

# Wiper Switch

For one Exalto H.D. wiper



Cat. no. 210341



# Contents

<b>1 General</b>	4
1.1 Functions	5
1.2 General description	5
1.3 Power supply	5
1.4 Technical specifications	5
1.5 Declaration of conformity	5
<b>2 Installation</b>	6
2.1 Dimensions	6
2.2 Installation	6
<b>3 Electric connections</b>	7
3.1 General lay out	7
3.2 Wiring diagram	8
<b>4 Operation</b>	9
4.1 Functions of the push buttons	9
4.2 ON/OFF switching	9
4.3 Signal mode	9
4.4 Wipe/wash program	10
<b>5 Failure</b>	11
5.1 Continuous flashing signal	11

# 1 General

## 1.1 Functions

Brief explanation of buttons and LED's.

*Please see section 4 for complete operating instructions.*



Pos.	Function
1	Main ON/OFF switch.
2	Increase speed/decrease time between strokes.
3	Decrease speed/increase time between strokes.

## 1.2 General description

The 210341 is a micro-controller based intelligent switch for operating one Exalto H.D. wiper motor. It provides all the functions for a proper windscreen cleaning. It consists of a touch pad with 45 cm (17") connection cable.

This wiper control offers:

- two continuous speeds
- three intermittent speeds
- perfect self parking due to dynamic brake
- wipe/wash program
- dimmer input

Visual indications for:

- ON
- continuous and intermittent modes

## 1.3 Power supply

This wiper control is available to operate under a power supply of 12 or 24V DC. Check the power supply of the unit supplied, before connecting it to the ship's electric system.

## 1.4 Technical specifications

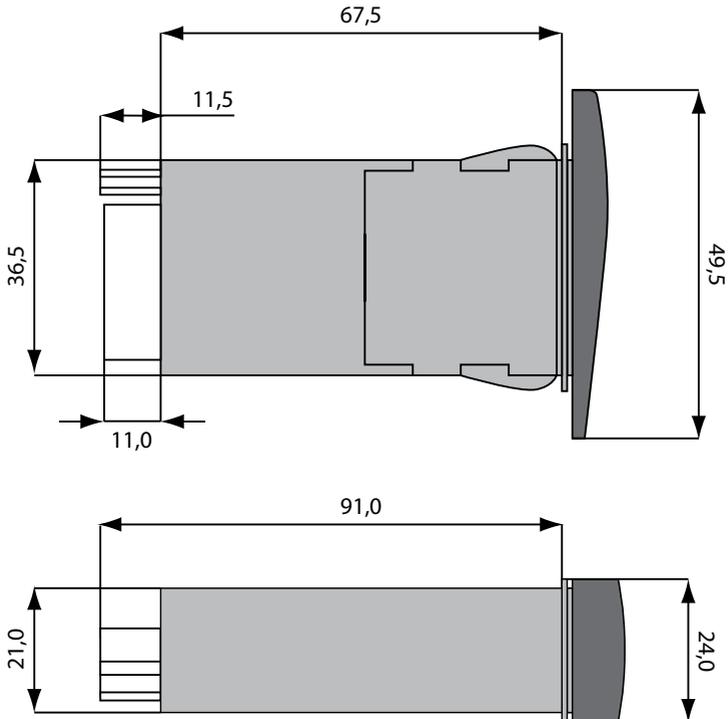
Power supply:	10 - 30V DC
Internal fuse:	4A PTC
Stand-by current:	less than 20mA
Motor output current:	single or double speed – 4A max.
Working temperature:	-10 to +50°C
Storage temperature:	-20 to +70°C
Inputs:	1 parking signal, open in park pos.
Outputs:	1 slow speed
	1 high speed
	1 wash pump/solenoid, positive pole

## 1.5 Declaration of conformity

This wiper control complies with the European requirements for electromagnetic compatibility, as required from 89/366/EEC, 73/23/EEC and EN60945 directives.

## 2 Installation

### 2.1 Dimensions



All dimensions in mm.

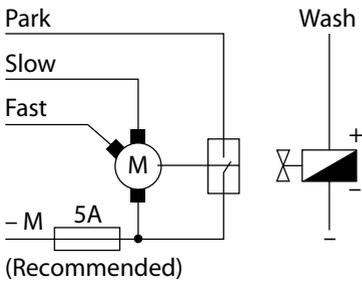
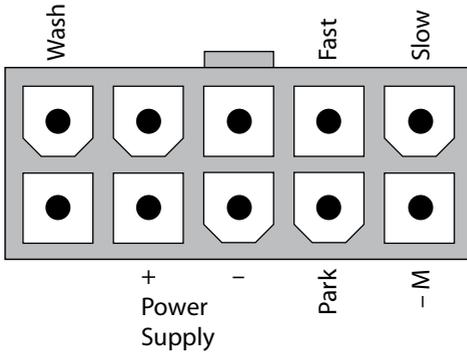
### 2.2 Installation

The touch pad is to be fitted at a location that is within reach of the helmsman, allowing ease of operation. Make sure that sufficient room is available for the cables and the connectors. The required mounting hole for the touch pad is 36.5 x 21 mm. There should be at least 100 mm space available under the front of the touch pad for the connection cable and plug.

**Please make sure you insert the connector (linked to the wiper motor) before connecting the power supply!**

# 3 Electric connections

## 3.1 General lay out

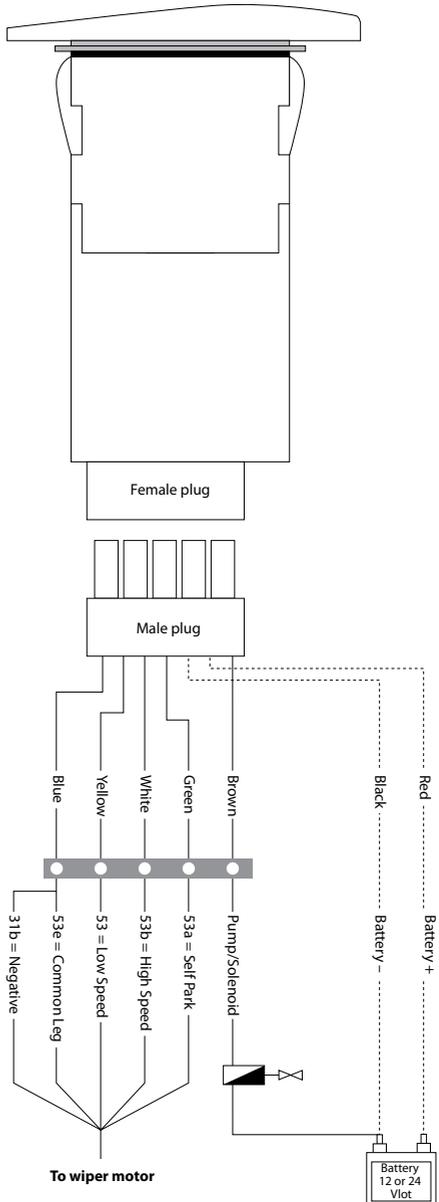


## 3.2 Wiring diagram

Colour code and connection of wiring coming from the 210341 controller:

- **Green** is to be connected to the Self Park (53a) of the motor wire.
- **Blue** is to be connected to the Negative (31b) and Common leg (53e) of the motor wire.
- **Yellow** is to be connected to the Low Speed (53) of the motor wire.
- **White** is to be connected to the High Speed (53B) of the motor wire.
- **Brown** is to be connected to a pump or solenoid.

*Always refer to the User Manual as supplied with the Exalto Wiper before connecting the Exalto wiper to the wiper switch.*



# 4 Operation

## 4.1 Functions of the push buttons

All push buttons have a double function as described in the chart (see paragraph 4.3).

## 4.2 ON/OFF switching

By pressing button 1 or 2, the wiper can be switched on. By pressing button 1, the wiper will stop; in the park position.

## 4.3 Signals mode

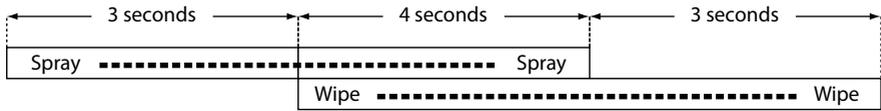
The three LED's shows the controller operation setting. By pressing any button, the mode will change and the LED's:

- will flash as many times as the delay times (in seconds) between the wiper strokes. (If 4 seconds is the delay times between the wiper strokes, the LED will flash 4 times.)
- will have a light flash – slowly if Slow speed is selected and quickly if Fast speed is selected.

Mode	LED ( <input type="checkbox"/> = on )	Signal
FAST speed	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Fast slight blink
SLOW speed	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Slow slight blink
2 sec. delay	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	2 slow blink
4 sec. delay	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	4 slow blink
8 sec. delay	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	8 slow blink
OFF	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	LED's OFF
Wipe/wash	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
Failure	Asymm.	Continuous

#### 4.4 Wipe/wash program

This wiper control has a built-in 'smart' wipe/wash program. The program is as shown below.



Change settings: to increase wash time or the spray/wipe time, keep button 1 or 2 pressed.

After the wash program has ended, the wiper will return to the wipe setting that was previously used.

# 5 Failure

## 5.1 Continuous flashing signal

A continuous flashing signal indicates that the 210341 does not receive a parking switch signal. This may occur if:

- parking switch is damaged or disconnected;
- motor does not run (damaged or disconnected);
- 10-pin connector has been inserted after power supply and control works as with one speed motor.

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