



548696E

# ATyS DT



100 A, 200 A, 260 A, 400 A

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## 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 DT
  - 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 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 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 separately**

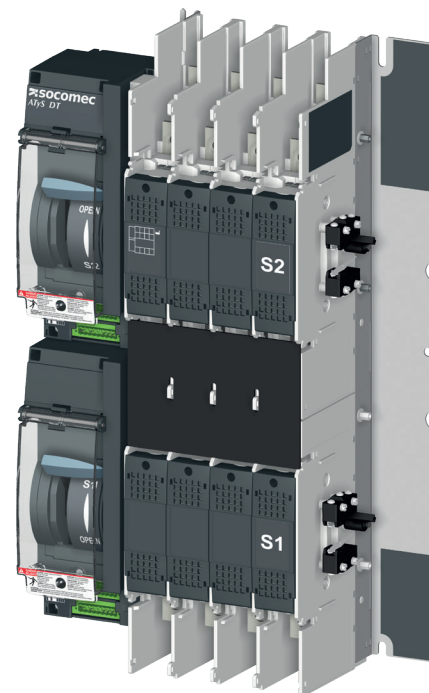
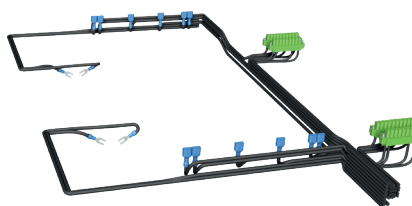
- Terminal shrouds (see step 6A).
- Additional aux contacts (ref. 96990021).
- Digiware I/O 10 (ref. 48290140).
- Transformer 480 - 240 VAC (SPARTAN SP350MQMJ).
- Controller 24 VDC aux power supply (6W minimum type SELV) mandatory with I/O 10 Modules.
- Power terminal lugs (see step 1D).

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

## Spares

- ATyS C66 Controller (ref. 16000066).
- UL 1008 ATyS DT (ref. 980XXXXX).
- Connector kit (ref. 16090002).
- Controller Nema 3R gasket (ref. 16090001).
- Controller mounting screws (ref. 16090004).
- Controller mounting feet (ref. 16090005).
- Cable harness without transformer (ref. 98964001).
- Cable harness with transformer (ref. 98974001).
- Power Relay (Potter & Brumfield T92P7A22-240).

## Installation and Commissioning



## Reference configurator

N° of poles	Rating
3: 3P	010: 100 A
4: 4P	020: 200 A
	026: 260 A
	040: 400 A

**9 8 X X X XXX**

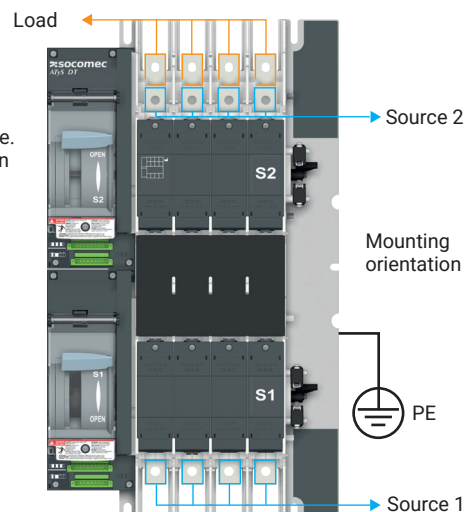
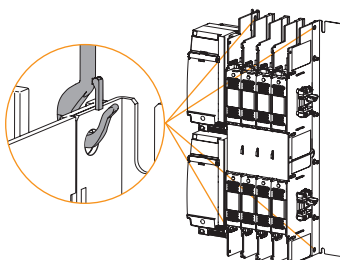
0: spare switch for networks up to 480 VAC  
8: ATSE assembly for 480 V.a.c 3 wire network  
A: ATSE Assembly for networks up to 480 VAC

0: Without solid neutral  
1: With solid neutral

## 1A. Switch installation



Ensure that the product is installed on a flat rigid surface of a Types 1, 3R, 12 and/or 12k enclosure. Do not lift using power contacts, use the holes on the side of the metal mounting feet.

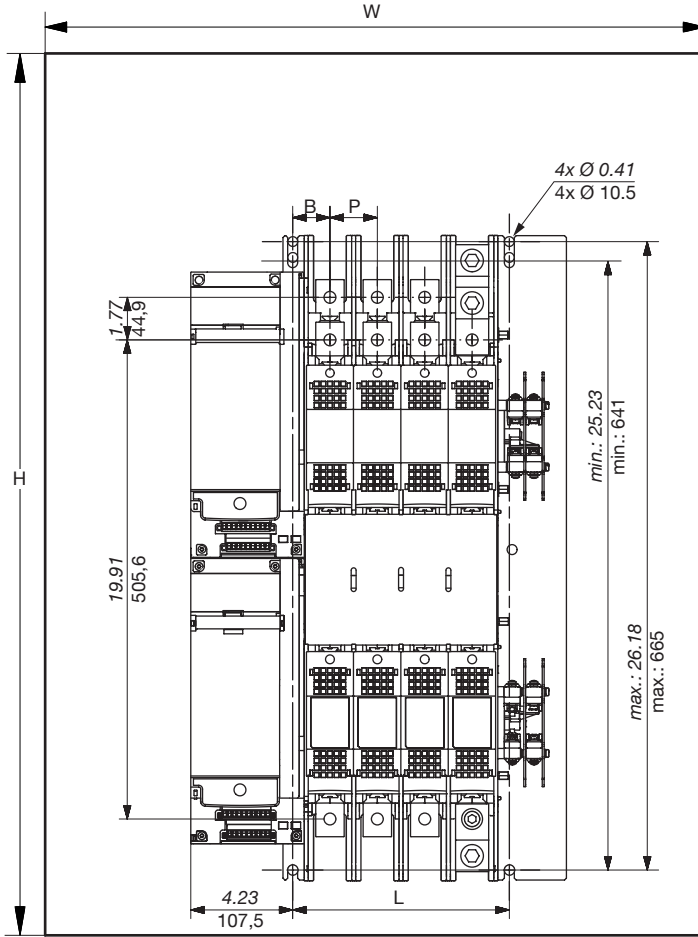


# 1B. Product dimensions

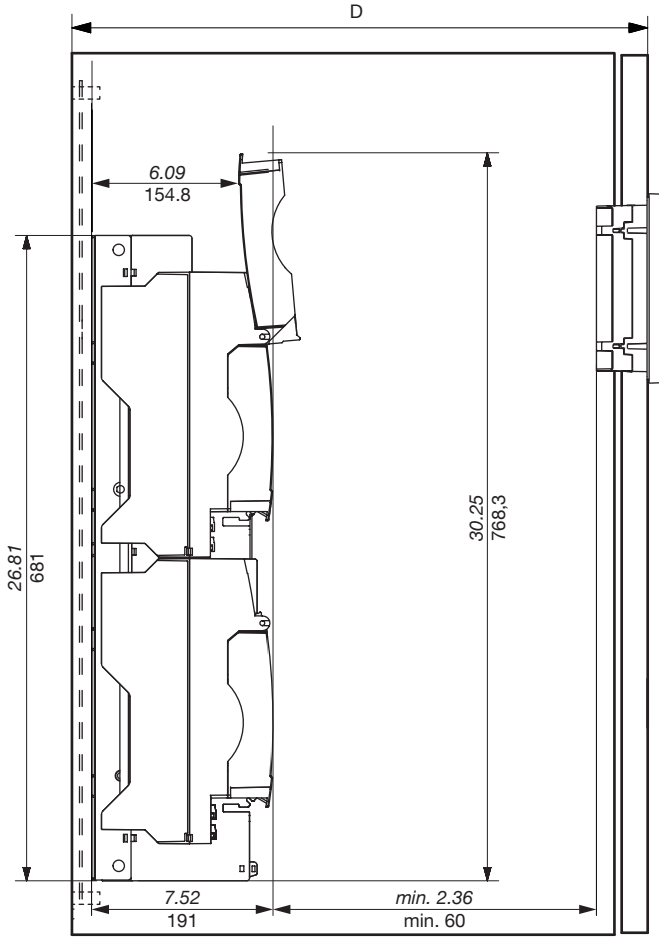
Switch & minimum enclosure size dimensions (4th pole represented with lugs installed.)

Dual Dimensions  
in/mm

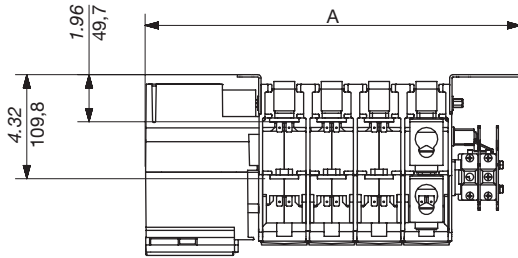
Front view



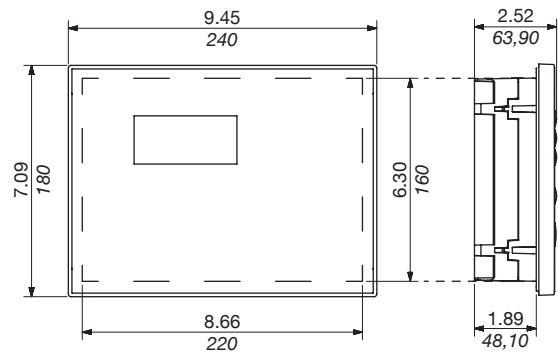
Side view



Switch top view



Controller dimensions

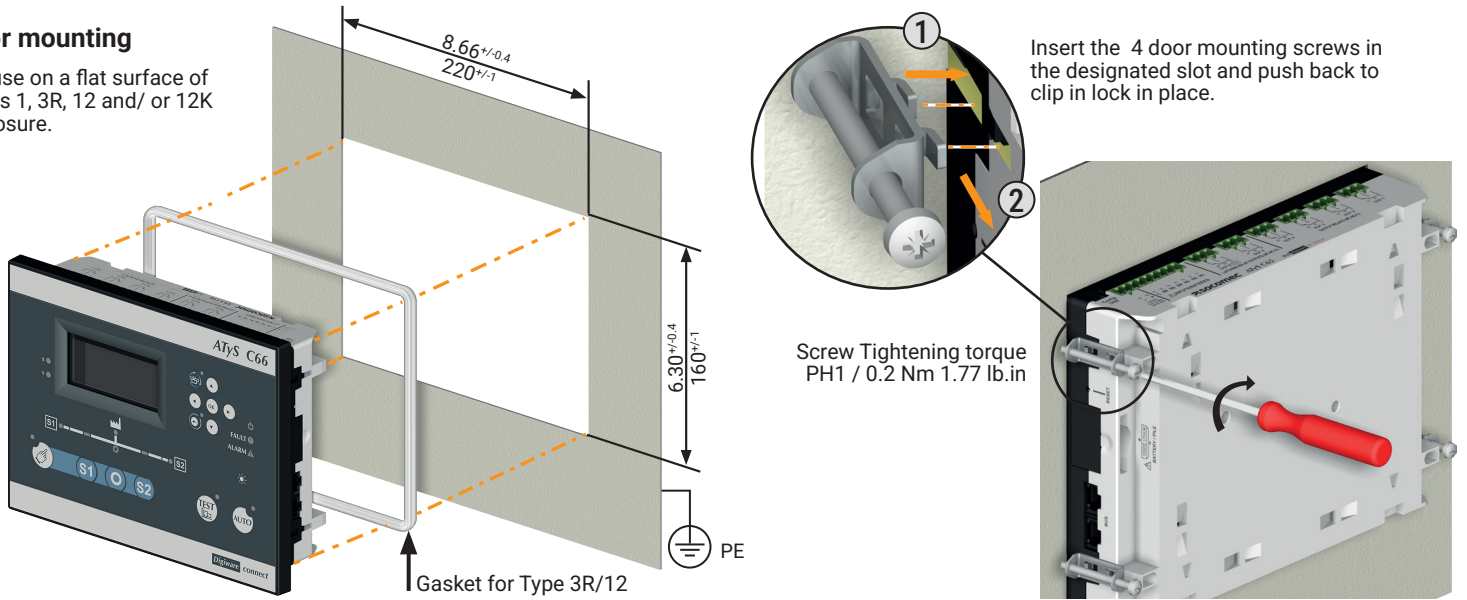


		Switch dimensions								Minimum enclosure size					
		A		B		L		P		H		W		D	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
100-200A	3P	11.85	301,30	1.25	31,80	5.49	133,70	1.38	35	36	915	16	406	12	305
	3P+N/ 4P	13.24	336,30	1.25	31,80	6.60	168,70	1.38	35	36	915	16	406	12	305
260-400A	3P	13.63	346,30	1.55	39,30	7	178,60	1.97	50	60	1524	24	610	12	305
	3P+N/ 4P	15.60	396,30	1.55	39,30	8.97	228,60	1.97	50	60	1524	24	610	12	305

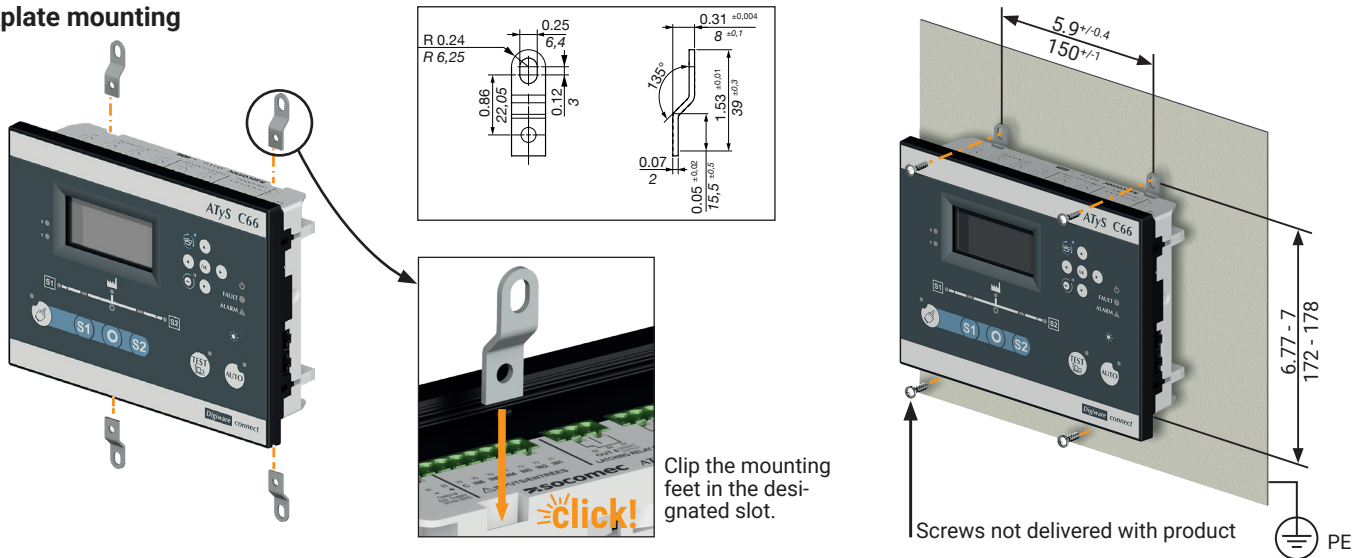
## 1C. Mounting & connecting controller

### Door mounting

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



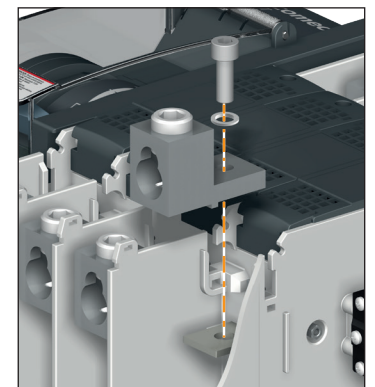
### Backplate mounting



## 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	lb.in	Nm	Size	in	mm
100A	Ilscod D0957	Contact us		1	14	1/0	50	5,65	8	70.8	8	5mm	0.625	15,9
200A	Ilscod 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 SHIV OM SO 3971	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 SHIV OM SO 3972	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	Ilscod D3096	Contact us		1	4	600 KCMIL	600	67,8	1/2	310	35	8mm	1.79	45,7



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

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.

## 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. **98964001**) delivered with **98AX XXXX** products.

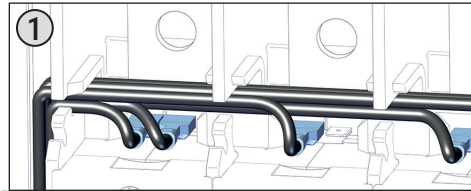
Cable harness for connections with transformer (ref. **98974001**) delivered with **988X XXXX** products.

**Note: transformers not delivered with the product.**

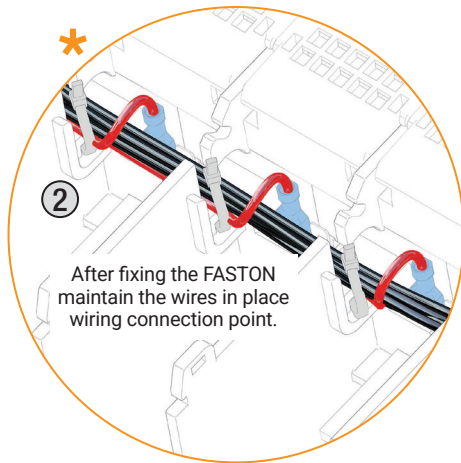
## 2B. Mounting the cable harness on the Switch

SWITCH	Type	Terminal N°	Description	Characteristics	Recommended cross section
S1	Switch Power input	1101-1102	Order switch to position S1	194-304 VAC8A for at least 100ms 50/60Hz	17-14 AWG 1-2.5 mm <sup>2</sup>
		1201-1202	Order switch to OPEN Switch S1		
	Switch Signalization output	1333-1334	Contact closed if cover of switch S1 is closed	internal use for C66 controller	
		1313-1314	Contact closed if the switch is in position S1		
		1323-1324	Contact closed if the switch S1 is OPEN		
S2	Switch Power input	2101-2102	Order switch to OPEN S2	194-304 VAC8A for at least 100ms 50/60Hz	
		2201-2202	Order switch to position S2		
	Switch Signalization output	2333-2334	Contact closed if cover of switch S2 is closed	internal use for ATyS C66 controller	
		2313-2314	Contact closed if the switch S2 is OPEN		
		2323-2324	Contact closed if the switch is in position S2		

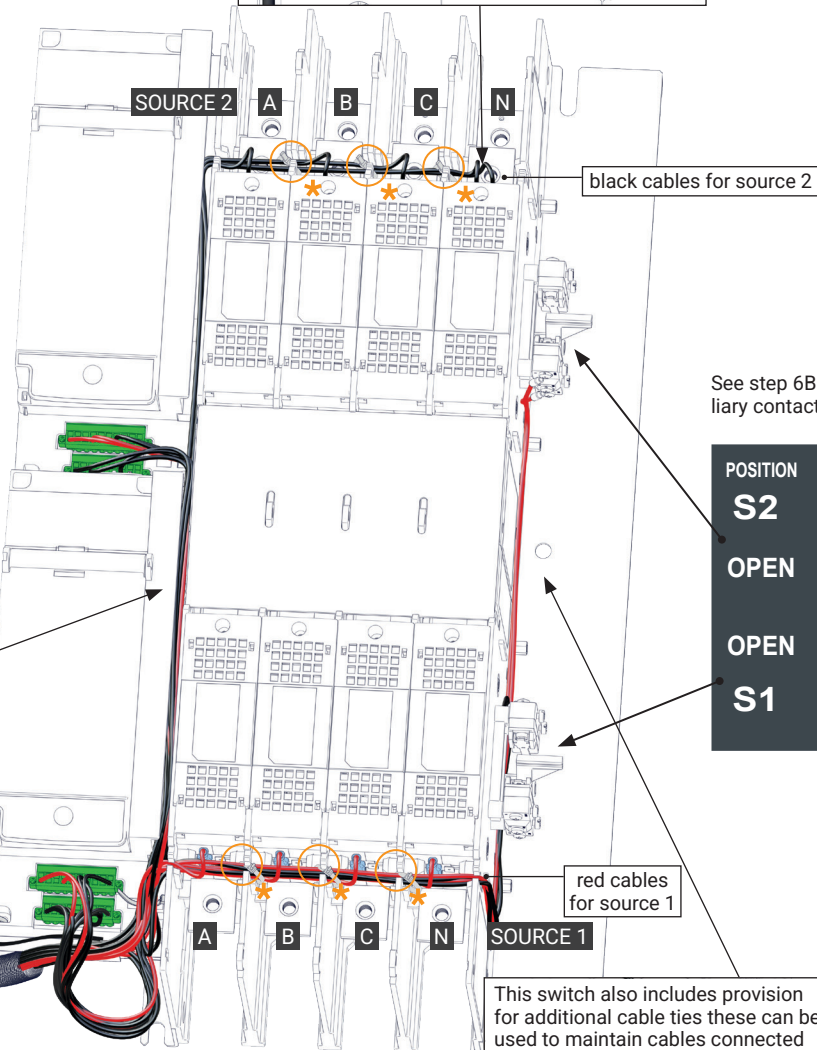
**!** Wires must not be in contact with active voltage points such as unused FASTON connections and lugs. In order to do so any unused or loose cables must be tensed then fixed on a non conductive part of the transfer switch (use cable tie fixation points as shown in the images below).



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

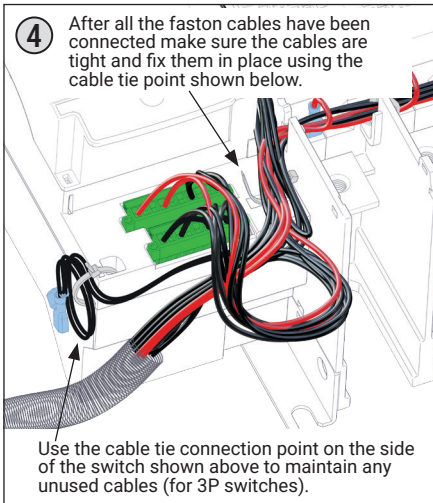


After fixing the FASTON maintain the wires in place wiring connection point.



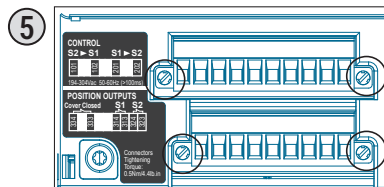
See step 6B for Auxiliary contacts

**3** Pass wiring harness in the integrated cable duct.

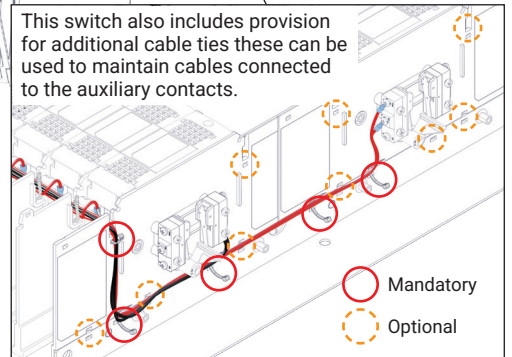


After all the faston cables have been connected make sure the cables are tight and fix them in place using the cable tie point shown below.

Use the cable tie connection point on the side of the switch shown above to maintain any unused cables (for 3P switches).



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



○ Mandatory  
○ Optional

## 2C. Connection of harness on the switch

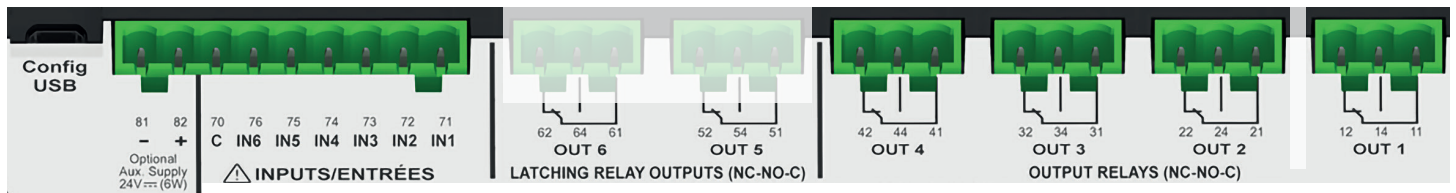
Connect the faston on the switch connection according to your network and the table below:

Network type	Type	Source	RTSE Faston connections				Auxiliary contact				Voltage Transformer							
			A		B		C		N		1C1		3C1		1D1		3D1	
			H1	H4	X1	X4	H1	H4	X1	X4								
120/208 VAC	3P+N / 4P	S2	S2A & S201	S2B & S202	S2C	S2N			1D1	3D1								
		S1	S1A & S101	S1B & S102	S1C	S1N	1C1	3C1										
208 VAC	3P	S2	S2A & S201	S2B & S202	S2C	- (1)			1D1	3D1								
		S1	S1A & S101	S1B & S102	S1C	- (1)	1D1	3D1										
277/480 VAC	3P+N / 4P	S2	S2A	S2B & S202	S2C	S2N & S201			1D1	3D1								
		S1	S1A	S1B & S102	S1C	S1N & S101	1C1	3C1										
480 VAC + Transformer	3P	S2	S2A & T2A	S2B & T2B	S2C	-			1D1	3D1	T2A	T2B	T2A'	T2B'				
		S1	S1A & T1A	S1B & T1B	S1C	-	1C1	3C1			T1A	T1B	T1A'	T1B'				

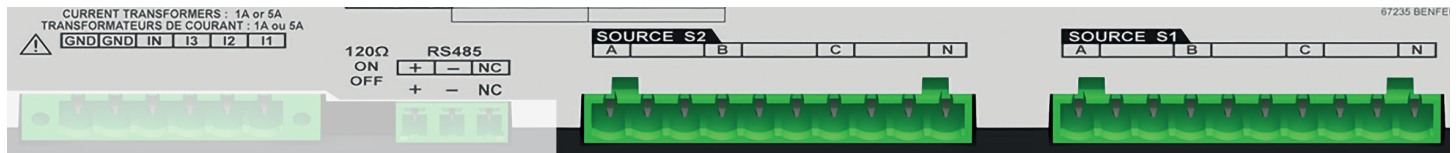
(1) Cables which are not used are to be fastened as shown in image 4 of step 2B.

## 2D. Controller connection details

Wiring harness connectors to place on controller.



Top view



Bottom view

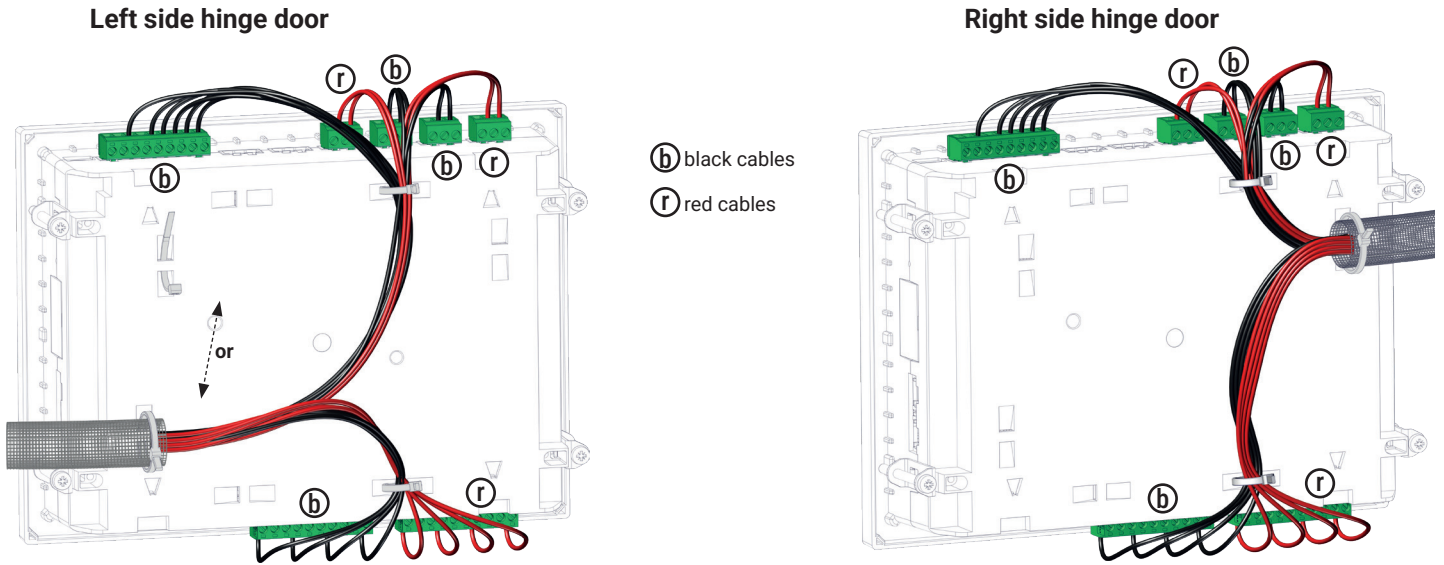
Type	Terminal N°	Description	Characteristics	Recommended cross section	Tightening torque
Sensing source 1	SOURCE 1 L1/L2/L3/N	Voltage sensing inputs source 1 & voltage supply (L1-L2)	Sensing voltage 50 - 575 V.a.c P-P - 50/60 Hz (+/- 10%) Supply voltage (L1-L2) 88 - 576 V.a.c - 50/60Hz (+/- 10%) Ui 600V	AWG 18-14 0.75-2.5mm <sup>2</sup>	4.4-5.3 Lb.in 0.5-0.6 Nm
Sensing source 2	SOURCE 2 L1/L2/L3/N	Voltage sensing inputs source 2 & voltage supply (L1-L2)			
Inputs	71	IN1: reserved (SWITCH IN POS1)	Do not connect to any external power supply	AWG 20-14 0.5-2.5mm <sup>2</sup>	
	72	IN2: reserved (SWITCH IN POS2)			
	73	IN3: reserved (SWITCH S1 IN POS0)			
	74	IN4: reserved (SWITCH S2 IN POS0)			
	75	IN5: reserved (COVER OPEN)**			
	76	IN6: programmable input			
Aux power supply	81/82	- : negative terminal for aux supply +: positive terminal of aux supply	12-24 Vd.c.		
Outputs	12/14/11	OUT1: reserved (POS 1 ORDER)	Dry contacts 8A / 277 VAC 50/60 Hz 5A / 24 VDC	AWG 16-14 1.5-2.5mm <sup>2</sup>	
	22/24/21	OUT2: reserved (POS 2 ORDER)			
	32/34/31	OUT3: reserved (POS 0 ORDER S1)			
	42/44/41	OUT4: reserved (POS 0 ORDER S2)			
Latching relays	52/54/51	OUT 5: elevator control			
	62/64/61	OUT 6: genset start relay			
Current transformers	IN/I3/I2/I1	CT neutral / 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	LiCY sheilded twisted pair 30-14 AWG / 0.14 to 1.5 mm <sup>2</sup>	1.9 - 2.2 Lb.in 0,22 - 0,25 Nm
Digiware*	DIGIBUS	Connection point for I/O 10 optional accessories (must use 24 VDC input)	RJ 45 digiware cable	-	-

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

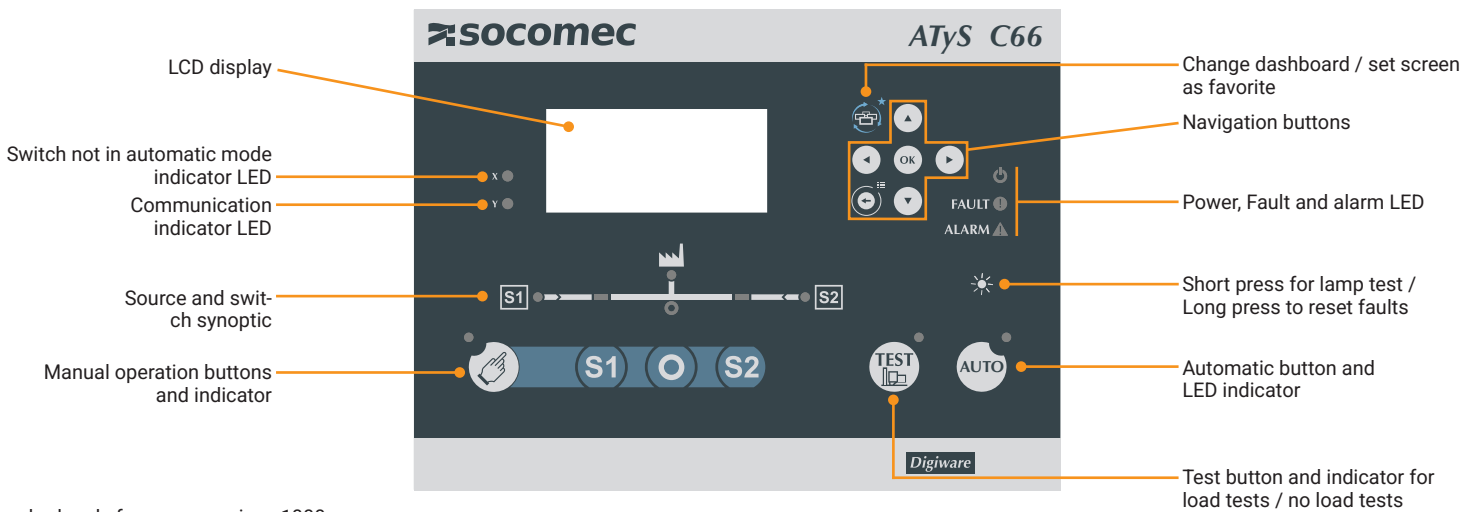
\*\* After wizard configuration "COVER OPEN" will not be programmed by default, users must go to "MAIN MENU">"PARAMETERS">"I/O">"INPUTS" and configure "INPUT 5" to "COVER OPEN" and "INPUT 5 TYPE" to "NC".

## 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:



## 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:



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 DT".

⚠ 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 /I0	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 <sup>1</sup>					
Rating	Transfer description	Minimum transfer time (ms) (Normal to alternate)	Minimum transfer time (ms) (Alternate to normal)	Maximum transfer time (ms) (Normal to alternate)	Maximum transfer time (ms) (Alternate to normal)
100-200 A	Contact transfer time <sup>2</sup>	48	41	61	54
	Total transfer time <sup>3</sup>	144	321	198	553
260-400 A	Contact transfer time <sup>2</sup>	60	54	90	64
	Total transfer time <sup>3</sup>	156	333	226	563

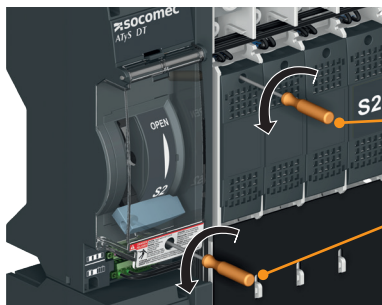
(1) All times measured without load and at 240 VAC at ambient temperature, actual times may vary depending on network and load.

(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.



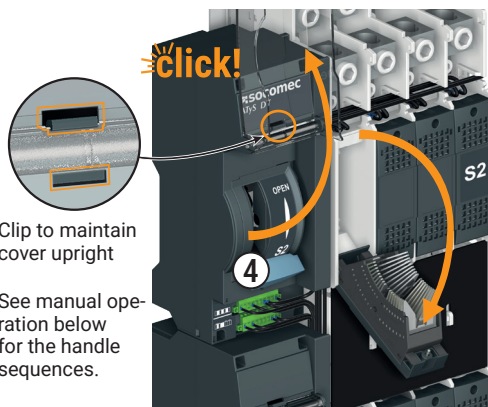
**A** Unscrew handle cover and arc chutes cover

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 either one of the covers are open.



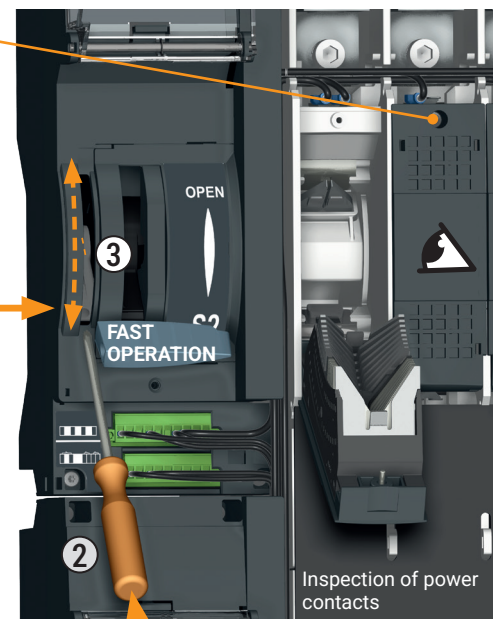
**B** Open the cover and click in place and open the arc chute

**1** Slide cover to access service handle hole.

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

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

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



0.25 in / 6mm diam max.  
SLOW OPERATION

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

### Manual operation

Connecting to source 2:  
To connect the load to Source 2 (S2) position both handle to the bottom position (top handle to S2, bottom handle to OPEN).

Connecting to source 1:  
To connect the load to Source 1 (S1) position both handle towards the top (top handle to OPEN, bottom handle to S1).

Connecting to center OFF:  
To connect the load to center off (OPEN) position the top switch handle to the top position and the bottom switch handle to the bottom position.

**1**



**2**



**3**



**4**

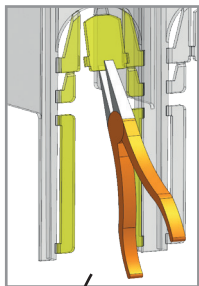


Interlocking mechanism:  
The mechanical interlock ensures that S1 and S2 are mutually exclusive and inhibits one switch from being closed unless the other switch is open.

**WARNING** when manually switching always place one of the two handles in the OPEN position BEFORE switching the second handle.

## 6A. Installing power terminal shrouds (optional accessories)

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

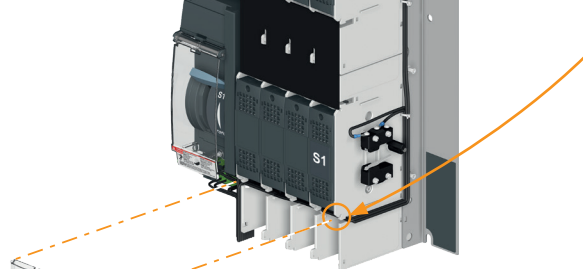
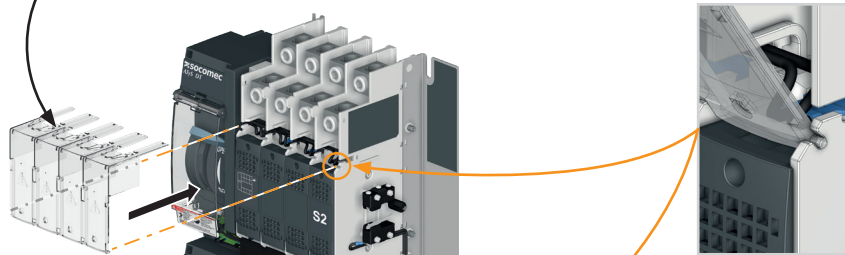


- For 250, 300 & 600 KCMIL (200, 260 400A) break off all removable parts (highlighted on the picture). For 1/0 & (100A) do not remove any parts.

	No. of poles	Reference*
100-200A	3P	96983020
	4P/3P+N	96984020
260-400A	3P	96983040
	4P/3P+N	96984040

\* Refs: top and bottom

- Fix the terminal shrouds in place and push back

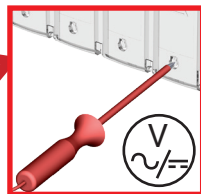


- Push back to click in place.



Terminal shrouds can be locked in place using locking points

Terminal shrouds contain provisions for voltage sensing



### PERIODIC MAINTENANCE

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

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

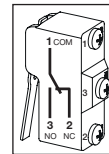
Refer to step 5 for instructions for manual, "non-electric", offload operations for service.

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



## 6B. Additional auxiliary contacts

The ATyS DT switch has 4 pre-installed auxiliary contacts, two of which are reserved for use for harness. This kit includes two additional contacts it is therefore recommended to order two sets of this kit for ATyS DT switches.

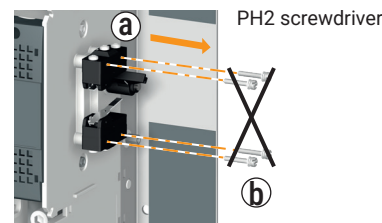


Terminal tightening torque  
7.9 lb.in / 0.9 Nm

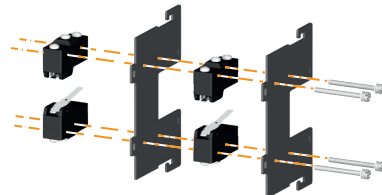
Auxiliary contact electrical characteristics	
Rated current (125-480 VAC)	22 A
Rated current (125 VDC)	0.5A
Rated current (250 VDC)	0.25 A
Rated horse power up to 250 VAC	½ HP
Rated horse power up to 480 VAC	¼ HP
Recommended wire section for 22A	10 AWG 4 mm <sup>2</sup>

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

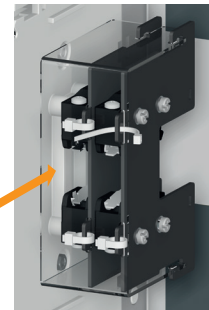
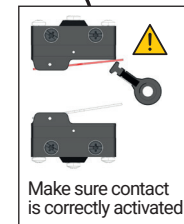
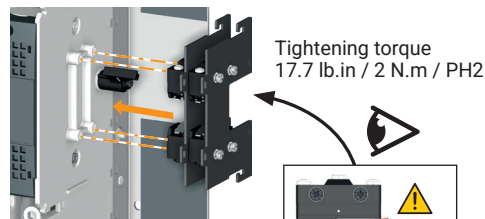
- Remove pre-installed auxiliary contact.



- Assemble contacts with parts from kit as shown below.



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



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