
2B Mounting the cable harness on the Switch

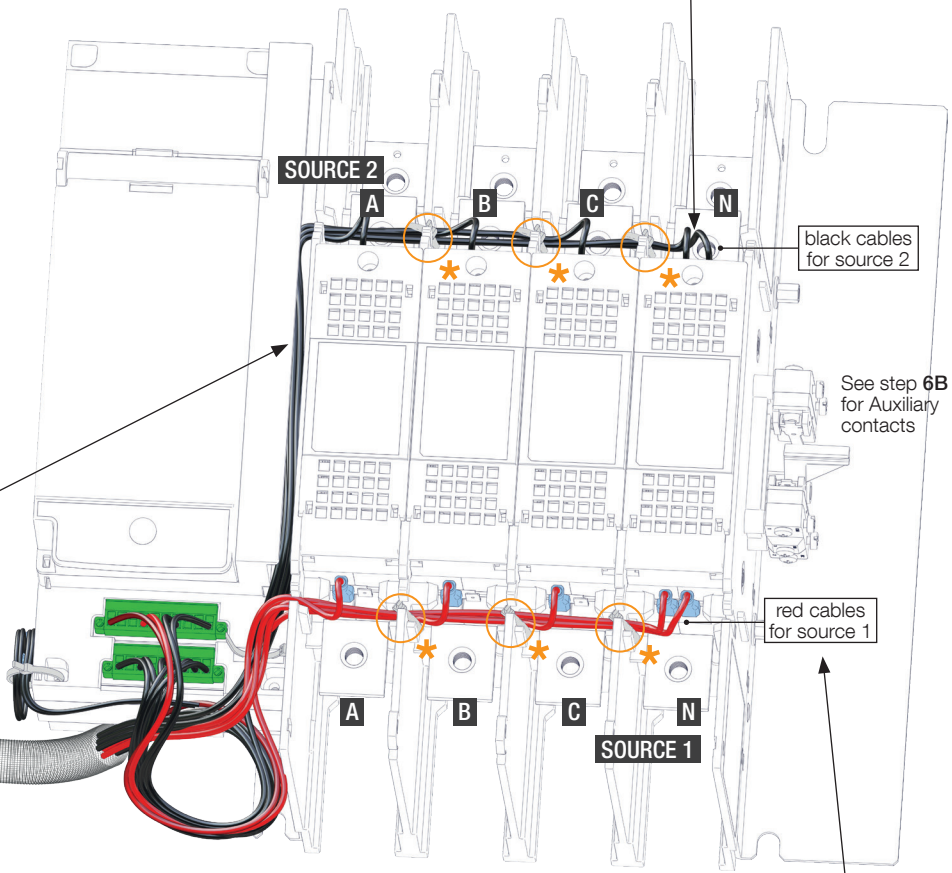
TYPE	TERMINAL N°	DESCRIPTION	CHARACTERISTICS	RECOMENDED CROSS SECTION
Switch power input	101-102	Order switch to position S1	194-304 VAC 8 A for at least 100 ms 50/60 Hz	17-14 AWG 1-2.5 mm²
	201-202	Order switch to position S2		
Switch Signalization output	333-334	Contact closed if cover is closed	Internal use for ATyS C66 controller	
	313-314	Contact closed if the switch is in position S1		
	323-324	Contact closed if the switch is in Position S2		

⚠ Wires must not be in contact with active voltage points such as unused FASTON connections and lugs. In order to do so any unused or loose cables must be tensed then fixed on a non conductive part of the transfer switch (use cable tie fixation points as shown in the images below).

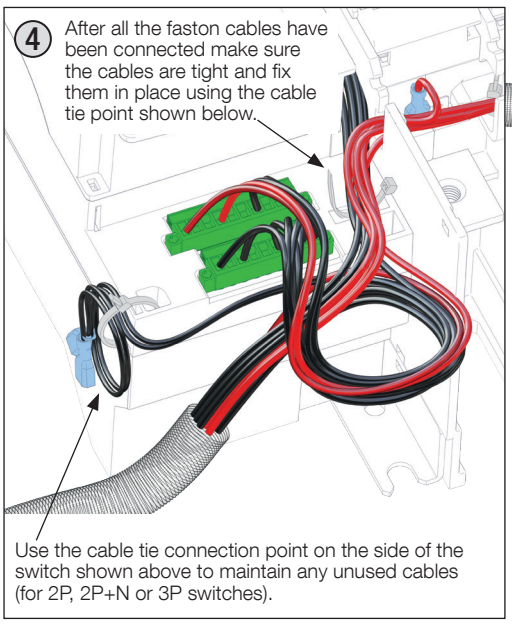


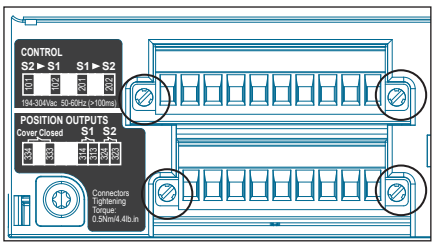
Fix FASTON connectors according to the table in step **2C**.
(Max 2 FASTON per pole).



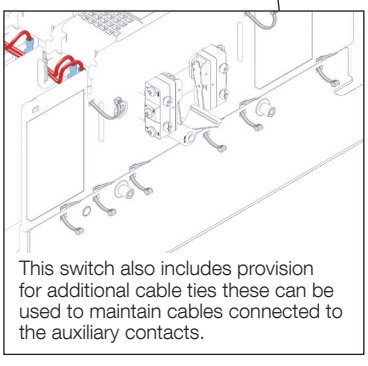


3 Pass wiring harness in the integrated cable duct.





Connector tightening torque
0.5 N.m / 4.4 Lb.in



This switch also includes provision for additional cable ties these can be used to maintain cables connected to the auxiliary contacts.

2C Connection of harness on the switch

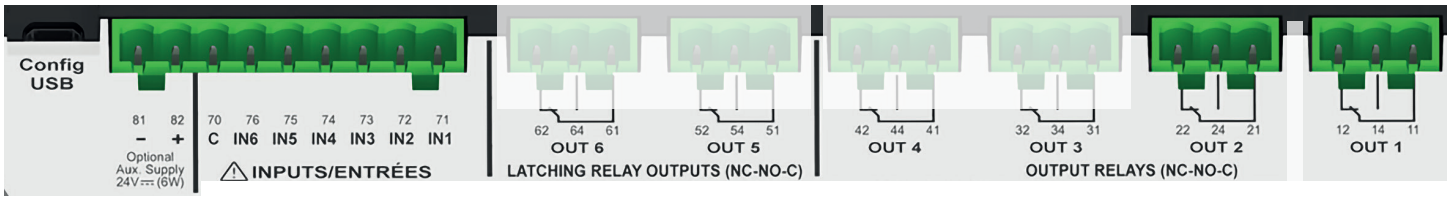
Connect the faston on the switch connexion according to your network and the table below:

			RTSE FASTON CONNECTIONS				VOLTAGE TRANSFORMER			
							480 VAC		240 VAC	
							PRIMARY		SECONDARY	
NETWORK TYPE	TYPE	SOURCE	A	B	C	N	H1	H4	X1	X4
240 VAC	2P	S2	S2A & 201	S2B	None (1)	None (1)				
		S1	S1A & 102	S1B	None (1)	None (1)				
120/240 VAC	2P + N	S2	S2A & 201	S2B	None (1)	S2N				
		S1	S1A & 102	S1B	None (1)	S1N				
208 VAC	3P	S2	S2A & 201	S2B	S2C	None (1)				
		S1	S1A & 102	S1B	S1C	None (1)				
120/208 VAC	3P+N / 4P	S2	S2A & 201	S2B	S2C	S2N				
		S1	S1A & 102	S1B	S1C	S1N				
277/480 VAC	3P+N / 4P	S2	S2A	S2B	S2C	S2N & 201				
		S1	S1A	S1B	S1C	S1N & 102				
480 VAC + transfo	3P	S2	2xS2A	2xS2B	S2C	-	T2A	T2B	T2A'	T2B'
		S1	2xS1A	2xS1B	S1C	-	T1A	T1B	T1A'	T1B'

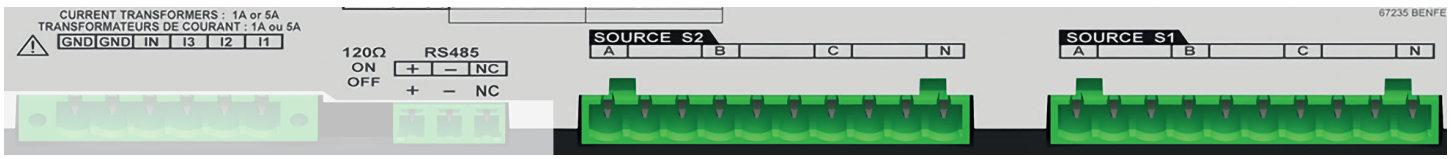
(1) Cables which are not used are to be fastened as shown in image 4 of step 2B.

2D Controller connection details

Wiring harness connectors to place on controller.



Top view



Bottom view

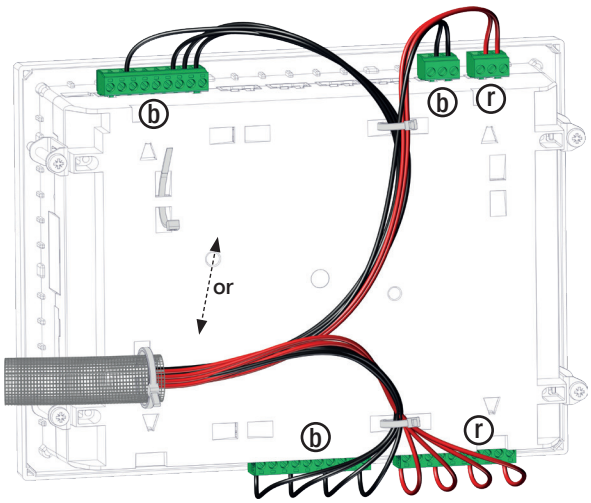
TYPE	TERMINAL N°	DESCRIPTION	CHARACTERISTICS	RECOMENDED CROSS SECTION	TIGHTENING TORQUE
Sensing source 1	SOURCE 1 L1/L2/L3/N	Voltage sensing inputs source 1 & voltage supply (L1-L2)	Sensing voltage 50 - 575 V.a.c P-P - 50/60 Hz (+/- 10%) Supply voltage (L1-L2) 88 - 576 V.a.c - 50/60Hz (+/- 10%) Ui 600V	AWG 18-14 0.75-2.5mm²	0.5-0.6 Nm 4.4-5.3 lb.in
Sensing source 2	SOURCE 2 L1/L2/L3/N	Voltage sensing inputs source 2 & voltage supply (L1-L2)			
Inputs	71	IN1: SWITCH IN POS1	Do not connect to any external power supply	AWG 20-14 0.5-2.5mm²	
	72	IN2: SWITCH IN POS 2			
	73	IN3: DOOR OPEN			
	74	IN4: programmable input 4			
	75	IN5: programmable input 5			
	76	IN6: programmable input 6			
	70	Common point for inputs			
Aux power supply	81/82	- : negative terminal for aux supply +: positive terminal of aux supply	12-24 Vd.c.		
Outputs	12/14/11	OUT1: POS 1 ORDER	Dry contacts 8A / 277 VAC 50/60 Hz 5A / 24 VDC	AWG 16-14 1.5-2.5mm²	
	22/24/21	OUT2: POS 2 ORDER			
	32/34/31	OUT3: programmable output 3			
	42/44/41	OUT4: programmable output 4			
	52/54/51	OUT5: programmable output 5 (latching)			
	62/64/61	OUT6: genset start relay			
Current transformers	IN/I3/I2/I1	CT neutal / CT phase C / CT phase B / CT phase A	CT input 1A or 5A		
Serial connection	RS485	Connection RS485 -: negative terminal of RS485 bus +: positive terminal of RS485 bus NC : Ground	RS485 bus insulated	LiYCY shielded twisted pair 30-14 AWG / 0.14 to 1.5 mm²	1.9 - 2.2 Lb.in 0.22 -0.25 Nm
Digiware*	DIGIBUS	Connection point for I/O 10 optional accessories & digiware connection (must use 24 VDC input)	RJ 45 digiware cable	-	-

* For more information check I/O module instruction sheet ref 545597

2E Mounting the cable harness on the controller

For details on the controller connectors refer to step 2D, after inserting the required connectors use the cable tie connection points shown below to maintain the cables in place:

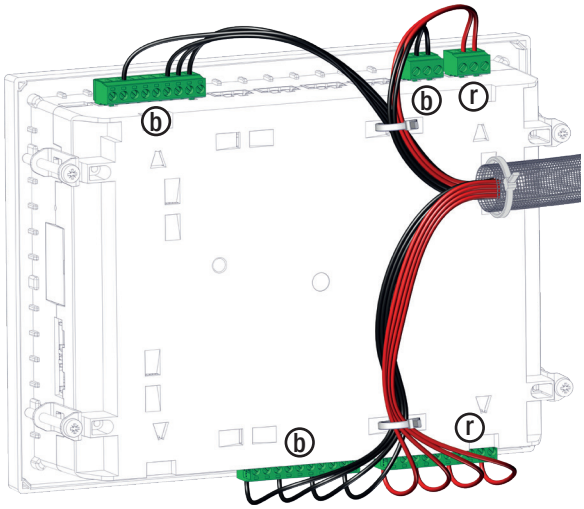
Left side hinge door



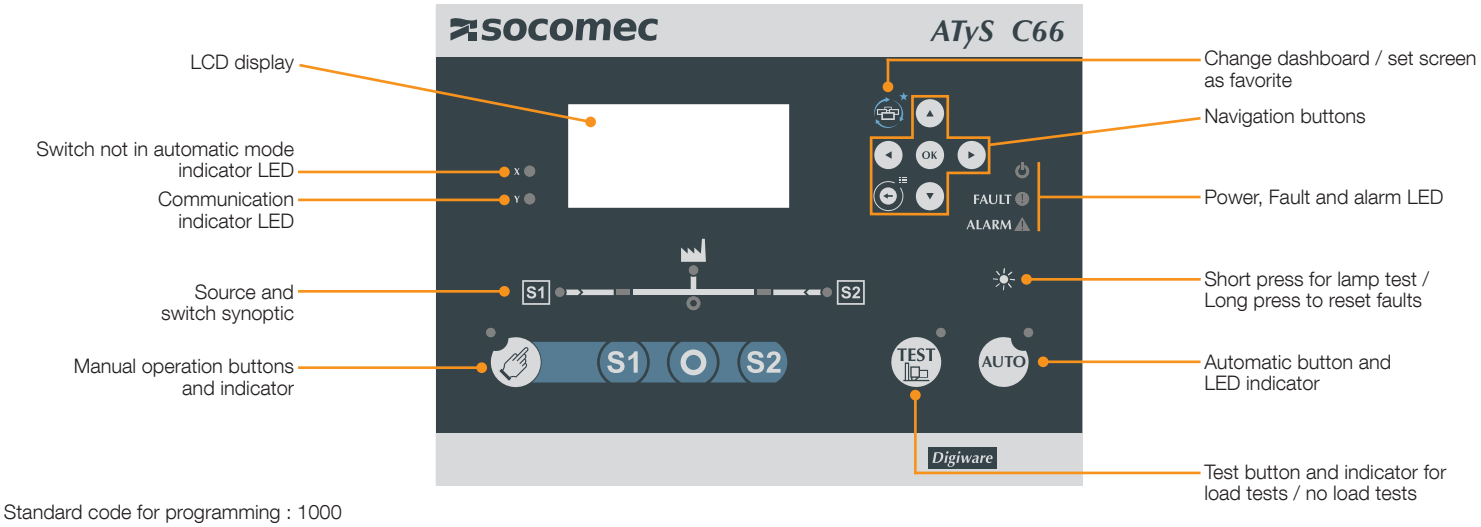
b black cables

r red cables

Right side hinge door



3 Controller Interface



Standard code for programming : 1000

SMART WIZARD CONFIG:

When powered for the first time the controller will prompt the user to configure using the wizard.
To access the wizard input code 1000 then the configuration will go as follow:

Language ▶ Time & date ▶ Source config ▶ Switch & Application ▶ Product Name ▶ Communication

For advanced configuration go to parameters menu.

⚠ In STEP 5/8 of the wizard config make sure the network detected matches your network.
In STEP 6/8 make sure the “switch technology” parameter is set to “ATyS FT”.

⚠ If a fault is shown on the controller, correct the associated fault and clear by doing a long press (>3s) on the lamp test button.

4 Operational limits

OPERATING VOLTAGE @ 50/60 (+/- 10%) HZ		
NETWORK	MINIMUM COIL OPERATING VOLTAGE (VAC)	MAXIMUM COIL OPERATING VOLTAGE (VAC)
277/480 VAC	194 (Ph/N)	304 (Ph/N)
120/208 VAC	194 (Ph/Ph)	304 (Ph/Ph)
120/240 VAC	194 (Ph/Ph)	304 (Ph/Ph)
480 VAC with transformer	194 (Ph/N)	304 (Ph/N)

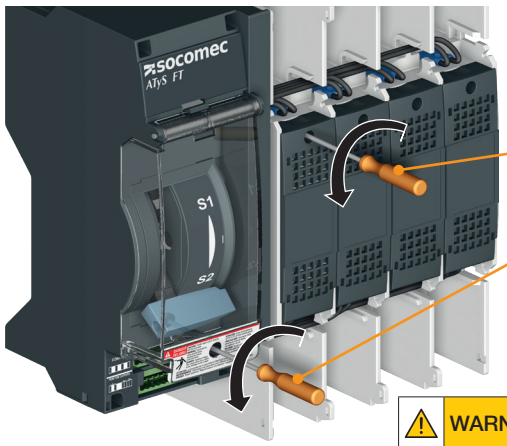
OPERATING TEMPERATURE		
SWITCH AND TRANSFORMER	I0 /10	CONTROLLER
32 to 131°F 0 to +55°C	14 to 158°F -10 to +70°C	-22 to 158°F -30 to +70°C with limitation on the LCD screen that may show distortion below 32°F / 0°C

		OPERATING TIMES (1)			
RATING	TRANSFER DESCRIPTION	MINIMUM TRANSFER TIME (ms) (NORMAL TO ALTERNATE)	MINIMUM TRANSFER TIME (ms) (ATLTERNATE TO NORMAL)	MAXIMUM TRANSFER TIME (ms) (NORMAL TO ALTERNATE)	MAXIMUM TRANSFER TIME (ms) (ATLTERNATE TO NORMAL)
100-200 A	Contact transfer time (2)	24	21	31	27
	Total transfer time (3)	100	280	127	486
260-400 A	Contact transfer time (2)	30	27	45	32
	Total transfer time (3)	106	286	141	491

(1) All times measured without load and at 240 VAC at ambient temperature, actual times may vary depending on network and load.
(2) Time for which load is disconnected from both source 1 and source 2 with both sources available.
(3) Total time to transfer including detection of source total failure and transfer times.

5 Manual operation (for maintenance purposes only)
Instructions for manual, non-electric, offload operations for service

WARNING More than one live circuit! Disconnect all sources of supply before servicing and/or before using the manual operation.



OPERATION ORDER

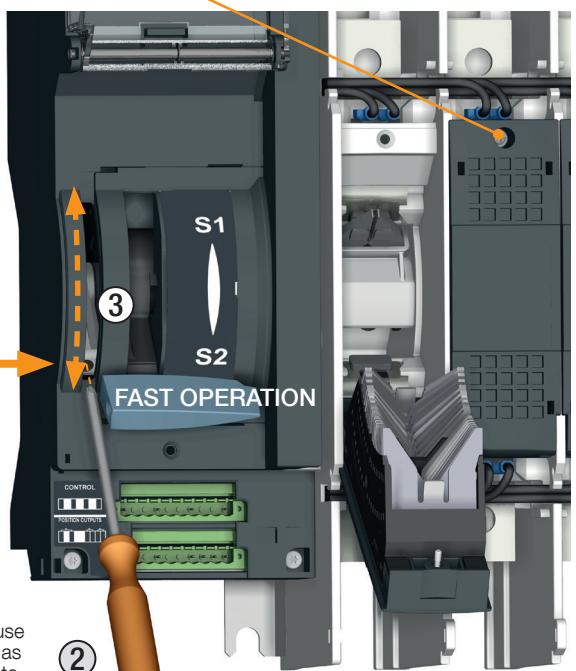
A ➡ B ➡ C

After maintenance operations are done screw back the covers: Tightening torque 17.7 lb.in / 2 N.m / PH2

WARNING Switch will be “not in auto” when cover is open.

A Unscrew handle cover and arc chutes cover

C Use the slow or fast handle to visualize the state of the contacts

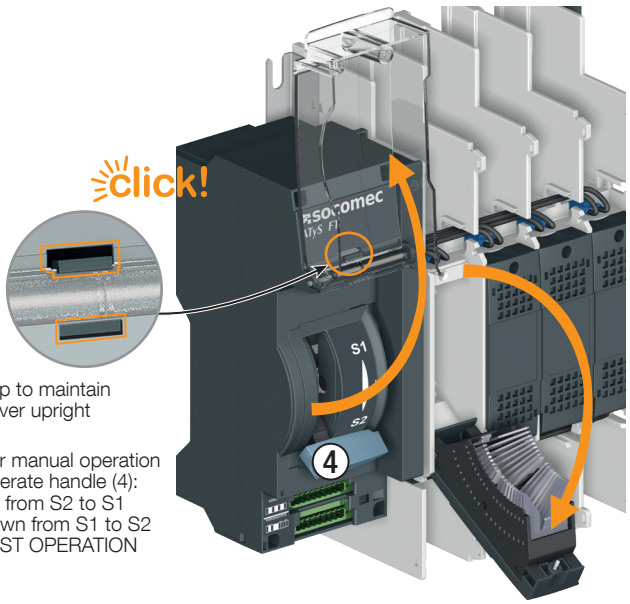


1 Slide cover to access service handle hole.

2 For inspection use a standard tool as shown to operate (not included).

0.25 in / 6mm diam max.
SLOW OPERATION

Inspection of power contacts



Clip to maintain cover upright

For manual operation operate handle (4):
up from S2 to S1
down from S1 to S2
FAST OPERATION

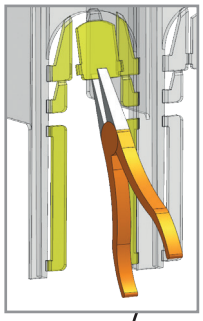
B Open the cover and click in place and open the arc chute

Recommendation : carry out one offload manual operation with handle ④ (FAST OPERATION) before putting the switch back in service.

Reverse the procedure to close.
Ensure that all is closed properly before putting back in service.
In case any part of the ATyS FT switch is found to be damaged in any way, replace the complete switch.

6A Installing power terminal shrouds (optional accessories)

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

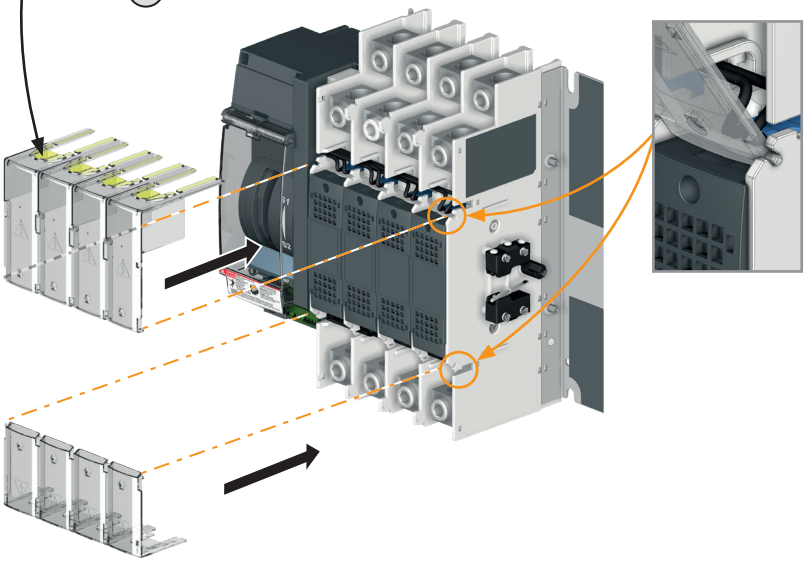


1. For 250, 300 & 600 KCMIL (200 , 260 400A) break off all removable parts (highlighted on the picture).
   For 1/0 & (100A) do not remove any parts.

	NO. OF POLES	REFERENCE*
100-200A	2P	96982020
	3P/2P+N	96983020
	4P/3P+N	96984020
260-400A	2P	96982040
	3P/2P+N	96983040
	4P/3P+N	96984040

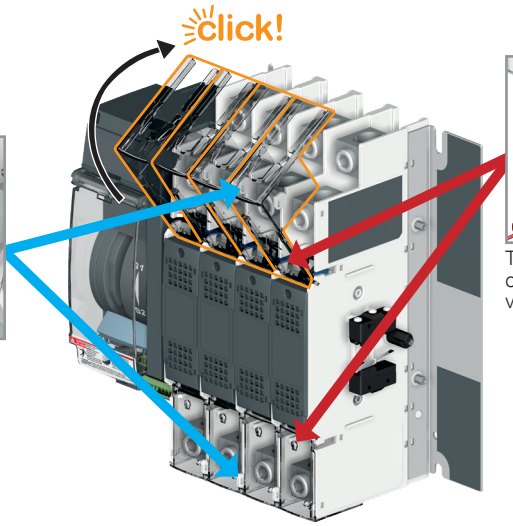
* Refs: top and bottom

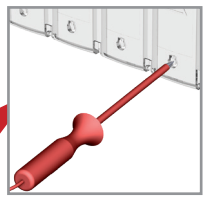
2. Fix the terminal shrouds in place and push back



3. Push back to click in place.

Terminal shrouds can be locked in place using locking points





Terminal shrouds contain provisions for voltage sensing

PERIODIC MAINTENANCE

The ATyS FT shall be maintained in accordance with industry standards and as per instructions in the ATyS FT instruction sheet.

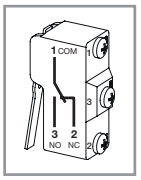
As per NFPA 110 requirements for emergency and standby power systems the ATyS FT should be inspected and should be exercised under load at least monthly.

Refer to step 5 for instructions for manual, "non-electric", offload operations for service.

⚠	**WARNING**	More than one live circuit. Disconect all sources of supply before servicing and/or before using the manual operation.

6B Additional auxiliary contacts

Switch has 2 pre-installed auxilliary contacts, the kit below is for 2 additional contacts with protection against direct contact.

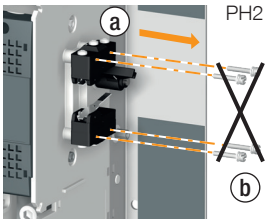


Terminal tightening torque
7.9 lb.in / 0.9 Nm

AUXILIARY CONTACT ELECTRICAL CHARACTERISTICS	
Rated current (125-480 VAC)	22 A
Rated current (125 VDC)	0.5A
Rated current (250 VDC)	0.25 A
Rated horse power up to 250 VAC	½ HP
Rated horse power up to 480 VAC	¼ HP
Recommended wire section for 22A	10 AWG 4 mm²

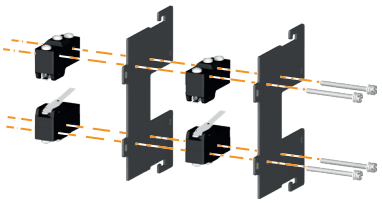
⚠ Use the correct protection according to your auxiliary contact circuit and your load

1. Remove pre-installed auxillary contact

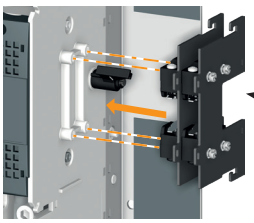


PH2 screwdriver

2. Assemble contacts with parts from kit as shown below

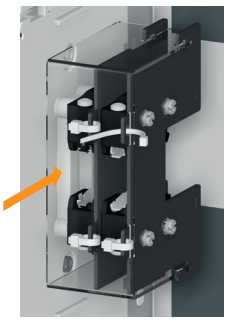


3. Assemble optional aux contact and pre-installed aux contact together



Tightening torque
17.7 lb.in / 2 N.m / PH2

Make sure contact is correctly activated



4. Place the transparent plastic piece to cover the auxiliary conacts and lock in place in order to protect from direct contacts.

Ref : 96990021

Print: 90 g/m² - open format 432 x 279 mm - folded 216 x 279 mm with staples - R/V - B&W