Fabric Tension System

Version 3

Information file
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1 - Generalities:

The Fabric Tension System has been specially designed for motorising the medium, big fabric surfaces and big projections which are often used for velums and verandas solar protection.

The F.T.S. is broken up into 2 inseparable and distinct parts:
- the servo-control device,
- the specific actuators.

• Description:

The FTS is not approved. In other hand, it is in accordance with the european regulation criterions. So that, it is CE marked (for the range 1).
2 - Principle

When the master actuator (which trains) is electrically supplied, the rotation direction S2 and the coil-brake are supplied in the same time.

The slave actuator (which is trained), ensure the dynamic braking. The electronic box put the 2 actuator windings in shortcircuit and supplies an adjustable voltage (from 40 to 130V adjustable by the CO2 potentiometer).

Legend:
- B1: actuator winding 1
- B2: actuator winding 2
- EF: coil brake
- N: neutral
- S2: direction 2
- Td: dynamic tension
- Th: thermal security

- To be known:

The limit switch unit, with its 46 turns capacity for the FTS 50 and 35 turns for the FTS 60, a longer running time (8 min for the FTS 50 and 7 min for the FTS 60), a 6 min electronic box output delay and a judicious choice of the diameter of the tube allow to motorise and control big projections till 10 m and more (please see abacus). You can use an external limit switch if needed.

A formula can help to find the maximal limit of the fabric in accordance with the diameter of the tube:

\[ L = \pi (n \, \phi + n \, (n-1) \, e) \]

where:
- L is the maximal length of the projection,
- n is the capacity of the limit switch unit (tr),
- \( \phi \) the diameter of the tube,
- and e the fabric thickness.
• Description of a cycle:

Stationary:
The system is stopped either by the limit switch unit, or by a stop order.

Movement order:
an "up" or "down" order causes the rotation of the master actuator. The slave actuator brakes the system to an adjustable value (dynamic tension). Thus, the fabric sagging is reduced.

In any case, use guides

Stop or end of limit switch:
A stop or a end of limit switch unit stops the movement of the fabric.

Final tension:
The final fabric tension is managed by the electronic box. This one, after a stop makes a slight reverse rotation of the slave motor in order to ensure a correct final fabric tension.
3 - Functions

The FTS is fitted with several functions:

- **the final tension**: adjustable by potentiometer situated into the electronic box and graduated from 0 to 9 (marked CO1). This adjustment allows to regulate precisely the wished final fabric tension.

  The CO1 potentiometer must be put at 5 at the minimum. In other hand, the structure of the installation must be able to withstand the constraints.

- **the dynamic tension**: In order to avoid the fabric sagging due to the weight of the load-bar and the fabric itself during the widening/unwinding, the fabric dynamic tension is adjustable by the potentiometer marked CO2 situated into the electronic box and graduated from 0 to 9.

  The CO2 potentiometer must be put at 5 at the minimum. In other hand, the structure of the installation must be able to withstand the constraints.

- **the brake disclutching**: marked BP1 into the box, this push-button declutches simultaneously both actuators in supplying the coil-brakes. Used during the mounting if necessary. This push-button is an electronic reset too.

- **security roof opening**: a dry contact normally closed between the terminal 10 and 13 forbid the movement of the fabric when this contact is opened. Make a strap if not used (the box is delivered with the strap).

- **Dissymetric fabric tension adjustment**: 

![Diagram of dissymetric fabric tension adjustment](image-url)
This configuration adjustment is totally depending on the mounting type. This dipswitches allows to replace easily the a, b, c system linked to the FTS LS. The dissymetric tension will be imposed by a vertical mounting. This adjustment allows to cancel the dynamic tension on the lower actuator. Indeed, the weight of the load-bar and of the fabric are sufficient to brake the system.

- **Symetric tension**: normal and adjustable (by CO2 potentiometer) dynamic tension in both widening directions.

- **Dissymetric tension**: the dynamic tension is on the fabric actuator. The tension on the strap actuator is at the minimum.

  The CO2 potentiometer which acts only on the strap actuator.
The FTS 230 V electronic box is delivered with the pin on 50 Hz.

- **Miscellaneous**:
  - The individual control is an impulse type (the impulsion must be ≥0.5 second).
  - The inputs are dry contacts and are compatible with every automatic control for master control such as Centralis IB, Chronis IB,...
  - A security cuts off the power of both actuators as soon as one of them reaches the temperature of tripping.

---

**4 - Installation**:

- **Abacus generalities**:

  The FTS ABACUS have to give 3 pieces of information:
  - choice of the actuators,
  - determination of the number of systems,
  - choice of the type of guides, which are compulsory.
• **Choice of the guide:**

The choice of the actuator is depending on 3 components:
- the projection,
- the weight of the load-bar and the fabric,
- the torque power of the actuator.

Indeed, the projection is directly linked with the fabric guide, and from a certain length, the guide is essential in order to ensure a correct winding of the fabric.

⚠️ **In any case, guides are compulsory**

• **Straps:**

We advise you to use a traction system of the load-bar with cable when the projection length is more than 7.5 m.

**WARNING**, in this case, due to the limit switch unit capacity, this mounting requires external end limit switches.

projection maxi. 12 m.

• **Actuators:**

- 25/17 : maximum surface 25 m²,
- 55/17 : maximum surface 40 m²,
- 70/17 : maximum surface 50 m².

• **Tubes:**

Because of the considerable tightness on the tubes, we advise you the following maximal dimensions for tubes.

- Fabric tube ø 70 : 4 m
- Fabric tube ø 89 : 5 m
- Straps tube ø 63 : 3 m.
• Abacus:

WARNING TAKE CARE OF THE ROBUSTNESS OF THE STRUCTURE IN THE ACTUATOR CHOICE. In any case, use guides

For other cases, please contact us
• Mounting procedure:

Owing to the considerable mechanical stress withstood by the brackets, it is imperative to use the locking stop ring with each FTS actuator.

Like a standard LT, prepare the motorised axles in accordance with the usual way. Then depress fully both limit switch push button of each actuator.

The cable of the FTS actuator is a 5-wire cable and is not removable.

Then, mount the motorised axles on the brackets of the structure and lock them with the locking stop ring. Take care to respect the axles parallelism.

Fix, then wind the fabric around the "fabric tube" with the help of the test cable. When the fabric is totally wind up, press the corresponding limit switch push button (see installation instructions for the adjustment).
Fix the pulleys, then the straps on the "straps tube". The straps have to be on the same length in order to ensure a correct traction.

Then wind the straps around the pulleys with the help of the test cable. When they are correctly wind up, press the corresponding limit switch push button.

Make the wiring of the electronic box (see the electrical wiring in the next pages).

The final and dynamic tensions have to be set at 0 for the first test, then the adjustment will be made by successive stages incremented of 1, from 5 at the minimum.

Take care of the excessive constrains on the fabric, the structure and the brackets.

Once the wiring done, check that the actuators stop at the up and down position just set by a complet operation.

If a straps adjustment is necessary, release the brakes with the brake disclutching push button.
• Potentiometers values:

Values (±10%) for information only.
The charts show the maximum values in static (motors stopped)

1 Final tension:
The temporisation of the final tension is standing between 0.6 to 1.2 seconds for the fabric tension and between 0 to 0.2 seconds for the straps tension.

2 Dynamic tension (Frein):
Dynamic tension by potentiometer C02, final tension at 0:

![FTS Abacus diagram]

Setting of the "frein" potentiometer on the PCB
Example: 2 motors 55/17 installed on site.

If the potentiometer is set at 6, it means that the force on each bracket is equal to $176 \text{ kg} / 2 = 88 \text{ kg}$. You must take a safety margin.

The values on the abacus above have been measured according to the drawing shown in the following part.

- Measure principle:
• Box hanging:

• In case of vertical installation:

3 advices to reduce the sliding on the vertical system

1. The setting of the static potentiometer (final tension) must not exceed "5".
2. The bar load must not exceed the weight of 10 kg.
3. On the straps pulleys, grooves must be maximum deep in order to reduce the risk of disengaging when the system start from the UP position.

![Diagram showing correct and incorrect methods for box hanging]
5 - Push buttons and setting according to heads positions:

![Diagram of push buttons and setting]

- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
- Yellow PB
- White PB
6 - Terminal wiring: Straps and fabric above winding

1 2 heads on the left.

2 2 heads on the right.

3 “fabric” head on the left and “straps” head on the right.

4 “fabric” head on the right and “straps” head on the left.
• Code color

Blue : Common
Black : Yellow PB
Brown : White BP
Grey : Coil brake
Y/G : Ground

7 - Control wiring :

• Switch :

2 heads on the right (see ch.7, part.2)

Straps and fabric above winding.
Heads on the right
• FTS group control (1810054):

- Straps and fabric above winding.
- Heads on the right.
• FTS sub-group control (1810073):

Groups 1+2+3 GC

Straps and fabric above winding, heads on the right.

Only one 1810073 level
8- Installation guide :

**FTS INSTALLATION INSTRUCTIONS**

Ref.900156D

1. INTRODUCTION.

- The FTS is a specialised system designed for the solar protection market where horizontal or inclined type shading is required.
- The system consists of 2 specific actuators and a common control box which controls the operation of each actuator independently, the dynamic and final tension in the system.
- One actuator fits in the fabric roller, the second actuator fits in the strap roller. The system is extended by straps connected to a draw bar on the fabric.

2. SPECIFIC CHARACTERISTICS.

2.1 - Actuators characteristics :
- Limit switch unit capacity :
  - 46 turns on the FTS50.
  - 35 turns on the FTS60.
- Each motor can turn in either direction and are fitted with a coil brake (5 wires supply cable).
- The supply cable is Black RR-F, for external use and cannot be removed.
- FTS tubular motors are not continuously rated. They have a built-in thermal overload device which limits their operation to approximately 7 min.

2.1 - Electronic box characteristics :
- Water proof box IP56 :
  - Dimensions : 190 x 145 x 80 mm.
  - Equipped with 5 packings.
- Functions :
  - Low voltage impulse type switch control.
  - Compatible with automatic control SL 1010n and SL 2017n.
  - Adjustable dynamic tension.
  - Adjustable final tension.
  - Symmetric dynamic tension : the dynamic brake presetting acts on the straps and fabric actuators.
  - Dissymmetric dynamic tension : the dynamic brake presetting acts on the straps or on the fabric actuators, according to a dipswitches selection.
  - Option to connect a safety roof opening.
  - Security : in the event of either motor reaching its thermal protection limit or its limit end, both motors will stop.
  - Push button brake release.
  - Output temporisation : 6 min.
  - Type 1 working device.
  - Device for normally pollutive element.

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This document is not contractual. We are allowed, at any time, in a permanent care to improve the product, to modify any technical features we would require. © SOMFY 07/1999
3. LIMIT SWITCH SETTING.

The procedure for setting the limits is the same for either motor regardless of the installation configuration. Firstly, the configuration of your installation must be indentified by the opposite chart according to the motor positions.

1. Depress both limit switch push buttons on each motor (A&B) and ensure they lock in the "in" position.
2. Press the switch in the up direction until the desired position is reached and put the switch in the off position. Unlock the relevant push button on motor A by depressing and then releasing it.
3. On the other motor (B), depress the push button which acts in the same direction as the one set before.
4. Repeat the operation for the other direction.

Check, with the switch, that the system stops at the up and down positions just set. After setting, refit the protective cap.

If necessary to re-set a limit switch, put both push buttons of each motor in the "in" position and start again from 1.

4. ROTATION DIRECTIONS.

Yellow PB White PB
Before the setting of the motor, put the potentiometers of the dynamic and finale tension to "0".

5. ELECTRONIC BOX ADJUSTMENT.

Fabric dynamic tension adjustment. Adjustment by potentiometer (value between 0 and 9).

Fabric final tension adjustment. The final tension is made after each stop by limit switch unit or by STOP order. Adjustment by potentiometer (value between 0 and 9).

Dissymetric tension adjustment. Adjustable by dp switches.

Symetric tension.

Dynamic tension on the fabric actuator. Weak tension on the straps actuator.

Dynamic tension on the straps actuator. Weak tension on the fabric actuator.

Brake release push button. Usable during the installation. Electronic reset releases the brake on both actuators simultaneously.
6. CONTROL BOX CONNECTIONS.

- The commons wire (blue) from both actuators are connected to terminal 3.
- The earth wire (yellow/green) from both actuators must be connected to the supply earth using a connector block.
- An impulse type switch can be connected to terminals 10,11 and 12.
- If no safety device is fitted, then bridge terminals 10 and 13 (done in factory).

Do not put the actuator supply cables and the security control cables together in the same slive.

7. INSTALLATION PROCEDURE.

1. Ensure the correct size of motors has been selected by using the Somfy FTS selector chart.
2. Fit the actuators into the tube with the correct drive adapters in accordance with our standard installation instructions.
3. Depress both limit switch unit push buttons and ensure they lock in the "in" position.
4. Mount the motorised barrels onto their respective brackets. Locking stop ring ref.910002 must be used with the motor end bracket. Ensure that both barrels are parallel.
5. Attach the fabric to the tube. Connect the test lead ref.137080 to the motor as shown and wind the fabric around the tube. Set the "in" limit by releasing the relevant push button.
6. Fit the pulleys and straps. Adjust the straps as required to ensure that they are all the same length. Connect the test lead to the motor as shown and wind the straps around the tube. Set the "out" limit by releasing the relevant push button.
7. Before connecting the actuators and the switch to the control box, set the 2 potentiometers to "0" and ensure that all the dipswitches are in the "up" position. Connect the actuators and switch to the control box as shown.
8. Check that the system operates in the correct sense and ensure that the limits have been set correctly.
9. Set the dynamic and final tension in the system by gradually increasing the settings on the potentiometers. When setting the final tension in the system, care should be taken to ensure that the fabric and all fixtures and fittings are capable of withstanding the operating load.
10. If the straps have to be adjusted, press the brake release button in the control box, adjust the straps as necessary and then operate the system as normal.
WARNING
Do not forget to connect the earth wires.
The wire section is depending on the number and the rated power of the actuators.

For 2 heads on the right and fabric and straps above winding

Oblique : US wiring

WARNING
You have to identify the direction of each actuator.
Do not forget to connect the earth wires.
The wire section is depending on the number and the rated power of the actuators.
Cables after installation must not operatetraction on the terminals.

Oblique : US wiring
<table>
<thead>
<tr>
<th>Designation</th>
<th>FTS HiPro control box 230V</th>
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<tr>
<td>Reference</td>
<td>ESFT 726120</td>
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<tr>
<td>Range</td>
<td>Separate box</td>
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</table>

**Functions**

- Adjustment of the canvas tension of the FTS HiPro system.
- Time delay outputs: 6'
- The push-button inputs are in security low voltage and impulse type.
- A security roof opening prevents the system movement in case a roof window is opened. Make a jumper if this security is not used.
- Do not wire 2 FTS boxes in parallel.

**Technical Specifications**

- **Box**
  - Material: ABS
  - Colour: Grey
  - Dimensions: 190 x 145 x 80 mm
  - Protection factor against solid and splashproof: IP 56
- **Supply**
  - Nominal: 220-240 V / 50-60 Hz
  - Limits: 198-255 V
  - Frequency: 50 - 60 Hz
- **Electromagnetic compatibility**
  - CEI 1000-4-2: 8 kV minimum
  - CEI 1000-4-3: lev III guaranteed
  - CEI 1000-4-4: lev III guaranteed
- **Temperature range**
  - Working: 0°C to +40°C
  - Storing: -15°C to +70°C
- **Rate of relative humidity**: 90% maxi at 25°C
- **Connectors**: screws
- **Fuse**: 5 A - 230 V
- **Coil-brake output relay**: 5 A max
- **Actuator control output**: by triac 5 A max
- **Weight**: 0.935 kg
- **CE marking**: yes
- **Approval**
WIRING AND CONFIGURATION

COMPATIBILITIES

- SL 1010,
- SL 1010 n,
- SL 2017,
- SL 2017 n,
- 130150 with dry contact
- Mastercontrol
- SM1

IN OTHERS RANGES

Input:
- SL 1010,
- SL 1010 n,
- SL 2017,
- SL 2017 n,
- 130150 with dry contact
- Mastercontrol
- SM1

WIRING AND CONFIGURATION
Nominal voltage: 230 V - 50 Hz
Power supply tolerances: 207 - 244V
Thermal time: 8 minutes
System thermal time: Dynamic brake and final tension mini: 21 minutes, dynamic brake and final tension max: 15 minutes
Number of wires of the cable: 5 (Non removable 1 m RR-F black cable (2,5 m for the 35/12)
Wire section: 0.75 mm²
Type of limit switch unit: Quick limit switch
Capacity of the LSU: 46 turns
Repeatability: ± 5°
System of protection: IP 44
Interface drawings: Screw implantation for LT50 mounting 206810-Wheel interface LT50 206821-Crown interface LT50 206822-Interface drawing star head LT50 and LT50PA/PS 206823-Interface drawing LT50&60 buttons 206817.
Basic crown for tube Ø: 50 x 1.5 mm
Electronic control box: Ref. ESFT726120 (230V/50-60Hz)
Temperature working range: Normal use: -10°C to +40°C Exceptionnal use (20% of the life time not continuous): -25°C to +70°C
Noise level: According to SOMFY measures (for information only). Worse value: in load up direction during 10 seconds.

<table>
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<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
<th>L2 (≤3 mm)</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
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<td>17</td>
<td>200521</td>
<td>655</td>
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<td>663</td>
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* Specific for Somfy France
## FTS 50 TECHNICAL DATA

<table>
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<th>Nominal voltage</th>
<th>120 V - 60 Hz</th>
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<tbody>
<tr>
<td>Power supply tolerances</td>
<td>108 - 126V</td>
</tr>
<tr>
<td>Thermal time</td>
<td>8 minutes</td>
</tr>
</tbody>
</table>
| System thermal time | Dynamic brake and final tension mini : 16 minutes  
Dynamic brake and final tension max : 13 minutes |
| Number of wires of the cable | 5  
Non removable 2 m VV-F white cable |
| Wire section | 0.75 mm² |
| Type of limit switch unit | Quick limit switch |
| Capacity of the LSU | 46 turns |
| Repeatability | ± 5° |
| System of protection | IP 44 |
| Interface drawings | Screw implantation for LT50 mounting 206810-Wheel interface LT50 206821-Crown interface LT50 206822-Interface drawing star head LT50 and LT50PA/PS 206823-Interface drawing LT50&60 buttons 206817. |
| Basic crown for tube Ø | 50 x 1.5 mm |
| Electronic control box | Ref. ESFT826140 (110V/50-60Hz) |
| Temperature working range | Normal use : -10°C to +40°C  
Exceptionnal use (20% of the life time not continuous) : -25°C to +70°C |
| Noise level | According to SOMFY measures (for information only).Worse value : in load up direction during 10 seconds. |

<table>
<thead>
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<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
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<th>rpm</th>
<th>mm</th>
<th>mm</th>
<th>mm</th>
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<th>W</th>
<th>A</th>
<th>°C</th>
<th>kg</th>
<th>dBA</th>
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</thead>
<tbody>
<tr>
<td>25</td>
<td>220</td>
<td>655</td>
<td>640</td>
<td>663</td>
<td>490</td>
<td>170</td>
<td>1.5</td>
<td>130</td>
<td>2.95</td>
<td>-</td>
</tr>
</tbody>
</table>
### NOMINAL VOLTAGE

100 V - 50/60 Hz

### POWER SUPPLY TOLERANCES

95 - 107 V

### THERMAL TIME

8 minutes

### SYSTEM THERMAL TIME

- Dynamic brake and final tension mini: 17 minutes
- Dynamic brake and final tension max: 13 minutes

### NUMBER OF WIRES OF THE CABLE

5 Non removable 1 m VV-F grey cable

### WIRE SECTION

0.75 mm²

### TYPE OF LIMIT SWITCH UNIT

Quick limit switch

### CAPACITY OF THE LSU

46 turns

### REPEATABILITY

± 5°

### SYSTEM OF PROTECTION

IP 44

### INTERFACE DRAWINGS

- Screw implantation for LT50 mounting 206810-Wheel interface LT50 206821-Crown interface LT50 206822-Interface drawing star head LT50 and LT50PA/PS 206823-Interface drawing LT50&60 buttons 206817.

### BASIC CROWN FOR TUBE Ø

50 x 1.5 mm

### ELECTRONIC CONTROL BOX

Ref. ESFT826140 (110V/50-60Hz)

### TEMPERATURE WORKING RANGE

- Normal use: -10°C to +40°C
- Exceptional use (20% of the life time not continuous): -25°C to +70°C

### NOISE LEVEL

According to SOMFY measures (for information only).Worse value: in load up direction during 10 seconds.

### DESIGNATION

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>L1 max.</th>
<th>L2 max. (mm)</th>
<th>L3 max.</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTS 525A3</td>
<td>25</td>
<td>17/20</td>
<td>200540</td>
<td>655</td>
<td>640</td>
<td>663</td>
<td>590</td>
<td>250</td>
<td>2.35</td>
<td>130</td>
<td>2.95</td>
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</tbody>
</table>
### FTS 50 TECHNICAL DATA

<table>
<thead>
<tr>
<th>Nominal voltage</th>
<th>200 V - 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply tolerances</td>
<td>180 - 220 V</td>
</tr>
<tr>
<td>Thermal time</td>
<td>8 minutes</td>
</tr>
</tbody>
</table>
| System thermal time | dynamic brake and final tension mini : 20 minutes  
dynamic brake and final tension max : 14 minutes |
| Number of wires of the cable | 5  
**Non removable 1 m RR-F black cable** |
| Wire section | 0.75 mm² |
| Type of limit switch unit | Quick limit switch |
| Capacity of the LSU | 46 turns |
| Repeatability | ± 5° |
| System of protection | IP 44 |
| Interface drawings | Screw implantation for LT50 mounting  
206810-Wheel interface LT50  
206821-Crown interface LT50  
206822-Interface drawing star head LT50 and LT50PA/PS  
206823-Interface drawing LT50&60 buttons 206817. |
| Basic crown for tube Ø | 50 x 1.5 mm |
| Electronic control box | Ref. ESFT726120 (230V/50-60Hz) |
| Temperature working range | Normal use : -10°C to +40°C  
Exceptionnal use (20% of the life time not continuous) : -25°C to +70°C |
| Noise level | According to SOMFY measures (for information only).  
Worse value : in load up direction during 10 seconds. |

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
<th>L2 max. (±3 mm)</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
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</thead>
<tbody>
<tr>
<td>FTS 525A4</td>
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<td>200541</td>
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<td>640</td>
<td>663</td>
<td>590</td>
<td>170</td>
<td>1.25</td>
<td>130</td>
<td>coil brake</td>
<td>2.93</td>
<td>-</td>
</tr>
</tbody>
</table>
**FTS 50 TECHNICAL DATA**

**WIRING**
- Neutral
- White button
- Yellow button
- Brake
- Earth

<table>
<thead>
<tr>
<th>Colour</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td>Brown</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
</tr>
<tr>
<td>Grey</td>
<td></td>
</tr>
<tr>
<td>Green / Yellow</td>
<td></td>
</tr>
</tbody>
</table>

**Dimensions:**
- L1 max.
- L2 ±3
- L3 max.

- Basic crown for tube Ø50 X 1,5
- 4 Ø5 steel "pop" rivet type at 90° Length 12 mm
- Hole Ø12 mini. and depth 23 mini.

**Visa:** BEM

**Quality:** MKI
Nominal voltage | 240 V - 50 Hz
---|---
Power supply tolerances | 225 - 254 V
Thermal time | 8 minutes
System thermal time |
  - dynamic brake and final tension mini : 16 minutes
  - dynamic brake and final tension max : 12 minutes
Number of wires of the cable | 5 (Non removable 1 m RR-F black cable)
Wire section | 0.75 mm²
Type of limit switch unit | Quick limit switch
Capacity of the LSU | 46 turns
Repeatability | ± 5°
System of protection | IP 44
Interface drawings | Screw implantation for LT50 mounting 206810-Wheel interface LT50 206821-Crown interface LT50 206822-Interface drawing star head LT50 and LT50PA/PS 206823-Interface drawing LT50&60 buttons 206817.
Basic crown for tube Ø | 50 x 1.5 mm
Electronic control box | Ref. ESFT726120 (230V/50-60Hz)
Temperature working range | Normal use : -10°C to +40°C Exceptionnal use (20% of the life time not continuous) : -25°C to +70°C
Noise level | According to SOMFY measures (for information only).Worse value : in load up direction during 10 seconds.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
<th>L2 max. (±3 mm)</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
</tr>
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<tbody>
<tr>
<td>FTS 525A5</td>
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<td>200544</td>
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<td>640</td>
<td>663</td>
<td>590</td>
<td>180</td>
<td>0.95</td>
<td>130</td>
<td>coil brake</td>
<td>2.93</td>
<td>-</td>
</tr>
</tbody>
</table>
### Nominal voltage
220 V - 60 Hz

### Power supply tolerances
190 - 235 V

### Thermal time
8 minutes

### System thermal time
- Dynamic brake and final tension mini: 19 minutes
- Dynamic brake and final tension max: 15 minutes

### Number of wires of the cable
5
- **Non removable 1 m RR-F black cable**

### Wire section
0.75 mm²

### Type of limit switch unit
Quick limit switch

### Capacity of the LSU
46 turns

### Repeatability
± 5°

### System of protection
IP 44

### Interface drawings
- Screw implantation for LT50 mounting 206810
- Wheel interface LT50 206821
- Crown interface LT50 206822
- Interface drawing star head LT50 and LT50PA/PS 206823
- Interface drawing LT50 & 60 buttons 206817.

### Basic crown for tube Ø
50 x 1.5 mm

### Electronic control box
Ref. ESFT726120 (230V/50-60Hz)

### Temperature working range
- Normal use: -10°C to +40°C
- Exceptional use (20% of the life time not continuous): -25°C to +70°C

### Noise level
According to SOMFY measures (for information only). Worse value: in load up direction during 10 seconds.

### Designation

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
<th>L2 max. (±3 mm)</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
</tr>
</thead>
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<td>2.0</td>
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<td>640</td>
<td>663</td>
<td>590</td>
<td>200</td>
<td>0.9</td>
<td>130</td>
<td>coil brake</td>
<td>2.93</td>
<td>-</td>
</tr>
</tbody>
</table>
Neutral Blue
White button Brown
Yellow button Black
Brake Grey
Earth Green / Yellow

20 max.
15.05 max
7.2 mini.
25 max.
4 Ø5 steel "pop" rivet type at 90° Length 12 mm
Basic crown for tube Ø50 X 1.5
3.95 max.
17.15 mini.
L 1 max
L 2 ±3
L 3 max.
Ø63 maxi.
Ø78 max.
15.9 mini.
39 max.
34.5 max.
Hole Ø12 mini. and depth 23 mini.

Visa : BEM
Quality MKI
Nominal voltage: 230 V - 50 Hz
Power supply tolerances: 207 - 244V
Thermal time: 7 minutes
System thermal time: dynamic brake and final tension mini: 20 minutes, dynamic brake and final tension max: 11 minutes
Number of wires of the cable: 5, Non removable 1 m RR-F black cable
Wire section: 0.75 mm²
Type of limit switch unit: Quick limit switch
Capacity of the LSU: 35 turns
Repeatability: ± 5°
Number of wires of the cable: 5
Wire section: 0.75 mm²
Type of limit switch unit: Quick limit switch
Capacity of the LSU: 35 turns
Repeatability: ± 5°
System of protection: IP 44
Interface drawings: Wheel interface LT60 206801, Crown interface LT60, LT60ADF, FTS60 & LT60CSI 206802, Interface drawing star head LT60 206803
Basic crown for tube: Ø 63 x 1.5 mm
Electronic control box: Ref. ESFT726120 (230V/50-60Hz)
Temperature working range: Normal use: -10°C to +40°C; Exceptional use (20% of the life time not continuous): -25°C to +70°C
Noise level: According to SOMFY measures (for information only); Worse value: in load up direction during 10 seconds.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
<th>L2 max.</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTS Orion S</td>
<td>55</td>
<td>17</td>
<td>200501</td>
<td>694</td>
<td>677</td>
<td>700</td>
<td>630</td>
<td>350</td>
<td>1.5</td>
<td>140</td>
<td>coil brake</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>FTS Antares</td>
<td>70</td>
<td>17</td>
<td>200502</td>
<td>694</td>
<td>677</td>
<td>700</td>
<td>630</td>
<td>390</td>
<td>1.9</td>
<td>150</td>
<td>coil brake</td>
<td>5.1</td>
<td>-</td>
</tr>
</tbody>
</table>
WIRING:
- Neutral
- White button
- Yellow button
- Brake
- Earth
- Blue
- Brown
- Black
- Grey
- Green / Yellow

Diagram:
- Basic crown for tube Ø63 X 1.5
- 4 X Ø5 steel "pop" rivet type at 90° Length 12 mm

Dimensions:
- L1 max.
- L2 ±3
- L3 max.
- Ø63 max.
- Ø78 max.
- 15.9 mini.
- 34.5 max.
- 39 max.
- 15.3 max.
- 8.9 mini.
- 8 mini.
- 16.8 mini.
- 23 max.
Nominal voltage: 120 V - 60 Hz
Power supply tolerances: 108 - 126 V
Thermal time: 7 minutes
System thermal time:
  - dynamic brake and final tension mini: 17 minutes
  - dynamic brake and final tension max: 12 minutes
Number of wires of the cable: 5
  - Non removable 2 m VV-F white cable
Wire section: 0.75 mm²
Type of limit switch unit: Quick limit switch
Capacity of the LSU: 35 turns
Repeatability: ± 5°
System of protection: IP 44
Interface drawings:
  - Wheel interface LT60 206801
  - Crown interface LT60, LT60ADF, FTS60 & LT60CSI 206802
  - Interface drawing star head LT60 206803
  - LT50&60 buttons 206817
Basic crown for tube Ø: 63 x 1.5 mm
Electronic control box: Ref. ESFT826140 (110V/50-60Hz)
Temperature working range:
  - Normal use: -10°C to +40°C
  - Exceptionnal use (20% of the life time not continuous): -25°C to +70°C
Noise level:
  - According to SOMFY measures (for information only).
  - Worst value: in load up direction during 10 seconds.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>Reference</th>
<th>L1 max.</th>
<th>L2</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
</tr>
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<tbody>
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<td>FTS 655A2</td>
<td>55 / 487</td>
<td>20</td>
<td>200507</td>
<td>694</td>
<td>677</td>
<td>700</td>
<td>630</td>
<td>285</td>
<td>2.1</td>
<td>140</td>
<td>coil brake</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>
WIRING

<table>
<thead>
<tr>
<th>Neutral</th>
<th>White button</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Yellow button</td>
<td>Red</td>
</tr>
<tr>
<td>Brake</td>
<td>Grey</td>
<td>Grey</td>
</tr>
<tr>
<td>Earth</td>
<td>Green</td>
<td>Green</td>
</tr>
</tbody>
</table>

Basic crown for tube Ø63 X 1.5

4 X Ø5 steel "pop" rivet type at 90° Length 12 mm

23 max.
15.3 max.
8.9 mini.
8 mini.
16.8 mini.

L 1 max.
L 2 ± 3
34 max.
7.5 max.

L 3 max.
15.9 mini.
34.5 max.
39 max.

ø63 maxi.
ø78 max.
### FTS 60 TECHNICAL DATA

**Nominal voltage**: 100 V - 50/60 Hz
**Power supply tolerances**: 95 - 107V
**Thermal time**: 7 minutes
**System thermal time (50 Hz)**:
- Dynamic brake and final tension mini : 17 minutes
- Dynamic brake and final tension max : 13 minutes
**Number of wires of the cable**: 5 — Non removable 1 m VV-F grey cable
**Wire section**: 0,75 mm²
**Type of limit switch unit**: Quick limit switch
**Capacity of the LSU**: 35 turns
**Repeatability**: ± 5°
**System of protection**: IP 44
**Interface drawings**:
- Wheel interface LT60 206801
- Crown interface LT60, LT60ADF, FTS60 & LT60CSI 206802
- Interface drawing star head LT60 206803
- Interface drawing LT50 & 60 buttons 206817
**Basic crown for tube Ø**: 63 x 1,5 mm
**Electronic control box**: Ref. ESFT826140 (110V/50-60Hz)
**Temperature working range**: Normal use : -10°C to +40°C  Exceptionnal use (20% of the life time not continuous) : -25°C to + 70°C
**Noise level**: According to SOMFY measures (for information only). Wors value : in load up direction during 10 seconds.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
<th>L2 max.</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
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<tbody>
<tr>
<td>FTS 655A3</td>
<td>5 5</td>
<td>17 / 20</td>
<td>200515</td>
<td>964</td>
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<td>700</td>
<td>630</td>
<td>440</td>
<td>4.3</td>
<td>140</td>
<td>coil brake</td>
<td>5</td>
<td>-</td>
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</table>
**FTS 60 TECHNICAL DATA**

**Nominal voltage:** 200 V - 50/60 Hz

**Power supply tolerances:** 180 – 220V

**Thermal time:** 7 minutes

**System thermal time (50 Hz):** dynamic brake and final tension mini : 17 minutes
dynamic brake and final tension max : 12 minutes

**Number of wires of the cable:** 5  **Non removable 1 m RR-F black cable**

**Wire section:** 0,75 mm²

**Type of limit switch unit:** Quick limit switch

**Capacity of the LSU:** 35 turns

**Repeatability:** ± 5°

**System of protection:** IP 44

**Interface drawings:** Wheel interface LT60 206801-Crown interface LT60, LT60ADF, FTS60 & LT60CSI 206802-Interface drawing star head LT60 206803-Interface drawing LT50&60 buttons 206817.

**Basic crown for tube Ø:** 63 x 1,5 mm

**Electronic control box:** Ref. ESFT726120 (230V/50-60Hz)

**Temperature working range:** Normal use : -10°C to +40°C Exeptionnal use (20% of the life time not continuous) : -25°C to + 70°C

**Noise level:** According to SOMFY measures (for information only).Worse value : in load up direction during 10 seconds.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
<th>L2 (≤3 mm)</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
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<tbody>
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<td>140</td>
<td>coil brake</td>
<td>5</td>
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</table>
Nominal voltage 240 V - 50 Hz
Power supply tolerances 225 - 254V
Thermal time 7 minutes
System thermal time dynamic brake and final tension mini : 16 minutes
dynamic brake and final tension max : 13 minutes
Number of wires of the cable 5 Non removable 1 m RR-F black cable
Wire section 0,75 mm²
Type of limit switch unit Quick limit switch
Capacity of the LSU 35 turns
Repeatability ± 5°
System of protection IP 44
Interface drawings Wheel interface LT60 206801-Crown interface LT60, LT60ADF, FTS60 & LT60CSI 206802-Interface drawing star head LT60 206803-Interface drawing LT50&60 buttons 206817.
Basic crown for tube Ø 63 x 1,5 mm
Electronic control box Ref. ESFT726120 (230V/50-60Hz)
Temperature working range Normal use : -10°C to +40°C Exceptionnal use (20% of the life time not continuous) : -25°C to +70°C
Noise level According to SOMFY measures (for information only).Worse value : in load up direction during 10 seconds.

<table>
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<tr>
<th>Designation</th>
<th>Nominal torque</th>
<th>Nominal speed</th>
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<th>L1 max.</th>
<th>L2 (≤3 mm)</th>
<th>L3 max.</th>
<th>tube</th>
<th>Rated power</th>
<th>Rated current</th>
<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
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<tbody>
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<td>630</td>
<td>380</td>
<td>1.6</td>
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<td>coil brake</td>
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</table>
### FTS 60 TECHNICAL DATA

<table>
<thead>
<tr>
<th>Nominal voltage</th>
<th>220 V - 60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply tolerances</td>
<td>190 - 235V</td>
</tr>
<tr>
<td>Thermal time</td>
<td>7 minutes</td>
</tr>
</tbody>
</table>
| System thermal time      | dynamic brake and final tension mini : 16 minutes  
                          | dynamic brake and final tension max : 13 minutes |
| Number of wires of the cable | 5  
                          | Non removable RR-F black cable |
| Wire section             | 0.75 mm²     |
| Type of limit switch unit| Quick limit switch |
| Capacity of the LSU      | 35 turns     |
| Repeatability            | ± 5°         |
| System of protection     | IP 44        |
| Interface drawings       | Wheel interface LT60 206801-  
                          | Crown interface LT60, LT60ADF, FTS60 & LT60CSI  
                          | 206802-Interface drawing star head LT60 206803-  
                          | Interface drawing lt50 &60 buttons 206817. |
| Basic crown for tube Ø   | 63 x 1.5 mm |
| Electronic control box   | Ref. ESFT726120 (230V/50-60Hz) |
| Temperature working range| Normal use : -10°C to +40°C  
                          | Exceptionnal use (20% of the life time not continuous) : -25°C to + 70°C |
| Noise level              | According to SOMFY measures (for information only).Worse value : in load up direction during 10 seconds. |

<table>
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<tr>
<th>Designation</th>
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<th>Nominal speed</th>
<th>reference</th>
<th>L1 max.</th>
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<th>Rated power</th>
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<th>Thermal tripping</th>
<th>Brake type</th>
<th>Weight</th>
<th>Noise</th>
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<td>630</td>
<td>350</td>
<td>1.4</td>
<td>coil brake</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
WIRING
Neutral
White button
Yellow button
Brake
Earth
Blue
Brown
Black
Grey
Green / Yellow

Basic crown for tube Ø63 X 1.5
4 X Ø5 steel "pop" rivet type at 90° Length 12 mm

Ø63 maxi
Ø78 maxi

Visa : DT
Quality
GMD