## ATyS FT <br> 

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:

$$
\begin{aligned}
& \text { Qty } 1 \times \text { ATyS FT } \\
& \text { Qty } 1 \times \text { C66 Controller } \\
& \text { Qty } 1 \times \text { Harness }
\end{aligned}
$$

## Warning

4 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. 96964001).
- Cable harness with transfomer (ref. 96974001).



## Reference configurator



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



Mounting orientation


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 | 2 P | 10.47 | 266,30 | 1.25 | 31,80 | 3.85 | 98,70 | 1.38 | 35 | 20 | 508 | 16 | 406 | 12 | 305 |
|  | $2 \mathrm{P}+\mathrm{N} / 3 \mathrm{P}$ | 11.85 | 301,30 | 1.25 | 31,80 | 5.49 | 133,70 | 1.38 | 35 | 20 | 508 | 16 | 406 | 12 | 305 |
|  | $3 P+N / 4 P$ | 13.24 | 336,30 | 1.25 | 31,80 | 6.60 | 168,70 | 1.38 | 35 | 20 | 508 | 16 | 406 | 12 | 305 |
| 260-400A | 2 P | 11.67 | 296,30 | 1.55 | 39,30 | 5 | 128,60 | 1.97 | 50 | 48 | 1220 | 24 | 610 | 12 | 305 |
|  | $2 \mathrm{P}+\mathrm{N} / 3 \mathrm{P}$ | 13.63 | 346,30 | 1.55 | 39,30 | 7 | 178,60 | 1.97 | 50 | 48 | 1220 | 24 | 610 | 12 | 305 |
|  | $3 \mathrm{P}+\mathrm{N} / 4 \mathrm{P}$ | 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


Backplate mounting


Clip the mounting feet in the designated slot


## 1D Installing terminal lugs (optional accessory)

Use terminal screws and washers supplied with the ATSE

| Product <br> Rating (A) | Designation | Ref. lugs | Quantity per | Openings per lug |  | / Section (AWG) |  | ssure torqu | $\begin{aligned} & \text { e scre } \\ & \text { que } \end{aligned}$ |  |  | Bolt to | orqu |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | reference |  | min. | max. | lb.in | Nm |  | ze in | lb.in | Nm |  | Size | in | mm |
| 100A | Ilsco D0957 | Contact us |  | 1 | 14 | 1/0 | 50 | 5,65 | $\bigcirc$ | 8 | 70.8 | 8 | $\bigcirc$ | 5 mm | 0.625 | 15,9 |
| 200A | $\underset{\text { Ilsco D2831 }}{\infty}$ | Contact us |  | 1 | 6 | 250 KCMIL | 275 | 31,1 | $\bigcirc$ | 5/16 | 70.8 | 8 | $\bigcirc$ | 5 mm | 1 | 25,4 |
| 100-200 A |  | 39542020 | 2 | 1 | 6 | 300 KCMIL | 275 | 31,1 | $\bigcirc$ | 5/16 | 70.8 | 8 | $\bigcirc$ | 5 mm | 1.12 | 28,4 |
|  |  | 39543020 | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 39544020 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 260-400 A |  | 39542040 | 2 | 1 | 4 | 600 KCMIL | 550 | 62,1 | $\bigcirc$ | 1/2 | 310 | 35 | $\bigcirc$ | 8 mm | 1.79 | 45,7 |
|  |  | 39543040 | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 39544040 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 260-400 A | Ilsco D3096 | Contact us |  | 1 | 4 | 600 KCMIL | 600 | 67,8 | O | 1/2 | 310 | 35 | $\bigcirc$ | 8 mm | 1.79 | 45,7 |

Power cable connections : For 100A use 1/0 AWG / For 200A use 250 KCMIL / For 260 A 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. 96964001) delivered with 96AX XXXX products.
Cable harness for connections with transformer (ref. 96974001) 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 |  |
| :---: | :---: | :--- | :--- | :--- | \(\left.\begin{array}{c}Recomended Cross <br>

Section\end{array}\right]\)


## 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 <br> Primary |  | $\begin{gathered} \hline 240 \text { VAC } \\ \hline \text { Secondary } \\ \hline \end{gathered}$ |  |
|  |  |  |  |  |  |  |
| Network type | Type | Source | A | B | C | N | H1 | H4 | X1 | X4 |
| 240 VAC | 2 P | S2 | S2A \& 201 | S2B | None ${ }^{(1)}$ | None ${ }^{(1)}$ |  |  |  |  |
|  |  | S1 | S1A \& 102 | S1B | None ${ }^{(1)}$ | None ${ }^{(1)}$ |  |  |  |  |
| 120/240 VAC | $2 \mathrm{P}+\mathrm{N}$ | S2 | S2A \& 201 | S2B | None ${ }^{(1)}$ | S2N |  |  |  |  |
|  |  | S1 | S1A \& 102 | S1B | None ${ }^{(1)}$ | S1N |  |  |  |  |
| 208 VAC | 3 P | S2 | S2A \& 201 | S2B | S2C | None ${ }^{(1)}$ |  |  |  |  |
|  |  | S1 | S1A \& 102 | S1B | S1C | None ${ }^{(1)}$ |  |  |  |  |
| 120/208 VAC | $3 P+N / 4 P$ | S2 | S2A \& 201 | S2B | S2C | S2N |  |  |  |  |
|  |  | S1 | S1A \& 102 | S1B | S1C | S1N |  |  |  |  |
| 277/480 VAC | $3 P+N / 4 P$ | S2 | S2A | S2B | S2C | S2N \& 201 |  |  |  |  |
|  |  | S1 | S1A | S1B | S1C | S1N \& 102 |  |  |  |  |
| 480 VAC + transfo | 3 P | 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 ${ }^{\circ}$ | Description | Characteristics | Recomended cross section | Tightening torque |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sensing source 1 | SOURCE 1 <br> L1/L2/L3/N | Voltage sensing inputs source 1 \& voltage supply (L1-L2) | Sensing voltage $50-575 \text { V.a.c P-P-50/60 Hz (+/- 10\%) }$ <br> Supply voltage (L1-L2) $88-576 \text { V.a.c }-50 / 60 \mathrm{~Hz}(+/-10 \%) \text { Ui } 600 \mathrm{~V}$ | $\begin{aligned} & \text { AWG } 18-14 \\ & 0.75-2.5 \mathrm{~mm}^{2} \end{aligned}$ | $\begin{aligned} & \text { 4.4-5.3 lb.in } \\ & 0.5-0.6 \mathrm{Nm} \end{aligned}$ |
| Sensing source 2 | SOURCE 2 <br> 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 $0.5-2.5 \mathrm{~mm}^{2}$ |  |
|  | 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 <br> + : 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 $1.5-2.5 \mathrm{~mm}^{2}$ |  |
|  | 22/24/21 | OUT2: POS 2 ORDER |  |  |  |
|  | 32/34/31 | OUT3: POS 1 ORDER |  |  |  |
|  | 42/44/41 | OUT4: POS 2 ORDER |  |  |  |
|  | 52/54/51 | OUT5: programmable output 5 (latching) |  |  |  |
|  | 62/64/61 | OUT6: genset start relay |  |  |  |
| Current transformers | IN/I3/12/11 | CT neutal / CT phase C / CT phase B / CT phase A | CT input 1A or 5A |  |  |
| Serial connection | RS485 | Connection RS485 <br> -: 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 $1.5 \mathrm{~mm}^{2}$ | $\begin{aligned} & \text { 1.9-2.2 Lb.in } \\ & 0.22-0.25 \mathrm{Nm} \end{aligned}$ |
| Digiware* | DIGIBUS | Connection point for I/O 10 optional accessories \& digiware connection (must use 24 VDC input) | RJ 45 digiware cable | - | - |

[^0]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


## 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.

1. 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".
$1!$
If a fault is shown on the controller, correct the associated fault and clear by doing a long press ( $>3$ s) on the lamp test button.

4 Operational limits

| Operating voltage @ 50/60 (+/- 10\%) Hz |  |  |
| :---: | :---: | :---: |
| Network | Minimum Coil <br> Operating voltage (VAC) | Maximum Coil <br> Operating voltage (VAC) |
| $277 / 480$ VAC | $194(\mathrm{Ph} / \mathrm{N})$ | $304(\mathrm{Ph} / \mathrm{N})$ |
| $120 / 208$ VAC | $194(\mathrm{Ph} / \mathrm{Ph})$ | $304(\mathrm{Ph} / \mathrm{Ph})$ |
| $120 / 240$ VAC | $194(\mathrm{Ph} / \mathrm{Ph})$ | $304(\mathrm{Ph} / \mathrm{Ph})$ |
| 480 VAC with transformer | $194(\mathrm{Ph} / \mathrm{N})$ | $304(\mathrm{Ph} / \mathrm{N})$ |


| Operating temperature |  |  |
| :---: | :---: | :---: |
| Switch and Transformer | $10 / 10$ | Controller |
| $\begin{aligned} & 32 \text { to } 131^{\circ} \mathrm{F} \\ & 0 \text { to }+55^{\circ} \mathrm{C} \end{aligned}$ | $\begin{gathered} 14 \text { to } 158^{\circ} \mathrm{F} \\ -10 \text { to }+70^{\circ} \mathrm{C} \end{gathered}$ | $\begin{aligned} & -22 \text { to } 158^{\circ} \mathrm{F} \\ & -30 \text { to }+70^{\circ} \mathrm{C} \end{aligned}$ <br> with limitation on the LCD screen that may show distortion below $32^{\circ} \mathrm{F} / 0^{\circ} \mathrm{C}$ |


|  | Operating times (1) |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| Rating | Transfer description | Minimum transfer time (ms) <br> (Normal to alternate) | Minimum transfer time ( ms ) <br> (Atlternate to normal) | Maximum transfer time (ms) <br> (Normal to alternate) | Maximum transfer time (ms) <br> (Atlternate to normal) |
|  | Contact transfer time $^{(2)}$ | 24 | 21 | 31 |  |
|  | Total transfer time $^{(3)}$ | 100 | 280 | 127 | 4 |
| $260-400 \mathrm{~A}$ | Contact transfer time $^{(2)}$ | 30 | 27 | 486 |  |
|  | Total transfer time ${ }^{(3)}$ | 106 | 286 | 32 |  |

(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 purpuses 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



For inspection use a standard tool as shown to operate
 (not included).
0.25 in / 6mm diam max. SLOW OPERATION


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 $^{\star}$ |
| :---: | :---: | :---: |
| $100-200 \mathrm{~A}$ | 2 P | 96982020 |
|  | $3 \mathrm{P} / 2 \mathrm{P}+\mathrm{N}$ | 96983020 |
|  | $4 \mathrm{P} / 3 \mathrm{P}+\mathrm{N}$ | 96984020 |
| $260-400 \mathrm{~A}$ | 2 P | 96982040 |
|  | $3 \mathrm{P} / 2 \mathrm{P}+\mathrm{N}$ | 96983040 |
|  | $4 \mathrm{P} / 3 \mathrm{P}+\mathrm{N}$ | 96984040 |

* Refs: top and bottom

(2)

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 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.


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


| Auxiliary contact electrical characteristics |  |  |
| :--- | :---: | :---: |
| Rated current (125-480 VAC) | 22 A |  |
| Rated current (125 VDC) | 0.5 A |  |
| Rated current (250 VDC) | 0.25 A |  |
| Rated horse power up to 250 VAC | $1 / 2 \mathrm{HP}$ |  |
| Rated horse power up to 480 VAC | $1 / 4 \mathrm{HP}$ |  |
| Recommended wire section for 22A | 10 AWG <br> $4 \mathrm{~mm}^{2}$ |  |

1. Use the correct protection according to your auxiliary contact circuit and your load
(1) Remove pre-installed auxillary contact

(2)

Assemble contacts with parts from kit as shown below

(3) Assemble optional aux contact and pre-installed aux contact together

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

Ref : 96990021


[^0]:    * For more information check I/O module instruction sheet ref 545597

